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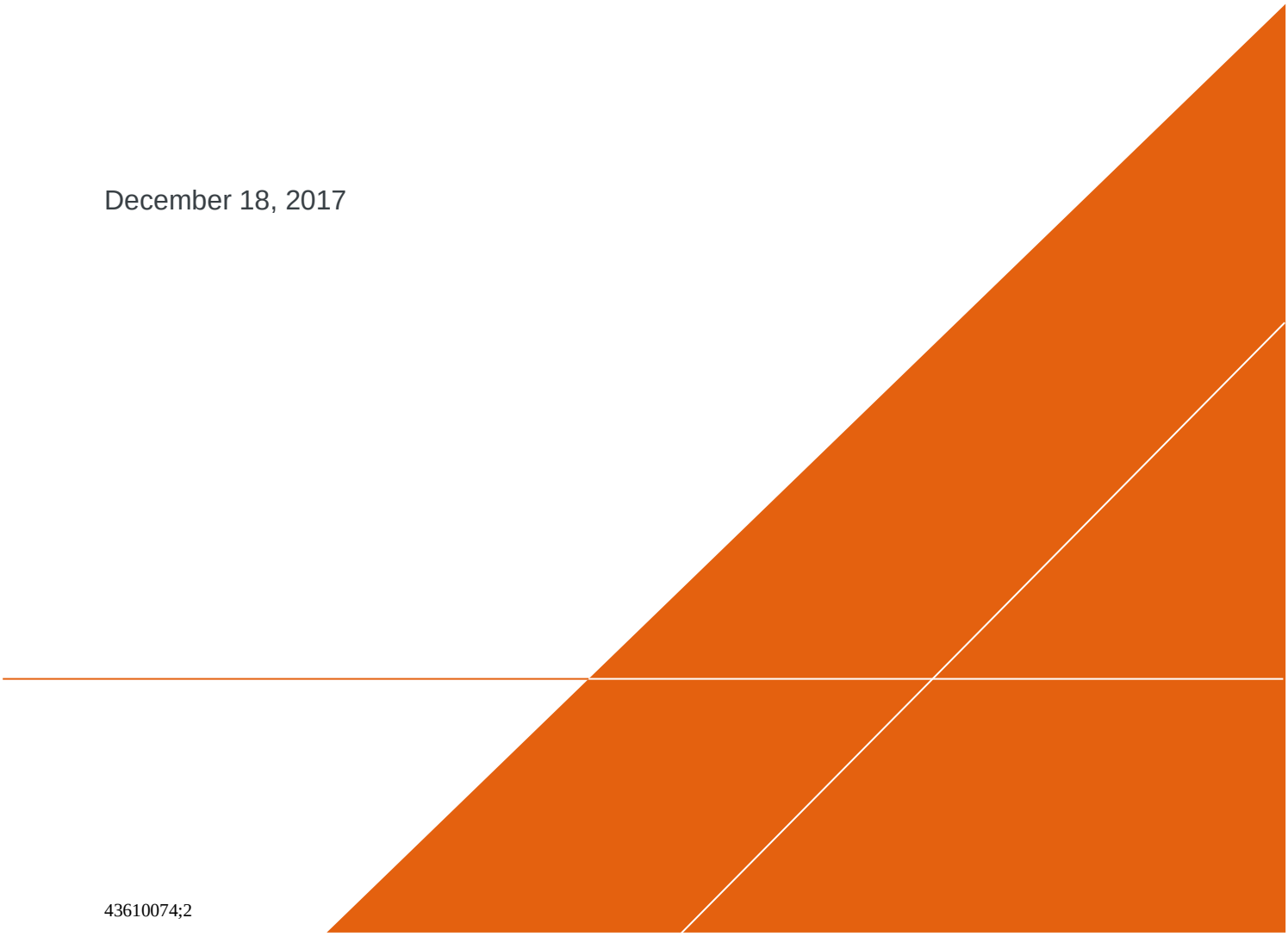
PIH Olympia, LLC

VAPOR INTRUSION INVESTIGATION REPORT

Former Phoenix Inn Site

December 18, 2017



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VAPOR INTRUSION INVESTIGATION REPORT

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CONTENTS

TABLES

FIGURES

APPENDICES

A. Ecology letter dated November 28, 2017

B. Building Survey, Chemical Inventory and Safety Data Sheets

C. Indoor Air and Soil Vapor Sampling Logs

D. Groundwater Sampling Logs

E. Indoor Air and Soil Vapor Laboratory Analytical Reports

F. Groundwater Laboratory Analytical Reports

G. Risk Assessment Calculations and Memorandum

ACRONYMS AND ABBREVIATIONS

Air Toxics	Eurofins Air Toxics
APN	assessor parcel number
Arcadis	Arcadis U.S., Inc.
CUL	cleanup level
DRO	total petroleum hydrocarbons in the diesel range organics
Ecology	Washington State Department of Ecology
EDB	ethylene dibromide
EDC	1,2-dichloroethane
EPA	Environmental Protection Agency
GRO	total petroleum hydrocarbons in the gasoline range organics
HO	total petroleum hydrocarbons in the heavy oil range organics
HVAC	heating, ventilation, air conditioning
µg/m3	micrograms per cubic meter
MTBE	methyl tertiary butyl ether
MTCA	Model Toxics Control Act
mL	milliliters
mL/min	milliliters per minute
MTCA	Model Toxics Control Act
PID	photo ionization detector
ppb	parts per billion
PVI	petroleum vapor intrusion
RCW	Revised Code of Washington
Report	Vapor Intrusion Investigation Report
RSL	Regional Screening Level
SDS	safety data sheet
SVP	soil vapor probe
VCP	Voluntary Cleanup Program
VI Work Plan	Additional Vapor Intrusion/Indoor Air Investigation
VOCs	Volatile Organic Compounds

WAC	Washington Administrative Code

1 INTRODUCTION

This Vapor Intrusion Investigation Report documents the results of a vapor intrusion/indoor air investigation at the former Phoenix Inn site located at 415 Capitol Way North, Olympia, Washington (Property). The investigation was performed by Arcadis U.S., Inc. (Arcadis) on behalf of PIH Olympia, LLC in accordance with a Revised Work Plan for Additional Vapor Intrusion/Indoor Air Investigation dated November 7, 2017 (Work Plan). The Work Plan was approved by the Washington State Department of Ecology (Ecology) in an email dated November 9, 2017 and subsequent approval letter dated November 28, 2017. The work was performed in accordance with the substantive requirements of the Model Toxics Control Act (MTCA) under Ecology's Voluntary Cleanup Program ([VCP]; Cleanup Site Id: 5257; Facility Site ID: 1571525; VCP Project Number SW1582). A copy of the Ecology email and approval letter is included as **Appendix A**.

The vapor intrusion/indoor air investigation was conducted on November 13-14, 2017 and consisted of collecting co-located indoor air and sub-slab vapor samples at eight locations within the first floor of the hotel and one background outdoor air sample. Indoor air and sub-slab vapor samples were analyzed for naphthalene using EPA Test Method TO-17. This sampling event, and the other activities described in this report, are part of on-going efforts to further evaluate a potential vapor intrusion pathway to indoor air from naphthalene. Naphthalene was detected in indoor air samples during two previous indoor air sampling events in June 2017 and September 2017. Concentrations of other petroleum related compounds, including benzene, toluene, ethyl benzene, and xylenes (BTEX); 1,2-dichloroethane (1,2-DCA); methyl tertiary butyl ether (MTBE); tertiary butyl alcohol (TBA); and methane, were below their respective MTCA Method B indoor air cleanup levels (CULs) and are therefore not constituents of concern for this investigation. The compounds 1,3-butadiene and ethylene dibromide (EDB) were not detected above their respective analytical reporting limits (RLs) and are also not considered constituents of concern for this investigation.

1.1 General Site Information

The Property is located between the East and West Bay of Budd Inlet, north of the mouth of the Deschutes River at 415 Capitol Way North in Olympia, Washington and is bordered to the north by A Avenue, to the east by Capitol Way North, to the south by Thurston Avenue, and to the west by Columbia Street Northwest (**Figure 1** and **Figure 2**). The Site is defined as all areas where hazardous substances originating from the Property have come to be located. Based upon currently available data from soil and groundwater sampling activities associated with the Property, petroleum hydrocarbon-affected soil and groundwater do not extend beyond the Property boundary at levels above applicable MTCA CULs. The Property is currently occupied by a DoubleTree Hotel and associated parking. The current three-story building, constructed in 1999 and retrofitted in 2013, occupies the eastern portion of the parcel and an asphalt-paved parking lot occupies the western portion. The hotel includes a swimming pool, spa, fitness center, business center, bar/lounge, meeting rooms, a retail shop, and hotel/guest laundry facilities.

1.2 Objectives

The objectives of this work were primarily two-fold: (1) to evaluate the nature and extent of naphthalene in shallow soil-vapor and indoor air and (2) to acquire information to inform a strategy to monitor and mitigate, as appropriate, potential risks associated with naphthalene to hotel workers and guests.

1.3 Previous Investigations

Multiple phases of soil and groundwater investigations were performed at the Site beginning in 1993 to evaluate the nature and extent of petroleum impacts from historic activities at the Property and neighboring properties. Previous environmental investigations are summarized in the Arcadis Work Plan for Additional Site Characterization dated April 10, 2017 (Arcadis 2017a), and are not repeated herein.

The initial June 26, 2017 indoor air sampling event at the Property was performed in accordance with a Work Plan for Additional Site Characterization dated April 10, 2017, and included collection of indoor air samples within three rooms (rooms 132, 142, and 146) and two outdoor air samples. Naphthalene was detected in the method blank at an estimated concentration of 0.0658 micrograms per cubic meter ($\mu g/m^3$), thereby making the naphthalene data from the June 26, 2017 suspect and unusable. Resampling for naphthalene using United States Environmental Protection Agency (EPA) Method TO-17 was recommended by Arcadis and approved by Ecology.

Due to the detection of naphthalene in the laboratory method blank samples, the naphthalene results from the June 26, 2017 sampling event were deemed unsuitable, and not representative of site conditions. Re-testing for naphthalene was conducted on September 8, 2017. Samples were collected at similar locations as the June 26, 2017 sampling event. Naphthalene was analyzed by Eurofins Air Toxics (Air Toxics), an Ecology-approved laboratory located in Folsom, California, using EPA Method TO-17. Naphthalene was detected in all three indoor air samples at concentrations above the standard MTCA Method B CUL (0.0735 $\mu g/m^3$), at concentrations of 0.19 $\mu g/m^3$, 0.18 $\mu g/m^3$, and 0.32 $\mu g/m^3$, in rooms 132, 142, and 146, respectively.

2 INVESTIGATION ACTIVITIES

The activities completed as part of this investigation were performed as an independent action under Ecology's Voluntary Cleanup Program (VCP) in accordance with the substantive requirements of MTCA, Chapter 70.105D Revised Code of Washington (RCW), and its implementing regulations, Chapter 173-340 Washington Administrative Code (WAC). As described in the Work Plan, the scope of work was completed in accordance with Arcadis standard operating procedures, technical guidance instructions and applicable guidance from Ecology, including:

- Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Ecology 2016).
- Ecology Implementation Memorandum No. 18, Draft Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Sampling Considerations (Ecology 2017).

2.1 Building Survey and Chemical Inventory

On October 17, 2017, Arcadis completed a building survey prior to collecting indoor air samples in accordance with Ecology Draft Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action (Ecology 2016). On November 14, 2017, Arcadis performed a secondary confirmation building survey prior to collecting the indoor air samples. These surveys documented relevant building information including heating, ventilation, and air conditioning (HVAC) system operation, chemical storage, and chemical usage. A photo ionization detector (PID) was used to evaluate the potential presence of volatile organic compounds (VOCs). Any indoor areas with PID readings exceeding ambient air readings were documented. During the second building survey, a parts per billion (ppb) range PID was used. Additionally, the building maintenance staff were contacted to obtain details regarding employee work hours and facility use.

During the building survey, there was no observable or measurable preferential pathways from conduits, drains or piping. Additionally, chemicals were properly stored throughout the hotel and no off-gasing of VOCs was observed from storage areas. One chemical was identified to contain potential concentrations of naphthalene, KILZ® Complete Interior/Exterior Oil-Based Primer Sealer (Aerosol). The primer is used periodically to temporarily seal leaking pipes within the building. However, this chemical was not used during indoor air sampling. Building survey, chemical inventory and the sealer safety data sheet (SDS) documents are presented in **Appendix B**.

2.2 Indoor and Outdoor Air Sampling

On November 13 and 14, 2017, Arcadis collected indoor and ambient air samples from the hotel building. Indoor and ambient air samples were collected to evaluate commercial 8-hour work day exposure at the site and to compare results with MTCA Method B air CULs, which are based on an unrestricted residential exposure scenario. Samples were collected using active sorbent sampling media connected to a calibrated personal air sampling pump. Sampling ended after an approximate 8-hour sampling period.

The sample collection intakes were placed approximately 3 to 5 feet above the ground to simulate receptor breathing space. Weather measurements were recorded from the closest weather station at the beginning and end of the 8-hour sampling period.

Following the building survey, eight indoor air samples were collected from following locations within the hotel building:

- Conference Room (IA-01);
- Hotel Office Area (IA-02);
- Gym (IA-03);
- Laundry Room (IA-04); and
- Hotel Rooms 132 (IA-05), 142 (IA-06), 146 (IA-07) and 107 (IA-08).

The indoor air sample pump at location IA-05 malfunctioned and the sample from November 13, 2017 was not analyzed. The sample was recollected on November 14, 2017 and submitted for analysis.

Additionally, to evaluate potential background naphthalene concentrations in ambient air contributing to indoor air concentrations, two outdoor air samples were collected concurrently with indoor air samples. One outdoor air sample was collected on the roof of the hotel building at an HVAC unit intake (OA-01) and one outdoor air sample was collected on the southwest corner of the hotel building (OA-02). Wind was blowing from the south-southwest at the time of sampling with significant rain precipitation. The outdoor air sample on the roof (OA-01) was not analyzed due to excessive water in the absorbent tube from the rain. Outdoor air sample OA-02 was successfully analyzed.

The indoor and outdoor air sampling locations are shown on **Figure 2**. Field conditions, flow rate, sample volumes, pump specifics, and other applicable information were recorded by field personnel on soil vapor sample collection logs included as **Appendix C**.

2.3 Sub-Slab Soil Vapor Sampling

On November 14, 2017, after indoor air sampling was completed, eight sub-slab soil vapor probes (SVPs) were installed adjacent to indoor air sample locations. The sub-slab SVPs were installed using a 1½-inch rotary hammer drill bit to core drill a 1½-inch-outer-diameter hole approximately 2 inches into the slab. A ⅝-inch-diameter hole was cored through the center of the existing hole. The ⅝-inch-diameter hole was advanced through the thickness of the slab and approximately 2 to 3 inches into the sub-slab fill material.

Once drilled, a sub-slab SVP was constructed using Vapor Pin™ methods. The Vapor Pins™ were pressed into the concrete slab and sealed with the supplied non-VOC silicone sleeve. A protective cap was placed on the end of the Vapor Pin™ and finished with a plastic flush mount cover. Once the sub-slab vapor port was installed, it was allowed to equilibrate for a minimum of 2 hours prior to sampling.

Prior to sampling, sub-slab SVPs were leak tested using a water dam around the installation. Water loss was monitored throughout the purging and sampling process. If water loss occurred, the probe was reinstalled and the test repeated. Due to the small thickness of the slab at locations SVP-03 and SVP-07, probes were reinstalled with intake connection points above the ground surface as new installations SVP-03A and SVP-07A. The reinstalled probes passed water dam leak testing and were subsequently sampled. All soil vapor probes were purged of 100 milliliters (mL) using a plastic syringe and 3-way valve to ensure samples were representative of subsurface conditions.

Soil vapor samples were collected by actively drawing a sample volume through a sorbent media using a plastic syringe and 3-way valve. Two sorbent tubes were collected at each sub-slab SVP location at volumes of 60 mL and 450 mL. The 60 mL samples were submitted to the laboratory for screening purposes and the 450 mL samples were used for laboratory analysis.

Sub-slab SVP sample locations are shown on **Figure 2**. Purge volumes, field conditions, PID readings, and other applicable information were recorded by field personnel on soil vapor sample collection logs included as **Appendix C**.

2.4 Groundwater Sampling

Groundwater gauging, sampling, and chemical analyses was completed during events in June 2017 and September 2017 in accordance with the Work Plan for Additional Site Characterization (Arcadis 2017a). Groundwater samples were collected from monitoring wells PMW-1 through PMW-10 and PMW-12

through PMW-21 using low-flow methodology. Groundwater sampling logs are included as **Appendix D**. A separate formal report documenting the Groundwater sampling results from the June 2017, September 2017, and the planned December 2017 will be prepared and submitted to Ecology in February 2017.

3 ANALYTICAL RESULTS

3.1 Indoor Air and Sub-Slab Vapor Sample Results

Soil vapor, and indoor and outdoor air samples were shipped under appropriate chain of custody protocols to Eurofins Air Toxics in Folsom, California for naphthalene analysis by EPA Method TO-17. Indoor air data from previous sampling events in June and September 2017 are presented in **Table 1**. The November 2017 indoor air and sub-slab vapor analytical results are presented in **Table 2**. Complete indoor air and soil vapor analytical results are presented in the laboratory analytical reports included in **Appendix E**.

3.2 Groundwater Sample Results

Quarterly groundwater monitoring is currently being conducted at the Site in accordance with the Arcadis Work Plan for Additional Site Characterization dated April 10, 2017 (Arcadis 2017a). To date, Arcadis has completed three groundwater monitoring events at the Site (July 2016, June 2017, and September 2017), and a planned event in December 2017, with prior sampling events conducted by others.

Groundwater samples have been routinely analyzed for the following constituents:

- Total petroleum hydrocarbons in the gasoline range organics (GRO) by Ecology Northwest Methods (NWTPH-Gx);
- Total petroleum hydrocarbons in the diesel and heavy oil range organics (DRO and HO) by Ecology Northwest Methods (NWTPH-Dx); and
- Benzene, toluene, ethylbenzene, total xylenes (BTEX).

Additionally, samples from each well have been analyzed for other constituents identified in Ecology Table 830-1, Required Testing for Petroleum Releases, including:

- Ethylene dibromide (EDB) by EPA Method 8011;
- 1,2-Dichloroethane (EDC) by EPA Method 8260B;
- Methyl tertiary butyl ether (MTBE) by EPA Method 8260B;
- Lead by EPA Method 6000/7000;
- Carcinogenic PAH's by EPA Method; and
- Total Naphthalene by EPA Method 8270.

Groundwater sample results are presented in **Table 3**. Complete groundwater analytical results are presented in the laboratory analytical reports included in **Appendix F**. Due to the detections of

naphthalene in indoor air samples in June and September 2017, groundwater samples were tested again in September 2017 for naphthalene by EPA Method 8270.

4 DATA EVALUATION

4.1 Indoor Air and Sub-Slab Vapor Evaluation

The detected naphthalene concentrations were compared to standard MTCA Method B indoor air CULs (0.735 µg/m^3) and applicable sub-slab vapor SLs (2.45 µg/m^3). Table 2 presents the indoor air, outside air, and sub-slab analytical results and the MTCA Method B CULs for indoor air and sub-slab soil vapor screening criteria based on a generic attenuation factor of 0.03 presented Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Ecology 2016). Table 3 presents MTCA Method B groundwater SLs considered protective of the vapor intrusion to indoor air pathway.

Naphthalene was detected in indoor air samples collected during the November 2017 sampling event above the MTCA Method B CUL of 0.0735 µg/m^3 in all of the eight indoor air samples. Indoor air concentrations ranged from a low of 0.017 µg/m^3 in room 142 to a high of 0.037 µg/m^3 in room 132. The naphthalene concentration in indoor air in Room 146, which historically had the highest measured naphthalene concentration, was 0.026 µg/m^3.

Naphthalene was detected in 2 of 8 sub-slab soil vapor samples collected from probes installed within hotel rooms 142 (20 µg/m^3) and 146 (12 µg/m^3). Naphthalene concentrations in sub-slab samples were below the laboratory reporting limit of 2.2 µg/m^3 in the other 6 sub-slab samples, which is below the sub-slab screening level of 2.45 µg/m^3. Naphthalene was not detected in the outdoor air sample (OA-02) at concentrations above the reporting limit of 0.057 µg/m^3.

4.2 Groundwater Evaluation

In accordance with the Work Plan, available groundwater monitoring data for naphthalene were reviewed and compared to applicable MTCA Method B groundwater CULs (160 micrograms per liter [µg/L]) and groundwater SLs protective of the groundwater to indoor air pathway (Ecology 2017). As indicated in Table 3, all historic groundwater results have been below the applicable MTCA Method B CUL for naphthalene.

Naphthalene groundwater data has been collected in the 2016 and 2017 sampling events (e.g., two rounds of naphthalene groundwater sampling data have been collected from wells). Naphthalene groundwater concentrations have been below the groundwater to indoor SL (8.9 µg/L), except for limited exceedances of the groundwater naphthalene SL in three wells in June 2017, and in one monitoring well in June 2017 and September 2017. As shown in Table 3, the PMW-10, PMW-12, and PMW-15 in June 2017 detected naphthalene at 9.95 µg/L, 9.27 µg/L, and 9.34 µg/L, respectively, at concentrations slightly above the groundwater to indoor air SL, and PMW-14 in the June 2017 and the September 2017 sampling event detected naphthalene at 16.92 µg/L and 18.58 µg/L, respectively, above the groundwater to indoor air SL. PMW-14 detected the highest level of naphthalene on September 29, 2017 (18.58 µg/L),

above the groundwater to indoor air SL of 8.9 µg/L, but well below the MCTA B groundwater CUL of 160 µg/L.

Based on the most recent sampling event in September 2017, PMW-14 was the only well out of the 20 wells sampled which exceeded the naphthalene groundwater to indoor air SL. As depicted on Figure 2, PMW-14 is one of the wells located furthest from the hotel building in the southwest corner of the Property. Wells located closer to the hotel building than PMW-14 did not exceed the groundwater to indoor air SL in September 2017 (Figure 2). These data suggest that the naphthalene concentrations in groundwater have only exceeded at limited locations in limited instances the groundwater to indoor air SL, and are generally decreasing over time. Additionally, this suggests that the source of subsurface naphthalene vapors is not likely widespread beneath the site.

5 RISK ASSESSMENT

WAC 173-340-750(1)(b) requires that CULs to protect air "*shall be based on estimates of the reasonable maximum exposure expected to occur under both current and future site used conditions".* The current reasonable maximum exposure for the current land use is a commercial exposure scenario. However, the most protective indoor air CUL for future land use is based on a residential exposure scenario. MTCA Method B indoor air CULs are based on a residential exposure scenario, and are applicable to the Site, unless institutional controls are adopted. In order to more fully assess potential risks to current and hypothetical future receptors, Arcadis performed a site-specific risk assessment using EPA default assumptions for the following exposure scenarios:

- Current and Future Site Worker (most reasonably protective based on current land use);
- Hypothetical Future Child Resident; and
- Hypothetical Future Resident (most reasonably protective based on hypothetical future land use without institutional controls)

The assessment included calculation of cancer and non-cancer risks using recognized and appropriate default parameters included in the USEPA Regional Screening Level User's Guide (USEPA. 2017). Calculated cancer risks at or below 1×10^{-6} and calculated non-cancer risks with a hazard index (HI) less than or equal to 1 are considered acceptable, while calculated cancer risks above 1.0×10^{-6} and calculated non-cancer risks above a hazard index of 1 are considered unacceptable (e.g. require further action).

Results from the risk assessment are provided in **Appendix G.** As shown in Appendix G (Tables 1 and 4), the calculated cancer and non-cancer risks to current and future hotel workers is considered acceptable based on the EPA methods presented and the most recent indoor air data for naphthalene. Cancer and non-cancer risks to hypothetical future child residents were also determined to be acceptable. Cancer risks to hypothetical residents were above the 1×10^{-6} criteria and non-cancer risks were well below the HI of 1 criteria. Therefore, if the land use of the Property changes to residential, then additional measures should be considered to ensure protectiveness for future residential exposure scenarios and/or institutional controls should be adopted to ensure the reasonable maximum exposure is limited to a commercial scenario, such as the existing hotel use.

6 CONCLUSIONS AND RECOMMENDATIONS

This report discusses site activities associated with indoor air sampling and sub-slab soil vapor probe installation and sampling within the DoubleTree hotel. The purpose of the sub-slab soil vapor sampling was to assess the presence of naphthalene within the subsurface beneath the hotel floor slab. Additionally, indoor air samples were collected to evaluate potential building occupant exposures to naphthalene and, in consideration of sub-slab vapor and indoor air results, determine if there is likely a naphthalene vapor intrusion exposure pathway to indoor air.

Conclusions are as follows:

- No definitive indoor air source of naphthalene was readily identified in the hotel, although the presence of naphthalene in chemicals used at the hotel cannot be definitively ruled out.
- Groundwater monitoring data suggest that naphthalene concentrations at 4 well locations (PMW-10, PMW-12, PMW-14, and PMW-15) have historically intermittently detected naphthalene at concentrations above the groundwater SL protective of indoor air (8.9 µg/L). The most recent groundwater data in September 2017 indicates that only one out of 20 wells (PMW-14 which is one of the wells located furthest from the building in the southwest corner of the Property) currently exceeds the naphthalene groundwater to indoor air SL.
- Elevated levels of naphthalene were detected in sub-slab vapor samples beneath two rooms in the southern hall of the hotel (20 µg/m^3 in Room 142 sub-slab soil vapor and 12 µg/m^3 in Room 146 sub-slab soil vapor). Sub-slab vapor concentrations were not detected above the RL in the other 6 samples, suggesting that the naphthalene soil vapor concentrations are limited to the southern hall of the building and are not widespread. This finding is also supported by the naphthalene groundwater analytical data as described above.
- Concentrations of naphthalene in indoor air exceeded the standard MTCA Method B air CUL at each of the locations sampled, with the highest indoor air concentration measured in Room 132 (0.37 µg/m^3).
- As stated in Section 5, the calculated health risks (cancer and non-cancer) from the naphthalene levels in indoor air meet the 1.0 x 10^{-6} criteria for total excess cancer risks and non-cancer criteria (HI at or below 1) for the most reasonable exposure scenario for the current land use (commercial). The calculated health risks are above the 1 x 10^{-6} criteria for a hypothetical future resident exposure scenario. The risk assessment demonstrates that there is no currently unacceptable health risk to hotel workers or occupants based on the levels of naphthalene detected in indoor air. Additional mitigations steps are discussed below and it may also be appropriate to consider imposing an institutional control limiting the land use of the Property to commercial/industrial because naphthalene levels exceed MTCA Method B air CULs based on a hypothetical future residential exposure scenario.

Due to indoor air naphthalene concentrations above the Method B indoor air CUL, Arcadis recommends that the following additional actions be implemented:

- In consultation with the hotel maintenance staff and the hotels HVAC contractor, investigate potential adjustments to the HVAC system to increase air exchange rates. If practical measures can be undertaken to increase air exchange within the hotel, then those measure(s) should be implemented. If adjustments are made to the HVAC system, then additional set of indoor air samples should be collected and analyzed for naphthalene to assess the effectiveness of these adjustments, as appropriate.
- Investigate and performing a vacuum test on the existing historical remediation pipes which are believed to be located in the southern portion of the hotel building to determine if applying a vacuum to these pipe(s) can create a measurable vacuum influence in the existing SVPs installed in the building. If a vacuum influence is measured in the southern portion of the building (e.g., minimum 0.04-inch vacuum response), then it may be possible to use these pipes for potential mitigation.
- If the vacuum influence test described above is not successful at inducing a vacuum beneath the southern portion of the building, then additional sub-slab depressurization measures in or near the two individual room locations with elevated sub slab vapors may be appropriate using new vacuum suction points to be installed beneath the building.
- After completing the vacuum testing, conduct a meeting with Ecology to discuss risk-based CULs based on current land use and discuss options for potential mitigation and/or further risk assessment.
- To evaluate the temporal changes, if any, additional indoor air and sub-slab testing should be conducted possibly in February 2018. Additional testing should be performed in consultation with Ecology after the investigations described above are complete and after the proposed meeting with Ecology. It is anticipated that the HVAC evaluation and vacuum testing evaluations will be completed and a meeting with Ecology will be scheduled in January 2018.

7 REFERENCES

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TABLES

Table 1
Historical Indoor Air Sampling Analytical Results
PIH Olympia LLC
415 Capitol Way North, Olympia, WA

All Concentrations are in micrograms per cubic meter (µg/m^3) unless otherwise indicated

Sample Location	Sample ID	Method	Date Collected	Benzene	1,2-DCA	1,2,4-TMB	Naphthalene	EDB	Ethylbenzene	Toluene	m,p-Xylene	o-Xylene	MTBE	1,3-Butadiene	TBA	Methane (% v/v)
Model Toxics Control Act (MTCA) Method B Screening Levels (CULs) in µg/m^3				**0.321**	**0.0962**	**3.2**	**0.0735**	**0.00417**	**457**	**2,290**	**45.7**	**45.7**	**9.62**	**0.0833**	**N/A**	**N/A**
Room 142	IND-8HR-R142	TO-15	6/26/2017	0.23	0.055 J	0.20	**<0.329 UB**	***< 0.054***	0.40 J	2.4	1.2 J	0.44J	< 2.9	***< 1.8***	< 6.1	0.00036
Room 132	IND-8HR-R132	TO-15	6/26/2017	0.32	0.063 J	< 0.20	**<0.329 UB**	***< 0.054***	< 1.7	2.2	< 3.5	< 1.7	< 2.9	***< 1.8***	< 6.1	0.00035
Room 146	IND-8HR-R146	TO-15	6/26/2017	0.26	0.058 J	0.27	**0.46 B**	**0.028 J**	0.37 J	2.8	1.2 J	0.47 J	< 2.9	***< 1.8***	< 6.1	0.00036
Parking Lot	OUTD-8HR-PARK	TO-15	6/26/2017	0.19	0.046 J	0.10 J	**<0.329 UB**	***< 0.054***	< 1.7	0.92 J	0.52 J	< 1.7	< 2.9	***< 1.8***	< 6.1	0.00035
Hotel Roof	OUTD-ROOF	TO-15	6/26/2017	0.25	0.045 J	0.071 J	**<0.329 UB**	***< 0.054***	<1.7	0.74 J	0.52 J	<1.7	< 2.9	***< 1.8***	<6.1	0.00031
Lab Blank	Lab Blank	TO-15	7/5/2017, 7/14/2017	<0.064	<0.081	<0.20	0.0658 J	***<0.054***	<1.7	<1.5	<3.5	<1.7	<2.9	***<1.8***	<6.1	<0.00002
Room 142	IND-8HR-R142	TO-17	9/8/2017	NS	NS	NS	**0.18**	NS	NS	NS	NS	NS	NS	NS	NS	NS
Room 132	IND-8HR-R132	TO-17	9/8/2017	NS	NS	NS	**0.19**	NS	NS	NS	NS	NS	NS	NS	NS	NS
Room 146	IND-8HR-R146	TO-17	9/8/2017	NS	NS	NS	**0.32**	NS	NS	NS	NS	NS	NS	NS	NS	NS
Parking Lot	OUTD-8HR-PARK	TO-17	9/8/2017	NS	NS	NS	<0.057	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hotel Roof	OUTD-8HR-ROOF	TO-17	9/8/2017	NS	NS	NS	<0.070	NS	NS	NS	NS	NS	NS	NS	NS	NS
Field Blank	Field Blank	TO-17	9/8/2017	NS	NS	NS	<0.068	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lab Blank	Lab Blank	TO-17	9/14/2017	NS	NS	NS	<0.057	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

% v/v = Volume concentration as percent

< = analyate was not detected at indicated reporting limit

1,2,4-TMB = 1,2,4-Trimethylbenzene

1,2-DCA = 1,2-Dichloroethane

B = Compound was found in the blank sample

EDB = 1,2-Dibromoethane

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value

MTBE = Methyl tert-butyl ether

N/A = Compound does not have a MTCA Method B cleanup level

ND = Analytical result is less than reporting limit; reporting limits were not available for historical analytical results

NS = Not Sampled

TBA = Tert-butyl alcohol

UB = compound not detected above elevated reporting limit. Reporting limited is elevated due to detection of naphthalene in method blank.

BOLD ITALIC = *Reporting limit exceeds cleanup level*

BOLD Analyte detected above MTCA Method B Cleanup Level

Benzene, 1,2-dichloroethane, 1,2,4-trimethylbenzene, naphthalene, and 1,2-dibromoethane analyzed using USEPA Method TO-15 SIM

Ethylbenzene, toluene, m,p-xylene, o-xylene, methyl tert-butyl ether, 1,3-butadiene, tert-butyl alcohol analyzed using USEPA Method TO-15

Methane analyzed using ASTM Method D1946

Table 2
November 2017 Naphthalene Sampling Analytical Results
PIH Olympia LLC
415 Capitol Way North, Olympia, WA

Building Location	Sample Location	Sample ID	Sample Type	Date Collected	Sample Duration (min)	Average Flow Rate (mL/min)	Sample Volume (mL)	Naphthalene Result (µg/m^3)
MTCA Method B Indoor Air CUL								**0.0735**
MTCA Method B Sub-Slab Soil Vapor SL (AF = 0.03)								**2.45**
Conference Room	IA-01	IA-1	Indoor Air	11/13/2017	472	29.5	13,924	**0.20**
	SSV-01	SSV-01-450	Sub-Slab	11/14/2017	--	--	450	<2.2
Office Area	IA-02	IA-2	Indoor Air	11/13/2017	466	55.5	25,863	**0.19**
	SSV-08	SSV-08-450	Sub-Slab	11/14/2017	--	--	450	<2.2
Gym	IA-02	IA-3	Indoor Air	11/13/2017	481	70.0	33,670	**0.30**
	SSV-03A	SSV-03A-450	Sub-Slab	11/14/2017	--	--	450	<2.2
Laundry	IA-04	IA-4	Indoor Air	11/13/2017	489	66.0	32,274	**0.29**
	SSV-07A	SSV-07A-450	Sub-Slab	11/14/2017	--	--	450	<2.2
Room 132	IA-05	IA-5	Indoor Air	11/14/2017	362	30.0	10,860	**0.37**
	SSV-04	SSV-04-450	Sub-Slab	11/14/2017	--	--	450	<2.2
Room 142	IA-06	IA-6	Indoor Air	11/13/2017	487	44.5	21,672	**0.17**
	SSV-05	SSV-05-60	Sub-Slab	11/14/2017	--	--	60	**20**
Room 146	IA-07	IA-7	Indoor Air	11/13/2017	483	36.0	17,388	**0.26**
	SSV-06	SSV-06-450	Sub-Slab	11/14/2017	--	--	450	**12**
Room 107	IA-08	IA-8	Indoor Air	11/13/2017	470	34.0	15,980	**0.26**
	SSV-02	SSV-02-450	Sub-Slab	11/14/2017	--	--	450	<2.2
Roof	OA-01	OA-1	Outdoor Air	11/13/2017	478	28.5	13,623	NA
Parking Lot	OA-02	OA-2	Outdoor Air	11/13/2017	509	34.5	17,561	<0.057

Notes:

< = analyte was not detected at indicated reporting limit

-- = not applicable

µg/m^3 = micrograms per cubic meter

CUL = cleanup level

NA = not analyzed

min = minute

mL = milliliter

mL /min = milliliter per minute

MTCA = Washington Department of Ecology Model Toxics Control Act

SL = screening level

BOLD Analyte detected above MTCA Method B Cleanup Level (CUL) for Indoor Air or Screening Level (SL) for Sub-Slab Soil Vapor (Ecology 2015)

Naphthalene analyzed using USEPA Method TO-17

Indoor air samples collected over approximately 8-hours

Sub-slab soil vapor samples were collected as grab samples after a 100 milliliter purge

Table 3
Groundwater Gauging Data and Select Analytical Results from Existing Monitoring Well Network
DoubleTree

415 Capitol Way North, Olympia, WA

All concentrations are presented in micrograms per liter (µg/L)

Well	Sample Date	Notes	TOC (ft amsl)	DTW (ft btoc)	GWE (ft amsl)	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Naphthalenes	Total cPAHs	Total Lead	Dissolved Lead	Temperature (°C)	pH (s.u.)	Conductivity (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)
Model Toxics Control Act (MTCA) Method B Groundwater to Indoor Air (SL)						**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**8.93**	**0.1**	**15**	**15**	**--**	**--**	**--**	**--**	**--**
PMW-1	7/22/2016	(LFP)	11.37	6.18	5.19	ND< 50	ND< 110	ND< 260	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	0.264	ND< 0.0159	ND< 2.0	ND< 2.0	17.3	7.43	171.3	-10	0.4
PMW-1	6/28/2017	(LFP)	11.37	5.90	5.47	ND< 500 H	26 J	ND< 260	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	16.2	6.85	169	24.5	0.63
PMW-1	6/28/2017	(DUP)	11.37	5.90	5.47	ND< 500 H	--	--	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	16.2	6.85	169	24.5	0.63
PMW-1	9/29/2017	(LFP)	11.37	6.19	5.18	ND< 250	51 J	ND< 260	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	0.260 J	--	--	--	17.7	7.53	184.3	-37.5	0.51
PMW-2	7/22/2016	(LFP)	11.41	5.85	5.56	310	310	ND< 260	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	0.6765	**0.15**	ND< 2.0	ND< 2.0	18.3	7.41	856	-113.4	0.41
PMW-2	6/28/2017	(LFP)	11.41	5.54	5.87	140 J	230	97 J	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	16.2	6.87	940	-98.8	0.43
PMW-2*	6/28/2017	(SGC)	11.41	5.54	5.87	--	80 J	ND< 270	--	--	--	--	--	--	--	--	--	--	--	16.2	6.87	940	-98.8	0.43
PMW-2	9/27/2017	(LFP)	11.41	5.80	5.61	140 J B	230 B	100 J	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	ND< 0.165	ND< 0.03271	--	--	20.25	6.63	803	-149.9	0.32
PMW-3	6/29/2017	(LFP)	11.23	5.09	6.14	ND< 500	22 J	ND< 280	ND< 2.0	ND< 2.0	ND< 3.0	ND< 3.0	ND< 2.0	ND< 0.010	ND< 2.0	0.0414	0.017739	ND< 30	3.6 J	15.2	7.08	575.4	276.6	1.13
PMW-3	9/27/2017	(LFP)	11.23	5.44	5.79	ND< 250	47 J B	ND< 260	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	ND< 0.099	--	1.3 J	ND< 4.0	18.6	7.18	565.4	366.0	0.42
PMW-4	6/28/2017	(NS)	10.56	4.90	5.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-4	9/27/2017	(NS)	10.56	5.11	5.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-5	7/22/2016	(LFP)	11.34	5.72	5.62	370	**630**	ND< 250	0.52	0.4	0.23	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	2.56	ND< 0.0151	ND< 2.0	ND< 2.0	20	7.44	934	-126.8	0.3
PMW-5	6/28/2017	(LFP)	11.34	5.39	5.95	260 J	**690**	130 J	ND< 2.0	0.44 J	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	17.7	6.87	927	-96.8	0.32
PMW-5*	6/28/2017	(SGC)	11.34	5.39	5.95	--	220	ND< 270	--	--	--	--	--	--	--	--	--	--	--	17.7	6.87	927	-96.8	0.32
PMW-5	9/29/2017	(LFP)	11.34	5.68	5.66	250 B	**560**	150 J	0.44 J	0.27 J	ND<3.0	ND<3.15 J	--	--	--	ND< 0.791	--	--	--	20.6	7.03	747	-87.0	0.43
PMW-6	6/29/2017	(LFP)	11.46	5.59	5.87	86 J	**2,000**	**700**	ND< 2.0	ND< 2.0	ND< 3.0	ND< 3.0	ND< 2.0	ND< 0.010	ND< 2.0	0.056 J	0.017915	3.5 J	3.3 J	16.1	6.82	1199	-68.1	1.64
PMW-6	9/27/2017	(LFP)	11.46	5.86	5.60	120 J	**1,700 B**	**590**	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	ND< 0.097	--	--	--	19.6	6.92	1137	-110.8	0.51
PMW-7	6/29/2017	(LFP)	10.93	5.00	5.93	ND< 500	160	ND< 270	ND< 2.0	ND< 2.0	ND< 3.0	ND< 3.0	ND< 2.0	ND< 0.0099	ND< 2.0	0.082 J	0.02368	ND< 30	2.7 J	18.1	7.13	635	-48.0	0.44
PMW-7	9/27/2017	(LFP)	10.93	5.28	5.65	ND< 250	140 B	63 J	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	ND< 0.061 J	--	ND< 4.0	ND< 4.0	21.67	6.59	572	-165.7	0.22
PMW-8	6/29/2017	(LFP)	11.60	5.69	5.91	290 J	**2,800**	**930**	**24**	1.0 J	ND< 3.0	1.2 J	ND< 2.0	ND< 0.010	ND< 2.0	0.602	0.01877	ND< 30	3.0 J	17.5	6.99	980	44.4	0.23
PMW-8	9/29/2017	(NP)	11.60	5.95	5.65	270	**2,500**	**890**	**33**	1.6 J	0.30 J	2.4 J	--	--	--	ND< 0.56 J	--	1.3 J	ND< 4.0	25.75	6.56	1,030	-37.5	0.98
PMW-9	7/22/2016	(LFP)	11.56	5.94	5.62	210	**530**	ND< 260	0.99	1.1	ND< 0.20	1.3	ND< 0.20	ND< 0.010	ND< 0.20	0.541	ND< 0.0151	**26**	ND< 2.0	19.6	7.71	274.4	191.8	2.52
PMW-9	6/29/2017	(LFP)	11.56	5.61	5.95	65 J	**850**	**600**	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	4.0 J	ND< 30	17.9	7.04	890	41.1	0.38
PMW-9	9/27/2017	(LFP)	11.56	5.86	5.70	83 J	**930 B**	**510**	0.81 J	0.51 J	ND< 3.0	ND< 5.0	--	--	--	0.161 J	--	ND <4.0	ND <4.0	21.68	6.78	537	-144.3	0.43
PMW-10	7/22/2016	(LFP)	12.32	6.95	5.37	**950**	**4,200**	**3,600**	**5.7**	1.4	3.8	1.8	ND< 0.20	ND< 0.010	ND< 0.20	**9.95**	ND< 0.0151	9.7	ND< 2.0	16.5	7.34	883	-80.5	1.96
PMW-10	6/28/2017	(LFP)	12.32	6.63	5.69	610	**1,900**	**1,400**	3.0	0.70 J	0.24 J	1.98A	--	--	--	--	--	--	--	15.1	7.09	740	-6.8	0.41
PMW-10*	6/28/2017	(SGC)	12.32	6.63	5.69	--	380	310	--	--	--	--	--	--	--	--	--	--	--	15.1	7.09	740	-6.8	0.41
PMW-10	9/27/2017	(LFP)	12.32	6.89	5.43	750	**2,100 B**	**1,200**	2.9	0.72 J	0.74 J	ND< 3.1 J	--	--	--	1.81	--	--	--	17.6	6.93	846	212.7	1.01
PMW-11	7/22/2016	(NS)	12.33	(DRY)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-11	6/28/2017	(NS)	12.33	(DRY)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-11	9/27/2017	(NS)	12.33	(DRY)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-12	7/22/2016	(LFP)	12.35	6.85	5.50	710	**1,700**	**610**	0.83	0.52	0.21	0.60	ND< 0.20	ND< 0.010	ND< 0.20	**9.27**	ND< 0.0151	ND< 2.0	ND< 2.0	16.7	7.37	631	-121.7	0.35
PMW-12	6/28/2017	(LFP)	12.35	6.55	5.80	90 J	**1,500**	**1,200**	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	15.1	7.05	5.68	-21.2	0.24
PMW-12*	6/28/2017	(SGC)	12.35	6.55	5.80	--	80 J	ND<260	--	--	--	--	--	--	--	--	--	--	--	15.1	7.05	750	-21.2	0.24
PMW-12	9/27/2017	(LFP)	12.35	6.79	5.56	300	**2,000 B**	**1,300**	0.51 J	1.1 J	0.25 J	ND< 3.24 J	--	--	--	1.26 J	--	--	--	18.1	6.82	640	-65.4	1.44
PMW-13	6/29/2017	(LFP)	11.13	5.21	5.92	160 J	**1,900**	**700**	0.62 J	0.66 J	ND< 3.0	ND< 3.0	ND< 2.0	ND< 0.010	ND< 2.0	0.986	0.01565	4.0 J	3.0 J	17.7	6.77	660	27.1	1.78
PMW-13	9/29/2017	(LFP)	11.13	5.45	5.68	130 J B	**1,400**	**590**	0.57 J	0.72 J	ND< 3.0	1.16 J	--	--	--	ND< 1.56 J	--	--	--	20.25	6.70	650	-142	0.34
PMW-14	7/22/2016	(LFP)	10.80	5.10	5.70	330	**1,500**	300	0.23	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	**16.92**	ND< 0.0151	ND< 2.0	ND< 2.0	19.4	7.48	553.2	-147.1	0.39

Table 3
Groundwater Gauging Data and Select Analytical Results from Existing Monitoring Well Network
DoubleTree

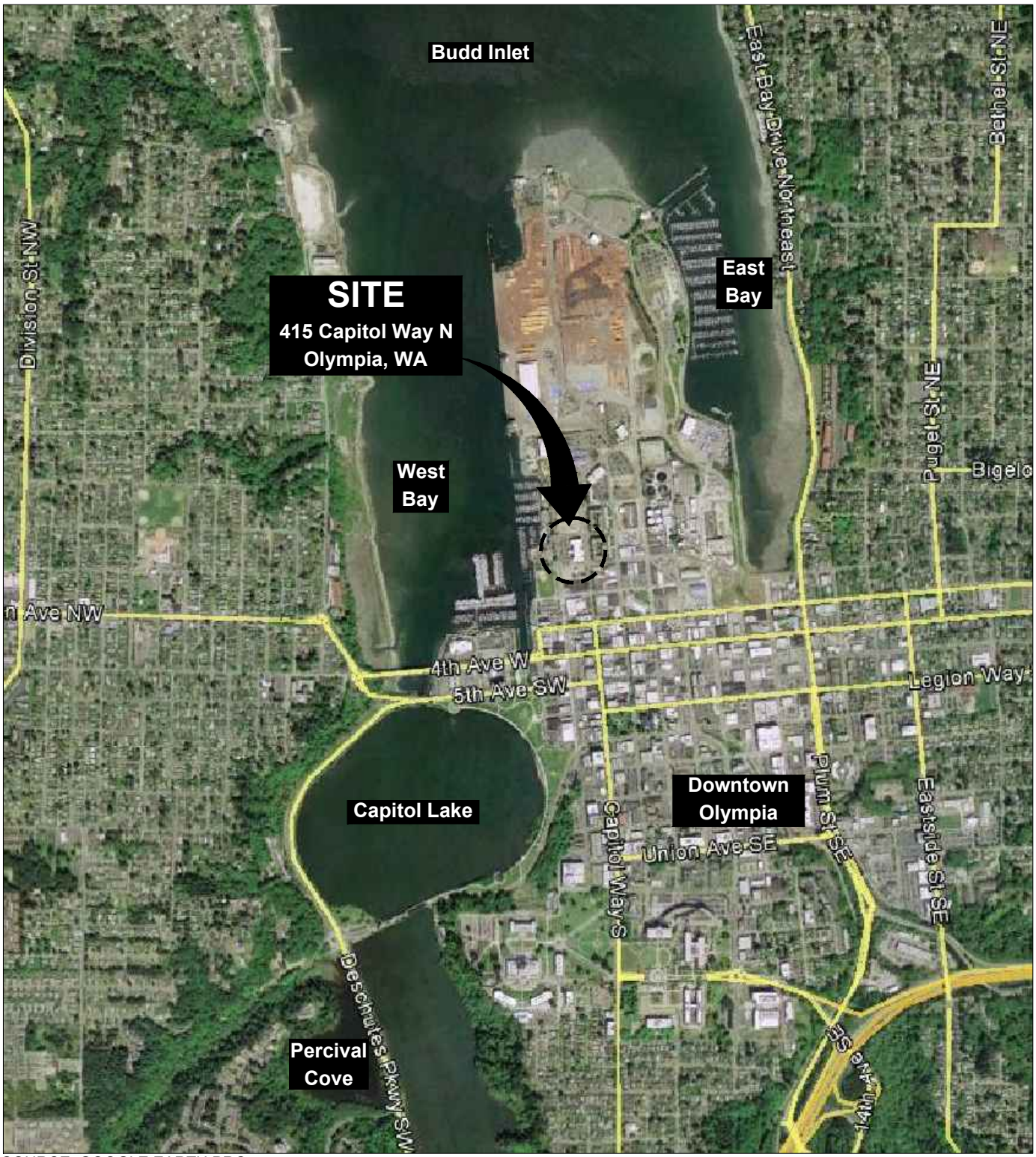
415 Capitol Way North, Olympia, WA

All concentrations are presented in micrograms per liter (µg/L)

Well	Sample Date	Notes	TOC (ft amsl)	DTW (ft btoc)	GWE (ft amsl)	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Naphthalenes	Total cPAHs	Total Lead	Dissolved Lead	Temperature (°C)	pH (s.u.)	Conductivity (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)
Model Toxics Control Act (MTCA) Method B Groundwater to Indoor Air (SL)						**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**8.93**	**0.1**	**15**	**15**	**--**	**--**	**--**	**--**	**--**
PMW-14	6/29/2017	(LFP)	10.80	4.80	6.00	350 J H	**2,100**	**670**	ND< 2.0	0.26 J	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	17.3	6.97	590	-40.6	1.37
PMW-14*	6/29/2017	(LFP)	10.80	4.80	6.00	--	**750**	280	--	--	--	--	--	--	--	--	--	--	--	17.3	6.97	590	-40.6	1.37
PMW-14	9/29/2017	(LFP)	10.80	5.06	5.74	190 J B	**1,200**	280	ND< 2.0	0.53 J	ND< 3.0	ND< 3.2 J	--	--	--	**18.58**	--	--	--	20.69	6.64	544	-160.5	0.38
PMW-15	7/22/2016	(LFP)	11.26	5.50	5.76	150	320	ND< 250	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	**9.34**	ND< 0.0151	ND< 2.0	ND< 2.0	17.8	7.35	414	-132.4	0.47
PMW-15	6/28/2017	(LFP)	11.26	5.16	6.10	120 J	450	ND< 280	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	15.6	6.88	651	-24.3	0.30
PMW-15	9/29/2017	(LFP)	11.26	5.46	5.80	76 J B	420	91 J	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	ND< 0.125 J	--	--	--	18.83	6.69	558	-128.3	0.21
PMW-16	6/29/2017	(LFP)	10.16	4.09	6.07	ND< 500	100 J	ND< 280	ND< 2.0	ND< 2.0	ND< 3.0	ND< 3.0	ND< 2.0	ND< 0.010	ND< 2.0	ND< 0.0515	0.017192	5.0 J	4.6 J	17.6	7.28	502.3	-48.7	0.45
PMW-16	9/29/2017	(LFP)	10.16	4.36	5.80	ND< 250	87 J	ND<260	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	ND<0.093	--	--	--	20.8	7.12	453	-142.8	0.29
PMW-17	7/22/2016	(LFP)	10.28	4.81	5.47	240	180	ND< 250	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	0.393	ND< 0.0159	ND< 2.0	ND< 2.0	19.4	7.52	598	-169.5	0.4
PMW-17	7/22/2016	(DUP)(LFP)	10.28	4.81	5.47	230	210	ND< 250	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	0.384	ND< 0.0159	ND< 2.0	ND< 2.0	--	--	--	--	--
PMW-17	6/28/2017	(LFP)	10.28	4.33	5.95	150 J H	170	ND< 270	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	12.0	7.43	580.5	-174.0	0.28
PMW-17*	6/28/2017	(SGC)	10.28	4.33	5.95	--	87 J	ND< 270	--	--	--	--	--	--	--	--	--	--	--	12.0	7.43	580.5	-174.0	0.28
PMW-17	9/29/2017	(LFP)	10.28	4.57	5.71	180 J B	300	130 J	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	0.083 J	--	--	--	20.2	7.35	680	-154.7	0.35
PMW-18	7/22/2016	(LFP)	11.80	6.24	5.56	190	**1,800**	340	1.9	ND< 0.20	ND< 0.20	ND< 0.50	ND< 0.20	ND< 0.010	ND< 0.20	0.264	ND< 0.0159	ND< 2.0	ND< 2.0	18.2	7.44	816	-77.3	0.36
PMW-18	6/28/2017	(LFP)	11.80	5.93	5.87	100 J H	**3,100**	**1,400**	0.81 J	ND< 2.0	ND< 3.0	ND< 5.0	--	--	--	--	--	--	--	15.9	6.71	1,050	-24.4	0.28
PMW-18	9/29/2017	(LFP)	11.80	6.21	5.59	130 J B	**2,300**	**610**	1.3 J	0.27 J	ND< 3.0	ND< 5.0	--	--	--	ND< 0.40 J	--	--	--	18.6	6.86	1,006	-112.7	0.27
PMW-19	9/29/2017	(LFP)	NE	6.91	NE	ND <250	47 J	ND <260	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	ND< 2.0	ND< 0.0099	ND< 2.0	0.072 J	0.0298	ND< 4.0	ND< 4.0	17.8	7.74	530.4	-68.3	0.35
PMW-19*	9/29/2017	(SGC)	NE	6.91	NE	--	ND< 100	ND <260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-20	9/29/2017	(LFP)	NE	6.11	NE	ND <250	140	100 J	ND< 2.0	ND< 2.0	ND< 3.0	ND< 5.0	ND< 2.0	ND< 0.010	ND< 2.0	0.192	0.03501	ND< 4.0	ND< 4.0	21.54	6.73	2,070	-117.0	0.44
PMW-20*	9/29/2017	(SGC)	NE	6.11	NE	--	ND< 100	ND <260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PMW-21	9/29/2017	(LFP)	NE	5.63	NE	52 J B	270	ND <260	3.9	0.85 J	0.57 J	1.23 J	ND< 2.0	ND< 0.0099	ND< 2.0	7.83	0.08327	ND< 4.0	ND< 4.0	18.5	6.78	494.8	-62.9	0.62
PMW-21*	9/29/2017	(SGC)	NE	5.63	NE	--	160	ND <260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
-- = Not analyzed/not applicable
TOC = Top of casing in feet North American Vertical Datum of 1988 (NAVD 88)
DTW = Depth to water in feet below TOC
ft amsl = Feet above mean sea level
ft btoc = Feet below top of casing
GWE = Groundwater elevation in feet NAVD 88
total naphthalenes = sum of 1-methyl naphthalene, 2-methylnaphthalene and naphthalene
ND< = Analytical result is less than reporting limit shown
P = Purge sample
LFP = Low flow purge sample
DUP = Duplicate sample
J = estimated value – The result is greater than or equal to the Method Detection Limit (MDL) and less than the Limit of Quantitation
Well survey data by W&H Pacific as reported by Stemen Environmental, Inc.
If NAPL was present, the GWE is corrected according to the following formula (TOC elevation - depth to water) + (0.8 x NAPL thickness)
Data collected prior to 2016 have been provided by previous consultants and are included as historical reference only
BOLDED and gray highlighted results detected above MTCA Method A Cleanup Levels.
All gauging data for most recent sampling event collected on September 27, 2017.

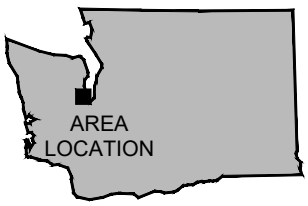
FIGURES



SOURCE: GOOGLE EARTH PRO

0 1500' 3000'

Approximate Scale: 1 in. = 1500 ft.



415 CAPITOL WAY NORTH
OLYMPIA, WASHINGTON 98501

VAPOR INTRUSION INVESTIGATION REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

LEGEND:

- MW-1 — MONITORING WELL LOCATION
- MW-2 — MONITORING WELL ASSOCIATED WITH ADJACENT SITE
- MW7 — FORMER ON-SITE WELL LOCATION
- INDOOR AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- SUB-SLAB SOIL VAPOR SAMPLING LOCATION
- APPROXIMATE FORMER UNDERGROUND STORAGE TANK LOCATION

DATABOX EXAMPLE

SAMPLE LOCATION	
INDOOR AIR	NAPHTHALENE
SUB-SLAB	NAPHTHALENE

ALL SAMPLES COLLECTED BETWEEN NOVEMBER 13 AND NOVEMBER 14, 2017.

BOLD — ANALYTE DETECTED ABOVE MTCA METHOD B CLEANUP LEVEL (CUL) FOR INDOOR AIR OR SCREENING LEVEL (SL) FOR SUB-SLAB SOIL VAPOR (ECOLOGY 2015)

NOTES:

1. RESULTS ARE PRESENTED IN MICROGRAMS PER CUBIC METER (µg/m3).
2. INDOOR AIR AND SUB-SLAB SOIL VAPOR SAMPLE LOCATIONS ARE APPROXIMATE.
3. OUTDOOR AIR SAMPLE OA-01 WAS NOT ANALYZED DUE TO MEDIA MOISTURE CONTENT.

SOURCES: EMPI 200O; ENVIROS, INC. 1994, ENVIRONMENTAL SITE ASSESSMENT - JUNE. FIRST FLOOR PLAN PROVIDED BY DOUBLETREE HOTEL

0 50' 100'

Approximate Scale: 1 in. = 50 ft.

415 CAPITOL WAY NORTH
OLYMPIA, WASHINGTON 98501

VAPOR INTRUSION INVESTIGATION REPORT

SAMPLE LOCATION AND ANALYTICAL RESULTS MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

APPENDIX A

Ecology Letter dated November 28, 2017

From:	Hughes, Jeremy (ECY)
To:	McCullough, Paul
Cc:	Henneck, Rory; Acklam, Nicholas (ECY); Mullin, Tim (ECY)
Subject:	RE: Transmittal of Work Plan for Additional Vapor Intrusion/Indoor Air Investigation; Former Phoenix Inn Site, 415 Capitol Way N., VCP SW1582
Date:	Thursday, November 9, 2017 11:34:01 AM
Attachments:	image003.png image004.png

Paul,

I've reviewed the November 7 Revised Work Plan and am providing approval to proceed. A formal letter, documenting this approval, will be mailed to you.

Additionally, you should also be expecting the vapor-intrusion notification document we discussed previously within the next week or so.

Finally, as you are aware, Tim Mullin is the new Site Manager assigned to the former Phoenix Inn Site; I've included him on this email. Any future correspondences regarding this Site should be addressed to him.

It was a pleasure working with you!

Regards,

Jeremy

From: McCullough, Paul [mailto:Paul.McCullough@arcadis.com]
Sent: Wednesday, November 8, 2017 10:35 AM
To: Hughes, Jeremy (ECY) <jhug461@ECY.WA.GOV>
Cc: Henneck, Rory <Rory.Henneck@arcadis.com>
Subject: FW: Transmittal of Work Plan for Additional Vapor Intrusion/Indoor Air Investigation; Former Phoenix Inn Site, 415 Capitol Way N., VCP SW1582

Hi Jeremy,

As discussed, please find attached the revised Work Plan and response to comments summary. As you are aware, we would like to proceed with the indoor air/sub-slab sampling on Monday and Tuesday of next week (11/13-14), as we reserved the hotel rooms for these dates. We would appreciate it if Ecology could provide an acknowledgement for us to proceed with the proposed testing before the sampling event.

Thanks for letting me know about the transition. I really appreciate your assistance with this project over the past months and wish you the very best on your next adventure. Please let Tim know that I would be happy to call or meet with him at his convenience if he has any questions for Arcadis as he gets ramped up on the project.

Best regards, Paul

Paul T. McCullough | Principal Environmental Engineer | paul.mccullough@arcadis.com

ARCADIS U.S., Inc. | 1100 Olive Way, Suite 800 | Seattle, WA 98101
T: 206.726.4728 | M: 206.214.7161 | F: 206.325.8218
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From: Hughes, Jeremy (ECY) [mailto:jhug461@ECY.WA.GOV]
Sent: Monday, October 23, 2017 9:53 AM
To: McCullough, Paul <Paul.McCullough@arcadis.com>
Cc: Robyn.Neely@akerman.com; mstone@revantage.com; Henneck, Rory <Rory.Henneck@arcadis.com>; Acklam, Nicholas (ECY) <nack461@ECY.WA.GOV>
Subject: RE: Transmittal of Work Plan for Additional Vapor Intrusion/Indoor Air Investigation; Former Phoenix Inn Site, 415 Capitol Way N., VCP SW1582

Paul,

Thank you – I'll upload this to the Site archives and will provide review ASAP.

Regards,

Jeremy

From: McCullough, Paul [mailto:Paul.McCullough@arcadis.com]
Sent: Friday, October 20, 2017 4:31 PM
To: Hughes, Jeremy (ECY) <jhug461@ECY.WA.GOV>
Cc: Robyn.Neely@akerman.com; mstone@revantage.com; Henneck, Rory <Rory.Henneck@arcadis.com>
Subject: Transmittal of Work Plan for Additional Vapor Intrusion/Indoor Air Investigation; Former Phoenix Inn Site, 415 Capitol Way N., VCP SW1582

Hi Jeremy,

Attached for your review is the Work Plan for Additional Vapor Intrusion/Indoor Air Investigation at the above-referenced site. As discussed, we would like to implement the sub-slab and indoor air sampling and other Work Plan activities in an expedited fashion and would appreciate Ecology's concurrence to begin the work as soon as possible. Please do not hesitate to call me if you have any questions or wish to discuss further.

Let's touch base early next week.

Regards, Paul

Paul T. McCullough | Principal Environmental Engineer | paul.mccullough@arcadis.com

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 · Olympia, Washington 98504-7775 · (360) 407-6300
711 for Washington Relay Service · Persons with a speech disability can call 877-833-6341

November 28, 2017

Mr. Michael Stone
Assistant General Counsel
Blackstone Real Estate Advisors, L.P.
501 E. Camino Real
Boca Raton, FL 33432

Approval of November 7, 2017 *Revised Work Plan for Additional Vapor Intrusion/Indoor Air Investigation* for the Following Site:

- **Site Name:** Phoenix Inn
- **Site Address:** 415 Capitol Way North, Olympia, WA
- **Cleanup Site ID:** 5257
- **Facility Site ID:** 1571525
- **VCP Project Number:** SW1582

Dear Mr. Stone:

The Washington State Department of Ecology (Ecology) received your November 7, 2017 *Revised Work Plan for Additional Vapor Intrusion/Indoor Air Investigation* (Revised Work Plan) for the former Phoenix Inn (currently DoubleTree Inn), located at 415 Capitol Way North in Olympia, Washington (the Site). The Revised Work Plan was prepared by submitted by Arcadis U.S., Inc. (Arcadis) on behalf of PIH Olympia, LLC (PIH) in response to Ecology's comments, presented in a letter dated July 11, 2017.

Ecology concurs with the proposed locations, methods, and procedures as described in the Revised Work Plan, noting that actual locations may be revised based on encountered field conditions.

Please submit a Report of Findings upon completion of the proposed field activities, which includes copies of all relevant field sampling forms, boring logs, and analytical laboratory data reports. This report should also include graphical depictions of all sampling locations and associated results as well as a summary of findings, discussion of potential data gaps, if present.

Closing

Please note that requests for site-closure determinations (i.e. No Further Action) through the Voluntary Cleanup Program (VCP) are contingent upon compliance with requirements and directives provided through that Program.

Contact Information

For more information about the VCP and the cleanup process, please visit our web site: www. ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this transmittal, please contact Tim Mullin by phone at (360) 407-6265 or tmul461@ecy.wa.gov.

Sincerely,

Tim Mullin, LG
SWRO Toxics Cleanup Program

TM: kb

By Certified Mail: [91 7199 9991 7037 7462 2194]

cc: Robyn Neely, Esq., Ackerman LLP
Paul McCullough, Arcadis
Nicholas Acklam, Ecology
Stephanie Bussell, Ecology
Tim Mullin, Ecology
Ecology Site File

APPENDIX B

Building Survey, Chemical Inventory and Safety Data Sheets

Building Survey and Product Inventory Form

Directions: This form must be completed for each building or area planned to be evaluated for the study.

Preparer's Name: Rory Henneck

Date/Time Prepared: 11/13/17 15:47

Preparer's Affiliation: Arcadis U.S. Inc.

Phone No.: 206-726-4732

Purpose of Investigation: Indoor air and sub-slab evaluations

1. OCCUPANT:

Interviewed: Y / N

Last Name: Double Tree by Hilton First Name: NA spoke with Scott Borges

Address: 415 Capitol N

County: Thurston

Home Phone: NA Office Phone: 360-570-0555

Number of Occupants/Persons at this Location: Varies ~ 100 guests people, ~70 rooms, ~15 employees

Age of Occupants: Varies

2. OWNER OR LANDLORD: (Check if Same as Occupant _)

Interviewed: Y / N

Last Name: Blackstone First Name: NA

Address: NA

County: NA

Home Phone: NA Office Phone: NA

3. BUILDING CHARACTERISTICS:

Type of Building: (circle appropriate response)

Residential	School	(Commercial/Multi-use)
Industrial	Church	Other:_____

If the Property is Residential, Type? (circle appropriate response)

Ranch		2-Family 3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other: NA

If Multiple Units, How Many? 102 rooms

If the Property is Commercial, Type?

Business Type(s) hotel

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? NA

Other Characteristics:

Number of Floors 3 Building Age ~16 yrs

Is the Building Insulated? (Y) / N How Air-Tight? Tight / (Average) / Not Tight

4. AIRFLOW:

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow Between Floors

HVAC units located on first floor. Ducting extends between floors and draws air from intakes on the north and south sides of the roof. PTAC units are located in individual rooms and exchange air from the room.

10.0 ppm isobutylene reading from ppbRAE.

Airflow Near Source

Based on groundwater analytical results, the southern portion of the hotel property exhibits the highest concentrations of petroleum hydrocarbons. Indoor air sources of naphthalene have not been identified. Airflow consists of inter-floor air exchange and room air exchange with likely mixing from open doors.

Outdoor Air Infiltration

The building possesses 3 entrances on the west side, providing opportunities for outdoor air to infiltrate. Sewer ventilation lines may present limited opportunity. Windows in conference room open. Man door to Capitol Wy & NE corner also. Guest windows open.

Infiltration Into Air Ducts

Air ducts observed appeared to be sealed.

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS: (circle all that apply)

a.	**Above grade construction:**	wood frame	(concrete)	stone brick	
b.	**Basement type:**	full	crawlspace	slab	other NA
c.	**Basement floor:**	concrete	dirt	stone	other NA
d.	**Basement floor:**	uncovered	covered	covered with NA	
e.	**Concrete floor:**	unsealed	sealed	sealed with _____	
f.	**Foundation walls:**	poured	block stone	other _____	
g.	**Foundation walls:**	unsealed	sealed	sealed with _____	
h.	**The basement is:**	wet	damp	dry	moldy Not Applicable
i.	**The basement is:**	finished	unfinished	partially finished	Not Applicable

j. Sump present? (Y) (N) RH

k. Water in sump? Y / N / (NA) RH

Basement/lowest level depth below grade: _____ (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

Sprinkler room (SE portion of facility) has an opening to ground. Floor conduits through electrical room within ABS pipe.

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Y / N N/A no basement

6. HEATING, VENTILATING, AND AIR CONDITIONING: (circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	✓Heat pump	Hot water baseboard
Space heaters	Stream radiation	Radiant floor
Electric baseboard	Wood stove	Outdoor wood boiler
Other _____		

The primary type of fuel used is:

	✓Natural gas	Fuel oil	Kerosene
secondary →	Electric	Propane	Solar
	Wood coal		

Domestic hot water tank fueled by: NA – natural gas

Boiler/furnace located in: Basement Outdoors (Main Floor) Other Third fl. elec.

Air conditioning: (Central Air) Window Units (Open Windows) None PTACS (floor level)

Are there air distribution ducts present? (Y) N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

Return air near floor outside furnace rooms on first and third floors.

Supply air from roof.

Ducts appear tight.

7. OCCUPANCY:

Is basement/lowest level occupied? (Full-time) Occasionally Seldom Almost Never

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage):

Basement N/A

1st Floor hotel room, laundry, kitchen, dining area, storage, office

2nd Floor hotel room, storage

3rd Floor hotel room, storage

4th Floor NA

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY:

a. **Is there an attached garage?** Y / (N)

b. **Does the garage have a separate heating unit?** Y / (N) / NA

c. **Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?**
Y / N / (NA) Please specify: No garage

d. **Has the building ever had a fire?** Y / (N) When? _____

e. **Is a kerosene or unvented gas space heater present?** Y / (N) Where? _____

f. **Is there a workshop or hobby/craft area?** Y / (N) Where & Type? _____

g. **Is there smoking in the building?** Y / (N) How frequently? _____

h. **Have cleaning products been used recently?** (Y) / N When & Type? Daily, almost

i. **Have cosmetic products been used recently?** (Y) / N When & Type? Daily

j. Has painting/staining been done in the last 6 months? (Y) / N Where & When? Thresholds

k. **Is there new carpet, drapes or other textiles?** Y / (N) **Where & When?** Not in 5 years.

l. **Have air fresheners been used recently?** (Y) / N When & Type? Deodorizers in common bathrooms.

m. **Is there a kitchen exhaust fan?** Y / (N) If yes, where _____

n. **Is there a bathroom exhaust fan?** (Y) / N If yes, where vented? Venting to roof

o. **Is there a clothes dryer?** (Y) / N **If yes, is it vented outside?** (Y) / N

p. **Has there been a pesticide application?** Y / (N) When & Type? Only if an ant problem outside.

q. **Are there odors in the building?** (Y) / N

If yes, please describe: elevator room (chemicals), pool room (chlorine)

Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work? Y / (N)

If yes, what types of solvents are used? NA

If yes, are their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (circle appropriate response)

(Yes, use dry-cleaning regularly (weekly)) No

(Yes, use dry-cleaning infrequently (monthly or less)) Unknown

Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N)

Date of Installation: NA

Is the system active or passive? Active/Passive

Are there any Outside Contaminant Sources? (circle appropriate responses)

Contaminated site with 1000-foot radius? (Y) / N Specify _____

Other stationary sources nearby (e.g., gas stations, emission stacks, etc.): _____

_____

Heavy vehicle traffic nearby (or other mobile sources): Normal traffic

9. WATER AND SEWAGE:

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION: (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: Not applicable

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel NA

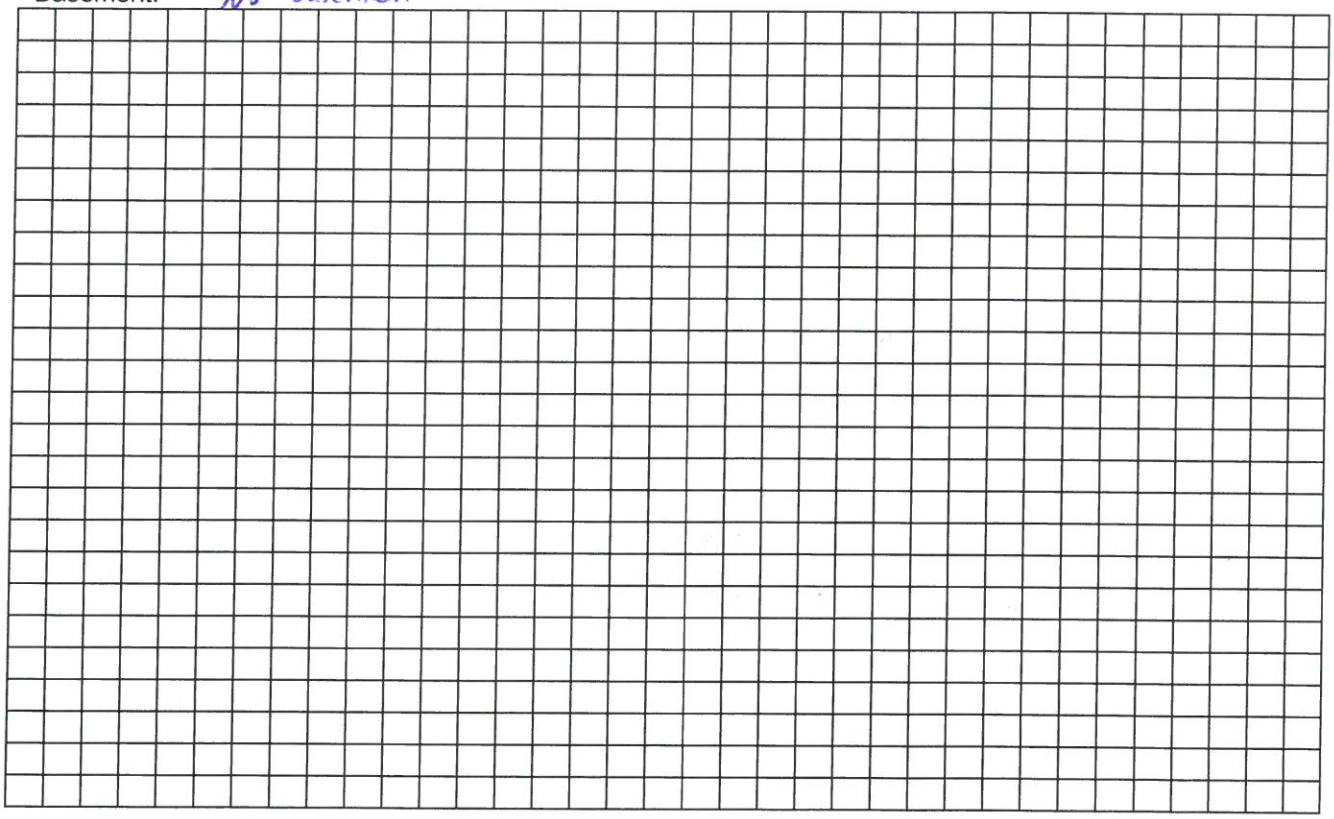
c. Responsibility for costs associated with reimbursement explained? Y / N NA

d. Relocation package provided and explained to residents? Y / N NA

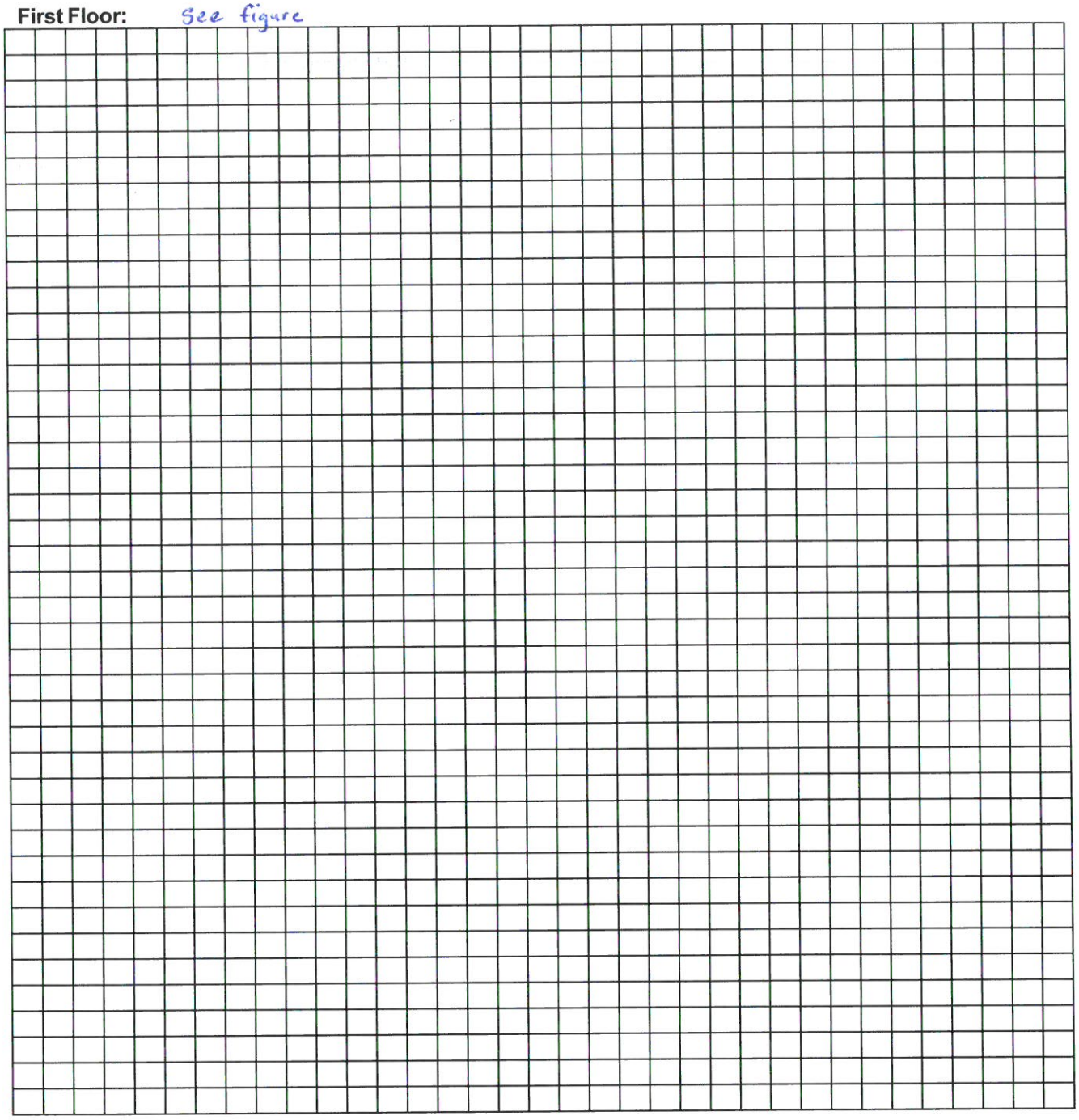
11. FLOOR PLANS:

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement: No basement



First Floor: See figure



PDF Copy PRINT

Masterchem Industries LLC

View (M)SDS Section : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name:	**KILZ® Complete Interior/Exterior Oil-Based Primer Sealer - Aerosol**
Product Code:	L101348, L101350C
SDS Manufacturer Number:	L101348, L101350C
Manufacturer Name:	Masterchem Industries LLC
Address:	3135 Old Highway M Imperial, MO 63052-2834
General Phone Number:	(636) 942-2510
General Fax Number:	(636) 942-3663
Customer Service Phone Number:	(800) 325-3552
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec:	In Canada, call CANUTEC: (613) 996-6666 (call collect)
SDS Creation Date:	June 26, 2006
SDS Revision Date:	December 23, 2015

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:

Signal Word: Danger.

GHS Class:
Flammable Aerosol
Compressed gases under pressure
Aspiration Hazard, Category 1.
Eye Irritant, Category 2B.
Specific Target Organ Toxicity, Single Exposure, Category 3.
Acute Inhalation Toxicity, Category 4

Hazard Statements:
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation, drowsiness or dizziness.

Precautionary Statements:
DO NOT use this product unless you can achieve cross-ventilation by opening windows and doors during application and drying or use the product outdoors.
Do not spray on an open flame or other ignition source.
Extinguish all flames and pilot lights and turn off stoves, heaters, electric motors, high intensity lights and other sources of ignition during use and until all vapors are gone.
Pressurized container: Do not pierce or burn, even after use.
Wear protective clothing, gloves, eye, and face protection.
Do not breathe vapors or spray mist.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Do not expose to temperatures exceeding 50°C/122°F.
Store locked up in a cool, well-ventilated place, protected from sunlight.
Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do.

Continue rinsing and get medical attention if eye irritation persists.
If on skin or hair: Wash with plenty of soap and water. Wear protective gloves and eye protection.
If inhaled: Leave the area if you experience headaches, drowsiness or dizziness to obtain fresh air and keep at rest in a position comfortable for breathing. If difficulty continues, get medical attention immediately.
If swallowed: Do not induce vomiting and get medical attention immediately.

Emergency Overview:	DANGER! Flammable. Harmful if swallowed. Aspiration may occur during swallowing or vomiting, resulting in lung damage. Harmful if inhaled. Inhalation of vapors may cause drowsiness and dizziness. Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Causes severe eye irritation and possible injury.
Skin:	Causes skin irritation.
Inhalation:	Harmful if inhaled. Inhalation of vapors may cause drowsiness and dizziness. Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion:	Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation. Aspiration of petroleum distillates into the lungs can cause severe chemical pneumonitis that can be fatal.
Chronic Health Effects:	Prolonged or repeated contact can result in defatting and drying of the skin, which may result in skin irritation and dermatitis (rash). Repeated or prolonged inhalation may cause toxic effects.
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system. Central nervous system. Kidney.
Aggravation of Pre-Existing Conditions:	May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Aliphatic Hydrocarbon	64742-49-0	5 - 10 by weight	
Rutile	1317-80-2	1 - 5 by weight	
Silicate, mica	12001-26-2	1 - 5 by weight	
Titanium dioxide	13463-67-7	5 - 10 by weight	
Talc, Magnesium silicate hydrate	14807-96-6	1 - 5 by weight	
Nepheline Syenite	37244-96-5	1 - 5 by weight	
Distillates (petroleum), hydrotreated light; Kerosine - unspecified	64742-47-8	5 - 10 by weight	
Isobutane	75-28-5	1 - 5 by weight	
n-butane	106-97-8	5 - 10 by weight	
Acetone	67-64-1	10 - 30 by weight	
Propane	74-98-6	10 - 30 by weight	

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flammable Properties:	Flammable liquid.
Flash Point:	-156°F (-104°C)
Flash Point Method:	None.
Auto Ignition Temperature:	Not applicable.
Lower Flammable/Explosive Limit:	0.8% by volume
Upper Flammable/Explosive Limit:	12.8% by volume
Fire Fighting Instructions:	Flammable. Cool fire-exposed containers using water spray.
Extinguishing Media:	Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	4
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in Section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Place leaking cans in a container such as an open pail or plastic bag if safe to do so and let the the gas and pressure dissipate. Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation. Eliminate all ignition sources including those beyond the immediate spill area if safe to do so.
Methods for cleanup:	Clean up spills immediately observing precautions in the protective equipment section. Collect spill with a non-sparking tool. Place into a suitable container for disposal. Take precautionary measures against static discharges. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	**DO NOT** use this product unless you can achieve cross-ventilation by opening windows and doors during application and drying or use the product outdoors. Avoid breathing vapor and contact with eyes, skin and clothing. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Work Practices:	To reduce potential for static discharge, bond and ground containers when transferring material.
Special Handling Procedures:	Do not reuse containers without proper cleaning or reconditioning.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective

equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PPE Pictograms:	

EXPOSURE GUIDELINES

Silicate, mica :	
Guideline ACGIH:	TLV-TWA: 3 mg/m3 (R)
Guideline OSHA:	PEL-TWA: 20 mppcf
Titanium dioxide :	
Guideline ACGIH:	TLV-TWA: 10 mg/m3
Guideline OSHA:	OSHA-TWA: 15 mg/m3
Talc, Magnesium silicate hydrate :	
Guideline ACGIH:	TLV-TWA: 1 mg/m3 Respirable fraction (R)
Guideline OSHA:	PEL-TWA: 20 mppcf
Isobutane :	
Guideline ACGIH:	TLV-TWA: 1000 ppm
n-butane :	
Guideline ACGIH:	TLV-TWA: 1000 ppm
Acetone :	
Guideline ACGIH:	TLV-TWA: 250 ppm TLV-STEL: 500 ppm
Guideline OSHA:	PEL-TWA: 1000 ppm
Propane :	
Guideline ACGIH:	TLV-TWA: 1000 ppm
Guideline OSHA:	PEL-TWA: 1000 ppm

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Aerosol.
Color:	White
Odor:	Solvent.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	7.0 - 8.0
Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.
pH:	Not applicable.
Viscosity:	Not applicable.
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Water thin
Flash Point:	-156°F (-104°C)

Flash Point Method:	None.
Auto Ignition Temperature:	Not applicable.
VOC Content:	MIR < 1.2

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, ignition sources, and sparks. Incompatible materials. Freezing or temperatures below 0°C (32°F).
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Titanium dioxide :

Skin:	Skin - Rabbit; Standard Draize test. : 300 ug/3D; (Intermittent) mild. (RTECS)
Ingestion:	Ingestion - Rat TDLo: 60 gm/kg; Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Other changes. (RTECS)
Chronic Effects:	Causes damage to organs through prolonged or repeated exposure to particulates or powder. Normal application procedures for this product pose no hazard as to the release of respirable titanium dioxide dust.
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans. Based on Inhalation studies in rats exposed to fine or ultrafine particles (dust) of titanium dioxide.

Talc, Magnesium silicate hydrate :

Carcinogenicity:	IARC: Group 3: Unclassifiable as to carcinogenicity to humans.

Isobutane :

Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 57 pph/15M [Behavioral - Tremor Behavioral - Convulsions or effect on seizure threshold Lungs, Thorax, or Respiration - Respiratory depression] Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 658000 mg/m3/4H [Details of toxic effects not reported other than lethal dose value] Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 570000 ppm/15M [Behavioral - General anesthetic Behavioral - Ataxia Lungs, Thorax, or Respiration - Respiratory depression] (RTECS)

n-butane :

Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 658000 mg/m3/4H [Details of toxic effects not reported other than lethal dose value] (RTECS)

Acetone :

Eye:	Administration into the eye - Rabbit Standard Draize test: 20 mg/24H [Moderate] Administration into the eye - Rabbit Standard Draize test: 10 uL [Mild] Administration into the eye - Rabbit Standard Draize test: 20 mg [Severe] (RTECS)
Skin:	Skin - Guinea pig; LD50: >9400 uL/kg - Details of toxic effects not reported other than lethal dose value. (RTECS)
Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 50100 mg/m3/8H [Details of toxic effects not reported other than lethal dose value] Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 50100 mg/m3 [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 5800 mg/kg [Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor] Oral - Rat LD50 - Lethal dose, 50 percent kill: 5800 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Propane :

Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: >800000 ppm/15M [Behavioral - General anesthetic Behavioral - Ataxia Lungs, Thorax, or Respiration - Respiratory depression] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.

Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Aerosols, flammable.
DOT UN Number:	1950
DOT Hazard Class:	2.1
DOT Packing Group:	Not applicable.
DOT Exemption:	Not applicable.
IATA Shipping Name:	Aerosol. Flammable.
IATA UN Number:	1950
IATA Hazard Class:	2.1
IATA Packing Group:	Not applicable.
Canadian Shipping Name:	Aerosol.
Canadian UN Number:	1950
Canadian Hazard Class:	2.1
Canadian Packing Group:	Not applicable.
IMDG UN Number :	1950
IMDG Shipping Name :	Aerosol.
IMDG Hazard Class :	2.1
IMDG Packing Group :	Not applicable.
Marine Pollutant:	Not applicable.
ADR UN Number:	1950
ADR Shipping Name :	Aerosol.
ADR Hazard Class:	2
ADR Packing Group :	Not applicable.

SECTION 15 : REGULATORY INFORMATION

Aliphatic Hydrocarbon :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Rutile :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

Silicate, mica :

TSCA Inventory Status:	Not listed
State Regulations:	Listed in the New Jersey State Right to Know List.

Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Titanium dioxide :

TSCA Inventory Status: Listed

State Regulations: Listed in the New Jersey State Right to Know List.
Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Talc, Magnesium silicate hydrate :

TSCA Inventory Status: Listed

State Regulations: Listed in the New Jersey State Right to Know List.
Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Nepheline Syenite :

Canada DSL: Listed

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

TSCA Inventory Status: Listed

Canada DSL: Listed

Isobutane :

TSCA Inventory Status: Listed

State Regulations: Listed in the Pennsylvania State Hazardous Substances List.
Listed in the New Jersey State Right to Know List..

Canada DSL: Listed

n-butane :

TSCA Inventory Status: Listed

State Regulations: Listed in the Pennsylvania State Hazardous Substances List.
Listed in the New Jersey State Right to Know List.

Canada DSL: Listed

Acetone :

TSCA Inventory Status: Listed

State Regulations: Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Propane :

TSCA Inventory Status: Listed

State Regulations: Listed in the Pennsylvania State Hazardous Substances List.
Listed in the New Jersey State Right to Know List.

Canada DSL: Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	3
HMIS Reactivity:	1
HMIS Personal Protection:	X

SDS Creation Date:	June 26, 2006
SDS Revision Date:	December 23, 2015
SDS Revision Notes:	GHS Pictogram Update
SDS Author:	Actio Corporation

Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication

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APPENDIX C

Indoor Air and Soil Vapor Sampling Logs

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Indoor Sample Collection Log

		Sample ID:	IA-1
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Capitol Conference Room	**Flow Rate:**	Rec = 30 mL/min Post = 29 mL/min
Sampling Height:	3.5'	**Sample Duration:**	472 min
Time and Date of Collection:	1517/1311 11-13-17	**Sample Volume:**	13,924 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	1517	← Refer	to Field	Notes →		0.0
11-13-17						0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	# 6013 T159
Sample Volume:	13,924 mL
Notes:	

General Observations/Notes:

ARCADIS Design & Consultancy for natural and built assets

Indoor Sample Collection Log

		Sample ID:	IA-2
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Office	**Flow Rate:**	Pre = 33mL/min Post = 78 mL/min
Sampling Height:	4'	**Sample Duration:**	466
Time and Date of Collection:	1535 / 1321 11-13-17	**Sample Volume:**	25,863 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	1535	Refer to Field Notes				0.0
11-13-17						0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	60152244
Sample Volume:	25,863 mL
Notes:	

General Observations/Notes:

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Indoor Sample Collection Log

		Sample ID:	~~IA-3~~ GC IA-3
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Gym	**Flow Rate:**	Pre= 33 mL/min Post= 102mL/min
Sampling Height:	4'	**Sample Duration:**	~~481~~
Time and Date of Collection:	1523 / 2325 11-13-17	**Sample Volume:**	33,670 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	1523	Refer to Field Notes				0.0
11-13-17	2325					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	6015 1935
Sample Volume:	33,670 mL
Notes:	

General Observations/Notes:

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Indoor Sample Collection Log

		Sample ID:	IA-4
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Laundry Room	**Flow Rate:**	Pre = 53 mL/min Post: 99 mL/min
Sampling Height:	5'	**Sample Duration:**	489
Time and Date of Collection:	1520/2330 11-13-17	**Sample Volume:**	32,274 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	15:20	Refer to Field Notes				0.0
11-13-17	23:30					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	A00473
Sample Volume:	32,274 mL
Notes:	

General Observations/Notes:

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Indoor Sample Collection Log

		Sample ID:	IA-5
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Room 132	**Flow Rate:**	~~Rate~~ = 28 mL/min / Post = 32 mL/min
Sampling Height:	3'	**Sample Duration:**	12P / ~~AM~~ 234 = Total = 362
Time and Date of Collection:	0948 / 1157 1256 NM 11-14-17	**Sample Volume:**	10,860 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-14-17 ~~11-13-17~~	0948	Refer	to	Field	Notes	0.0
11-14-17 ~~11-13-17~~	1820					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G0143432
Sample Volume:	
Notes:	

General Observations/Notes:

Pump ended early. Minute counter on pump used for Volume determination. Retrieved @ 1820

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Indoor Sample Collection Log

		Sample ID:	IA-6
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Room 142	**Flow Rate:**	Pre: 31 mL/min / Post 53 mL/min
Sampling Height:	3'	**Sample Duration:**	487
Time and Date of Collection:	1530/2337 / 11-13-17	**Sample Volume:**	21,672 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	15:30		Refer to Field Notes			0.0
11-13-17	23:37					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	60143692
Sample Volume:	21,672 mL
Notes:	

General Observations/Notes:

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Indoor Sample Collection Log

		Sample ID:	IA-7
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	146	**Flow Rate:**	Pre = 30mL/min fast = 42 mL/min
Sampling Height:	3'	**Sample Duration:**	483
Time and Date of Collection:	1532 / 2336 11-13-17	**Sample Volume:**	17,388 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	15:32	Refer	to Field	Notes		0.0
11-13-17	23:36					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G0150950
Sample Volume:	17,388 mL
Notes:	

General Observations/Notes:

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Indoor Sample Collection Log

		Sample ID:	IA-8
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	Indoor Air
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	107	**Flow Rate:**	Pre = 29 mL/min Post: 59 mL/min
Sampling Height:	3'	**Sample Duration:**	470
Time and Date of Collection:	~~1328~~ 1525 @ 2316 11-13-17	**Sample Volume:**	15,980 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	1525	Refer	to	Field	Notes	0.0
11-13-17	2317					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G0137228
Sample Volume:	15,980 mL
Notes:	

General Observations/Notes:

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Indoor Sample Collection Log

		Sample ID:	OA-1
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Roof	**Flow Rate:**	Pre = 28 mL/min POST: 29 mL/min
Sampling Height:	4'	**Sample Duration:**	478
Time and Date of Collection:	@ 1500 11-12-17 END @ 2301	**Sample Volume:**	13,623 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	CO15-3601
Sample Volume:	13,623 mL
Notes:	

General Observations/Notes:

ARCADIS Design & Consultancy for natural and built assets

Indoor Sample Collection Log

		Sample ID:	OA-2
Client:	PIH Olympia, LLC	**Sample Equipment:**	Gilair 5
Project:	Doubletree Hotel	**Sample Type:**	
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Low-Flow Controller
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Upwind of Building	**Flow Rate:**	Pre = 31 mL/min/Post = 38 mL/min
Sampling Height:	4'	**Sample Duration:**	504
Time and Date of Collection:	1535 / 2343 11-13-17	**Sample Volume:**	17,561 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11-13-17	15:35	Refer to Field Notes				0.0
11-13-17	23:43					0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	GOH25442
Sample Volume:	17,561 mL
Notes:	

General Observations/Notes:

2336
483

11/13 Weather monitoring, NWS Olympia

Pressure at 14:54 per NWS Olympia Airport:

14:54, 29.65 in., 1004.2 mb and 0.07 in rain in the hour

15:54, 29.69 in., 1005.5 mb and 0.12 in rain in the hour

16:54, 29.75 in., 1007.7 mb and 0.24 in rain in the hour

17:54, 29.82 in., 1009.9 mb and 0.26 in rain in the hour

18:54, 29.87 in., 1011.6 mb and 0.13 in rain in the hour

19:54, 29.89 in., 1012.2 mb and 0.13 in rain in the hour

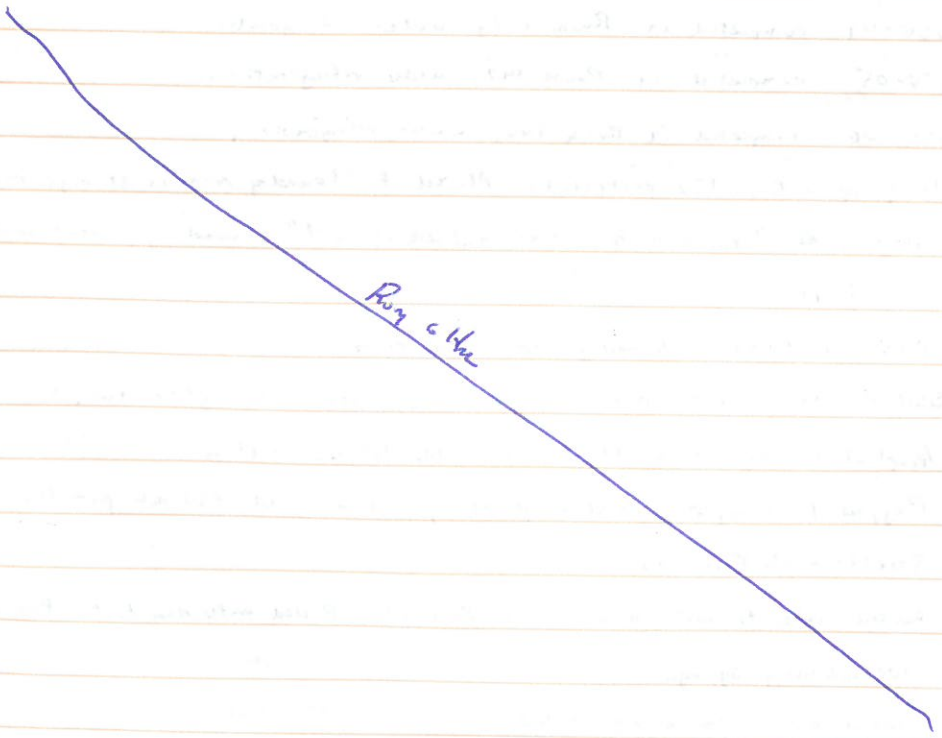
Wind from 13:54 - 19:54 out of the S to SW at 17-25 mph with peak gust of 40 mph at 14:54.

20:54, 29.79 in., 1007.3 mb, and 0.03 in. in the hour

21:54, 29.70 in., 1005.6 mb and 0.09 in in the hour

22:54, 29.66 in., 1004.2 mb and no record for the hour

23:54, 29.61 in., 1002.5 mb and 0.01" in the hour



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Soil Vapor Sample Collection Log

Client:	PIH Olympia, LLC	**Sample ID:**	SSV-01-60 / SSV-01-450
Project:	Doubletree Hotel	**Probe Equipment:**	Rotary Hammer Drill
Location:	Olympia, Washington	**Probe Type:**	Vapor Pin
Project #:	SEA41774.0002	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Samplers:	EE / RH	**Miscellaneous Equipment:**	Plastic Syringe
Sample Point Location:	NW corner of Capitol Room under chair storage area.	**Subcontractor:**	N/A
Sampling Depth:	Sub-Slab	**Moisture Content of Sampling Zone:**	Dry
Time and Date of Collection:	11/14/2017 14:16 / 14:20	**Purge Method:**	Plastic Syringe
		Approximate Purge Volume:	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	14:44	NA	NA	NA	NA	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	GB146154 / GB152588
Sample Volume (mL):	60 / 450
Notes:	

General Observations/Notes:

Oly Airport NWS

12:54 wind S @ 26 mph, rel. hum. 71%, atm. 29.95 in., 1014.3 mb, no meas. precip.

ARCADIS Design & Consultancy for natural and built assets

Soil Vapor Sample Collection Log

		Sample ID:	SSV-02-60 / SSV-02-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	SE corner of Room 107 beneath refrig cabinet	**Moisture Content of Sampling Zone:**	Dry
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/17 / 11/14/17 1459 (60) 1505 (450)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	15:07	NA	NA	NA	NA	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G9143475 / G9141318
Sample Volume (mL):	60 / 450
Notes:	

General Observations/Notes:

Olympia Airport NWS

12:54 11/14/17 51°F rel. hum. 71%, altim. 29.95, 1014.3 mb, wind S 36 mph, no precip. in hour

ARCADIS Design & Consultancy for natural and built assets

Soil Vapor Sample Collection Log

		Sample ID:	SSV-03a-60 / SSV-03a-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Fitness room (see field notes)	**Moisture Content of Sampling Zone:**	Dry
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/2017 19:43 (60 mL) 11/14/2017 19:47 (450 mL)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/2017	1948	N/A	N/A	N/A	N/A	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	SSV-03a-60: G0147322
Sample Volume (mL):	60 / 450
Notes:	

SSV-03a-450 : G0135551

General Observations/Notes:

SSV-03 failed the leak test due to potential imperfections in slab.

wind S 16 mph, 52°F, 57% rel. hum., altim. 29.82", 1008.4 mb. (NWS Olympia Airport)

ARCADIS Design & Consultancy for natural and built assets

Soil Vapor Sample Collection Log

		Sample ID:	SSV-05-60 / SSV-05-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Northwest corner of Room 142 beneath refrig. cabinet	**Moisture Content of Sampling Zone:**	Dry
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/17 15:51 (60 mL) 11/14/17 15:55 (450 mL)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	15:50	NA	NA	NA	NA	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G@150647 / G@145C90
Sample Volume (mL):	60 / 450
Notes:	

General Observations/Notes:

NWS Olympia Airport

15:54 11/14/17 wind S @ 23 mph, 52° F, rel hum. 61%, alt. (in) 29.80, 1093.1 mb, no rain

ARCADIS Design & Consultancy for natural and built assets

Soil Vapor Sample Collection Log

		Sample ID:	SSV-06-60 / SSV-06-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	Northeast corner of Room 146 beneath retng cabinet	**Moisture Content of Sampling Zone:**	Dry
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/17 15:24 (60 mL) 11/14/17 15:30 (450 mL)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	15:34	NA	NA	NA	NA	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G0143688 / G0143629
Sample Volume (mL):	60 / 450
Notes:	

General Observations/Notes:

NWS Olympia Airport

14:54 11/14/17 wind S @ 17 mph, 52° F, 64% rel. hum., altimeter 29.92 in., 1013.1 mb, no meas. precip.

ARCADIS Design & Consultancy for natural and built assets

Soil Vapor Sample Collection Log

		Sample ID:	SSV-07a-60/SSV-07a-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	East side of supply room within laundry room's western portion.	**Moisture Content of Sampling Zone:**	Dry
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/17 18:42 (60 mL) 11/14/17 ~~18:45~~ 18:50 (450 mL)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	18:48	NA	NA	NA	NA	904

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	G01S2877 / G01455S4
Sample Volume (mL):	60 / 450
Notes:	100 mL purge

General Observations/Notes:

NWS Olympia Airport

17:54 11/14/17 wind S 17 mph, 52°F, 57% rel. hum., 29.86" altim., 10mi. vis, no precip.

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Soil Vapor Sample Collection Log

		Sample ID:	SSV-08-60 / SSV-08-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	West side of office, northeast of server room and clock in station.	**Moisture Content of Sampling Zone:**	Dry
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/17 16:43 (60 mL) / 11/14/17 16:48 (450 mL)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	16:50	NA	NA	NA	NA	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	GV143036 / GV152520
Sample Volume (mL):	60 / 450
Notes:	

General Observations/Notes:

NWS Olympia Airport

11/14/17 16:54 wind S 17 mph 52°F rel. hum. 59% altimeter 29.88 in. 1011.7 mb, no precip.

ARCADIS Design & Consultancy for natural and built assets

Soil Vapor Sample Collection Log

		Sample ID:	SSV-04-60/SSV-04-450
Client:	PIH Olympia, LLC	**Probe Equipment:**	Rotary Hammer Drill
Project:	Doubletree Hotel	**Probe Type:**	Vapor Pin
Location:	Olympia, Washington	**Tubing Information:**	¼-inch OD Teflon-lined Poly
Project #:	SEA41774.0002	**Miscellaneous Equipment:**	Plastic Syringe
Samplers:	EE / RH	**Subcontractor:**	N/A
Sample Point Location:	North side of room beneath rating cabinet. Room 132	**Moisture Content of Sampling Zone:**	Dry.
Sampling Depth:	Sub-Slab	**Purge Method:**	Plastic Syringe
Time and Date of Collection:	11/14/17 1857 (60 mL) 11/14/17 1901 (450 mL)	**Approximate Purge Volume:**	100 mL

Instrument Readings:

Date	Time	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
11/14/17	1902	NA	NA	NA	NA	0.0

Sorbent Information:

Analytical:	**USPEA TO-17**
Tube ID:	GB1518778 (450) / GB1522978 (60)
Sample Volume (mL):	60 / 450
Notes:	

General Observations/Notes:

NWS Olympia Airport

11/14/17 18:54 wind S 16 mph, 52° F, 57% rel. hum., altimeter 29.82, 1009.9 mb.

APPENDIX D

Groundwater Sampling Logs

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-1

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.90
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	12.29
Location	PIH Olympia	Sampler	Joe	Water Column in Well	0.0
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.0
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	12		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:30	200	600	16.2	6.93	170	22.2	0.71		6.13
12:33	200	1200	16.2	6.89	171	23.3	0.70		6.13
12:36	200	1800	16.2	6.85	169	24.5	0.63		6.14

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	12:40	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-1(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID	DUP-1	MS/MSD Sample ID	
Dup Sample Time	12:40	EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-10

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	6.63
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.20
Location	PIH Olympia	Sampler	Joe	Water Column in Well	1.57
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.26
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
14:01	200	600	15.3	7.19	770	-3.2	0.45		6.92
14:04	200	1200	15.1	7.13	750	-5.2	0.45		7.39
14:07	200	1800	15.1	7.09	740	-6.8	0.41		7.46

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:10	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-10(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-11

Date	06/29/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.74
Project Number	SEA41774.0000	Water Quality Meter		Measured Well Depth (ft bmp)	5.74
Location	PIH Olympia	Sampler		Water Column in Well	0.0
Gauge or Sample	Gauge	Casing Material		Gallons in Well	0.0
Purge Method		Casing Diameter (in)		Total Volume to Remove	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)			
Sampling Type		Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ° C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)

Sampling Summary

Did Well Dewater?	NA	Alkalinity	
Sample Time		Ferrous Iron	
Sample ID		MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color		EB Sample ID	
Odor		Remarks	Well is Dry
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-12

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	6.55
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.20
Location	PIH Olympia	Sampler	Joe	Water Column in Well	2.65
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.43
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
14:42	200	600	15.2	7.09	780	-9.3	0.34		6.96
14:45	200	1200	15.1	7.07	760	-15.1	0.29		7.10
14:48	200	1800	15.1	7.05	750	-21.2	0.24		7.18

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:50	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-12(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		
Remarks				

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-13

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.21
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	6.47
Location	PIH Olympia	Sampler	Joe	Water Column in Well	1.26
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.21
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	6.3		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
10:21	200	400	18.1	6.74	670	22.8	2.68		6.20
10:22	150	550	17.7	6.75	670	26.4	1.42		6.45
10:23	150	700	17.8	6.74	660	25.9	1.82		6.40
10:24	100	800	17.7	6.76	660	27.1	1.88		6.45
10:25	100	900	17.7	6.77	660	27.1	1.78		6.45

Sampling Summary

Did Well Dewater?	Yes	Alkalinity	
Sample Time	10:30	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-13(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-14

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	4.80
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.49
Location	PIH Olympia	Sampler	JOE	Water Column in Well	4.69
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.76
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
09:26	200	600	17.1	6.97	620	-38.6	2.42		5.36
09:29	200	1200	17.2	6.96	610	-40.9	1.93		5.56
09:32	200	1800	17.3	6.96	600	-41.1	1.28		5.62
09:33	200	3000	17.3	6.98	585	-39.3	1.35		5.75
09:35	200	2400	17.3	6.97	590	-40.6	1.37		5.69

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	09:40	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-14(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	HCLO	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-15

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.16
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	10.22
Location	PIH Olympia	Sampler	AP	Water Column in Well	5.06
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.83
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	10		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:32	150	600	15.6	6.64	679	288.0	0.68		5.71
12:34	150	900	15.6	6.70	682	200.9	0.53		5.75
12:36	150	1200	15.6	6.75	679	128.1	0.47		5.77
12:37	150	1350	15.6	6.77	676	90.0	0.42		5.78
12:38	150	1500	15.5	6.79	673	62.5	0.40		5.79
12:39	150	1650	15.5	6.81	668	37.6	0.39		5.80
12:40	150	1800	15.5	6.83	662	18.8	0.37		5.80
12:41	150	1950	15.5	6.86	666	1.4	0.32		5.80
12:42	150	2100	15.5	6.86	652	-9.0	0.30		5.80
12:43	150	2250	15.5	6.88	652	-17.8	0.29		5.80
12:44	150	2400	15.6	6.88	651	-24.3	0.30		5.80

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	12:50	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-15(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		

Item	Yes	No	NA	Notes
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-16

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	4.09
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.19
Location	PIH Olympia	Sampler	AP	Water Column in Well	4.1
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.67
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
11:31	200	1200	17.7	7.29	499.6	5.2	0.51		4.21
11:33	200	1600	17.6	7.29	499.4	-9.9	0.51		4.22
11:35	200	2000	17.6	7.28	502.1	-34.9	0.48		4.23
11:36	200	2200	17.6	7.27	502.0	-41.8	0.47		4.23
11:37	200	2400	17.6	7.28	502.3	-48.7	0.45		4.24

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	11:45	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-16(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-17

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	4.33
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.13
Location	PIH Olympia	Sampler	AP	Water Column in Well	4.8
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.78
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:34	150	600	12.1	7.40	579.0	-127.6	0.44		4.69
13:36	150	900	12.1	7.42	580.1	-147.7	0.38		4.21
13:38	150	1200	12.1	7.42	580.9	-161.5	0.33		4.72
13:39	150	1350	12.1	7.43	580.1	-168.5	0.30		4.73
13:40	150	1500	12.0	7.43	580.5	-174.0	0.28		4.73

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	13:45	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-17(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	Sulfur	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-18

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.93
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.41
Location	PIH Olympia	Sampler	Joe	Water Column in Well	3.48
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.57
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:25	200	600	15.9	6.74	1110	-16.2	0.34		6.55
13:28	200	1200	15.9	6.72	1080	-18.2	0.33		7.00
13:31	200	1800	15.9	6.71	1050	-24.4	0.28		7.15

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	13:35	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-18(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-2

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.54
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.99
Location	PIH Olympia	Sampler	AP	Water Column in Well	3.45
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.56
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.5		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
15:20	200	800	16.2	6.87	963	-83.6	0.59		6.56
15:22	200	2000	16.2	6.87	953	-92.6	0.50		6.74
16:33	200	3600	16.2	6.87	940	-98.8	0.43		6.83

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	15:30	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-2(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)			X	
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-3

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.09
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	11.75
Location	PIH Olympia	Sampler	AP	Water Column in Well	6.66
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	1.09
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	11.70		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
10:14	200	800	15.0	7.07	589.4	275.2	1.65		5.18
10:16	200	1200	15.1	7.08	585.5	275.8	1.33		4.22518
10:18	200	1600	15.1	7.08	580.5	276.0	1.23		5.18
10:20	200	2000	15.2	7.08	575.4	276.6	1.13		5.19
13:36									

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	10:25	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-3(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-4

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	4.90
Project Number	SEA41774.0000	Water Quality Meter		Measured Well Depth (ft bmp)	12.02
Location	PIH Olympia	Sampler		Water Column in Well	7.12
Gauge or Sample	Gauge	Casing Material		Gallons in Well	0.0
Purge Method		Casing Diameter (in)		Total Volume to Remove	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)			
Sampling Type		Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)

Sampling Summary

Did Well Dewater?		Alkalinity	
Sample Time		Ferrous Iron	
Sample ID		MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color		EB Sample ID	
Odor		Remarks	
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-5

Date	06/28/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.39
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.66
Location	PIH Olympia	Sampler	AP	Water Column in Well	3.27
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.53
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
14:24	200	800	17.7	6.78	961	-72.4	0.46		5.94
14:26	200	1200	17.7	6.83	940	-84.5	0.38		5.98
14:28	200	1600	17.7	6.86	931	-93.3	0.35		6.02
14:29	200	1800	17.7	6.87	927	-96.8	0.32		6.03

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:35	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-5(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-6

Date	06/28/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.59
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	7.89
Location	PIH Olympia	Sampler	AP	Water Column in Well	2.3
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.38
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.8		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:42	200	1200	16.3	7.03	899	-31.9	0.67		6.86
12:43	200	1400	16.3	6.96	950	-43.7	0.70		6.99
12:44	200	1600	16.2	6.91	1003	-52.2	0.83		7.11
12:45	200	1800	16.2	6.88	1051	-57.0	0.96		7.19
12:46	200	2000	16.2	6.86	1097	-61.2	1.08		7.28
12:47	200	2200	16.1	6.84	1139	-63.9	1.27		7.33
12:48	200	2400	16.1	6.82	1199	-68.1	1.64		7.89

Sampling Summary

Did Well Dewater?	Yes	Alkalinity	
Sample Time	13:30	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-6(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time	17:13	EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP, ran dry during purge, wait for recharge to sample
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-7

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.00
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.48
Location	PIH Olympia	Sampler	Joe	Water Column in Well	3.48
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.57
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.4		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
14:00	200	800	18.2	7.12	639	-16.8	0.64		5.26
14:01	200	1000	18.1	7.12	636	-32.6	0.52		5.27
14:02	200	1200	18.1	7.12	635	-41.3	0.47		5.29
14:03	200	1400	18.1	7.13	635	-48.0	0.44		5.29

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:10	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-7(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-8

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.69
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	7.56
Location	PIH Olympia	Sampler	Joe	Water Column in Well	1.87
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.31
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.5		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:17	150	300	17.9	7.13	980	41.9	0.30		5.95
12:19	150	600	17.3	7.06	980	42.1	0.26		6.84
12:21	150	900	17.5	6.99	980	44.4	0.23		7.21

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	12:25	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-8(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP, WELL PURGED DRY DURING SAMPLING, WAIT FOR RECHARGE
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-9

Date	06/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.61
Project Number	SEA41774.0000	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.30
Location	PIH Olympia	Sampler	Joe	Water Column in Well	2.69
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.44
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
11:34	150	300	17.8	7.22	890	36.0	0.35		6.09
11:36	150	600	17.9	7.12	890	39.5	0.34		6.72
11:38	150	900	17.9	7.04	890	41.1	0.38		7.02

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	11:40	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-9(2Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection		X		
Well ID is Clearly Marked	X			
Is water present in well box	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-1

Date	09/29/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	6.19
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	12.33
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	6.14
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	1.0
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	12		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:50	200	600	17.7	7.57	183.8	-22.1	0.54		6.36
13:53	200	1200	17.7	7.54	184.0	-30.2	0.52		6.39
13:56	200	1800	17.7	7.53	184.3	-37.5	0.51		6.43

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:00	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-1(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-2

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.80
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.99
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	3.19
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.52
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.50		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
14:13	200	400	20.23	6.58	820	-136.7	0.45		6.60
14:14	200	600	20.22	6.58	814	-139.9	0.39		6.69
14:16	200	1000	20.25	6.63	803	-149.9	0.32		6.85

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:20	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-2(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID	DUP-1	MS/MSD Sample ID	
Dup Sample Time	14:20	EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-3

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.44
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	11.75
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	6.31
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	1.03
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	10.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:00	200	600	18.5	7.14	589	372.6	0.65		5.55
12:03	200	1200	18.6	7.17	574	368.7	0.52		5.58
12:06	200	1800	18.6	7.19	568.6	367.2	0.46		5.60
12:09	200	2400	18.6	7.18	565.4	366.0	0.42		5.62

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	12:15	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-3(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-5

Date	09/29/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.68
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.70
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	3.02
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.49
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.50		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
10:19	200	600	20.6	7.02	750	-73.1	0.40		5.98
10:22	200	1200	20.6	7.03	747	-80.1	0.42		6.08
10:25	200	1800	20.6	7.03	747	-87.0	0.43		6.22

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	10:30	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-5(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	HC	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-6

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.86
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	7.90
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	2.04
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.33
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.50		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ° C	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
15:00	200	600	19.7	6.92	1130	-97.2	0.49		6.45
15:03	200	1200	19.7	6.92	1132	-103.2	0.48		6.87
15:06	200	1800	19.6	6.92	1137	-110.8	0.51		7.20

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	15:10	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-6(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	HC	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-7

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.28
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.48
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	3.2
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.52
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
15:27	150	450	22.06	6.48	565	-137.0	0.42		5.45
15:29	150	750	21.83	6.51	570	-150.3	0.28		5.47
15:30	150	900	21.78	6.57	571	-159.9	0.23		5.50
15:31	150	1050	21.67	6.59	572	-165.7	0.22		5.51

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	15:35	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-7(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-8

Date	09/27/2017	Weather Conditions	Sunny, hot	Depth to Water (ft bmp)	5.95
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	7.55
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	1.6
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.0
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.0		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:44	150	600	22.74	6.55	1.026	-10.0	1.71		6.78
13:45	150	750	22.17	6.56	1.033	-26.8	1.26		7.03
13:46	150	900	22.18	6.56	1.030	-37.5	.98		7.15
13:47	150	1050							7.30
14:53			25.75	6.86	.997	-122.3	2.15		5.96

Sampling Summary

Did Well Dewater?	Yes	Alkalinity	
Sample Time	15:00	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-8(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color		EB Sample ID	
Odor		Remarks	Sample taken as a np sample after well recharged
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present			X	
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		
Remarks				Large amounts of silt

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-9

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	5.86
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.29
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	2.43
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.4
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:46	200	800	21.63	6.70	536	-136.6	0.49		6.74
12:47	200	1000	21.71	6.78	534	-140.0	0.44		6.92
12:48	200	1200	21.68	6.78	537	-144.3	0.43		7.02

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	12:54	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-9(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		
Remarks				

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-10

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	6.89
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.22
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	1.33
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.22
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ° C	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:12	200	600	17.6	7.07	867	230.4	1.11		7.50
13:14	200	1200	17.6	7.01	855	222.6	1.07		7.75
13:16	200	1800	17.6	6.93	846	212.7	1.01		7.85

Sampling Summary

Did Well Dewater?	Yes	Alkalinity	
Sample Time	13:20	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-10(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box		X		
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-12

Date	09/27/2017	Weather Conditions	Sunny	Depth to Water (ft bmp)	6.79
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.19
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	2.4
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.39
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:59	200	600	18.2	6.82	645	-52.5	1.61		7.02
14:02	200	1200	18.2	6.83	641	-57.5	1.52		7.40
14:05	200	1800	18.1	6.82	640	-65.4	1.44		7.52

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:15	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-12(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	No	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box		X		
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-13

Date	09/27/2017	Weather Conditions	Sunny,Hot	Depth to Water (ft bmp)	5.45
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	6.44
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	0.99
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.0
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	6.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
11:18	150	450	20.07	6.54	.742	-99.4	.42		6.13
11:20	150	750	20.08	6.63	.707	-137.5	.38		6.32
11:22	150	1050	20.09	6.68	.667	-141.4	.36		6.42
11:24	150	1350	20.25	6.70	.650	-142.0	.34		

Sampling Summary

Did Well Dewater?	Yes	Alkalinity	
Sample Time	11:38	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-13(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	None	Remarks	Sample taken as a np sample after well recharged
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked	X			
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present			X	
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		
Remarks				

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-14

Date	09/27/2017	Weather Conditions	Cloudy,Cold	Depth to Water (ft bmp)	5.06
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.56
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	4.5
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.73
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.5		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
09:42	200	600	20.73	6.58	.546	-150.3	.5		5.66
09:44	200	1000	20.69	6.61	.543	-155.4	.42		5.72
09:45	200	1200	20.69	6.64	.544	-160.5	.38		5.75

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	09:55	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-14(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	None	Remarks	
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked	X			
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present			X	
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-15

Date	09/29/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.46
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	10.26
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	4.8
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.78
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.5		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
12:36	150	600	18.44	6.59	.591	-30.8	.35		5.85
12:38	150	900	18.62	6.62	.583	-109.2	.28		5.92
12:40	150	1200	18.76	6.66	.570	-121.2	.23		5.95
12:41	150	1350	18.79	6.67	.564	-124.3	.21		5.95
12:43	150	1650	18.83	6.69	.558	-128.3	.21		5.92

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	12:48	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-15(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	None	Remarks	
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked	X			
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned	X			
J-plug present and in good condition	X			
Lock present			X	
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-16

Date	09/29/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	4.36
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	8.18
Location	DoubleTree Olympia	Sampler	PRMC	Water Column in Well	3.82
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.62
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.0		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments					

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
10:25	200	800	20.65	7.03	.466	-90.2	.52		4.55
10:27	200	1200	20.75	7.11	.456	-133.4	.36		4.55
10:29	200	1600	20.77	7.13	.453	-140.5	.32		4.55
10:30	200	1800	20.84	7.12	.453	-142.8	.29		4.55

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	10:35	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-16(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color		EB Sample ID	
Odor		Remarks	
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present			X	
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

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Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-17

Date	09/29/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	4.57
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.20
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	4.63
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.76
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9.00		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ° C	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
09:27	200	600	20.2	7.32	675	-136.6	0.51		4.94
09:30	200	1800	20.2	7.33	678	-145.2	0.42		5.03
09:33	200	2400	20.2	7.35	680	-154.7	0.35		5.03

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	09:40	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-17(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	HC	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form
Site: Olympia Doubletree

PMW-18

Date	09/29/2017	Weather Conditions	Cloudy	Depth to Water (ft bmp)	6.21
Project Number	SEA41774.0002	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	9.43
Location	DoubleTree Olympia	Sampler	JOE	Water Column in Well	3.22
Gauge or Sample	Gauge and Sample	Casing Material	PVC	Gallons in Well	0.53
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Total Volume to Remove	0.0
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9.20		
Sampling Type	Low Flow – Peristaltic Pump	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Flow Rate (ml/ min or gal/min)	Cuml Vol Purged	Temperature ºC	pH	Conductivity (uS/ cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
11:05	200	600	18.6	6.87	1015	-108.8	0.27		7.27
11:08	200	1200	18.6	6.87	1011	-110.8	0.27		7.35
11:11	200	1800	18.6	6.86	1006	-112.7	0.27		7.50

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	11:20	Ferrous Iron	
Sample ID	Olympia Doubletree-PMW-18(3Q17)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	No	EB Sample ID	
Odor	HC	Remarks	LFP
Appearance			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well Secured on initial inspection	X			
Well ID is Clearly Marked		X		
Is water present in well box	X			
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
J-plug present and in good condition	X			
Lock present		X		
Other action performed (explain)		X		
Additional actions needed (explain)		X		
Picture taken of well with Well ID visible		X		

APPENDIX E

Indoor Air and Soil Vapor Laboratory Analytical Reports

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11/28/2017
Mr. Eric Epple
Arcadis U.S., Inc.
1100 Olive Way
Ste 800
Seattle WA 98101

Project Name: PIH Olympia
Project #: SEA41774.0002
Workorder #: 1711282

Dear Mr. Eric Epple

The following report includes the data for the above referenced project for sample(s) received on 11/16/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1711282

Work Order Summary

CLIENT:	Mr. Eric Epple Arcadis U.S., Inc. 1100 Olive Way Ste 800 Seattle, WA 98101	**BILL TO:**	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	206-726-4755	**P.O. #**	SEA41774
FAX:	206-325-8218	**PROJECT #**	SEA41774.0002 PIH Olympia
DATE RECEIVED:	11/16/2017	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	11/27/2017		

FRACTION #	NAME	TEST
01A	IA-1	Modified TO-17 VI
02A	IA-2	Modified TO-17 VI
03A	IA-3	Modified TO-17 VI
04A	IA-4	Modified TO-17 VI
05A	IA-7	Modified TO-17 VI
06A	IA-6	Modified TO-17 VI
07A	IA-8	Modified TO-17 VI
08A(cancelled)	OA-1	Modified TO-17 VI
09A	OA-2	Modified TO-17 VI
10A(cancelled)	SSV-01-60	Modified TO-17 VI
11A	SSV-01-450	Modified TO-17 VI
12A(cancelled)	SSV-02-60	Modified TO-17 VI
13A	SSV-02-450	Modified TO-17 VI
14A(cancelled)	SSV-06-60	Modified TO-17 VI
15A	SSV-06-450	Modified TO-17 VI
16A	SSV-05-60	Modified TO-17 VI
17A	SSV-05-450	Modified TO-17 VI
18A	IA-5	Modified TO-17 VI
19A(cancelled)	SSV-08-60	Modified TO-17 VI
20A	Lab Blank	Modified TO-17 VI
20B	Lab Blank	Modified TO-17 VI
21A	CCV	Modified TO-17 VI
21B	CCV	Modified TO-17 VI

Continued on next page

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WORK ORDER #: 1711282

Work Order Summary

CLIENT:	Mr. Eric Epple Arcadis U.S., Inc. 1100 Olive Way Ste 800 Seattle, WA 98101	**BILL TO:**	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	206-726-4755	**P.O. #**	SEA41774
FAX:	206-325-8218	**PROJECT #**	SEA41774.0002 PIH Olympia
DATE RECEIVED:	11/16/2017	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	11/27/2017		

FRACTION #	NAME	TEST
22A	LCS	Modified TO-17 VI
22AA	LCSD	Modified TO-17 VI
22B	LCS	Modified TO-17 VI
22BB	LCSD	Modified TO-17 VI

CERTIFIED BY: Heidi Hayes DATE: 11/28/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
Arcadis U.S., Inc.
Workorder# 1711282

Nineteen TO-17 VI Tube samples were received on November 16, 2017. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

Requirement	***TO-17***	***ATL Modifications***
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

The Chain of Custody (COC) information for sample SSV-01-60 did not match the information on the tube with regard to tube identification. The client was notified of the discrepancy and the information on the tubes was used to process and report the samples.

Sample identification for sample OA-1 was not provided on the sample tag. Therefore the information on the Chain of Custody was used to process and report the sample.

Samples SSV-01-60, SSV-02-60, SSV-06-60 and SSV-08-60 were cancelled on 11/27/17 per client's request.

Analytical Notes

A sampling volume of 33.7 L was used to convert ng to ug/m3 for the associated Lab Blanks.

Field surrogates 1,2-Dichloroethane-d4, Toluene-d8 and Naphthalene-d8 in sample SSV-05-450 were not detected. Evaluation of the recoveries indicate that the tube may not have been spiked with the field surrogates prior to shipment to the field.

The initial run for sample OA-1 exhibited significant interference indicative of high levels of water collected on the sorbent tube which resulted in extremely poor recoveries of internal standards.

Re-analysis of the re-collected sample confirmed initial recoveries. As a result, sample OA-1 could not be evaluated and was not reported.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in blank (subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: IA-1

Lab ID#: 1711282-01A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.072	2.7	0.20

Client Sample ID: IA-2

Lab ID#: 1711282-02A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.039	5.0	0.19

Client Sample ID: IA-3

Lab ID#: 1711282-03A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.030	10	0.30

Client Sample ID: IA-4

Lab ID#: 1711282-04A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.031	9.3	0.29

Client Sample ID: IA-7

Lab ID#: 1711282-05A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.058	5.3	0.30

Client Sample ID: IA-6

Lab ID#: 1711282-06A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.046	3.7	0.17

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: IA-8

Lab ID#: 1711282-07A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.062	4.1	0.26

Client Sample ID: OA-2

Lab ID#: 1711282-09A

No Detections Were Found.

Client Sample ID: SSV-01-450

Lab ID#: 1711282-11A

No Detections Were Found.

Client Sample ID: SSV-02-450

Lab ID#: 1711282-13A

No Detections Were Found.

Client Sample ID: SSV-06-450

Lab ID#: 1711282-15A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	5.2	12

Client Sample ID: SSV-05-60

Lab ID#: 1711282-16A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	1.2	20

Client Sample ID: SSV-05-450

Lab ID#: 1711282-17A

No Detections Were Found.

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: IA-5

Lab ID#: 1711282-18A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.092	4.0	0.37

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Client Sample ID: IA-1
Lab ID#: 1711282-01A
EPA METHOD TO-17

File Name:	**6112009**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:11:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 04:25 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.072	2.7	0.20

Air Sample Volume(L): 13.9
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	100	50-150

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Client Sample ID: IA-2
Lab ID#: 1711282-02A
EPA METHOD TO-17

File Name:	**6112010**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:21:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 05:05 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.039	5.0	0.19

Air Sample Volume(L): 25.9
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	102	50-150

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Client Sample ID: IA-3
Lab ID#: 1711282-03A
EPA METHOD TO-17

File Name:	**6112011**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:25:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 05:45 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.030	10	0.30

Air Sample Volume(L): 33.7
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	88	50-150

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Client Sample ID: IA-4
Lab ID#: 1711282-04A
EPA METHOD TO-17

File Name:	**6112012**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:30:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 06:26 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.031	9.3	0.29

Air Sample Volume(L): 32.3
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	107	50-150

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Client Sample ID: IA-7
Lab ID#: 1711282-05A
EPA METHOD TO-17

File Name:	**6112013**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:36:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 07:06 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.058	5.3	0.30

Air Sample Volume(L): 17.4
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: IA-6
Lab ID#: 1711282-06A
EPA METHOD TO-17

File Name:	**6112014**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:37:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 07:46 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.046	3.7	0.17

Air Sample Volume(L): 21.7
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	105	50-150

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Client Sample ID: IA-8
Lab ID#: 1711282-07A
EPA METHOD TO-17

File Name:	**6112015**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:16:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 08:26 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.062	4.1	0.26

Air Sample Volume(L): 16.0
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	99	50-150

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Client Sample ID: OA-2

Lab ID#: 1711282-09A

EPA METHOD TO-17

File Name:	**6112017**	**Date of Extraction: NA**	**Date of Collection: 11/13/17 11:43:00 P**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 09:45 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.057	Not Detected	Not Detected

Air Sample Volume(L): 17.6
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	76	50-150

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Client Sample ID: SSV-01-450

Lab ID#: 1711282-11A

EPA METHOD TO-17

File Name:	**6112125**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 2:20:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 11:13 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	83	50-150

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Client Sample ID: SSV-02-450

Lab ID#: 1711282-13A

EPA METHOD TO-17

File Name:	**6112126**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 3:05:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 11:54 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	97	50-150

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Client Sample ID: SSV-06-450

Lab ID#: 1711282-15A

EPA METHOD TO-17

File Name:	**6112127**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 3:30:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 12:35 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	5.2	12

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	99	50-150

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Client Sample ID: SSV-05-60

Lab ID#: 1711282-16A

EPA METHOD TO-17

File Name:	**6112021**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 3:51:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 12:27 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	1.2	20

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	84	50-150

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Client Sample ID: SSV-05-450

Lab ID#: 1711282-17A

EPA METHOD TO-17

File Name:	**6112128**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 3:55:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 01:15 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

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Client Sample ID: IA-5
Lab ID#: 1711282-18A
EPA METHOD TO-17

File Name:	**6112022**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 6:20:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 01:07 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.092	4.0	0.37

Air Sample Volume(L): 10.9
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	103	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1711282-20A

EPA METHOD TO-17

File Name:	**6112005**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 12:52 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.030	Not Detected	Not Detected

Air Sample Volume(L): 33.7

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1711282-20B

EPA METHOD TO-17

File Name:	**6112108**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 11:14 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.030	Not Detected	Not Detected

Air Sample Volume(L): 33.7

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	100	50-150

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Client Sample ID: CCV
Lab ID#: 1711282-21A
EPA METHOD TO-17

File Name:	**6112002**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 10:43 AM**

Compound	%Recovery
Naphthalene	96

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

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Client Sample ID: CCV
Lab ID#: 1711282-21B
EPA METHOD TO-17

File Name:	**6112103**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 07:52 AM**

Compound	%Recovery
Naphthalene	85

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	85	50-150

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Client Sample ID: LCS
Lab ID#: 1711282-22A
EPA METHOD TO-17

File Name:	**6112003**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 11:23 AM**

Compound	%Recovery	Method Limits
Naphthalene	102	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	96	50-150

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Client Sample ID: LCSD
Lab ID#: 1711282-22AA
EPA METHOD TO-17

File Name:	**6112004**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 12:03 PM**

Compound	%Recovery	Method Limits
Naphthalene	103	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	95	50-150

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Client Sample ID: LCS
Lab ID#: 1711282-22B
EPA METHOD TO-17

File Name:	**6112106**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 09:54 AM**

Compound	%Recovery	Method Limits
Naphthalene	99	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

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Client Sample ID: LCSD
Lab ID#: 1711282-22BB
EPA METHOD TO-17

File Name:	**6112107**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 10:34 AM**

Compound	%Recovery	Method Limits
Naphthalene	98	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Project Manager: Paul McCullough
Collected by: (Print and Sign) Eric Eagle
Company: Arcadis Email: eric.eagle@arcadis.com
Address: 1100 Olive Way City: Seattle State: WA Zip: 98101
Phone: 206-794-6904 Fax:

Project Info:
P.O. #: SEA41774
Project #: SEA41774.0002
Project Name: PIH Olympia

Turn Around Time: ☑ Normal ☐ Rush 5 day TAT (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume (mL)	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
~~11A~~	IA-1 01A	G0137159	11/13/17	15:17	11/13/17	23:11	30 mL/min	29 mL/min	13924	☑	☐	☐	☐
~~12A~~	IA-2 02A	G0152249		15:35		23:21	33 mL/min	78 mL/min	25863	☑	☐	☐	☐
~~13A~~ 11/16/17	IA-3 03A	G0151935		15:23		23:25	33 mL/min	107 mL/min	33670	☑	☐	☐	☐
~~14A~~	IA-4 04A	4000473		15:20		23:30	53 mL/min	99 mL/min	32274	☑	☐	☐	☐
	~~IA-5~~	~~G0114051~~		~~15:28~~			~~30 mL/min~~			☑	☐	☐	☐
15A	~~IA-6 EE~~ IA-7 05A	G0150950		15:32		23:36	30 mL/min	42 mL/min	17386	☑	☐	☐	☐
~~16A~~ 11/16/17	~~IA-7 EE~~ IA-6 06A	G0143612		15:30		23:37	31 mL/min	58 mL/min	21672	☑	☐	☐	☐
~~17A~~ ~~15A~~	IA-8 07A	G0137228		15:25		23:16	29 mL/min	59 mL/min	15980	☑	☐	☐	☐
18A ~~16A~~	OA-1 08A	G0153601	↓	15:00	↓	23:01	28 mL/min	39 mL/min	13623	☐	☑	☐	☐
19A ~~17A~~	OA-2 09A	G0152542	11/13/17	15:35	11/13/17	23:43	31 mL/min	38 mL/min	17501	☐	☑	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Ryan C Hamm	11/15/17 11:10	[signature]	11/16/17 10:15
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: 60 mL samples for screening purposes.
Method TO-17: naphthalene

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	~~FedEx~~		1.6°C	good	(Yes) No None	1711782

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Project Manager: Paul McCullough
Collected by: (Print and Sign) Eric Epple
Company: Arcadis Email: eric.epple@arcadis.com
Address: 1100 Olive Way Ste 800 City: Seattle State: WA Zip: 98101
Phone: 206-794-6904 Fax: 206-325-8218

Project Info:
P.O. #: SEA41774
Project #: SEA41774.0002
Project Name: PIH Olympia

Turn Around Time: ☒ Normal ☒ Rush 5-Day (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)		Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume (mL)	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
01A	SSV-01-60	10A	G0146154	11/14/17	14:16	11/14/17	14:16	—	—	60 mL	☐	☐	☑	☐
02A	SSV-01-450	11A	G0152588	11/14/17	14:17	11/14/17	14:20	⌒	—	450 mL	☐	☐	☑	☐
03A	SSV-02-60	12A	G0143475	11/14/17	14:59	11/14/17	14:59	—	—	60 mL	☐	☐	☑	☐
04A	SSV-02-450	13A	G0141318	11/14/17	15:03	11/14/17	15:05	—	—	450 mL	☐	☐	☑	☐
05A	SSV-06-60	14A	G0148368	11/14/17	15:24	11/14/17	15:24	—	—	60 mL	☐	☐	☑	☐
06A	SSV-06-450	15A	G0143629	11/14/17	15:26	11/14/17	15:30	—	—	450 mL	☐	☐	☑	☐
07A	SSV-05-60	16A	G0150149	11/14/17	15:51	11/14/17	15:51	—	—	60 mL	☐	☐	☑	☐
08A	SSV-05-450	17A	G0143690	11/14/17	15:52	11/14/17	15:55	—	—	450 mL	☐	☐	☑	☐
09A	1A-5	18A	G0143432	11/14/17	09:48	11/14/17	18:20	28 mL/min	32 mL/min	10,860	☑	☐	☐	☐
10A	SSV-08-60	19A	G0143026	11/14/17	16:43	11/14/17	16:43	—	—	60 mL	☐	☐	☑	☐

Relinquished by: (signature) Ryan C Hammer Date/Time 11/15/17 11:10
Received by: (signature) Date/Time 11/16/17 10:15
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes: 60 mL samples for screening purposes
TO-17: Naphthalene

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		1.6°C	good	Yes / No / None	1711282

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11/27/2017
Mr. Eric Epple
Arcadis U.S., Inc.
1100 Olive Way
Ste 800
Seattle WA 98101

Project Name: PIH Olympia
Project #: SEA41774.0002
Workorder #: 1711287

Dear Mr. Eric Epple

The following report includes the data for the above referenced project for sample(s) received on 11/16/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1711287

Work Order Summary

CLIENT:	Mr. Eric Epple Arcadis U.S., Inc. 1100 Olive Way Ste 800 Seattle, WA 98101	**BILL TO:**	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	206-726-4755	**P.O. #**	SEA41774
FAX:	206-325-8218	**PROJECT #**	SEA41774.0002 PIH Olympia
DATE RECEIVED:	11/16/2017	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	11/27/2017		

FRACTION #	NAME	TEST
01A	SSV-08-450	Modified TO-17 VI
02A	SSV-07A-60	Modified TO-17 VI
03A	SSV-07A-450	Modified TO-17 VI
04A	SSV-04-60	Modified TO-17 VI
05A	SSV-04-450	Modified TO-17 VI
06A	SSV-03A-60	Modified TO-17 VI
07A	SSV-03A-450	Modified TO-17 VI
08A	Lab Blank	Modified TO-17 VI
08B	Lab Blank	Modified TO-17 VI
08C	Lab Blank	Modified TO-17 VI
08D	Lab Blank	Modified TO-17 VI
09A	CCV	Modified TO-17 VI
09B	CCV	Modified TO-17 VI
09C	CCV	Modified TO-17 VI
09D	CCV	Modified TO-17 VI
10A	LCS	Modified TO-17 VI
10AA	LCSD	Modified TO-17 VI
10B	LCS	Modified TO-17 VI
10BB	LCSD	Modified TO-17 VI
10C	LCS	Modified TO-17 VI
10CC	LCSD	Modified TO-17 VI
10D	LCS	Modified TO-17 VI
10DD	LCSD	Modified TO-17 VI

CERTIFIED BY: Heidi Hayes DATE: 11/27/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
Arcadis U.S., Inc.
Workorder# 1711287

Seven TO-17 VI Tube samples were received on November 16, 2017. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

Requirement	***TO-17***	***ATL Modifications***
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A sampling volume of 0.450 L was used to convert ng to ug/m3 for the associated Lab Blanks.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in blank (subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: SSV-08-450

Lab ID#: 1711287-01A

No Detections Were Found.

Client Sample ID: SSV-07A-60

Lab ID#: 1711287-02A

No Detections Were Found.

Client Sample ID: SSV-07A-450

Lab ID#: 1711287-03A

No Detections Were Found.

Client Sample ID: SSV-04-60

Lab ID#: 1711287-04A

No Detections Were Found.

Client Sample ID: SSV-04-450

Lab ID#: 1711287-05A

No Detections Were Found.

Client Sample ID: SSV-03A-60

Lab ID#: 1711287-06A

No Detections Were Found.

Client Sample ID: SSV-03A-450

Lab ID#: 1711287-07A

No Detections Were Found.

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Client Sample ID: SSV-08-450

Lab ID#: 1711287-01A

EPA METHOD TO-17

File Name:	**6112130**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 4:48:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 02:36 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	104	50-150

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Client Sample ID: SSV-07A-60

Lab ID#: 1711287-02A

EPA METHOD TO-17

File Name:	**6112208**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 6:42:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 10:45 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	91	50-150

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Client Sample ID: SSV-07A-450

Lab ID#: 1711287-03A

EPA METHOD TO-17

File Name:	**6112209**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 6:50:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 11:25 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	95	50-150

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Client Sample ID: SSV-04-60

Lab ID#: 1711287-04A

EPA METHOD TO-17

File Name:	**6111619**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 6:57:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/16/17 10:31 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	93	50-150

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Client Sample ID: SSV-04-450

Lab ID#: 1711287-05A

EPA METHOD TO-17

File Name:	**6112006**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 7:01:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 02:12 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: SSV-03A-60

Lab ID#: 1711287-06A

EPA METHOD TO-17

File Name:	**6111620**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 7:43:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/16/17 11:12 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	97	50-150

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Client Sample ID: SSV-03A-450

Lab ID#: 1711287-07A

EPA METHOD TO-17

File Name:	**6112007**	**Date of Extraction: NA**	**Date of Collection: 11/14/17 7:47:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 03:05 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	98	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1711287-08A

EPA METHOD TO-17

File Name:	**6111607**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/16/17 01:47 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	91	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1711287-08B

EPA METHOD TO-17

File Name:	**6112005**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 12:52 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1711287-08C

EPA METHOD TO-17

File Name:	**6112108**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 11:14 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	100	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1711287-08D

EPA METHOD TO-17

File Name:	**6112205**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 07:20 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.2	Not Detected	Not Detected

Air Sample Volume(L): 0.450

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	97	50-150

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Client Sample ID: CCV
Lab ID#: 1711287-09A
EPA METHOD TO-17

File Name:	**6111603**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/16/17 10:33 AM**

Compound	%Recovery
Naphthalene	98

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	96	50-150

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Client Sample ID: CCV
Lab ID#: 1711287-09B
EPA METHOD TO-17

File Name:	**6112002**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 10:43 AM**

Compound	%Recovery
Naphthalene	96

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

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Client Sample ID: CCV
Lab ID#: 1711287-09C
EPA METHOD TO-17

File Name:	**6112103**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 07:52 AM**

Compound	%Recovery
Naphthalene	85

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	85	50-150

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1711287-09D
EPA METHOD TO-17

File Name:	**6112202**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 05:19 AM**

Compound	%Recovery
Naphthalene	98

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	70	50-150

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Client Sample ID: LCS
Lab ID#: 1711287-10A
EPA METHOD TO-17

File Name:	**6111604**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/16/17 11:13 AM**

Compound	%Recovery	Method Limits
Naphthalene	104	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	98	50-150

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Client Sample ID: LCSD
Lab ID#: 1711287-10AA
EPA METHOD TO-17

File Name:	**6111605**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/16/17 11:53 AM**

Compound	%Recovery	Method Limits
Naphthalene	101	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	97	50-150

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Client Sample ID: LCS
Lab ID#: 1711287-10B
EPA METHOD TO-17

File Name:	**6112003**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 11:23 AM**

Compound	%Recovery	Method Limits
Naphthalene	102	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	96	50-150

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1711287-10BB
EPA METHOD TO-17

File Name:	**6112004**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/20/17 12:03 PM**

Compound	%Recovery	Method Limits
Naphthalene	103	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	95	50-150

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1711287-10C
EPA METHOD TO-17

File Name:	**6112106**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 09:54 AM**

Compound	%Recovery	Method Limits
Naphthalene	99	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1711287-10CC
EPA METHOD TO-17

File Name:	**6112107**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/21/17 10:34 AM**

Compound	%Recovery	Method Limits
Naphthalene	98	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1711287-10D
EPA METHOD TO-17

File Name:	**6112203**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 05:59 AM**

Compound	%Recovery	Method Limits
Naphthalene	102	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	98	50-150

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1711287-10DD
EPA METHOD TO-17

File Name:	**6112204**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 11/22/17 06:40 AM**

Compound	%Recovery	Method Limits
Naphthalene	102	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	98	50-150

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Project Manager: Paul McCullough
Collected by: (Print and Sign) Eric Epple
Company: Arcadis Email: eric.epple@arcadis.com
Address: 1100 Olive Wy Ste 800 City: Seattle State: WA Zip: 98101
Phone: 206-794-6904 Fax: 206-325-8218

Project Info:
P.O. # SEA41774
Project # SEA41774.0002
Project Name: PIH Olympia

Turn Around Time: ☒ ~~Normal~~ (ee) ☒ Rush 5-Day (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume (mL)	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
01A	SSV-08-450	G0152520	11/14/17	16:44	11/14/17	16:48	—	—	450	☐	☐	☒	☐
02A	SSV-07A-60	G0152877	11/14/17	18:41	11/14/17	18:42	—	—	60	☐	☐	☒	☐
03A	SSV-07A-450	G0145554	11/14/17	18:46	11/14/17	18:50	—	—	450	☐	☐	☒	☐
04A	SSV-04-60	G0152298	11/14/17	18:57	11/14/17	18:57	—	—	60	☐	☐	☒	☐
05A	SSV-04-450	G0151878	11/14/17	18:58	11/14/17	19:01	—	—	450	☐	☐	☒	☐
06A	SSV-03A-60	G0147323	11/14/17	19:43	11/14/17	19:43	—	—	60	☐	☐	☒	☐
07A	SSV-03A-450	G0135551	11/14/17	19:44	11/14/17	19:47	—	—	450	☐	☐	☒	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	11/15/17 11:10	[signature] EATL	11/16/17 10:15

Notes: 60 mL samples for screening purposes
TO-17: Naphthalene

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		1.6 °C	good	(Yes) No None	~~1711286~~ ae 11/16/17 1711287

APPENDIX F

Groundwater Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-69636-1
Client Project/Site: PIH Olympia
Revision: 1

For:
ARCADIS U.S. Inc
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Ross LaGrandeur

Kristine D. Allen

Authorized for release by:
7/20/2017 3:47:04 PM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

Table of Contents

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Job ID: 580-69636-1

Laboratory: TestAmerica Seattle

Narrative

Report was revised 7-20-17 to correct a dilution error for NWTPH-Gx, sample PMW-2 (580-69636-2).

Job Narrative
580-69636-1

Comments
No additional comments.

Receipt
The samples were received on 6/30/2017 12:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.9º C and 6.0º C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: PMW-3 (580-69636-11), PMW-6 (580-69636-12), PMW-7 (580-69636-13), PMW-8 (580-69636-14), PMW-9 (580-69636-15), PMW-13 (580-69636-16), PMW-14 (580-69636-17) and PMW-16 (580-69636-18). Logged in collection time per sample container.

#	Sample ID:	Collection time used from sample container
11	PMW-3	1025
12	PMW-6	1320
13	PMW-7	1410
14	PMW-8	1225
15	PMW-9	1040
16	PMW-13	1030
17	PMW-14	0940
18	PMW-16	1145

GC/MS VOA
Method(s) NWTPH-Gx: The %D of surrogate (4-Bromofluorobenzene) for CCV associated with batch 580-250806 was outside the upper control limits. All associated sample surrogate fell within acceptance criteria; therefore, the data have been reported.

Method(s) NWTPH-Gx: The following samples was analyzed outside of analytical holding time due to instrument stoppages when attempting to run the sample within hold.: PMW-1 (580-69636-1), PMW-17 (580-69636-7), PMW-18 (580-69636-8) and DUP-1 (580-69636-10), PMW-14 (580-69636-17), PMW-16 (580-69636-18) and TRIP BLANK (580-69636-19).

Method(s) NWTPH-Gx: The closing CCV failed by approximately 2 percent. No other sample vial was available for rerun. (CCV 580-251201/12)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8011: The CCVs associated with 580-250590 fell high outside the control limits for surrogate 1,2-Dibromopropane on the confirmation column only. The primary column was within limits. All associated samples had recoveries within the limits and was reported from the primary column. The following samples are impacted; PMW-3 (580-69636-11), PMW-6 (580-69636-12), PMW-7 (580-69636-13), PMW-8 (580-69636-14), PMW-13 (580-69636-16), PMW-16 (580-69636-18), (CCV 580-250529/1-A), (LCS 580-250529/3-A), (LCSD 580-250529/4-A), (LLCS 580-250529/5-A) and (MB 580-250529/2-A).

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 580-250590 recovered above the upper control limit for Ethylene Dibromide at 20.1%D on the primary column only. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: PMW-16 (580-69636-18) and (CCV 580-250529/1-A).

Job ID: 580-69636-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was earlier than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PMW-17 (580-69636-7).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PMW-2 (580-69636-2), PMW-10 (580-69636-4), PMW-12 (580-69636-5), PMW-18 (580-69636-8), PMW-6 (580-69636-12), PMW-7 (580-69636-13), PMW-8 (580-69636-14), PMW-9 (580-69636-15) and PMW-14 (580-69636-17).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was earlier than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PMW-2 (580-69636-2), PMW-5 (580-69636-3), PMW-10 (580-69636-4), PMW-12 (580-69636-5), PMW-17 (580-69636-7) and PMW-14 (580-69636-17).

Method(s) NWTPH-Dx: The peak profile present in this sample PMW-16 (580-69636-18) is atypical of a hydrocarbon pattern and consists of discrete peaks.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: PMW-1
Date Collected: 06/28/17 12:40
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 03:23	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 03:23	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 03:23	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 03:23	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 03:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 122*		*07/06/17 03:23*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 03:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 125*		*07/06/17 03:23*	*1*
Dibromofluoromethane (Surr)	*101*		*77 - 120*		*07/06/17 03:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*07/06/17 03:23*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	H	0.50	0.050	mg/L			07/15/17 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*58 - 133*		*07/15/17 19:47*	*1*
Trifluorotoluene (Surr)	*110*		*77 - 128*		*07/15/17 19:47*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.026**	**J**	0.11	0.020	mg/L		07/12/17 14:20	07/13/17 20:07	1
Motor Oil (>C24-C36)	ND		0.26	0.081	mg/L		07/12/17 14:20	07/13/17 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*62*		*43 - 119*	*07/12/17 14:20*	*07/13/17 20:07*	*1*

Client Sample ID: PMW-2
Date Collected: 06/28/17 15:30
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 03:50	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 03:50	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 03:50	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 03:50	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 03:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 03:50*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 03:50*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 125*		*07/06/17 03:50*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 120*		*07/06/17 03:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*07/06/17 03:50*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.14**	**J**	0.50	0.050	mg/L			07/12/17 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*58 - 133*		*07/12/17 21:46*	*1*
Trifluorotoluene (Surr)	*105*		*77 - 128*		*07/12/17 21:46*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.23**		0.11	0.020	mg/L		07/12/17 14:20	07/14/17 00:36	1
Motor Oil (>C24-C36)	**0.097**	**J**	0.27	0.083	mg/L		07/12/17 14:20	07/14/17 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*63*		*43 - 119*	*07/12/17 14:20*	*07/14/17 00:36*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.080**	**J**	0.11	0.020	mg/L		07/12/17 14:20	07/13/17 20:02	1
Motor Oil (>C24-C36)	ND		0.27	0.083	mg/L		07/12/17 14:20	07/13/17 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*43 - 119*	*07/12/17 14:20*	*07/13/17 20:02*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-5
Date Collected: 06/28/17 14:35
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 04:17	1
Toluene	**0.44**	**J**	2.0	0.24	ug/L			07/06/17 04:17	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 04:17	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 04:17	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 04:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 04:17*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 04:17*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 125*		*07/06/17 04:17*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 120*		*07/06/17 04:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*07/06/17 04:17*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.26**	**J**	0.50	0.050	mg/L			07/12/17 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*58 - 133*		*07/12/17 22:17*	*1*
Trifluorotoluene (Surr)	*104*		*77 - 128*		*07/12/17 22:17*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.69**		0.11	0.020	mg/L		07/12/17 14:20	07/14/17 01:05	1
Motor Oil (>C24-C36)	**0.13**	**J**	0.27	0.082	mg/L		07/12/17 14:20	07/14/17 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*43 - 119*	*07/12/17 14:20*	*07/14/17 01:05*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.22**		0.11	0.020	mg/L		07/12/17 14:20	07/13/17 20:25	1
Motor Oil (>C24-C36)	ND		0.27	0.082	mg/L		07/12/17 14:20	07/13/17 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*43 - 119*	*07/12/17 14:20*	*07/13/17 20:25*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-10
Date Collected: 06/28/17 14:10
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.0		2.0	0.42	ug/L			07/06/17 04:43	1
Toluene	0.70	J	2.0	0.24	ug/L			07/06/17 04:43	1
Ethylbenzene	0.24	J	3.0	0.21	ug/L			07/06/17 04:43	1
m-Xylene & p-Xylene	0.98	J	3.0	0.72	ug/L			07/06/17 04:43	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 04:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 04:43*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 04:43*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 125*		*07/06/17 04:43*	*1*
Dibromofluoromethane (Surr)	*97*		*77 - 120*		*07/06/17 04:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*07/06/17 04:43*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.61		0.50	0.050	mg/L			07/12/17 22:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*		*58 - 133*		*07/12/17 22:48*	*1*
Trifluorotoluene (Surr)	*109*		*77 - 128*		*07/12/17 22:48*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1.9		0.10	0.019	mg/L		07/12/17 14:20	07/14/17 01:34	1
Motor Oil (>C24-C36)	1.4		0.25	0.078	mg/L		07/12/17 14:20	07/14/17 01:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*43 - 119*	*07/12/17 14:20*	*07/14/17 01:34*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.38		0.10	0.019	mg/L		07/12/17 14:20	07/13/17 20:48	1
Motor Oil (>C24-C36)	0.31		0.25	0.078	mg/L		07/12/17 14:20	07/13/17 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*43 - 119*	*07/12/17 14:20*	*07/13/17 20:48*	*1*

Client Sample ID: PMW-12
Date Collected: 06/28/17 14:50
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 05:09	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 05:09	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 05:09	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 05:09	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 05:09*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*07/06/17 05:09*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 125*		*07/06/17 05:09*	*1*
Dibromofluoromethane (Surr)	*99*		*77 - 120*		*07/06/17 05:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*07/06/17 05:09*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.090**	**J**	0.50	0.050	mg/L			07/12/17 23:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*58 - 133*		*07/12/17 23:19*	*1*
Trifluorotoluene (Surr)	*105*		*77 - 128*		*07/12/17 23:19*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1.5**		0.10	0.020	mg/L		07/12/17 14:20	07/14/17 02:31	1
Motor Oil (>C24-C36)	**1.2**		0.26	0.080	mg/L		07/12/17 14:20	07/14/17 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*43 - 119*	*07/12/17 14:20*	*07/14/17 02:31*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.080**	**J**	0.10	0.020	mg/L		07/12/17 14:20	07/13/17 21:11	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		07/12/17 14:20	07/13/17 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*43 - 119*	*07/12/17 14:20*	*07/13/17 21:11*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-15
Date Collected: 06/28/17 12:50
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 05:36	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 05:36	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 05:36	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 05:36	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 05:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 122*		*07/06/17 05:36*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 05:36*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 125*		*07/06/17 05:36*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 120*		*07/06/17 05:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*07/06/17 05:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.12**	**J**	0.50	0.050	mg/L			07/12/17 23:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*58 - 133*		*07/12/17 23:50*	*1*
Trifluorotoluene (Surr)	*101*		*77 - 128*		*07/12/17 23:50*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.45**		0.11	0.021	mg/L		07/12/17 14:20	07/13/17 21:07	1
Motor Oil (>C24-C36)	ND		0.28	0.087	mg/L		07/12/17 14:20	07/13/17 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*43 - 119*	*07/12/17 14:20*	*07/13/17 21:07*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-17
Date Collected: 06/28/17 13:45
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 06:02	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 06:02	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 06:02	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 06:02	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 122*		*07/06/17 06:02*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 06:02*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 125*		*07/06/17 06:02*	*1*
Dibromofluoromethane (Surr)	*97*		*77 - 120*		*07/06/17 06:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*07/06/17 06:02*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.15**	**J H**	0.50	0.050	mg/L			07/13/17 06:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*58 - 133*		*07/13/17 06:47*	*1*
Trifluorotoluene (Surr)	*99*		*77 - 128*		*07/13/17 06:47*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.17**		0.11	0.021	mg/L		07/12/17 14:20	07/14/17 02:59	1
Motor Oil (>C24-C36)	ND		0.27	0.084	mg/L		07/12/17 14:20	07/14/17 02:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*65*		*43 - 119*	*07/12/17 14:20*	*07/14/17 02:59*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.087**	**J**	0.11	0.021	mg/L		07/12/17 14:20	07/13/17 21:34	1
Motor Oil (>C24-C36)	ND		0.27	0.084	mg/L		07/12/17 14:20	07/13/17 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*43 - 119*	*07/12/17 14:20*	*07/13/17 21:34*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-18
Date Collected: 06/28/17 13:35
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.81**	**J**	2.0	0.42	ug/L			07/06/17 06:29	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 06:29	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 06:29	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 06:29	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 06:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 122*		*07/06/17 06:29*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*07/06/17 06:29*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 125*		*07/06/17 06:29*	*1*
Dibromofluoromethane (Surr)	*99*		*77 - 120*		*07/06/17 06:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*07/06/17 06:29*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.10**	**J H**	0.50	0.050	mg/L			07/13/17 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*58 - 133*		*07/13/17 07:49*	*1*
Trifluorotoluene (Surr)	*102*		*77 - 128*		*07/13/17 07:49*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**3.1**		0.10	0.020	mg/L		07/12/17 14:20	07/13/17 21:37	1
Motor Oil (>C24-C36)	**1.4**		0.26	0.080	mg/L		07/12/17 14:20	07/13/17 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*62*		*43 - 119*	*07/12/17 14:20*	*07/13/17 21:37*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: TRIP BLANK
Date Collected: 06/28/17 00:01
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 02:05	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 02:05	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 02:05	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 02:05	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 02:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 02:05*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*07/06/17 02:05*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 125*		*07/06/17 02:05*	*1*
Dibromofluoromethane (Surr)	*99*		*77 - 120*		*07/06/17 02:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*07/06/17 02:05*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50	0.050	mg/L			07/12/17 08:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*58 - 133*		*07/12/17 08:04*	*1*
Trifluorotoluene (Surr)	*116*		*77 - 128*		*07/12/17 08:04*	*1*

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: DUP-1
Date Collected: 06/28/17 00:01
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 06:55	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 06:55	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 06:55	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 06:55	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 06:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 122*		*07/06/17 06:55*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*07/06/17 06:55*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 125*		*07/06/17 06:55*	*1*
Dibromofluoromethane (Surr)	*99*		*77 - 120*		*07/06/17 06:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*07/06/17 06:55*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	H	0.50	0.050	mg/L			07/13/17 08:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*58 - 133*		*07/13/17 08:20*	*1*
Trifluorotoluene (Surr)	*94*		*77 - 128*		*07/13/17 08:20*	*1*

Client Sample ID: PMW-3
Date Collected: 06/29/17 10:25
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 07:22	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 07:22	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 07:22	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 07:22	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 07:22	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 07:22	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 07:22	1
Xylenes, Total	ND		3.0	0.30	ug/L			07/06/17 07:22	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.0069**	**J**	0.023	0.0068	ug/L		07/06/17 13:37	07/07/17 15:26	1
2-Methylnaphthalene	**0.012**	**J**	0.034	0.010	ug/L		07/06/17 13:37	07/07/17 15:26	1
Benzo[a]anthracene	**0.010**	**J**	0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 15:26	1
Benzo[a]pyrene	ND		0.023	0.0034	ug/L		07/06/17 13:37	07/07/17 15:26	1
Benzo[b]fluoranthene	ND		0.023	0.0091	ug/L		07/06/17 13:37	07/07/17 15:26	1
Benzo[k]fluoranthene	ND		0.034	0.010	ug/L		07/06/17 13:37	07/07/17 15:26	1
Chrysene	**0.0089**	**J**	0.023	0.0068	ug/L		07/06/17 13:37	07/07/17 15:26	1
Dibenz(a,h)anthracene	ND		0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 15:26	1
Indeno[1,2,3-cd]pyrene	ND		0.023	0.0079	ug/L		07/06/17 13:37	07/07/17 15:26	1
Naphthalene	ND		0.045	0.015	ug/L		07/06/17 13:37	07/07/17 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*95*		*53 - 112*	*07/06/17 13:37*	*07/07/17 15:26*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50	0.050	mg/L			07/13/17 08:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*58 - 133*		*07/13/17 08:59*	*1*
Trifluorotoluene (Surr)	*99*		*77 - 128*		*07/13/17 08:59*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		07/07/17 11:44	07/07/17 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*97*		*60 - 140*	*07/07/17 11:44*	*07/07/17 23:48*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.022**	**J**	0.11	0.021	mg/L		07/12/17 14:20	07/13/17 22:08	1
Motor Oil (>C24-C36)	ND		0.28	0.086	mg/L		07/12/17 14:20	07/13/17 22:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*43 - 119*	*07/12/17 14:20*	*07/13/17 22:08*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0026	mg/L		07/05/17 17:57	07/06/17 12:00	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-3
Date Collected: 06/29/17 10:25
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-11
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0036	J	0.030	0.0026	mg/L		07/05/17 17:58	07/06/17 12:06	1

Client Sample ID: PMW-6
Date Collected: 06/29/17 13:20
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 07:49	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 07:49	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 07:49	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 07:49	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 07:49	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 07:49	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 07:49	1
Xylenes, Total	ND		3.0	0.30	ug/L			07/06/17 07:49	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.023**		0.023	0.0068	ug/L		07/06/17 13:37	07/07/17 15:51	1
2-Methylnaphthalene	**0.012**	**J**	0.034	0.010	ug/L		07/06/17 13:37	07/07/17 15:51	1
Benzo[a]anthracene	ND		0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 15:51	1
Benzo[a]pyrene	ND		0.023	0.0034	ug/L		07/06/17 13:37	07/07/17 15:51	1
Benzo[b]fluoranthene	ND		0.023	0.0090	ug/L		07/06/17 13:37	07/07/17 15:51	1
Benzo[k]fluoranthene	ND		0.034	0.010	ug/L		07/06/17 13:37	07/07/17 15:51	1
Chrysene	ND		0.023	0.0068	ug/L		07/06/17 13:37	07/07/17 15:51	1
Dibenz(a,h)anthracene	ND		0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 15:51	1
Indeno[1,2,3-cd]pyrene	ND		0.023	0.0079	ug/L		07/06/17 13:37	07/07/17 15:51	1
Naphthalene	**0.021**	**J**	0.045	0.015	ug/L		07/06/17 13:37	07/07/17 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*74*		*53 - 112*	*07/06/17 13:37*	*07/07/17 15:51*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.086**	**J**	0.50	0.050	mg/L			07/13/17 09:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*58 - 133*		*07/13/17 09:30*	*1*
Trifluorotoluene (Surr)	*102*		*77 - 128*		*07/13/17 09:30*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		07/07/17 11:44	07/08/17 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*104*		*60 - 140*	*07/07/17 11:44*	*07/08/17 00:04*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2.0**		0.11	0.022	mg/L		07/12/17 14:20	07/13/17 22:39	1
Motor Oil (>C24-C36)	**0.70**		0.28	0.088	mg/L		07/12/17 14:20	07/13/17 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*43 - 119*	*07/12/17 14:20*	*07/13/17 22:39*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.0035**	**J**	0.030	0.0026	mg/L		07/05/17 17:57	07/06/17 12:28	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-6
Date Collected: 06/29/17 13:20
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-12
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0033	J	0.030	0.0026	mg/L		07/05/17 17:58	07/06/17 12:31	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-7
Date Collected: 06/29/17 14:10
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-13
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 08:15	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 08:15	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 08:15	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 08:15	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 08:15	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 08:15	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 08:15	1
Xylenes, Total	ND		3.0	0.30	ug/L			07/06/17 08:15	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.020**	**J**	0.023	0.0069	ug/L		07/06/17 13:37	07/07/17 16:16	1
2-Methylnaphthalene	**0.024**	**J**	0.034	0.010	ug/L		07/06/17 13:37	07/07/17 16:16	1
Benzo[a]anthracene	**0.049**		0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 16:16	1
Benzo[a]pyrene	**0.012**	**J**	0.023	0.0034	ug/L		07/06/17 13:37	07/07/17 16:16	1
Benzo[b]fluoranthene	**0.026**		0.023	0.0092	ug/L		07/06/17 13:37	07/07/17 16:16	1
Benzo[k]fluoranthene	ND		0.034	0.010	ug/L		07/06/17 13:37	07/07/17 16:16	1
Chrysene	**0.050**		0.023	0.0069	ug/L		07/06/17 13:37	07/07/17 16:16	1
Dibenz(a,h)anthracene	ND		0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 16:16	1
Indeno[1,2,3-cd]pyrene	**0.0083**	**J**	0.023	0.0080	ug/L		07/06/17 13:37	07/07/17 16:16	1
Naphthalene	**0.038**	**J**	0.046	0.015	ug/L		07/06/17 13:37	07/07/17 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*84*		*53 - 112*	*07/06/17 13:37*	*07/07/17 16:16*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50	0.050	mg/L			07/13/17 10:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*58 - 133*		*07/13/17 10:06*	*1*
Trifluorotoluene (Surr)	*97*		*77 - 128*		*07/13/17 10:06*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		07/07/17 11:44	07/08/17 00:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*100*		*60 - 140*	*07/07/17 11:44*	*07/08/17 00:21*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.16**		0.11	0.020	mg/L		07/12/17 14:20	07/13/17 23:09	1
Motor Oil (>C24-C36)	ND		0.27	0.083	mg/L		07/12/17 14:20	07/13/17 23:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*43 - 119*	*07/12/17 14:20*	*07/13/17 23:09*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0026	mg/L		07/05/17 17:57	07/06/17 12:35	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-7
Date Collected: 06/29/17 14:10
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-13
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0027	J	0.030	0.0026	mg/L		07/05/17 17:58	07/06/17 12:38	1

Client Sample ID: PMW-8
Date Collected: 06/29/17 12:25
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-14
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**24**		2.0	0.42	ug/L			07/06/17 08:42	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 08:42	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 08:42	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 08:42	1
m-Xylene & p-Xylene	**1.2**	**J**	3.0	0.72	ug/L			07/06/17 08:42	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 08:42	1
Toluene	**1.0**	**J**	2.0	0.24	ug/L			07/06/17 08:42	1
Xylenes, Total	**1.2**	**J**	3.0	0.30	ug/L			07/06/17 08:42	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.37**		0.024	0.0073	ug/L		07/06/17 13:37	07/07/17 16:41	1
2-Methylnaphthalene	**0.082**		0.037	0.011	ug/L		07/06/17 13:37	07/07/17 16:41	1
Benzo[a]anthracene	ND		0.024	0.0024	ug/L		07/06/17 13:37	07/07/17 16:41	1
Benzo[a]pyrene	ND		0.024	0.0037	ug/L		07/06/17 13:37	07/07/17 16:41	1
Benzo[b]fluoranthene	ND		0.024	0.0098	ug/L		07/06/17 13:37	07/07/17 16:41	1
Benzo[k]fluoranthene	ND		0.037	0.011	ug/L		07/06/17 13:37	07/07/17 16:41	1
Chrysene	ND		0.024	0.0073	ug/L		07/06/17 13:37	07/07/17 16:41	1
Dibenz(a,h)anthracene	ND		0.024	0.0024	ug/L		07/06/17 13:37	07/07/17 16:41	1
Indeno[1,2,3-cd]pyrene	ND		0.024	0.0086	ug/L		07/06/17 13:37	07/07/17 16:41	1
Naphthalene	**0.15**		0.049	0.016	ug/L		07/06/17 13:37	07/07/17 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*73*		*53 - 112*	*07/06/17 13:37*	*07/07/17 16:41*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.29**	**J**	0.50	0.050	mg/L			07/13/17 10:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*58 - 133*		*07/13/17 10:37*	*1*
Trifluorotoluene (Surr)	*99*		*77 - 128*		*07/13/17 10:37*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		07/07/17 11:44	07/08/17 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*102*		*60 - 140*	*07/07/17 11:44*	*07/08/17 00:37*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2.8**		0.10	0.019	mg/L		07/12/17 14:20	07/13/17 23:38	1
Motor Oil (>C24-C36)	**0.93**		0.26	0.079	mg/L		07/12/17 14:20	07/13/17 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*43 - 119*	*07/12/17 14:20*	*07/13/17 23:38*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0026	mg/L		07/05/17 17:57	07/06/17 12:41	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-8
Date Collected: 06/29/17 12:25
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-14
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0030	J	0.030	0.0026	mg/L		07/05/17 17:58	07/06/17 12:45	1

Client Sample ID: PMW-9
Date Collected: 06/29/17 10:40
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-15
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 09:08	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 09:08	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 09:08	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 09:08	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 09:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 122*		*07/06/17 09:08*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*07/06/17 09:08*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 125*		*07/06/17 09:08*	*1*
Dibromofluoromethane (Surr)	*99*		*77 - 120*		*07/06/17 09:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*07/06/17 09:08*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.065**	**J**	0.50	0.050	mg/L			07/13/17 11:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*58 - 133*		*07/13/17 11:08*	*1*
Trifluorotoluene (Surr)	*101*		*77 - 128*		*07/13/17 11:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.85**		0.10	0.020	mg/L		07/12/17 14:20	07/14/17 00:07	1
Motor Oil (>C24-C36)	**0.60**		0.26	0.081	mg/L		07/12/17 14:20	07/14/17 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*65*		*43 - 119*	*07/12/17 14:20*	*07/14/17 00:07*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.0040**	**J**	0.030	0.0026	mg/L		07/05/17 17:57	07/06/17 12:48	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0026	mg/L		07/05/17 17:58	07/06/17 12:51	1

Client Sample ID: PMW-13

Date Collected: 06/29/17 10:30
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-16

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.62**	**J**	2.0	0.42	ug/L			07/06/17 09:34	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 09:34	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 09:34	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 09:34	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 09:34	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 09:34	1
Toluene	**0.66**	**J**	2.0	0.24	ug/L			07/06/17 09:34	1
Xylenes, Total	ND		3.0	0.30	ug/L			07/06/17 09:34	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.76**		0.020	0.0061	ug/L		07/06/17 13:37	07/07/17 17:06	1
2-Methylnaphthalene	**0.086**		0.031	0.0092	ug/L		07/06/17 13:37	07/07/17 17:06	1
Benzo[a]anthracene	ND		0.020	0.0020	ug/L		07/06/17 13:37	07/07/17 17:06	1
Benzo[a]pyrene	ND		0.020	0.0031	ug/L		07/06/17 13:37	07/07/17 17:06	1
Benzo[b]fluoranthene	ND		0.020	0.0081	ug/L		07/06/17 13:37	07/07/17 17:06	1
Benzo[k]fluoranthene	ND		0.031	0.0092	ug/L		07/06/17 13:37	07/07/17 17:06	1
Chrysene	ND		0.020	0.0061	ug/L		07/06/17 13:37	07/07/17 17:06	1
Dibenz(a,h)anthracene	ND		0.020	0.0020	ug/L		07/06/17 13:37	07/07/17 17:06	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0071	ug/L		07/06/17 13:37	07/07/17 17:06	1
Naphthalene	**0.14**		0.041	0.013	ug/L		07/06/17 13:37	07/07/17 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*69*		*53 - 112*	*07/06/17 13:37*	*07/07/17 17:06*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.16**	**J**	0.50	0.050	mg/L			07/13/17 11:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*58 - 133*		*07/13/17 11:39*	*1*
Trifluorotoluene (Surr)	*99*		*77 - 128*		*07/13/17 11:39*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		07/07/17 11:44	07/08/17 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*102*		*60 - 140*	*07/07/17 11:44*	*07/08/17 00:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1.9**		0.10	0.019	mg/L		07/13/17 15:44	07/13/17 23:51	1
Motor Oil (>C24-C36)	**0.70**		0.26	0.079	mg/L		07/13/17 15:44	07/13/17 23:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*43 - 119*	*07/13/17 15:44*	*07/13/17 23:51*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.0040**	**J**	0.030	0.0026	mg/L		07/06/17 09:22	07/07/17 12:47	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-13
Date Collected: 06/29/17 10:30
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-16
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0030	J	0.030	0.0026	mg/L		07/06/17 09:22	07/07/17 12:22	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-14
Date Collected: 06/29/17 09:40
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-17
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 10:00	1
Toluene	**0.26**	**J**	2.0	0.24	ug/L			07/06/17 10:00	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 10:00	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 10:00	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 10:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 10:00*	*1*
Trifluorotoluene (Surr)	*96*		*80 - 120*		*07/06/17 10:00*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 125*		*07/06/17 10:00*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 120*		*07/06/17 10:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*07/06/17 10:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.35**	**J H**	0.50	0.050	mg/L			07/15/17 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*58 - 133*		*07/15/17 20:51*	*1*
Trifluorotoluene (Surr)	*108*		*77 - 128*		*07/15/17 20:51*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2.1**		0.11	0.020	mg/L		07/12/17 14:20	07/14/17 03:28	1
Motor Oil (>C24-C36)	**0.67**		0.27	0.083	mg/L		07/12/17 14:20	07/14/17 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*43 - 119*	*07/12/17 14:20*	*07/14/17 03:28*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.75**		0.11	0.020	mg/L		07/12/17 14:20	07/13/17 21:57	1
Motor Oil (>C24-C36)	**0.28**		0.27	0.083	mg/L		07/12/17 14:20	07/13/17 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*43 - 119*	*07/12/17 14:20*	*07/13/17 21:57*	*1*

Client Sample ID: PMW-16

Date Collected: 06/29/17 11:45
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-18

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 10:26	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 10:26	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 10:26	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 10:26	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 10:26	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 10:26	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 10:26	1
Xylenes, Total	ND		3.0	0.30	ug/L			07/06/17 10:26	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.023	0.0069	ug/L		07/06/17 13:37	07/07/17 17:31	1
2-Methylnaphthalene	ND		0.034	0.010	ug/L		07/06/17 13:37	07/07/17 17:31	1
Benzo[a]anthracene	**0.0046**	**J**	0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 17:31	1
Benzo[a]pyrene	ND		0.023	0.0034	ug/L		07/06/17 13:37	07/07/17 17:31	1
Benzo[b]fluoranthene	ND		0.023	0.0092	ug/L		07/06/17 13:37	07/07/17 17:31	1
Benzo[k]fluoranthene	ND		0.034	0.010	ug/L		07/06/17 13:37	07/07/17 17:31	1
Chrysene	**0.0082**	**J**	0.023	0.0069	ug/L		07/06/17 13:37	07/07/17 17:31	1
Dibenz(a,h)anthracene	ND		0.023	0.0023	ug/L		07/06/17 13:37	07/07/17 17:31	1
Indeno[1,2,3-cd]pyrene	ND		0.023	0.0080	ug/L		07/06/17 13:37	07/07/17 17:31	1
Naphthalene	ND		0.046	0.015	ug/L		07/06/17 13:37	07/07/17 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*68*		*53 - 112*	*07/06/17 13:37*	*07/07/17 17:31*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	H	0.50	0.050	mg/L			07/15/17 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*58 - 133*		*07/15/17 21:22*	*1*
Trifluorotoluene (Surr)	*108*		*77 - 128*		*07/15/17 21:22*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		07/07/17 11:44	07/08/17 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*106*		*60 - 140*	*07/07/17 11:44*	*07/08/17 01:27*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.10**	**J**	0.11	0.021	mg/L		07/13/17 15:44	07/14/17 00:13	1
Motor Oil (>C24-C36)	ND		0.28	0.086	mg/L		07/13/17 15:44	07/14/17 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*43 - 119*	*07/13/17 15:44*	*07/14/17 00:13*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.0050**	**J**	0.030	0.0026	mg/L		07/06/17 09:22	07/07/17 12:54	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-16
Date Collected: 06/29/17 11:45
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-18
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0046	J	0.030	0.0026	mg/L		07/06/17 09:22	07/07/17 12:51	1

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: TRIP BLANK
Date Collected: 06/29/17 00:01
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-19
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			07/06/17 02:31	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 02:31	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 02:31	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 02:31	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 122*		*07/06/17 02:31*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*07/06/17 02:31*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 125*		*07/06/17 02:31*	*1*
Dibromofluoromethane (Surr)	*100*		*77 - 120*		*07/06/17 02:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*07/06/17 02:31*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	H	0.50	0.050	mg/L			07/15/17 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*58 - 133*		*07/15/17 19:15*	*1*
Trifluorotoluene (Surr)	*113*		*77 - 128*		*07/15/17 19:15*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-250379/5
Matrix: Water
Analysis Batch: 250379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		2.0	0.45	ug/L			07/06/17 00:45	1
Benzene	ND		2.0	0.42	ug/L			07/06/17 00:45	1
Ethylbenzene	ND		3.0	0.21	ug/L			07/06/17 00:45	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			07/06/17 00:45	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			07/06/17 00:45	1
o-Xylene	ND		2.0	0.15	ug/L			07/06/17 00:45	1
Toluene	ND		2.0	0.24	ug/L			07/06/17 00:45	1
Xylenes, Total	ND		3.0	0.30	ug/L			07/06/17 00:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 122*		*07/06/17 00:45*	*1*
Trifluorotoluene (Surr)	*95*		*80 - 120*		*07/06/17 00:45*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 125*		*07/06/17 00:45*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 120*		*07/06/17 00:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*07/06/17 00:45*	*1*

Lab Sample ID: LCS 580-250379/6
Matrix: Water
Analysis Batch: 250379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	10.0	9.56		ug/L		96	76 - 131
Benzene	10.0	9.65		ug/L		96	75 - 120
Ethylbenzene	10.0	10.3		ug/L		103	75 - 120
Methyl tert-butyl ether	10.0	9.26		ug/L		93	79 - 120
m-Xylene & p-Xylene	10.0	9.52		ug/L		95	75 - 120
o-Xylene	10.0	10.2		ug/L		102	74 - 120
Toluene	10.0	9.66		ug/L		97	75 - 120
Xylenes, Total	20.0	19.7		ug/L		99	74 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 122*
Trifluorotoluene (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*75 - 125*
Dibromofluoromethane (Surr)	*98*		*77 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*

Lab Sample ID: LCSD 580-250379/7
Matrix: Water
Analysis Batch: 250379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	10.0	9.47		ug/L		95	76 - 131	1	11
Benzene	10.0	9.54		ug/L		95	75 - 120	1	14
Ethylbenzene	10.0	10.5		ug/L		105	75 - 120	1	14
Methyl tert-butyl ether	10.0	9.05		ug/L		91	79 - 120	2	18
m-Xylene & p-Xylene	10.0	9.76		ug/L		98	75 - 120	3	14

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-250379/7
Matrix: Water
Analysis Batch: 250379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			10.0	10.0		ug/L		100	74 - 120	2	16
Toluene			10.0	9.87		ug/L		99	75 - 120	2	13
Xylenes, Total			20.0	19.8		ug/L		99	74 - 120	0	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 122*
Trifluorotoluene (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*75 - 125*
Dibromofluoromethane (Surr)	*97*		*77 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-250452/1-A
Matrix: Water
Analysis Batch: 250561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 250452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020	0.0060	ug/L		07/06/17 13:37	07/07/17 14:12	1
2-Methylnaphthalene	ND		0.030	0.0090	ug/L		07/06/17 13:37	07/07/17 14:12	1
Benzo[a]anthracene	ND		0.020	0.0020	ug/L		07/06/17 13:37	07/07/17 14:12	1
Benzo[a]pyrene	ND		0.020	0.0030	ug/L		07/06/17 13:37	07/07/17 14:12	1
Benzo[b]fluoranthene	ND		0.020	0.0080	ug/L		07/06/17 13:37	07/07/17 14:12	1
Benzo[k]fluoranthene	ND		0.030	0.0090	ug/L		07/06/17 13:37	07/07/17 14:12	1
Chrysene	ND		0.020	0.0060	ug/L		07/06/17 13:37	07/07/17 14:12	1
Dibenz(a,h)anthracene	ND		0.020	0.0020	ug/L		07/06/17 13:37	07/07/17 14:12	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0070	ug/L		07/06/17 13:37	07/07/17 14:12	1
Naphthalene	ND		0.040	0.013	ug/L		07/06/17 13:37	07/07/17 14:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*85*		*53 - 112*	*07/06/17 13:37*	*07/07/17 14:12*	*1*

Lab Sample ID: LCS 580-250452/2-A
Matrix: Water
Analysis Batch: 250561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 250452

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene			4.00	2.69		ug/L		67	57 - 107
2-Methylnaphthalene			4.00	3.04		ug/L		76	61 - 118
Benzo[a]anthracene			4.00	4.01		ug/L		100	71 - 119
Benzo[a]pyrene			4.00	3.98		ug/L		100	76 - 118
Benzo[b]fluoranthene			4.00	3.86		ug/L		96	66 - 117
Benzo[k]fluoranthene			4.00	3.56		ug/L		89	68 - 114
Chrysene			4.00	3.57		ug/L		89	64 - 107
Dibenz(a,h)anthracene			4.00	3.80		ug/L		95	60 - 125
Indeno[1,2,3-cd]pyrene			4.00	3.82		ug/L		96	63 - 116
Naphthalene			4.00	2.80		ug/L		70	62 - 104

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-250452/2-A
Matrix: Water
Analysis Batch: 250561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 250452

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*76*		*53 - 112*

Lab Sample ID: LCSD 580-250452/3-A
Matrix: Water
Analysis Batch: 250561

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 250452

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene			4.00	2.62		ug/L		66	57 - 107	3	17
2-Methylnaphthalene			4.00	2.95		ug/L		74	61 - 118	3	16
Benzo[a]anthracene			4.00	4.08		ug/L		102	71 - 119	2	16
Benzo[a]pyrene			4.00	4.04		ug/L		101	76 - 118	1	17
Benzo[b]fluoranthene			4.00	3.89		ug/L		97	66 - 117	1	20
Benzo[k]fluoranthene			4.00	3.57		ug/L		89	68 - 114	0	20
Chrysene			4.00	3.57		ug/L		89	64 - 107	0	16
Dibenz(a,h)anthracene			4.00	3.86		ug/L		97	60 - 125	2	15
Indeno[1,2,3-cd]pyrene			4.00	3.90		ug/L		98	63 - 116	2	15
Naphthalene			4.00	2.77		ug/L		69	62 - 104	1	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Terphenyl-d14	*78*		*53 - 112*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-250806/5
Matrix: Water
Analysis Batch: 250806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50	0.050	mg/L			07/12/17 06:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*58 - 133*		*07/12/17 06:28*	*1*
Trifluorotoluene (Surr)	*87*		*77 - 128*		*07/12/17 06:28*	*1*

Lab Sample ID: LCS 580-250806/6
Matrix: Water
Analysis Batch: 250806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1.00	0.828		mg/L		83	79 - 110		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*58 - 133*
Trifluorotoluene (Surr)	*100*		*77 - 128*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-250806/7
Matrix: Water
Analysis Batch: 250806

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1.00	0.819		mg/L		82	79 - 110	1	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*58 - 133*
Trifluorotoluene (Surr)	*97*		*77 - 128*

Lab Sample ID: MB 580-250960/5
Matrix: Water
Analysis Batch: 250960

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50	0.050	mg/L			07/12/17 19:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*58 - 133*		*07/12/17 19:42*	*1*
Trifluorotoluene (Surr)	*105*		*77 - 128*		*07/12/17 19:42*	*1*

Lab Sample ID: LCS 580-250960/6
Matrix: Water
Analysis Batch: 250960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1.00	0.848		mg/L		85	79 - 110		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*58 - 133*
Trifluorotoluene (Surr)	*89*		*77 - 128*

Lab Sample ID: LCSD 580-250960/7
Matrix: Water
Analysis Batch: 250960

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1.00	0.857		mg/L		86	79 - 110	1	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*58 - 133*
Trifluorotoluene (Surr)	*87*		*77 - 128*

Lab Sample ID: MB 580-251286/5
Matrix: Water
Analysis Batch: 251286

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50	0.050	mg/L			07/15/17 15:01	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-251286/5
Matrix: Water
Analysis Batch: 251286

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		58 - 133		07/15/17 15:01	1
Trifluorotoluene (Surr)	96		77 - 128		07/15/17 15:01	1

Lab Sample ID: LCS 580-251286/6
Matrix: Water
Analysis Batch: 251286

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.881		mg/L		88	79 - 110

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		58 - 133
Trifluorotoluene (Surr)	106		77 - 128

Lab Sample ID: LCSD 580-251286/7
Matrix: Water
Analysis Batch: 251286

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.857		mg/L		86	79 - 110	3	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		58 - 133
Trifluorotoluene (Surr)	101		77 - 128

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 580-250529/2-A
Matrix: Water
Analysis Batch: 250590

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 250529

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		07/07/17 11:42	07/07/17 22:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	115		60 - 140	07/07/17 11:42	07/07/17 22:41	1

Lab Sample ID: LCS 580-250529/3-A
Matrix: Water
Analysis Batch: 250590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 250529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0571	0.0704		ug/L		123	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane	119		60 - 140

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: LCSD 580-250529/4-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250590 — **Prep Batch: 250529**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.0571	0.0660		ug/L		116	60 - 140	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dibromopropane	*115*		*60 - 140*

Lab Sample ID: LLCS 580-250529/5-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250590 — **Prep Batch: 250529**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0114	0.0137		ug/L		120	60 - 140

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
1,2-Dibromopropane	*114*		*60 - 140*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-250982/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251088 — **Prep Batch: 250982**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.019	mg/L		07/12/17 14:20	07/13/17 15:42	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		07/12/17 14:20	07/13/17 15:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*43 - 119*	*07/12/17 14:20*	*07/13/17 15:42*	*1*

Lab Sample ID: LCS 580-250982/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251088 — **Prep Batch: 250982**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.00	1.52		mg/L		76	59 - 112
Motor Oil (>C24-C36)	2.00	1.92		mg/L		96	64 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*78*		*43 - 119*

Lab Sample ID: LCSD 580-250982/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251088 — **Prep Batch: 250982**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.00	1.68		mg/L		84	59 - 112	10	16
Motor Oil (>C24-C36)	2.00	2.04		mg/L		102	64 - 120	6	17

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-250982/3-A
Matrix: Water
Analysis Batch: 251088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 250982

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*82*		*43 - 119*

Lab Sample ID: MB 580-251126/1-A
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251126

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.019	mg/L		07/13/17 15:44	07/13/17 22:43	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		07/13/17 15:44	07/13/17 22:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*43 - 119*	*07/13/17 15:44*	*07/13/17 22:43*	*1*

Lab Sample ID: LCS 580-251126/2-A
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251126

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.00	1.82		mg/L		91	59 - 112
Motor Oil (>C24-C36)	2.00	1.90		mg/L		95	64 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*76*		*43 - 119*

Lab Sample ID: LCSD 580-251126/3-A
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 251126

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.00	1.78		mg/L		89	59 - 112	2	16
Motor Oil (>C24-C36)	2.00	1.95		mg/L		98	64 - 120	3	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*80*		*43 - 119*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 580-250982/1-B
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 250982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.019	mg/L		07/12/17 14:20	07/13/17 18:55	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		07/12/17 14:20	07/13/17 18:55	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup (Continued)

Lab Sample ID: MB 580-250982/1-B
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 250982

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	90		43 - 119	07/12/17 14:20	07/13/17 18:55	1

Lab Sample ID: LCS 580-250982/2-B
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 250982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.00	1.91		mg/L		95	59 - 112
Motor Oil (>C24-C36)	2.00	2.12		mg/L		106	64 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	81		43 - 119

Lab Sample ID: LCSD 580-250982/3-B
Matrix: Water
Analysis Batch: 251145

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 250982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.00	1.95		mg/L		97	59 - 112	2	16
Motor Oil (>C24-C36)	2.00	2.14		mg/L		107	64 - 120	1	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	80		43 - 119

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 580-250376/17-A
Matrix: Water
Analysis Batch: 250439

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 250376

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0026	mg/L		07/05/17 17:58	07/06/17 11:51	1

Lab Sample ID: LCS 580-250376/18-A
Matrix: Water
Analysis Batch: 250439

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 250376

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.823		mg/L		82	80 - 120

Lab Sample ID: LCSD 580-250376/19-A
Matrix: Water
Analysis Batch: 250439

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 250376

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	0.891		mg/L		89	80 - 120	8	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 580-69636-11 MS
Matrix: Water
Analysis Batch: 250439

Client Sample ID: PMW-3
Prep Type: Total Recoverable
Prep Batch: 250376

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1.00	0.859		mg/L		86	75 - 125

Lab Sample ID: 580-69636-11 MSD
Matrix: Water
Analysis Batch: 250439

Client Sample ID: PMW-3
Prep Type: Total Recoverable
Prep Batch: 250376

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		1.00	0.898		mg/L		90	75 - 125	4	20

Lab Sample ID: 580-69636-11 DU
Matrix: Water
Analysis Batch: 250439

Client Sample ID: PMW-3
Prep Type: Total Recoverable
Prep Batch: 250376

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	ND		ND		mg/L		NC	20

Lab Sample ID: MB 580-250405/22-A
Matrix: Water
Analysis Batch: 250555

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 250405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0026	mg/L		07/06/17 09:22	07/07/17 12:13	1

Lab Sample ID: LCS 580-250405/23-A
Matrix: Water
Analysis Batch: 250555

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 250405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.924		mg/L		92	80 - 120

Lab Sample ID: LCSD 580-250405/24-A
Matrix: Water
Analysis Batch: 250555

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 250405

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	0.935		mg/L		93	80 - 120	1	20

Lab Sample ID: 580-69636-16 MS
Matrix: Water
Analysis Batch: 250555

Client Sample ID: PMW-13
Prep Type: Dissolved
Prep Batch: 250405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.0030	J	1.00	0.941		mg/L		94	75 - 125

Lab Sample ID: 580-69636-16 MSD
Matrix: Water
Analysis Batch: 250555

Client Sample ID: PMW-13
Prep Type: Dissolved
Prep Batch: 250405

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.0030	J	1.00	0.911		mg/L		91	75 - 125	3	20

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Lab Sample ID: 580-69636-16 DU
Matrix: Water
Analysis Batch: 250555

Client Sample ID: PMW-13
Prep Type: Dissolved
Prep Batch: 250405

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Lead	0.0030	J		0.00400	J F5	mg/L				29	20

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-1
Date Collected: 06/28/17 12:40
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 03:23	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	251286	07/15/17 19:47	RSB	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 20:07	CJ	TAL SEA

Client Sample ID: PMW-2
Date Collected: 06/28/17 15:30
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 03:50	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/12/17 21:46	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Cleanup	3630C			251135	07/13/17 15:55	DSO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 20:02	TL1	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 00:36	CJ	TAL SEA

Client Sample ID: PMW-5
Date Collected: 06/28/17 14:35
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 04:17	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/12/17 22:17	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Cleanup	3630C			251135	07/13/17 15:55	DSO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 20:25	TL1	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 01:05	CJ	TAL SEA

Client Sample ID: PMW-10
Date Collected: 06/28/17 14:10
Date Received: 06/30/17 12:15

Lab Sample ID: 580-69636-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 04:43	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/12/17 22:48	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Cleanup	3630C			251135	07/13/17 15:55	DSO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 20:48	TL1	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA

Client Sample ID: PMW-10

Lab Sample ID: 580-69636-4

Date Collected: 06/28/17 14:10

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 01:34	CJ	TAL SEA

Client Sample ID: PMW-12

Lab Sample ID: 580-69636-5

Date Collected: 06/28/17 14:50

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 05:09	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/12/17 23:19	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Cleanup	3630C			251135	07/13/17 15:55	DSO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 21:11	TL1	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 02:31	CJ	TAL SEA

Client Sample ID: PMW-15

Lab Sample ID: 580-69636-6

Date Collected: 06/28/17 12:50

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 05:36	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/12/17 23:50	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 21:07	CJ	TAL SEA

Client Sample ID: PMW-17

Lab Sample ID: 580-69636-7

Date Collected: 06/28/17 13:45

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 06:02	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 06:47	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Cleanup	3630C			251135	07/13/17 15:55	DSO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 21:34	TL1	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 02:59	CJ	TAL SEA

Client Sample ID: PMW-18

Lab Sample ID: 580-69636-8
Matrix: Water
Date Collected: 06/28/17 13:35
Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 06:29	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 07:49	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 21:37	CJ	TAL SEA

Client Sample ID: TRIP BLANK

Lab Sample ID: 580-69636-9
Matrix: Water
Date Collected: 06/28/17 00:01
Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 02:05	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250806	07/12/17 08:04	CJ	TAL SEA

Client Sample ID: DUP-1

Lab Sample ID: 580-69636-10
Matrix: Water
Date Collected: 06/28/17 00:01
Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 06:55	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 08:20	IWH	TAL SEA

Client Sample ID: PMW-3

Lab Sample ID: 580-69636-11
Matrix: Water
Date Collected: 06/29/17 10:25
Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 07:22	T1W	TAL SEA
Total/NA	Prep	3510C			250452	07/06/17 13:37	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	250561	07/07/17 15:26	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 08:59	IWH	TAL SEA
Total/NA	Prep	8011			250529	07/07/17 11:44	DCV	TAL SEA
Total/NA	Analysis	8011		1	250590	07/07/17 23:48	DCV	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 22:08	CJ	TAL SEA
Dissolved	Prep	3005A			250376	07/05/17 17:58	PAB	TAL SEA
Dissolved	Analysis	6010C		1	250439	07/06/17 12:06	HJM	TAL SEA
Total Recoverable	Prep	3005A			250376	07/05/17 17:57	PAB	TAL SEA
Total Recoverable	Analysis	6010C		1	250439	07/06/17 12:00	HJM	TAL SEA

Client Sample ID: PMW-6

Lab Sample ID: 580-69636-12

Date Collected: 06/29/17 13:20

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 07:49	T1W	TAL SEA
Total/NA	Prep	3510C			250452	07/06/17 13:37	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	250561	07/07/17 15:51	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 09:30	IWH	TAL SEA
Total/NA	Prep	8011			250529	07/07/17 11:44	DCV	TAL SEA
Total/NA	Analysis	8011		1	250590	07/08/17 00:04	DCV	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 22:39	CJ	TAL SEA
Dissolved	Prep	3005A			250376	07/05/17 17:58	PAB	TAL SEA
Dissolved	Analysis	6010C		1	250439	07/06/17 12:31	HJM	TAL SEA
Total Recoverable	Prep	3005A			250376	07/05/17 17:57	PAB	TAL SEA
Total Recoverable	Analysis	6010C		1	250439	07/06/17 12:28	HJM	TAL SEA

Client Sample ID: PMW-7

Lab Sample ID: 580-69636-13

Date Collected: 06/29/17 14:10

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 08:15	T1W	TAL SEA
Total/NA	Prep	3510C			250452	07/06/17 13:37	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	250561	07/07/17 16:16	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 10:06	IWH	TAL SEA
Total/NA	Prep	8011			250529	07/07/17 11:44	DCV	TAL SEA
Total/NA	Analysis	8011		1	250590	07/08/17 00:21	DCV	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 23:09	CJ	TAL SEA
Dissolved	Prep	3005A			250376	07/05/17 17:58	PAB	TAL SEA
Dissolved	Analysis	6010C		1	250439	07/06/17 12:38	HJM	TAL SEA
Total Recoverable	Prep	3005A			250376	07/05/17 17:57	PAB	TAL SEA
Total Recoverable	Analysis	6010C		1	250439	07/06/17 12:35	HJM	TAL SEA

Client Sample ID: PMW-8

Lab Sample ID: 580-69636-14

Date Collected: 06/29/17 12:25

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 08:42	T1W	TAL SEA
Total/NA	Prep	3510C			250452	07/06/17 13:37	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	250561	07/07/17 16:41	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 10:37	IWH	TAL SEA
Total/NA	Prep	8011			250529	07/07/17 11:44	DCV	TAL SEA
Total/NA	Analysis	8011		1	250590	07/08/17 00:37	DCV	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA

Client Sample ID: PMW-8

Lab Sample ID: 580-69636-14

Date Collected: 06/29/17 12:25

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Dx		1	251088	07/13/17 23:38	CJ	TAL SEA
Dissolved	Prep	3005A			250376	07/05/17 17:58	PAB	TAL SEA
Dissolved	Analysis	6010C		1	250439	07/06/17 12:45	HJM	TAL SEA
Total Recoverable	Prep	3005A			250376	07/05/17 17:57	PAB	TAL SEA
Total Recoverable	Analysis	6010C		1	250439	07/06/17 12:41	HJM	TAL SEA

Client Sample ID: PMW-9

Lab Sample ID: 580-69636-15

Date Collected: 06/29/17 10:40

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 09:08	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 11:08	IWH	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 00:07	CJ	TAL SEA
Dissolved	Prep	3005A			250376	07/05/17 17:58	PAB	TAL SEA
Dissolved	Analysis	6010C		1	250439	07/06/17 12:51	HJM	TAL SEA
Total Recoverable	Prep	3005A			250376	07/05/17 17:57	PAB	TAL SEA
Total Recoverable	Analysis	6010C		1	250439	07/06/17 12:48	HJM	TAL SEA

Client Sample ID: PMW-13

Lab Sample ID: 580-69636-16

Date Collected: 06/29/17 10:30

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 09:34	T1W	TAL SEA
Total/NA	Prep	3510C			250452	07/06/17 13:37	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	250561	07/07/17 17:06	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	250960	07/13/17 11:39	IWH	TAL SEA
Total/NA	Prep	8011			250529	07/07/17 11:44	DCV	TAL SEA
Total/NA	Analysis	8011		1	250590	07/08/17 00:54	DCV	TAL SEA
Total/NA	Prep	3510C			251126	07/13/17 15:44	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 23:51	TL1	TAL SEA
Dissolved	Prep	3005A			250405	07/06/17 09:22	ADB	TAL SEA
Dissolved	Analysis	6010C		1	250555	07/07/17 12:22	HJM	TAL SEA
Total Recoverable	Prep	3005A			250405	07/06/17 09:22	ADB	TAL SEA
Total Recoverable	Analysis	6010C		1	250555	07/07/17 12:47	HJM	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Client Sample ID: PMW-14

Lab Sample ID: 580-69636-17

Date Collected: 06/29/17 09:40

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 10:00	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	251286	07/15/17 20:51	RSB	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Cleanup	3630C			251135	07/13/17 15:55	DSO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/13/17 21:57	TL1	TAL SEA
Total/NA	Prep	3510C			250982	07/12/17 14:20	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251088	07/14/17 03:28	CJ	TAL SEA

Client Sample ID: PMW-16

Lab Sample ID: 580-69636-18

Date Collected: 06/29/17 11:45

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 10:26	T1W	TAL SEA
Total/NA	Prep	3510C			250452	07/06/17 13:37	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	250561	07/07/17 17:31	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	251286	07/15/17 21:22	RSB	TAL SEA
Total/NA	Prep	8011			250529	07/07/17 11:44	DCV	TAL SEA
Total/NA	Analysis	8011		1	250590	07/08/17 01:27	DCV	TAL SEA
Total/NA	Prep	3510C			251126	07/13/17 15:44	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	251145	07/14/17 00:13	TL1	TAL SEA
Dissolved	Prep	3005A			250405	07/06/17 09:22	ADB	TAL SEA
Dissolved	Analysis	6010C		1	250555	07/07/17 12:51	HJM	TAL SEA
Total Recoverable	Prep	3005A			250405	07/06/17 09:22	ADB	TAL SEA
Total Recoverable	Analysis	6010C		1	250555	07/07/17 12:54	HJM	TAL SEA

Client Sample ID: TRIP BLANK

Lab Sample ID: 580-69636-19

Date Collected: 06/29/17 00:01

Matrix: Water

Date Received: 06/30/17 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	250379	07/06/17 02:31	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	251286	07/15/17 19:15	RSB	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-18
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-18

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: PIH Olympia

TestAmerica Job ID: 580-69636-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-69636-1	PMW-1	Water	06/28/17 12:40	06/30/17 12:15
580-69636-2	PMW-2	Water	06/28/17 15:30	06/30/17 12:15
580-69636-3	PMW-5	Water	06/28/17 14:35	06/30/17 12:15
580-69636-4	PMW-10	Water	06/28/17 14:10	06/30/17 12:15
580-69636-5	PMW-12	Water	06/28/17 14:50	06/30/17 12:15
580-69636-6	PMW-15	Water	06/28/17 12:50	06/30/17 12:15
580-69636-7	PMW-17	Water	06/28/17 13:45	06/30/17 12:15
580-69636-8	PMW-18	Water	06/28/17 13:35	06/30/17 12:15
580-69636-9	TRIP BLANK	Water	06/28/17 00:01	06/30/17 12:15
580-69636-10	DUP-1	Water	06/28/17 00:01	06/30/17 12:15
580-69636-11	PMW-3	Water	06/29/17 10:25	06/30/17 12:15
580-69636-12	PMW-6	Water	06/29/17 13:20	06/30/17 12:15
580-69636-13	PMW-7	Water	06/29/17 14:10	06/30/17 12:15
580-69636-14	PMW-8	Water	06/29/17 12:25	06/30/17 12:15
580-69636-15	PMW-9	Water	06/29/17 10:40	06/30/17 12:15
580-69636-16	PMW-13	Water	06/29/17 10:30	06/30/17 12:15
580-69636-17	PMW-14	Water	06/29/17 09:40	06/30/17 12:15
580-69636-18	PMW-16	Water	06/29/17 11:45	06/30/17 12:15
580-69636-19	TRIP BLANK	Water	06/29/17 00:01	06/30/17 12:15

Loc: 580
69636

TB A2 Cooler ___ Cor 5.9 Unc 6.7
Cooler Dsc L, Blue @Lab 1350
Wet/Packs Packing Bubble
w/o

TB ___ Cooler TR Cor 6.0 Unc 6.1
Cooler Dsc L, Blue @Lab 1355
Wet/Packs Packing Bubble
w/o

Chain of Custody Rec

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Client Information

Client Contact: Ross LaGrandeur	Sampler: Alex Pink + Joe Latham
Company: ARCADIS U.S. Inc	Phone: 906-440-8394
Address: 1100 Olive Way Suite 800	Lab PM: Allen, Kristine D
City: Seattle	E-Mail: kristine.allen@testamericainc.com
State, Zip: WA, 98101	Carrier Tracking No(s):
Phone: 906-440-8394	COC No: 580-25050-8268.3
Email: ross.lagrandeur@arcadis.com	Page: Page 3 of 3
Project Name: Blackstone Olympia DoubleTree	Job #:
Site:	Due Date Requested:
	TAT Requested (days): Standard TAT
	PO #: Purchase Order Requested
	WO #:
	Project #: 58011340
	SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - Northwest - DRO/RRO — NO SGC	NWTPH_Gx - Northwest GRO	8270D_SIM - cPAHs + Napthalenes	6010C - Total Lead	6010C - Dissolved Lead - field filtered	8011 - EDB	8260C - BTEX	8260C - BTEX, EDC, MTBE	NWTPH-Dx - DRO/RRO - with SGC					Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	A	A	A	A	A							
PMW-3	6/29/17		G	W			X	X	X	X	X	X		X						14	
PMW-6							X	X	X	X	X	X		X						14	
PMW-7							X	X	X	X	X	X		X						14	
PMW-8							X	X	X	X	X	X		X						14	
PMW-9							X	X		X	X		X							10	
PMW-13							X	X	X	X	X	X		X						14	
PMW-14							X	X					X		X					10	
PMW-16							X	X	X	X	X	X		X						14	14
Trip Blank	—		—					X					X							6	
Temp Blank	—		—																	2	2

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed
☐ Return To Client ☑ Disposal

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

580-69636 Chain of Custody

Empty Kit Relinquished by:		Date:		Time:		Met	
Relinquished by:		Date/Time: 6-30-17 1215	Company	Received by:		Date/Time: 6/30/17 1215	Company TA-SEA
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:	Company
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:	Company

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Alex Pink + Joe Latham	Lab PM: Allen, Kristine D	Carrier Tracking No(s):	COC No: 580-25050-8268.3
Client Contact: Ross LaGrandeur	Phone: 906-440-8394	E-Mail: kristine.allen@testamericainc.com		Page: Page 3 of 3
Company: ARCADIS U.S. Inc				Job #:
Address: 1100 Olive Way Suite 800	Due Date Requested:			
City: Seattle	TAT Requested (days): Standard TAT			
State, Zip: WA, 98101				
Phone: 906-440-8394	PO #: Purchase Order Requested			
Email: ross.lagrandeur@arcadis.com	WO #:			
Project Name: Blackstone Olympia DoubleTree	Project #: 58011340			
Site: Olympia Doubletree	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - Northwest - DRO/RRO - NO SGC	NWTPH_Gx - Northwest GRO	8270D_SIM - cPAHs + Napthalenes	6010C - Total Lead	6010C - Dissolved Lead - field filtered	8011 - EDB	8260C - BTEX	8260C - BTEX, EDC, MTBE	NWTPH-Dx - DRO/RRO - with SGC					Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	A	A	A	A	A							
PMW-1	6/28/17	1240	G	W			X	X					X							5	
PMW-2		1530					X	X					X		X					10	
PMW-5		1435					X	X					X		X					10	
PMW-10		1410					X	X					X		X					10	
PMW-12		1450					X	X					X		X					10	
PMW-15		1250					X	X					X							8	
PMW-17		1345					X	X					X		X					10	
PMW-18		1335					X	X					X							8	
Trip Blank	—	—	—	W				X					X							6	
DUP-1	6/28/17	—	G	W				X					X							6	
Temp Blank	—	—																		2	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Joe Latham	6-30-17 1215			6/30/17 1215	TA-SEA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-69636-1

Login Number: 69636
List Number: 1
Creator: Gall, Brandon A

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample time on COC(Samples11-18), logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No date or time on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-71709-1
Client Project/Site: Blackstone Double Tree Olympia (WA)

For:
ARCADIS U.S. Inc
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Rory Henneck

Kayse Zalmai

Authorized for release by:
10/13/2017 4:02:42 PM

Kayse Zalmai, Project Manager I
(253)922-2310
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Table of Contents

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Job ID: 580-71709-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-71709-1

Receipt
The samples were received on 9/29/2017 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.7º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The analyses listed on the COC do not match what the client actually required. Logged in per the PM.

GC/MS VOA
Method(s) NWTPH-Gx: Surrogate recovery for the following samples were outside control limits: PMW-10 (580-71709-6) and PMW-2 (580-71709-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) NWTPH-Gx: The method blank for analytical batch 580-258156 contained Gasoline above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D SIM: The method blank for preparation batch 580-258025 and analytical batch 580-258069 contained Benzo[a]anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not warranted.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) NWTPH-Dx: The method blank for preparation batch 580-258418 and analytical batch 580-258563 contained DRO (C10-C24) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) NWTPH-Dx: The method blank for preparation batch 580-258457 and analytical batch 580-258557 contained DRO (C10-C24) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PMW-9 (580-71709-5), PMW-10 (580-71709-6) and PMW-12 (580-71709-7).

Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was earlier than the typical diesel fuel pattern used by the laboratory for quantitative purposes: DUP-1 (580-71709-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Client Sample ID: PMW-2
Date Collected: 09/27/17 14:20
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 20:25	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 20:25	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 20:25	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 20:25	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 122*		*10/03/17 20:25*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*10/03/17 20:25*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/03/17 20:25*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 20:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/03/17 20:25*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.066**		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 17:14	1
Benzo[a]anthracene	ND		0.021	0.0021	ug/L		10/04/17 09:31	10/04/17 17:14	1
Benzo[a]pyrene	ND		0.021	0.0031	ug/L		10/04/17 09:31	10/04/17 17:14	1
2-Methylnaphthalene	ND		0.031	0.0093	ug/L		10/04/17 09:31	10/04/17 17:14	1
Benzo[b]fluoranthene	ND		0.021	0.0082	ug/L		10/04/17 09:31	10/04/17 17:14	1
Benzo[k]fluoranthene	ND		0.031	0.0093	ug/L		10/04/17 09:31	10/04/17 17:14	1
Naphthalene	**0.068**		0.041	0.013	ug/L		10/04/17 09:31	10/04/17 17:14	1
Chrysene	ND		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 17:14	1
Dibenz(a,h)anthracene	ND		0.021	0.0021	ug/L		10/04/17 09:31	10/04/17 17:14	1
Indeno[1,2,3-cd]pyrene	ND		0.021	0.0072	ug/L		10/04/17 09:31	10/04/17 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*77*		*53 - 112*	*10/04/17 09:31*	*10/04/17 17:14*	*1*
Terphenyl-d14	*77*		*53 - 112*	*10/04/17 09:31*	*10/04/17 17:14*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.14**	**J B**	0.25	0.050	mg/L			10/05/17 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*58 - 133*		*10/05/17 15:08*	*1*
Trifluorotoluene (Surr)	*133*	*X*	*77 - 128*		*10/05/17 15:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.23**	**B**	0.10	0.020	mg/L		10/09/17 14:19	10/11/17 13:39	1
Motor Oil (>C24-C36)	**0.10**	**J**	0.26	0.080	mg/L		10/09/17 14:19	10/11/17 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*10/09/17 14:19*	*10/11/17 13:39*	*1*

Client Sample ID: PMW-3

Date Collected: 09/27/17 12:15
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 20:51	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 20:51	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 20:51	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 20:51	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 122*		*10/03/17 20:51*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*10/03/17 20:51*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 125*		*10/03/17 20:51*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 20:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/03/17 20:51*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.022	0.0066	ug/L		10/04/17 09:31	10/04/17 17:36	1
2-Methylnaphthalene	ND		0.033	0.0099	ug/L		10/04/17 09:31	10/04/17 17:36	1
Naphthalene	ND		0.044	0.014	ug/L		10/04/17 09:31	10/04/17 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*78*		*53 - 112*	*10/04/17 09:31*	*10/04/17 17:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/03/17 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*58 - 133*		*10/03/17 15:31*	*1*
Trifluorotoluene (Surr)	*110*		*77 - 128*		*10/03/17 15:31*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.047**	**J B**	0.10	0.020	mg/L		10/09/17 14:19	10/11/17 14:01	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/09/17 14:19	10/11/17 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*10/09/17 14:19*	*10/11/17 14:01*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.0013**	**J**	0.0040	0.0010	mg/L		10/05/17 12:14	10/06/17 21:33	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 22:13	5

Client Sample ID: PMW-6

Date Collected: 09/27/17 15:10
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 21:18	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 21:18	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 21:18	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 21:18	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 122*		*10/03/17 21:18*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*10/03/17 21:18*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 125*		*10/03/17 21:18*	*1*
Dibromofluoromethane (Surr)	*108*		*77 - 120*		*10/03/17 21:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*10/03/17 21:18*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.022	0.0065	ug/L		10/04/17 09:31	10/04/17 17:58	1
2-Methylnaphthalene	ND		0.032	0.0097	ug/L		10/04/17 09:31	10/04/17 17:58	1
Naphthalene	ND		0.043	0.014	ug/L		10/04/17 09:31	10/04/17 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*70*		*53 - 112*	*10/04/17 09:31*	*10/04/17 17:58*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.12**	**J**	0.25	0.050	mg/L			10/03/17 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*58 - 133*		*10/03/17 16:03*	*1*
Trifluorotoluene (Surr)	*108*		*77 - 128*		*10/03/17 16:03*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1.7**	**B**	0.11	0.020	mg/L		10/09/17 14:19	10/11/17 14:23	1
Motor Oil (>C24-C36)	**0.59**		0.26	0.081	mg/L		10/09/17 14:19	10/11/17 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 150*	*10/09/17 14:19*	*10/11/17 14:23*	*1*

Client Sample ID: PMW-7

Date Collected: 09/27/17 15:35
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 21:44	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 21:44	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 21:44	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 21:44	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 122*		*10/03/17 21:44*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*10/03/17 21:44*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 125*		*10/03/17 21:44*	*1*
Dibromofluoromethane (Surr)	*105*		*77 - 120*		*10/03/17 21:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/03/17 21:44*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.013**	**J**	0.021	0.0063	ug/L		10/04/17 09:31	10/04/17 18:20	1
2-Methylnaphthalene	ND		0.031	0.0094	ug/L		10/04/17 09:31	10/04/17 18:20	1
Naphthalene	**0.017**	**J**	0.042	0.014	ug/L		10/04/17 09:31	10/04/17 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*77*		*53 - 112*	*10/04/17 09:31*	*10/04/17 18:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/03/17 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*58 - 133*		*10/03/17 16:35*	*1*
Trifluorotoluene (Surr)	*105*		*77 - 128*		*10/03/17 16:35*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.14**	**B**	0.10	0.020	mg/L		10/09/17 14:19	10/11/17 14:46	1
Motor Oil (>C24-C36)	**0.083**	**J**	0.26	0.080	mg/L		10/09/17 14:19	10/11/17 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*10/09/17 14:19*	*10/11/17 14:46*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 12:14	10/06/17 21:36	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 21:39	5

Client Sample ID: PMW-9

Date Collected: 09/27/17 12:54
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.81**	**J**	2.0	0.42	ug/L			10/03/17 22:11	1
Toluene	**0.51**	**J**	2.0	0.24	ug/L			10/03/17 22:11	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 22:11	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 22:11	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 22:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 122*		*10/03/17 22:11*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*10/03/17 22:11*	*1*
4-Bromofluorobenzene (Surr)	*106*		*75 - 125*		*10/03/17 22:11*	*1*
Dibromofluoromethane (Surr)	*109*		*77 - 120*		*10/03/17 22:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/03/17 22:11*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.057**		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 18:43	1
2-Methylnaphthalene	**0.013**	**J**	0.031	0.0093	ug/L		10/04/17 09:31	10/04/17 18:43	1
Naphthalene	**0.091**		0.041	0.013	ug/L		10/04/17 09:31	10/04/17 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*63*		*53 - 112*	*10/04/17 09:31*	*10/04/17 18:43*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.083**	**J**	0.25	0.050	mg/L			10/03/17 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*58 - 133*		*10/03/17 17:07*	*1*
Trifluorotoluene (Surr)	*107*		*77 - 128*		*10/03/17 17:07*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.93**	**B**	0.10	0.020	mg/L		10/10/17 09:08	10/11/17 16:14	1
Motor Oil (>C24-C36)	**0.51**		0.26	0.079	mg/L		10/10/17 09:08	10/11/17 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*10/10/17 09:08*	*10/11/17 16:14*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 12:14	10/06/17 21:30	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 21:41	5

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Client Sample ID: PMW-10
Date Collected: 09/27/17 13:20
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.9		2.0	0.42	ug/L			10/03/17 22:37	1
Toluene	0.72	J	2.0	0.24	ug/L			10/03/17 22:37	1
Ethylbenzene	0.74	J	3.0	0.21	ug/L			10/03/17 22:37	1
m-Xylene & p-Xylene	1.1	J	3.0	0.72	ug/L			10/03/17 22:37	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 22:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 122*		*10/03/17 22:37*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/03/17 22:37*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 125*		*10/03/17 22:37*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 22:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*		*10/03/17 22:37*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1.6		0.020	0.0061	ug/L		10/04/17 09:31	10/04/17 19:05	1
2-Methylnaphthalene	0.071		0.030	0.0091	ug/L		10/04/17 09:31	10/04/17 19:05	1
Naphthalene	0.14		0.040	0.013	ug/L		10/04/17 09:31	10/04/17 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*66*		*53 - 112*	*10/04/17 09:31*	*10/04/17 19:05*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.75		0.25	0.050	mg/L			10/03/17 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*146*	*X*	*58 - 133*		*10/03/17 17:39*	*1*
Trifluorotoluene (Surr)	*116*		*77 - 128*		*10/03/17 17:39*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2.1	B	0.11	0.020	mg/L		10/10/17 09:08	10/11/17 16:36	1
Motor Oil (>C24-C36)	1.2		0.27	0.083	mg/L		10/10/17 09:08	10/11/17 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*64*		*50 - 150*	*10/10/17 09:08*	*10/11/17 16:36*	*1*

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Client Sample ID: PMW-12
Date Collected: 09/27/17 14:15
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.51	J	2.0	0.42	ug/L			10/03/17 23:03	1
Toluene	1.1	J	2.0	0.24	ug/L			10/03/17 23:03	1
Ethylbenzene	0.25	J	3.0	0.21	ug/L			10/03/17 23:03	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 23:03	1
o-Xylene	0.24	J	2.0	0.15	ug/L			10/03/17 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 122*		*10/03/17 23:03*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*10/03/17 23:03*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/03/17 23:03*	*1*
Dibromofluoromethane (Surr)	*107*		*77 - 120*		*10/03/17 23:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/03/17 23:03*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.79		0.22	0.065	ug/L		10/04/17 09:31	10/04/17 19:27	10
2-Methylnaphthalene	0.15	J	0.33	0.098	ug/L		10/04/17 09:31	10/04/17 19:27	10
Naphthalene	0.32	J	0.43	0.14	ug/L		10/04/17 09:31	10/04/17 19:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*95*		*53 - 112*	*10/04/17 09:31*	*10/04/17 19:27*	*10*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.30		0.25	0.050	mg/L			10/03/17 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*58 - 133*		*10/03/17 18:11*	*1*
Trifluorotoluene (Surr)	*109*		*77 - 128*		*10/03/17 18:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2.0	B	0.10	0.020	mg/L		10/10/17 09:08	10/11/17 16:59	1
Motor Oil (>C24-C36)	1.3		0.26	0.081	mg/L		10/10/17 09:08	10/11/17 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*10/10/17 09:08*	*10/11/17 16:59*	*1*

Client Sample ID: DUP-1

Date Collected: 09/27/17 00:00
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 23:30	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 23:30	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 23:30	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 23:30	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 122*		*10/03/17 23:30*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/03/17 23:30*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 125*		*10/03/17 23:30*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 23:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/03/17 23:30*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.29**		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 19:49	1
2-Methylnaphthalene	ND		0.031	0.0094	ug/L		10/04/17 09:31	10/04/17 19:49	1
Naphthalene	**0.086**		0.042	0.014	ug/L		10/04/17 09:31	10/04/17 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*70*		*53 - 112*	*10/04/17 09:31*	*10/04/17 19:49*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.28**		0.25	0.050	mg/L			10/03/17 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*58 - 133*		*10/03/17 18:43*	*1*
Trifluorotoluene (Surr)	*112*		*77 - 128*		*10/03/17 18:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.31**	**B**	0.10	0.020	mg/L		10/10/17 09:08	10/11/17 17:21	1
Motor Oil (>C24-C36)	**0.17**	**J**	0.26	0.080	mg/L		10/10/17 09:08	10/11/17 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*50 - 150*	*10/10/17 09:08*	*10/11/17 17:21*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-257995/5
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 19:06	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 19:06	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 19:06	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 19:06	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 19:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 122*		*10/03/17 19:06*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/03/17 19:06*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 125*		*10/03/17 19:06*	*1*
Dibromofluoromethane (Surr)	*113*		*77 - 120*		*10/03/17 19:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*10/03/17 19:06*	*1*

Lab Sample ID: LCS 580-257995/6
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			10.0	10.0		ug/L		100	75 - 120		
Toluene			10.0	10.2		ug/L		102	75 - 120		
Ethylbenzene			10.0	9.95		ug/L		99	75 - 120		
m-Xylene & p-Xylene			10.0	9.92		ug/L		99	75 - 120		
o-Xylene			10.0	9.69		ug/L		97	74 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 122*
Trifluorotoluene (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*75 - 125*
Dibromofluoromethane (Surr)	*106*		*77 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*

Lab Sample ID: LCSD 580-257995/7
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			10.0	10.1		ug/L		101	75 - 120	1	14
Toluene			10.0	10.4		ug/L		104	75 - 120	2	13
Ethylbenzene			10.0	10.1		ug/L		101	75 - 120	1	14
m-Xylene & p-Xylene			10.0	10.0		ug/L		100	75 - 120	1	14
o-Xylene			10.0	9.88		ug/L		99	74 - 120	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 122*
Trifluorotoluene (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 125*
Dibromofluoromethane (Surr)	*108*		*77 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-257995/7
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		80 - 126

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-258025/1-A
Matrix: Water
Analysis Batch: 258069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258025

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020	0.0060	ug/L		10/04/17 09:31	10/04/17 15:44	1
Benzo[a]anthracene	0.00233	J	0.020	0.0020	ug/L		10/04/17 09:31	10/04/17 15:44	1
Benzo[a]pyrene	ND		0.020	0.0030	ug/L		10/04/17 09:31	10/04/17 15:44	1
2-Methylnaphthalene	ND		0.030	0.0090	ug/L		10/04/17 09:31	10/04/17 15:44	1
Benzo[b]fluoranthene	ND		0.020	0.0080	ug/L		10/04/17 09:31	10/04/17 15:44	1
Benzo[k]fluoranthene	ND		0.030	0.0090	ug/L		10/04/17 09:31	10/04/17 15:44	1
Naphthalene	ND		0.040	0.013	ug/L		10/04/17 09:31	10/04/17 15:44	1
Chrysene	ND		0.020	0.0060	ug/L		10/04/17 09:31	10/04/17 15:44	1
Dibenz(a,h)anthracene	ND		0.020	0.0020	ug/L		10/04/17 09:31	10/04/17 15:44	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0070	ug/L		10/04/17 09:31	10/04/17 15:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	89		53 - 112	10/04/17 09:31	10/04/17 15:44	1

Lab Sample ID: LCS 580-258025/2-A
Matrix: Water
Analysis Batch: 258069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258025

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	2.77		ug/L		69	57 - 120
Benzo[a]anthracene	4.00	3.10		ug/L		78	71 - 120
Benzo[a]pyrene	4.00	3.41		ug/L		85	76 - 120
2-Methylnaphthalene	4.00	2.67		ug/L		67	61 - 120
Benzo[b]fluoranthene	4.00	3.15		ug/L		79	66 - 120
Benzo[k]fluoranthene	4.00	3.33		ug/L		83	68 - 120
Naphthalene	4.00	2.77		ug/L		69	62 - 120
Chrysene	4.00	3.24		ug/L		81	64 - 120
Dibenz(a,h)anthracene	4.00	3.30		ug/L		83	60 - 125
Indeno[1,2,3-cd]pyrene	4.00	3.20		ug/L		80	63 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	83		53 - 112

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-258025/3-A
Matrix: Water
Analysis Batch: 258069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258025

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene			4.00	2.80		ug/L		70	57 - 120	1	17
Benzo[a]anthracene			4.00	3.27		ug/L		82	71 - 120	5	16
Benzo[a]pyrene			4.00	3.48		ug/L		87	76 - 120	2	17
2-Methylnaphthalene			4.00	2.72		ug/L		68	61 - 120	2	16
Benzo[b]fluoranthene			4.00	3.19		ug/L		80	66 - 120	1	20
Benzo[k]fluoranthene			4.00	3.48		ug/L		87	68 - 120	4	20
Naphthalene			4.00	2.79		ug/L		70	62 - 120	1	15
Chrysene			4.00	3.27		ug/L		82	64 - 120	1	16
Dibenz(a,h)anthracene			4.00	3.42		ug/L		86	60 - 125	3	15
Indeno[1,2,3-cd]pyrene			4.00	3.28		ug/L		82	63 - 120	2	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Terphenyl-d14	*81*		*53 - 112*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-257895/6
Matrix: Water
Analysis Batch: 257895

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/03/17 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*58 - 133*		*10/03/17 10:12*	*1*
Trifluorotoluene (Surr)	*104*		*77 - 128*		*10/03/17 10:12*	*1*

Lab Sample ID: LCS 580-257895/7
Matrix: Water
Analysis Batch: 257895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline			1.00	0.892		mg/L		89	79 - 110

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*58 - 133*
Trifluorotoluene (Surr)	*101*		*77 - 128*

Lab Sample ID: LCSD 580-257895/8
Matrix: Water
Analysis Batch: 257895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1.00	0.879		mg/L		88	79 - 110	2	10

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-257895/8
Matrix: Water
Analysis Batch: 257895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*99*		*58 - 133*
Trifluorotoluene (Surr)	*98*		*77 - 128*

Lab Sample ID: MB 580-258156/6
Matrix: Water
Analysis Batch: 258156

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.0535	J	0.25	0.050	mg/L			10/05/17 13:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*101*		*58 - 133*		*10/05/17 13:36*	*1*
Trifluorotoluene (Surr)	*126*		*77 - 128*		*10/05/17 13:36*	*1*

Lab Sample ID: LCS 580-258156/7
Matrix: Water
Analysis Batch: 258156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1.00	0.895		mg/L		89	79 - 110		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*106*		*58 - 133*
Trifluorotoluene (Surr)	*107*		*77 - 128*

Lab Sample ID: LCSD 580-258156/8
Matrix: Water
Analysis Batch: 258156

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1.00	0.922		mg/L		92	79 - 110	3	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*106*		*58 - 133*
Trifluorotoluene (Surr)	*107*		*77 - 128*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-258418/1-A
Matrix: Water
Analysis Batch: 258563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.0222	J	0.10	0.019	mg/L		10/09/17 14:19	10/11/17 12:32	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		10/09/17 14:19	10/11/17 12:32	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-258418/1-A
Matrix: Water
Analysis Batch: 258563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258418

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	10/09/17 14:19	10/11/17 12:32	1

Lab Sample ID: LCS 580-258418/2-A
Matrix: Water
Analysis Batch: 258563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258418

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			2.00	1.52		mg/L		76	59 - 112		
Motor Oil (>C24-C36)			2.00	1.69		mg/L		84	64 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	81		50 - 150

Lab Sample ID: LCSD 580-258418/3-A
Matrix: Water
Analysis Batch: 258563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258418

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			2.00	1.60		mg/L		80	59 - 112	5	16
Motor Oil (>C24-C36)			2.00	1.71		mg/L		86	64 - 120	1	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	81		50 - 150

Lab Sample ID: MB 580-258457/1-A
Matrix: Water
Analysis Batch: 258557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258457

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.0520	J	0.10	0.019	mg/L		10/10/17 09:08	10/11/17 15:08	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		10/10/17 09:08	10/11/17 15:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	10/10/17 09:08	10/11/17 15:08	1

Lab Sample ID: LCS 580-258457/2-A
Matrix: Water
Analysis Batch: 258557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			2.00	1.59		mg/L		80	59 - 112		
Motor Oil (>C24-C36)			2.00	1.65		mg/L		83	64 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	94		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-258457/3-A
Matrix: Water
Analysis Batch: 258557

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			2.00	1.67		mg/L		84	59 - 112	5	16
Motor Oil (>C24-C36)			2.00	1.74		mg/L		87	64 - 120	5	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*99*		*50 - 150*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-258162/18-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 258162

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00080	0.00020	mg/L		10/05/17 12:14	10/06/17 20:14	1

Lab Sample ID: LCS 580-258162/19-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 258162

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead			1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-258162/20-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 258162

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			1.00	1.00		mg/L		100	80 - 120	1	20

Lab Sample ID: LCS 580-258196/12-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 258196

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead			1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: LCSD 580-258196/13-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 258196

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			1.00	0.987		mg/L		99	80 - 120	2	20

Lab Sample ID: MB 580-257852/4-B
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 258196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 22:02	5

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Lab Sample ID: 580-71709-2 MS
Matrix: Water
Analysis Batch: 258362

Client Sample ID: PMW-3
Prep Type: Dissolved
Prep Batch: 258196

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: 580-71709-2 MSD
Matrix: Water
Analysis Batch: 258362

Client Sample ID: PMW-3
Prep Type: Dissolved
Prep Batch: 258196

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		1.00	1.04		mg/L		104	80 - 120	1	20

Lab Sample ID: 580-71709-2 DU
Matrix: Water
Analysis Batch: 258362

Client Sample ID: PMW-3
Prep Type: Dissolved
Prep Batch: 258196

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	ND		ND		mg/L		NC	20

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Client Sample ID: PMW-2
Date Collected: 09/27/17 14:20
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 20:25	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 17:14	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 15:08	JCV	TAL SEA
Total/NA	Prep	3510C			258418	10/09/17 14:19	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258563	10/11/17 13:39	CJ	TAL SEA

Client Sample ID: PMW-3
Date Collected: 09/27/17 12:15
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 20:51	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 17:36	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 15:31	RSB	TAL SEA
Total/NA	Prep	3510C			258418	10/09/17 14:19	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258563	10/11/17 14:01	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 16:23	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 22:13	FCW	TAL SEA
Total Recoverable	Prep	3005A			258162	10/05/17 12:14	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	258362	10/06/17 21:33	FCW	TAL SEA

Client Sample ID: PMW-6
Date Collected: 09/27/17 15:10
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 21:18	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 17:58	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 16:03	RSB	TAL SEA
Total/NA	Prep	3510C			258418	10/09/17 14:19	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258563	10/11/17 14:23	CJ	TAL SEA

Client Sample ID: PMW-7
Date Collected: 09/27/17 15:35
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 21:44	W1T	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Client Sample ID: PMW-7

Lab Sample ID: 580-71709-4

Date Collected: 09/27/17 15:35
Matrix: Water
Date Received: 09/29/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 18:20	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 16:35	RSB	TAL SEA
Total/NA	Prep	3510C			258418	10/09/17 14:19	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258563	10/11/17 14:46	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 16:23	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 21:39	FCW	TAL SEA
Total Recoverable	Prep	3005A			258162	10/05/17 12:14	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	258362	10/06/17 21:36	FCW	TAL SEA

Client Sample ID: PMW-9

Lab Sample ID: 580-71709-5

Date Collected: 09/27/17 12:54
Matrix: Water
Date Received: 09/29/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 22:11	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 18:43	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 17:07	RSB	TAL SEA
Total/NA	Prep	3510C			258457	10/10/17 09:08	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258557	10/11/17 16:14	ADB	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 16:23	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 21:41	FCW	TAL SEA
Total Recoverable	Prep	3005A			258162	10/05/17 12:14	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	258362	10/06/17 21:30	FCW	TAL SEA

Client Sample ID: PMW-10

Lab Sample ID: 580-71709-6

Date Collected: 09/27/17 13:20
Matrix: Water
Date Received: 09/29/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 22:37	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 19:05	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 17:39	RSB	TAL SEA
Total/NA	Prep	3510C			258457	10/10/17 09:08	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258557	10/11/17 16:36	ADB	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Client Sample ID: PMW-12

Date Collected: 09/27/17 14:15
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 23:03	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		10	258069	10/04/17 19:27	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 18:11	RSB	TAL SEA
Total/NA	Prep	3510C			258457	10/10/17 09:08	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258557	10/11/17 16:59	ADB	TAL SEA

Client Sample ID: DUP-1

Date Collected: 09/27/17 00:00
Date Received: 09/29/17 15:15

Lab Sample ID: 580-71709-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 23:30	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 19:49	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	257895	10/03/17 18:43	RSB	TAL SEA
Total/NA	Prep	3510C			258457	10/10/17 09:08	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258557	10/11/17 17:21	ADB	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
TestAmerica Job ID: 580-71709-1
Project/Site: Blackstone Double Tree Olympia (WA)

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-18
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-17
US Fish & Wildlife	Federal		LE058448-0	10-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-18

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Blackstone Double Tree Olympia (WA)

TestAmerica Job ID: 580-71709-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-71709-1	PMW-2	Water	09/27/17 14:20	09/29/17 15:15
580-71709-2	PMW-3	Water	09/27/17 12:15	09/29/17 15:15
580-71709-3	PMW-6	Water	09/27/17 15:10	09/29/17 15:15
580-71709-4	PMW-7	Water	09/27/17 15:35	09/29/17 15:15
580-71709-5	PMW-9	Water	09/27/17 12:54	09/29/17 15:15
580-71709-6	PMW-10	Water	09/27/17 13:20	09/29/17 15:15
580-71709-7	PMW-12	Water	09/27/17 14:15	09/29/17 15:15
580-71709-8	DUP-1	Water	09/27/17 00:00	09/29/17 15:15

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Loc: 580
71709

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
Arcadis	Rory Henneck	9.27.17	36172

Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page
1100 Olive Way	206.726.4732		Page 1 of 1

City	State	Zip Code	Sampler	Lab Contact
Seattle	WA	98101	PRMC/JL	

Project Name and Location (State): Blackstone DoubleTree Olympia (WA)

Billing Contact: accountspayable.administration@arcadis-us.com

Contract/Purchase Order/Quote No.: SEA41774.0002

Analysis (Attach list if more space is needed)

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Water	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	GRO (NWTPH-Gx)	DRO (NWTPH-Dx w/SGC)	DRO (NWTPH-Dx w/o SGC)	BTEX (8260B)	MTBE (8260B)	LEAD (6010)	DIS LEAD (6010)	Naph (8270SIM)	PAHs (8270)	Special Instructions/ Conditions of Receipt
PMW-2	9.27.17	1420					X	1			8			X	X		X		[scribbled out]	[scribbled out]	X	X	NO 6010
PMW-3		1215					X	2		1	8			X	X		X		X	X	X		
PMW-6		1510					X	1			8			X	X		X				X		
PMW-7		1535					X	2		1	8			X	X		X		X	X	X		
PMW-9		1254					X	2		1	8			X	X		X		X	X	X		
PMW-10		1320					X	1			8			X	X		X				X		
PMW-12		1415					X	1			8			X	X		X				X		
DUP-1		–					X	1			8			X	X		X				X		
TRIP BLANK	–	–					X				6												
TEMP BLANK	–	–					X	1															

TB H2 **Cooler**___ **Cor** 3.7 **Unc** 4.4
Cooler Dsc Lt Blue **@Lab** 1734
Wet/Packs **Packing** Bubble
W/CS

TB H2 **Cooler**___ **Cor** 2.4 **Unc** 3.6
Cooler Dsc Lt Blue **@Lab** 1730
Wet/Packs **Packing** Bubble
W/CS

Cooler: ☑ Yes ☐ No Cooler Temp: ______

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ______

QC Requirements (Specify):

1. Relinquished By Sign/Print	Date	Time	1. Received By Sign/Print	Date	Time
[signature] / Rory G Henneck	9/29/17	1515	[signature] / Francisco Luna, Jr.	9/29/17	1515
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments: Questions or concerns, email patrick.collins@arcadis.com

580-71709 Chain of Custody

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-71709-1

Login Number: 71709
List Number: 1
Creator: Ponce-McDermott, Monica

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-71745-1
Client Project/Site: Double Tree Olympia (WA)

For:
ARCADIS U.S. Inc
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Rory Henneck

Kayse Zalmai

Authorized for release by:
10/13/2017 2:12:07 PM

Kayse Zalmai, Project Manager I
(253)922-2310
kayse.zalmai@testamericainc.com

Table of Contents

Job ID: 580-71745-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-71745-1

Comments
No additional comments.

Receipt
The samples were received on 9/29/2017 5:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.4º C and 3.3º C.

GC/MS VOA
Method(s) 8260C: The method blank for analytical batch 580-257814 contained o-Xylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) NWTPH-Gx: The method blank for analytical batch 580-258156 contained Gasoline above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) NWTPH-Gx: Surrogate recovery for the following sample was outside control limits: PMW-13 (580-71745-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D SIM: The method blank for preparation batch 580-258276 and analytical batch 580-258347 contained Benzo[a]anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 8270D SIM: The following samples was diluted due to the nature of the sample matrix: PMW-18 (580-71745-5), PMW-13 (580-71745-6), PMW-15 (580-71745-7) and PMW-8 (580-71745-12). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was earlier than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PMW-17 (580-71745-1).

Method(s) NWTPH-Dx: The Diesel Range Organics (DRO) concentration reported for the following sample is due to the presence of discrete peaks: PMW-16 (580-71745-4).

Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PMW-13 (580-71745-6).

Method(s) NWTPH-Dx: The peak profile present in this sample PMW-19 (580-71745-8), PMW-1 (580-71745-9), PMW-20 (580-71745-10) and PMW-21 (580-71745-11) is atypical of a hydrocarbon pattern and consists of discrete peaks.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

GC VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-17
Date Collected: 09/29/17 09:40
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 23:57	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 23:57	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 23:57	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 23:57	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 122*		*10/03/17 23:57*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/03/17 23:57*	*1*
4-Bromofluorobenzene (Surr)	*104*		*75 - 125*		*10/03/17 23:57*	*1*
Dibromofluoromethane (Surr)	*107*		*77 - 120*		*10/03/17 23:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/03/17 23:57*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.050**		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 20:11	1
2-Methylnaphthalene	**0.017**	**J**	0.031	0.0093	ug/L		10/04/17 09:31	10/04/17 20:11	1
Naphthalene	**0.016**	**J**	0.041	0.013	ug/L		10/04/17 09:31	10/04/17 20:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*77*		*53 - 112*	*10/04/17 09:31*	*10/04/17 20:11*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.18**	**J B**	0.25	0.050	mg/L			10/05/17 22:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*58 - 133*		*10/05/17 22:46*	*1*
Trifluorotoluene (Surr)	*123*		*77 - 128*		*10/05/17 22:46*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.30**		0.10	0.020	mg/L		10/11/17 09:04	10/11/17 19:29	1
Motor Oil (>C24-C36)	**0.13**	**J**	0.26	0.080	mg/L		10/11/17 09:04	10/11/17 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*50 - 150*	*10/11/17 09:04*	*10/11/17 19:29*	*1*

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-14
Date Collected: 09/29/17 09:55
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/04/17 00:23	1
Toluene	**0.53**	**J**	2.0	0.24	ug/L			10/04/17 00:23	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/04/17 00:23	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/04/17 00:23	1
o-Xylene	**0.20**	**J**	2.0	0.15	ug/L			10/04/17 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 122*		*10/04/17 00:23*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/04/17 00:23*	*1*
4-Bromofluorobenzene (Surr)	*104*		*75 - 125*		*10/04/17 00:23*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/04/17 00:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*10/04/17 00:23*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**18**		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 20:33	1
2-Methylnaphthalene	**0.34**		0.031	0.0093	ug/L		10/04/17 09:31	10/04/17 20:33	1
Naphthalene	**0.24**		0.041	0.013	ug/L		10/04/17 09:31	10/04/17 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*58*		*53 - 112*	*10/04/17 09:31*	*10/04/17 20:33*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.19**	**J B**	0.25	0.050	mg/L			10/05/17 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*58 - 133*		*10/05/17 23:16*	*1*
Trifluorotoluene (Surr)	*121*		*77 - 128*		*10/05/17 23:16*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1.2**		0.10	0.020	mg/L		10/11/17 09:04	10/11/17 19:57	1
Motor Oil (>C24-C36)	**0.28**		0.26	0.080	mg/L		10/11/17 09:04	10/11/17 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*10/11/17 09:04*	*10/11/17 19:57*	*1*

Client Sample ID: PMW-5
Date Collected: 09/29/17 10:30
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.44**	**J**	2.0	0.42	ug/L			10/04/17 00:49	1
Toluene	**0.27**	**J**	2.0	0.24	ug/L			10/04/17 00:49	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/04/17 00:49	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/04/17 00:49	1
o-Xylene	**0.15**	**J**	2.0	0.15	ug/L			10/04/17 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 122*		*10/04/17 00:49*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*10/04/17 00:49*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/04/17 00:49*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/04/17 00:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/04/17 00:49*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.61**		0.020	0.0061	ug/L		10/04/17 09:31	10/04/17 20:55	1
2-Methylnaphthalene	ND		0.031	0.0092	ug/L		10/04/17 09:31	10/04/17 20:55	1
Naphthalene	**0.15**		0.041	0.013	ug/L		10/04/17 09:31	10/04/17 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*71*		*53 - 112*	*10/04/17 09:31*	*10/04/17 20:55*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.25**	**B**	0.25	0.050	mg/L			10/05/17 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*58 - 133*		*10/05/17 23:47*	*1*
Trifluorotoluene (Surr)	*123*		*77 - 128*		*10/05/17 23:47*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.56**		0.10	0.020	mg/L		10/11/17 09:04	10/11/17 20:26	1
Motor Oil (>C24-C36)	**0.15**	**J**	0.26	0.080	mg/L		10/11/17 09:04	10/11/17 20:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 150*	*10/11/17 09:04*	*10/11/17 20:26*	*1*

Client Sample ID: PMW-16

Date Collected: 09/29/17 10:35
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/04/17 01:16	1
Toluene	ND		2.0	0.24	ug/L			10/04/17 01:16	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/04/17 01:16	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/04/17 01:16	1
o-Xylene	ND		2.0	0.15	ug/L			10/04/17 01:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 122*		*10/04/17 01:16*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/04/17 01:16*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 125*		*10/04/17 01:16*	*1*
Dibromofluoromethane (Surr)	*105*		*77 - 120*		*10/04/17 01:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/04/17 01:16*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.021	0.0062	ug/L		10/04/17 09:31	10/04/17 21:18	1
2-Methylnaphthalene	ND		0.031	0.0093	ug/L		10/04/17 09:31	10/04/17 21:18	1
Naphthalene	ND		0.041	0.013	ug/L		10/04/17 09:31	10/04/17 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*71*		*53 - 112*	*10/04/17 09:31*	*10/04/17 21:18*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/06/17 00:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*58 - 133*		*10/06/17 00:48*	*1*
Trifluorotoluene (Surr)	*117*		*77 - 128*		*10/06/17 00:48*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.087**	**J**	0.10	0.020	mg/L		10/11/17 09:04	10/11/17 20:54	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/11/17 09:04	10/11/17 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*10/11/17 09:04*	*10/11/17 20:54*	*1*

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-18
Date Collected: 09/29/17 11:20
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.3	J	2.0	0.42	ug/L			10/04/17 01:42	1
Toluene	0.27	J	2.0	0.24	ug/L			10/04/17 01:42	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/04/17 01:42	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/04/17 01:42	1
o-Xylene	ND		2.0	0.15	ug/L			10/04/17 01:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 122*		*10/04/17 01:42*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*10/04/17 01:42*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 125*		*10/04/17 01:42*	*1*
Dibromofluoromethane (Surr)	*110*		*77 - 120*		*10/04/17 01:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/04/17 01:42*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.14		0.10	0.031	ug/L		10/06/17 12:14	10/07/17 14:37	5
2-Methylnaphthalene	ND		0.16	0.047	ug/L		10/06/17 12:14	10/07/17 14:37	5
Naphthalene	0.10	J	0.21	0.068	ug/L		10/06/17 12:14	10/07/17 14:37	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*67*		*53 - 112*	*10/06/17 12:14*	*10/07/17 14:37*	*5*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.13	J B	0.25	0.050	mg/L			10/05/17 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*58 - 133*		*10/05/17 18:11*	*1*
Trifluorotoluene (Surr)	*128*		*77 - 128*		*10/05/17 18:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2.3		0.10	0.020	mg/L		10/11/17 09:04	10/11/17 21:22	1
Motor Oil (>C24-C36)	0.61		0.26	0.080	mg/L		10/11/17 09:04	10/11/17 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*10/11/17 09:04*	*10/11/17 21:22*	*1*

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-13
Date Collected: 09/29/17 11:38
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.57	J	2.0	0.42	ug/L			10/04/17 02:09	1
Toluene	0.72	J	2.0	0.24	ug/L			10/04/17 02:09	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/04/17 02:09	1
m-Xylene & p-Xylene	0.87	J	3.0	0.72	ug/L			10/04/17 02:09	1
o-Xylene	0.29	J	2.0	0.15	ug/L			10/04/17 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 122*		*10/04/17 02:09*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*10/04/17 02:09*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 125*		*10/04/17 02:09*	*1*
Dibromofluoromethane (Surr)	*103*		*77 - 120*		*10/04/17 02:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/04/17 02:09*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1.3		0.10	0.031	ug/L		10/06/17 12:14	10/07/17 15:00	5
2-Methylnaphthalene	ND		0.15	0.046	ug/L		10/06/17 12:14	10/07/17 15:00	5
Naphthalene	0.11	J	0.21	0.067	ug/L		10/06/17 12:14	10/07/17 15:00	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*82*		*53 - 112*	*10/06/17 12:14*	*10/07/17 15:00*	*5*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.13	J B	0.25	0.050	mg/L			10/05/17 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*58 - 133*		*10/05/17 19:12*	*1*
Trifluorotoluene (Surr)	*129*	*X*	*77 - 128*		*10/05/17 19:12*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1.4		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 20:10	1
Motor Oil (>C24-C36)	0.59		0.26	0.079	mg/L		10/12/17 08:49	10/12/17 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*50 - 150*	*10/12/17 08:49*	*10/12/17 20:10*	*1*

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-15
Date Collected: 09/29/17 12:48
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/04/17 02:36	1
Toluene	ND		2.0	0.24	ug/L			10/04/17 02:36	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/04/17 02:36	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/04/17 02:36	1
o-Xylene	ND		2.0	0.15	ug/L			10/04/17 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 122*		*10/04/17 02:36*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/04/17 02:36*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/04/17 02:36*	*1*
Dibromofluoromethane (Surr)	*105*		*77 - 120*		*10/04/17 02:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/04/17 02:36*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.027**	**J**	0.041	0.012	ug/L		10/06/17 12:14	10/07/17 15:22	2
2-Methylnaphthalene	ND		0.062	0.018	ug/L		10/06/17 12:14	10/07/17 15:22	2
Naphthalene	**0.036**	**J**	0.082	0.027	ug/L		10/06/17 12:14	10/07/17 15:22	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*77*		*53 - 112*	*10/06/17 12:14*	*10/07/17 15:22*	*2*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.076**	**J B**	0.25	0.050	mg/L			10/05/17 19:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*58 - 133*		*10/05/17 19:43*	*1*
Trifluorotoluene (Surr)	*128*		*77 - 128*		*10/05/17 19:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.42**		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 20:54	1
Motor Oil (>C24-C36)	**0.091**	**J**	0.26	0.080	mg/L		10/12/17 08:49	10/12/17 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*10/12/17 08:49*	*10/12/17 20:54*	*1*

Client Sample ID: PMW-19

Date Collected: 09/29/17 12:55
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 19:32	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 19:32	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 19:32	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 19:32	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 19:32	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			10/03/17 19:32	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			10/03/17 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 126*		*10/03/17 19:32*	*1*
4-Bromofluorobenzene (Surr)	*104*		*75 - 125*		*10/03/17 19:32*	*1*
Toluene-d8 (Surr)	*90*		*80 - 122*		*10/03/17 19:32*	*1*
Trifluorotoluene (Surr)	*117*		*80 - 120*		*10/03/17 19:32*	*1*
Dibromofluoromethane (Surr)	*108*		*77 - 120*		*10/03/17 19:32*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	**0.0050**	**J B**	0.020	0.0020	ug/L		10/06/17 12:14	10/07/17 15:44	1
Benzo[a]pyrene	ND		0.020	0.0031	ug/L		10/06/17 12:14	10/07/17 15:44	1
Benzo[b]fluoranthene	ND		0.020	0.0082	ug/L		10/06/17 12:14	10/07/17 15:44	1
Benzo[k]fluoranthene	ND		0.031	0.0092	ug/L		10/06/17 12:14	10/07/17 15:44	1
Chrysene	ND		0.020	0.0061	ug/L		10/06/17 12:14	10/07/17 15:44	1
Dibenz(a,h)anthracene	ND		0.020	0.0020	ug/L		10/06/17 12:14	10/07/17 15:44	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0071	ug/L		10/06/17 12:14	10/07/17 15:44	1
2-Methylnaphthalene	**0.021**	**J**	0.031	0.0092	ug/L		10/06/17 12:14	10/07/17 15:44	1
Naphthalene	**0.040**	**J**	0.041	0.013	ug/L		10/06/17 12:14	10/07/17 15:44	1
1-Methylnaphthalene	**0.011**	**J**	0.020	0.0061	ug/L		10/06/17 12:14	10/07/17 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*87*		*53 - 112*	*10/06/17 12:14*	*10/07/17 15:44*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/05/17 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*58 - 133*		*10/05/17 20:13*	*1*
Trifluorotoluene (Surr)	*126*		*77 - 128*		*10/05/17 20:13*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		10/03/17 13:08	10/03/17 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*109*		*60 - 140*	*10/03/17 13:08*	*10/03/17 16:15*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.047**	**J**	0.10	0.020	mg/L		10/12/17 08:49	10/12/17 21:16	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/12/17 08:49	10/12/17 21:16	1

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-19
Date Collected: 09/29/17 12:55
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-8
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*50 - 150*	*10/12/17 08:49*	*10/12/17 21:16*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 17:58	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/12/17 08:49	10/12/17 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*10/12/17 08:49*	*10/12/17 17:58*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/06/17 12:46	10/09/17 12:07	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 21:44	5

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-1
Date Collected: 09/29/17 14:00
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 19:57	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 19:57	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 19:57	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 19:57	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*89*		*80 - 122*		*10/03/17 19:57*	*1*
Trifluorotoluene (Surr)	*117*		*80 - 120*		*10/03/17 19:57*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/03/17 19:57*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 19:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 126*		*10/03/17 19:57*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.14**		0.021	0.0063	ug/L		10/06/17 12:14	10/07/17 16:06	1
2-Methylnaphthalene	**0.023**	**J**	0.031	0.0094	ug/L		10/06/17 12:14	10/07/17 16:06	1
Naphthalene	**0.097**		0.042	0.014	ug/L		10/06/17 12:14	10/07/17 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*80*		*53 - 112*	*10/06/17 12:14*	*10/07/17 16:06*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/05/17 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*58 - 133*		*10/05/17 20:44*	*1*
Trifluorotoluene (Surr)	*121*		*77 - 128*		*10/05/17 20:44*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.051**	**J**	0.10	0.020	mg/L		10/12/17 08:49	10/12/17 21:38	1
Motor Oil (>C24-C36)	ND		0.26	0.079	mg/L		10/12/17 08:49	10/12/17 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*10/12/17 08:49*	*10/12/17 21:38*	*1*

Client Sample ID: PMW-20

Date Collected: 09/29/17 14:25
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 20:22	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 20:22	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 20:22	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 20:22	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 20:22	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			10/03/17 20:22	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			10/03/17 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 126*		*10/03/17 20:22*	*1*
4-Bromofluorobenzene (Surr)	*101*		*75 - 125*		*10/03/17 20:22*	*1*
Toluene-d8 (Surr)	*89*		*80 - 122*		*10/03/17 20:22*	*1*
Trifluorotoluene (Surr)	*117*		*80 - 120*		*10/03/17 20:22*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 20:22*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	**0.0043**	**J B**	0.021	0.0021	ug/L		10/06/17 12:14	10/07/17 16:29	1
Benzo[a]pyrene	ND		0.021	0.0032	ug/L		10/06/17 12:14	10/07/17 16:29	1
Benzo[b]fluoranthene	ND		0.021	0.0084	ug/L		10/06/17 12:14	10/07/17 16:29	1
Benzo[k]fluoranthene	ND		0.032	0.0095	ug/L		10/06/17 12:14	10/07/17 16:29	1
Chrysene	ND		0.021	0.0063	ug/L		10/06/17 12:14	10/07/17 16:29	1
Dibenz(a,h)anthracene	ND		0.021	0.0021	ug/L		10/06/17 12:14	10/07/17 16:29	1
Indeno[1,2,3-cd]pyrene	ND		0.021	0.0074	ug/L		10/06/17 12:14	10/07/17 16:29	1
2-Methylnaphthalene	**0.049**		0.032	0.0095	ug/L		10/06/17 12:14	10/07/17 16:29	1
Naphthalene	**0.11**		0.042	0.014	ug/L		10/06/17 12:14	10/07/17 16:29	1
1-Methylnaphthalene	**0.033**		0.021	0.0063	ug/L		10/06/17 12:14	10/07/17 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*87*		*53 - 112*	*10/06/17 12:14*	*10/07/17 16:29*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/05/17 21:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*58 - 133*		*10/05/17 21:14*	*1*
Trifluorotoluene (Surr)	*127*		*77 - 128*		*10/05/17 21:14*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		10/03/17 13:08	10/03/17 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*110*		*60 - 140*	*10/03/17 13:08*	*10/03/17 16:31*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.14**		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 22:00	1
Motor Oil (>C24-C36)	**0.10**	**J**	0.26	0.080	mg/L		10/12/17 08:49	10/12/17 22:00	1

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-20
Date Collected: 09/29/17 14:25
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-10
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*10/12/17 08:49*	*10/12/17 22:00*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 18:20	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/12/17 08:49	10/12/17 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*10/12/17 08:49*	*10/12/17 18:20*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/06/17 12:46	10/09/17 12:10	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 21:47	5

Client Sample ID: PMW-21

Date Collected: 09/29/17 14:50
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-11

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.9**		2.0	0.42	ug/L			10/03/17 20:47	1
Toluene	**0.85**	**J**	2.0	0.24	ug/L			10/03/17 20:47	1
Ethylbenzene	**0.57**	**J**	3.0	0.21	ug/L			10/03/17 20:47	1
m-Xylene & p-Xylene	**0.88**	**J**	3.0	0.72	ug/L			10/03/17 20:47	1
o-Xylene	**0.35**	**J**	2.0	0.15	ug/L			10/03/17 20:47	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			10/03/17 20:47	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			10/03/17 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 126*		*10/03/17 20:47*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/03/17 20:47*	*1*
Toluene-d8 (Surr)	*89*		*80 - 122*		*10/03/17 20:47*	*1*
Trifluorotoluene (Surr)	*116*		*80 - 120*		*10/03/17 20:47*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 120*		*10/03/17 20:47*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	**0.13**	**B**	0.022	0.0022	ug/L		10/06/17 12:14	10/07/17 16:51	1
Benzo[a]pyrene	**0.057**		0.022	0.0032	ug/L		10/06/17 12:14	10/07/17 16:51	1
Benzo[b]fluoranthene	**0.061**		0.022	0.0086	ug/L		10/06/17 12:14	10/07/17 16:51	1
Benzo[k]fluoranthene	**0.024**	**J**	0.032	0.0097	ug/L		10/06/17 12:14	10/07/17 16:51	1
Chrysene	**0.11**		0.022	0.0065	ug/L		10/06/17 12:14	10/07/17 16:51	1
Dibenz(a,h)anthracene	**0.0057**	**J**	0.022	0.0022	ug/L		10/06/17 12:14	10/07/17 16:51	1
Indeno[1,2,3-cd]pyrene	**0.031**		0.022	0.0075	ug/L		10/06/17 12:14	10/07/17 16:51	1
2-Methylnaphthalene	**0.73**		0.032	0.0097	ug/L		10/06/17 12:14	10/07/17 16:51	1
Naphthalene	**4.1**		0.043	0.014	ug/L		10/06/17 12:14	10/07/17 16:51	1
1-Methylnaphthalene	**3.0**		0.022	0.0065	ug/L		10/06/17 12:14	10/07/17 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*83*		*53 - 112*	*10/06/17 12:14*	*10/07/17 16:51*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.052**	**J B**	0.25	0.050	mg/L			10/05/17 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*58 - 133*		*10/05/17 21:45*	*1*
Trifluorotoluene (Surr)	*127*		*77 - 128*		*10/05/17 21:45*	*1*

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		10/03/17 13:08	10/03/17 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dibromopropane	*112*		*60 - 140*	*10/03/17 13:08*	*10/03/17 16:48*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.27**		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 22:22	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/12/17 08:49	10/12/17 22:22	1

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-21
Date Collected: 09/29/17 14:50
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-11
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*10/12/17 08:49*	*10/12/17 22:22*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.16**		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 18:42	1
Motor Oil (>C24-C36)	ND		0.26	0.080	mg/L		10/12/17 08:49	10/12/17 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*10/12/17 08:49*	*10/12/17 18:42*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/06/17 12:46	10/09/17 12:13	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 21:50	5

Client Sample ID: PMW-8
Date Collected: 09/29/17 15:00
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**33**		2.0	0.42	ug/L			10/04/17 03:28	1
Toluene	**1.6**	**J**	2.0	0.24	ug/L			10/04/17 03:28	1
Ethylbenzene	**0.30**	**J**	3.0	0.21	ug/L			10/04/17 03:28	1
m-Xylene & p-Xylene	**2.4**	**J**	3.0	0.72	ug/L			10/04/17 03:28	1
o-Xylene	ND		2.0	0.15	ug/L			10/04/17 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 122*		*10/04/17 03:28*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/04/17 03:28*	*1*
4-Bromofluorobenzene (Surr)	*104*		*75 - 125*		*10/04/17 03:28*	*1*
Dibromofluoromethane (Surr)	*109*		*77 - 120*		*10/04/17 03:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/04/17 03:28*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.30**		0.10	0.031	ug/L		10/06/17 12:14	10/07/17 17:13	5
2-Methylnaphthalene	ND		0.16	0.047	ug/L		10/06/17 12:14	10/07/17 17:13	5
Naphthalene	**0.10**	**J**	0.21	0.067	ug/L		10/06/17 12:14	10/07/17 17:13	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*71*		*53 - 112*	*10/06/17 12:14*	*10/07/17 17:13*	*5*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.27**		0.25	0.050	mg/L			10/10/17 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*58 - 133*		*10/10/17 20:36*	*1*
Trifluorotoluene (Surr)	*125*		*77 - 128*		*10/10/17 20:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2.5**		0.10	0.020	mg/L		10/12/17 08:49	10/12/17 22:44	1
Motor Oil (>C24-C36)	**0.89**		0.26	0.079	mg/L		10/12/17 08:49	10/12/17 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*58*		*50 - 150*	*10/12/17 08:49*	*10/12/17 22:44*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.0013**	**J**	0.0040	0.0010	mg/L		10/06/17 12:46	10/09/17 12:16	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 22:10	5

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-257814/5
Matrix: Water
Analysis Batch: 257814

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 14:56	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 14:56	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 14:56	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 14:56	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			10/03/17 14:56	1
o-Xylene	0.156	J	2.0	0.15	ug/L			10/03/17 14:56	1
1,2-Dichloroethane	ND		2.0	0.45	ug/L			10/03/17 14:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*75 - 125*		*10/03/17 14:56*	*1*
Toluene-d8 (Surr)	*90*		*80 - 122*		*10/03/17 14:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 126*		*10/03/17 14:56*	*1*
Trifluorotoluene (Surr)	*117*		*80 - 120*		*10/03/17 14:56*	*1*
Dibromofluoromethane (Surr)	*104*		*77 - 120*		*10/03/17 14:56*	*1*

Lab Sample ID: LCS 580-257814/7
Matrix: Water
Analysis Batch: 257814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.47		ug/L		95	75 - 120
Toluene	10.0	8.77		ug/L		88	75 - 120
Ethylbenzene	10.0	8.68		ug/L		87	75 - 120
m-Xylene & p-Xylene	10.0	9.07		ug/L		91	75 - 120
Methyl tert-butyl ether	10.0	10.1		ug/L		101	79 - 120
o-Xylene	10.0	8.52		ug/L		85	74 - 120
1,2-Dichloroethane	10.0	9.28		ug/L		93	76 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*90*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 126*
Trifluorotoluene (Surr)	*117*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*77 - 120*

Lab Sample ID: LCSD 580-257814/8
Matrix: Water
Analysis Batch: 257814

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	10.9		ug/L		109	75 - 120	14	14
Toluene	10.0	9.87		ug/L		99	75 - 120	12	13
Ethylbenzene	10.0	9.86		ug/L		99	75 - 120	13	14
m-Xylene & p-Xylene	10.0	10.1		ug/L		101	75 - 120	10	14
Methyl tert-butyl ether	10.0	11.3		ug/L		113	79 - 120	10	18
o-Xylene	10.0	9.80		ug/L		98	74 - 120	14	16
1,2-Dichloroethane	10.0	10.3		ug/L		103	76 - 131	10	11

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-257814/8
Matrix: Water
Analysis Batch: 257814

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*75 - 125*
Toluene-d8 (Surr)	*90*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 126*
Trifluorotoluene (Surr)	*117*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*77 - 120*

Lab Sample ID: MB 580-257995/5
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.42	ug/L			10/03/17 19:06	1
Toluene	ND		2.0	0.24	ug/L			10/03/17 19:06	1
Ethylbenzene	ND		3.0	0.21	ug/L			10/03/17 19:06	1
m-Xylene & p-Xylene	ND		3.0	0.72	ug/L			10/03/17 19:06	1
o-Xylene	ND		2.0	0.15	ug/L			10/03/17 19:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*75 - 125*		*10/03/17 19:06*	*1*
Toluene-d8 (Surr)	*99*		*80 - 122*		*10/03/17 19:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*10/03/17 19:06*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*10/03/17 19:06*	*1*
Dibromofluoromethane (Surr)	*113*		*77 - 120*		*10/03/17 19:06*	*1*

Lab Sample ID: LCS 580-257995/6
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.0		ug/L		100	75 - 120
Toluene	10.0	10.2		ug/L		102	75 - 120
Ethylbenzene	10.0	9.95		ug/L		99	75 - 120
m-Xylene & p-Xylene	10.0	9.92		ug/L		99	75 - 120
o-Xylene	10.0	9.69		ug/L		97	74 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*75 - 125*
Toluene-d8 (Surr)	*98*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*
Trifluorotoluene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*77 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-257995/7
Matrix: Water
Analysis Batch: 257995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			10.0	10.1		ug/L		101	75 - 120	1	14
Toluene			10.0	10.4		ug/L		104	75 - 120	2	13
Ethylbenzene			10.0	10.1		ug/L		101	75 - 120	1	14
m-Xylene & p-Xylene			10.0	10.0		ug/L		100	75 - 120	1	14
o-Xylene			10.0	9.88		ug/L		99	74 - 120	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*75 - 125*
Toluene-d8 (Surr)	*101*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
Trifluorotoluene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*77 - 120*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-258025/1-A
Matrix: Water
Analysis Batch: 258069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258025

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.030	0.0090	ug/L		10/04/17 09:31	10/04/17 15:44	1
Naphthalene	ND		0.040	0.013	ug/L		10/04/17 09:31	10/04/17 15:44	1
1-Methylnaphthalene	ND		0.020	0.0060	ug/L		10/04/17 09:31	10/04/17 15:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*89*		*53 - 112*	*10/04/17 09:31*	*10/04/17 15:44*	*1*

Lab Sample ID: LCS 580-258025/2-A
Matrix: Water
Analysis Batch: 258069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258025

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene			4.00	2.67		ug/L		67	61 - 120
Naphthalene			4.00	2.77		ug/L		69	62 - 120
1-Methylnaphthalene			4.00	2.77		ug/L		69	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*83*		*53 - 112*

Lab Sample ID: LCSD 580-258025/3-A
Matrix: Water
Analysis Batch: 258069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258025

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylnaphthalene			4.00	2.72		ug/L		68	61 - 120	2	16
Naphthalene			4.00	2.79		ug/L		70	62 - 120	1	15
1-Methylnaphthalene			4.00	2.80		ug/L		70	57 - 120	1	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	81		53 - 112

Lab Sample ID: MB 580-258276/1-A
Matrix: Water
Analysis Batch: 258347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258276

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.00368	J	0.020	0.0020	ug/L		10/06/17 12:14	10/07/17 13:53	1
Benzo[a]pyrene	ND		0.020	0.0030	ug/L		10/06/17 12:14	10/07/17 13:53	1
Benzo[b]fluoranthene	ND		0.020	0.0080	ug/L		10/06/17 12:14	10/07/17 13:53	1
Benzo[k]fluoranthene	ND		0.030	0.0090	ug/L		10/06/17 12:14	10/07/17 13:53	1
Chrysene	ND		0.020	0.0060	ug/L		10/06/17 12:14	10/07/17 13:53	1
Dibenz(a,h)anthracene	ND		0.020	0.0020	ug/L		10/06/17 12:14	10/07/17 13:53	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0070	ug/L		10/06/17 12:14	10/07/17 13:53	1
2-Methylnaphthalene	ND		0.030	0.0090	ug/L		10/06/17 12:14	10/07/17 13:53	1
Naphthalene	ND		0.040	0.013	ug/L		10/06/17 12:14	10/07/17 13:53	1
1-Methylnaphthalene	ND		0.020	0.0060	ug/L		10/06/17 12:14	10/07/17 13:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		53 - 112	10/06/17 12:14	10/07/17 13:53	1

Lab Sample ID: LCS 580-258276/2-A
Matrix: Water
Analysis Batch: 258347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258276

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	4.00	3.81		ug/L		95	71 - 120
Benzo[a]pyrene	4.00	3.98		ug/L		99	76 - 120
Benzo[b]fluoranthene	4.00	3.73		ug/L		93	66 - 120
Benzo[k]fluoranthene	4.00	3.90		ug/L		98	68 - 120
Chrysene	4.00	3.84		ug/L		96	64 - 120
Dibenz(a,h)anthracene	4.00	4.06		ug/L		101	60 - 125
Indeno[1,2,3-cd]pyrene	4.00	3.87		ug/L		97	63 - 120
2-Methylnaphthalene	4.00	2.97		ug/L		74	61 - 120
Naphthalene	4.00	3.05		ug/L		76	62 - 120
1-Methylnaphthalene	4.00	3.06		ug/L		76	57 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	98		53 - 112

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-258156/6
Matrix: Water
Analysis Batch: 258156

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.0535	J	0.25	0.050	mg/L			10/05/17 13:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		58 - 133		10/05/17 13:36	1
Trifluorotoluene (Surr)	126		77 - 128		10/05/17 13:36	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-258156/7
Matrix: Water
Analysis Batch: 258156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1.00	0.895		mg/L		89	79 - 110		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*58 - 133*
Trifluorotoluene (Surr)	*107*		*77 - 128*

Lab Sample ID: LCSD 580-258156/8
Matrix: Water
Analysis Batch: 258156

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1.00	0.922		mg/L		92	79 - 110	3	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*58 - 133*
Trifluorotoluene (Surr)	*107*		*77 - 128*

Lab Sample ID: MB 580-258468/6
Matrix: Water
Analysis Batch: 258468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.050	mg/L			10/10/17 14:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*58 - 133*		*10/10/17 14:59*	*1*
Trifluorotoluene (Surr)	*121*		*77 - 128*		*10/10/17 14:59*	*1*

Lab Sample ID: LCS 580-258468/7
Matrix: Water
Analysis Batch: 258468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1.00	0.968		mg/L		97	79 - 110		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*58 - 133*
Trifluorotoluene (Surr)	*113*		*77 - 128*

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 580-257921/3-A
Matrix: Water
Analysis Batch: 257947

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257921

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		10/03/17 13:08	10/03/17 14:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	107		60 - 140	10/03/17 13:08	10/03/17 14:52	1

Lab Sample ID: LCS 580-257921/4-A
Matrix: Water
Analysis Batch: 257947

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257921

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0571	0.0575		ug/L		101	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane	109		60 - 140

Lab Sample ID: LCSD 580-257921/5-A
Matrix: Water
Analysis Batch: 257947

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257921

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.0571	0.0625		ug/L		109	60 - 140	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dibromopropane	113		60 - 140

Lab Sample ID: LLCS 580-257921/6-A
Matrix: Water
Analysis Batch: 257947

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257921

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0114	0.0119		ug/L		104	60 - 140

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
1,2-Dibromopropane	108		60 - 140

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-258535/1-A
Matrix: Water
Analysis Batch: 258609

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.019	mg/L		10/11/17 09:04	10/11/17 18:04	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		10/11/17 09:04	10/11/17 18:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	10/11/17 09:04	10/11/17 18:04	1

Lab Sample ID: LCS 580-258535/2-A
Matrix: Water
Analysis Batch: 258609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258535

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.00	1.53		mg/L		76	59 - 112
Motor Oil (>C24-C36)	2.00	1.81		mg/L		91	64 - 120

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-258535/2-A
Matrix: Water
Analysis Batch: 258609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258535

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	90		50 - 150

Lab Sample ID: LCSD 580-258535/3-A
Matrix: Water
Analysis Batch: 258609

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258535

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			2.00	1.63		mg/L		81	59 - 112	6	16
Motor Oil (>C24-C36)			2.00	1.85		mg/L		92	64 - 120	2	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	93		50 - 150

Lab Sample ID: MB 580-258648/1-A
Matrix: Water
Analysis Batch: 258720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258648

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.019	mg/L		10/12/17 08:49	10/12/17 19:04	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		10/12/17 08:49	10/12/17 19:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150	10/12/17 08:49	10/12/17 19:04	1

Lab Sample ID: LCS 580-258648/2-A
Matrix: Water
Analysis Batch: 258720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258648

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)			2.00	1.53		mg/L		77	59 - 112
Motor Oil (>C24-C36)			2.00	1.64		mg/L		82	64 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	80		50 - 150

Lab Sample ID: LCSD 580-258648/3-A
Matrix: Water
Analysis Batch: 258720

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258648

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			2.00	1.51		mg/L		75	59 - 112	2	16
Motor Oil (>C24-C36)			2.00	1.55		mg/L		78	64 - 120	5	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	81		50 - 150

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 580-258648/1-B
Matrix: Water
Analysis Batch: 258720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258648

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.019	mg/L		10/12/17 08:49	10/12/17 16:51	1
Motor Oil (>C24-C36)	ND		0.25	0.077	mg/L		10/12/17 08:49	10/12/17 16:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*10/12/17 08:49*	*10/12/17 16:51*	*1*

Lab Sample ID: LCS 580-258648/2-B
Matrix: Water
Analysis Batch: 258720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258648

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.00	1.64		mg/L		82	59 - 112
Motor Oil (>C24-C36)	2.00	1.83		mg/L		92	64 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*86*		*50 - 150*

Lab Sample ID: LCSD 580-258648/3-B
Matrix: Water
Analysis Batch: 258720

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258648

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.00	1.60		mg/L		80	59 - 112	2	16
Motor Oil (>C24-C36)	2.00	1.77		mg/L		88	64 - 120	4	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*79*		*50 - 150*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: LCS 580-258196/12-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 258196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: LCSD 580-258196/13-A
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 258196

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	0.987		mg/L		99	80 - 120	2	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-258281/20-A
Matrix: Water
Analysis Batch: 258407

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 258281

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00080	0.00020	mg/L		10/06/17 12:46	10/09/17 11:11	1

Lab Sample ID: LCS 580-258281/21-A
Matrix: Water
Analysis Batch: 258407

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 258281

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead			1.00	0.964		mg/L		96	80 - 120		

Lab Sample ID: LCSD 580-258281/22-A
Matrix: Water
Analysis Batch: 258407

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 258281

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			1.00	0.961		mg/L		96	80 - 120	0	20

Lab Sample ID: MB 580-257852/4-B
Matrix: Water
Analysis Batch: 258362

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 258196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040	0.0010	mg/L		10/05/17 14:39	10/06/17 22:02	5

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-17

Date Collected: 09/29/17 09:40
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/03/17 23:57	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 20:11	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 22:46	JCV	TAL SEA
Total/NA	Prep	3510C			258535	10/11/17 09:04	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258609	10/11/17 19:29	TL1	TAL SEA

Client Sample ID: PMW-14

Date Collected: 09/29/17 09:55
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 00:23	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 20:33	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 23:16	JCV	TAL SEA
Total/NA	Prep	3510C			258535	10/11/17 09:04	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258609	10/11/17 19:57	TL1	TAL SEA

Client Sample ID: PMW-5

Date Collected: 09/29/17 10:30
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 00:49	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 20:55	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 23:47	JCV	TAL SEA
Total/NA	Prep	3510C			258535	10/11/17 09:04	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258609	10/11/17 20:26	TL1	TAL SEA

Client Sample ID: PMW-16

Date Collected: 09/29/17 10:35
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 01:16	W1T	TAL SEA
Total/NA	Prep	3510C			258025	10/04/17 09:31	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258069	10/04/17 21:18	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/06/17 00:48	JCV	TAL SEA
Total/NA	Prep	3510C			258535	10/11/17 09:04	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258609	10/11/17 20:54	TL1	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-18
Date Collected: 09/29/17 11:20
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 01:42	W1T	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		5	258347	10/07/17 14:37	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 18:11	JCV	TAL SEA
Total/NA	Prep	3510C			258535	10/11/17 09:04	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258609	10/11/17 21:22	TL1	TAL SEA

Client Sample ID: PMW-13
Date Collected: 09/29/17 11:38
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 02:09	W1T	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		5	258347	10/07/17 15:00	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 19:12	JCV	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 20:10	ADB	TAL SEA

Client Sample ID: PMW-15
Date Collected: 09/29/17 12:48
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 02:36	W1T	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		2	258347	10/07/17 15:22	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 19:43	JCV	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 20:54	ADB	TAL SEA

Client Sample ID: PMW-19
Date Collected: 09/29/17 12:55
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257814	10/03/17 19:32	T1W	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258347	10/07/17 15:44	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 20:13	JCV	TAL SEA
Total/NA	Prep	8011			257921	10/03/17 13:08	Y1W	TAL SEA
Total/NA	Analysis	8011		1	257947	10/03/17 16:15	Y1W	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-19

Date Collected: 09/29/17 12:55
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Cleanup	3630C			258698	10/12/17 12:31	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 17:58	ADB	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 21:16	ADB	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 17:20	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 21:44	FCW	TAL SEA
Total Recoverable	Prep	3005A			258281	10/06/17 12:46	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	258407	10/09/17 12:07	FCW	TAL SEA

Client Sample ID: PMW-1

Date Collected: 09/29/17 14:00
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257814	10/03/17 19:57	T1W	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258347	10/07/17 16:06	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 20:44	JCV	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 21:38	ADB	TAL SEA

Client Sample ID: PMW-20

Date Collected: 09/29/17 14:25
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257814	10/03/17 20:22	T1W	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258347	10/07/17 16:29	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 21:14	JCV	TAL SEA
Total/NA	Prep	8011			257921	10/03/17 13:08	Y1W	TAL SEA
Total/NA	Analysis	8011		1	257947	10/03/17 16:31	Y1W	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Cleanup	3630C			258698	10/12/17 12:31	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 18:20	ADB	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 22:00	ADB	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 17:20	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 21:47	FCW	TAL SEA
Total Recoverable	Prep	3005A			258281	10/06/17 12:46	PAB	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Client Sample ID: PMW-20

Date Collected: 09/29/17 14:25
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		5	258407	10/09/17 12:10	FCW	TAL SEA

Client Sample ID: PMW-21

Date Collected: 09/29/17 14:50
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257814	10/03/17 20:47	T1W	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		1	258347	10/07/17 16:51	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258156	10/05/17 21:45	JCV	TAL SEA
Total/NA	Prep	8011			257921	10/03/17 13:08	Y1W	TAL SEA
Total/NA	Analysis	8011		1	257947	10/03/17 16:48	Y1W	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Cleanup	3630C			258698	10/12/17 12:31	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 18:42	ADB	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 22:22	ADB	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 17:20	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 21:50	FCW	TAL SEA
Total Recoverable	Prep	3005A			258281	10/06/17 12:46	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	258407	10/09/17 12:13	FCW	TAL SEA

Client Sample ID: PMW-8

Date Collected: 09/29/17 15:00
Date Received: 09/29/17 17:20

Lab Sample ID: 580-71745-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	257995	10/04/17 03:28	W1T	TAL SEA
Total/NA	Prep	3510C			258276	10/06/17 12:14	NDB	TAL SEA
Total/NA	Analysis	8270D SIM		5	258347	10/07/17 17:13	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	258468	10/10/17 20:36	RSB	TAL SEA
Total/NA	Prep	3510C			258648	10/12/17 08:49	NDB	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	258720	10/12/17 22:44	ADB	TAL SEA
Dissolved	Filtration	FILTRATION			257852	10/02/17 17:20	ASJ	TAL SEA
Dissolved	Prep	3005A			258196	10/05/17 14:39	PAB	TAL SEA
Dissolved	Analysis	6020A		5	258362	10/06/17 22:10	FCW	TAL SEA
Total Recoverable	Prep	3005A			258281	10/06/17 12:46	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	258407	10/09/17 12:16	FCW	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-18
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-17
US Fish & Wildlife	Federal		LE058448-0	10-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-18

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Double Tree Olympia (WA)

TestAmerica Job ID: 580-71745-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-71745-1	PMW-17	Water	09/29/17 09:40	09/29/17 17:20
580-71745-2	PMW-14	Water	09/29/17 09:55	09/29/17 17:20
580-71745-3	PMW-5	Water	09/29/17 10:30	09/29/17 17:20
580-71745-4	PMW-16	Water	09/29/17 10:35	09/29/17 17:20
580-71745-5	PMW-18	Water	09/29/17 11:20	09/29/17 17:20
580-71745-6	PMW-13	Water	09/29/17 11:38	09/29/17 17:20
580-71745-7	PMW-15	Water	09/29/17 12:48	09/29/17 17:20
580-71745-8	PMW-19	Water	09/29/17 12:55	09/29/17 17:20
580-71745-9	PMW-1	Water	09/29/17 14:00	09/29/17 17:20
580-71745-10	PMW-20	Water	09/29/17 14:25	09/29/17 17:20
580-71745-11	PMW-21	Water	09/29/17 14:50	09/29/17 17:20
580-71745-12	PMW-8	Water	09/29/17 15:00	09/29/17 17:20

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5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Loc: 580
71745

☐ Rush
☐ Short Hold

Chain of Custody Record

Client: [illegible]	Client Contact: [illegible]	Date: 9.29.17	Chain of Custody Number: 32732
Address: [illegible]	Telephone Number (Area Code)/Fax Number: [illegible]	Lab Number	Page ___ of ___
City: [illegible] State: WA Zip Code: [illegible]	Sampler: [illegible]	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State): [illegible]	Billing Contact: [illegible]		
Contract/Purchase Order/Quote No.: [illegible]			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH														Special Instructions/ Conditions of Receipt
[illegible]	9.29.17	0940																									
[illegible]		[illegible]																									
[illegible]		[illegible]																									
[illegible]		[illegible]																									
[illegible]		[illegible]																									
[illegible]		[illegible]																									
[illegible]		[illegible]																									
[illegible]		[illegible]														X			X	X	X		X	X	X		10% prime
[illegible]		[illegible]																									
[illegible]		[illegible]														X			X	X	X		X	X	X		10% prime
[illegible]		[illegible]														X			X	X	X		X	X	X		10% prime
[illegible]		[illegible]																						X	X		10% prime

Cooler ☐ Yes ☐ No Cooler Temp: ______

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ______

QC Requirements (Specify)

1. Relinquished By Sign/Print: [illegible]	Date: 9.29.17	Time: [illegible]	1. Received By Sign/Print: [illegible]	Date: [illegible]	Time: [illegible]
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print		Time

Comments
* Updated Pg 1/2 COC

580-71745 Chain of Custody

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0210)

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Fax 253-922-5047
www.testamericainc.com

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Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
Arcadis	Paul McCullough	9.29.17	31843
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page ____ of ____**
1100 Olive Way St 800	(206) 214.7161		
City / **State** / **Zip Code**	**Sampler**	**Lab Contact**	**Analysis (Attach list if more space is needed)**
Seattle / WA / 98101	PEMC & JL		
Project Name and Location (State)	**Billing Contact**		
Blackstone Double Tree Olympia (WA)	accountspayable.administrative@arcadis.com		
Contract/Purchase Order/Quote No.			
SEA 41774.0002			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: H_2O	Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH
Trip Blank							X				6		4
Temp Blank							X	2					

Special Instructions/ Conditions of Receipt

Cooler
☐ Yes ☐ No Cooler Temp: _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By Sign/Print: Patrick Collins	9.29.17	520	1. Received By Sign/Print:	9/29/17	1720
2. Relinquished By Sign/Print:			2. Received By Sign/Print:		
3. Relinquished By Sign/Print:			3. Received By Sign/Print:		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

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☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
Arcadis	Paul McCullough	9.29.17	32732
Address 1100 Olive Way St. 800	**Telephone Number (Area Code)/Fax Number** (206)214.7161	**Lab Number**	**Page** ____ **of** ____
City Seattle	**State** WA	**Zip Code** 98101	**Sampler** PRMC & JL	**Lab Contact**
Project Name and Location (State) Blackstone DoubleTree Olympia (WA)	**Billing Contact** accountspayable.administration@arcadis-us.com
Contract/Purchase Order/Quote No. SEA41774.0002	

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: 4 oz	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): NWTPH-Gx (GRO)	Dx/HO w/ SGC NWTPH-Dx	Dx/HO w/o SGC NWTPH-Dx	BTEX (8260B)	MTBE (8260B)	EDC (8260B)	PCBs (8011)	Naph (8270 SIM)	PAHs (8270)	T Lead (6010)	D Lead (6010)	Special Instructions/ Conditions of Receipt
PMW-17	9.29.17	0940					X	1			8			X	X	X					X				
PMW-14		0955						1			8			X		X	X				X				
PMW-5		1030						1			8			X		X	X				X				
PMW-16		1035						1			8			X		X	X				X				
PMW-18		1120						1			8			X		X	X				X				
PMW-13		1138						1			8			X		X	X				X				
PMW-15		1248						1			8			X		X	X				X				
PMW-19		1255						2		1	10		2	X		X	X				X				
PMW-1		1400						1			8			X		X	X				X				
PMW-20		1425						2		1	10		2	X		X	X				X				
PMW-21		1450						2		1	10		2	X		X	X				X				
PMW-8		1500						2		1	8			X		X	X				X				

TB A2 Cooler ___ Cor 3.3 w/c Unc 4.0
Cooler Dsc Ly Blue @Lab ___
Wet/Packs Packing bub

Clidre

TB ___ Cooler ___ Cor 2.4 Unc 3.1
Cooler Dsc Ly Blue @Lab ___
Wet/Packs Packing bub

Cooler ☐ Yes ☐ No Cooler Temp: ____

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ____

QC Requirements (Specify)

	Relinquished By Sign/Print	Date	Time	Received By Sign/Print	Date	Time
1.	Patrick Collins	9.29.17	520	Tom Blankinship	9/29/17	1720
2.						
3.						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-71745-1

Login Number: 71745
List Number: 1
Creator: Ponce-McDermott, Monica

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX G

Risk Assessment Calculations and Memorandum

MEMO

To:

Paul McCullough

Copies:

From:

Alexandra Meyers

Arcadis U.S., Inc.
1100 Olive Way
Suite 800
Seattle
Washington 98101
Tel 206 325 5254
Fax 206 325 8218

Date:

December 18, 2017

Arcadis Project No.:

SEA41774.0002

Subject:

Indoor Air Human Health Risk Evaluation

PIH Olympia, LLC

On behalf of PIH Olympia, LLC, Arcadis U.S., Inc. (Arcadis) prepared this indoor air human health risk evaluation for the former Phoenix Inn site located at 415 Capitol Way North, Olympia, Washington. One indoor air sample was collected from selected rooms (the conference room, office area, gym, laundry room, room 107, room 132, room 142, and room 146) in November 2017 (see Table 2) to evaluate the potential for inhalation exposure of naphthalene due to vapor intrusion from the subsurface. Following United States Environmental Protection Agency ([USEPA] 2009) methodology, potential inhalation risks and hazards were estimated for a current and future site worker and hypothetical future resident. The Site worker represents the most conservative receptor under the current use. Other receptors, such as hotel guests, would have much lower exposures. However, for informational purposes, the hypothetical residential receptor was also evaluated.

Indoor Air Risk Evaluation Methodology

Potential indoor air risks and hazards per exposure areas (i.e., indoor air sample location) are estimated by combining the exposure point concentration in air (EPC_{air}) with receptor-specific exposure parameters (i.e., exposure frequency, exposure duration, and exposure time) with the constituent's associated toxicity. The USEPA (2017a) standard default exposure parameters for a site worker and resident were used in the evaluation. Naphthalene toxicity values were obtained following the USEPA (2003) recommended hierarchy for the selection of toxicity values.

The estimated excess lifetime cancer risk associated with inhalation exposure ($ELCR_i$) to naphthalene is calculated per the following equation:

$ELCR_i = (EPC_{air} \times EF \times ED \times ET \times CF1 \times IUR) / AT_c$

Where,

ELCRi = estimated excess lifetime cancer risk – inhalation pathway; exposure area specific (unitless)

EPC_{air} = exposure point concentration in air; exposure area specific (micrograms per cubic meter [$\mu g/cm^3$])

EF = exposure frequency; 250 days per year for a site worker and 350 days per year for a hypothetical resident

ED = exposure duration; 25 years for a site worker and 26 years for a hypothetical resident

ET = exposure time; 8 hours per day for a site worker and 24 hours per day for a hypothetical resident

CF1 = conversion factor 1; 0.042 days per hour

IUR = naphthalene inhalation unit risk; 3.4×10^{-5} inverse microgram per cubic meter (CalEPA 2017)

AT_c = averaging time for cancer effects; 70 years x 365 days

The estimated hazard quotient due to inhalation exposure (HQ_i) to naphthalene is calculated per the following equation:

$HQ_i = (EPC_{air} \times EF \times ED \times ET \times CF1 \times CF2) / (AT_{nc} \times RfC)$

Where,

HQi = hazard quotient – inhalation pathway; exposure area specific (unitless)

EPC_{air} = exposure point concentration in air; exposure area specific ($\mu g/cm^3$)

EF = exposure frequency; 250 days per year for a site worker and 350 days per year for a hypothetical resident

ED = exposure duration; 25 years for a site worker and 26 years for a hypothetical resident

ET = exposure time; 8 hours per day for a site worker and 24 hours per day for a hypothetical resident

CF1 = conversion factor 1; 0.042 days per hour

CF2 = conversion factor 2; 0.001 microgram per milligram

RfC = naphthalene reference concentration; 3.0×10^{-3} milligram per cubic meter (USEPA 2017b)

AT_{nc} = averaging time for non-cancer effects; ED x 365 days

Indoor Air Risk Evaluation Results

The estimated health risks results are provided in Appendix G, Tables 1 to Table 3 and are summarized in Appendix G, Table 4.

The estimated risk results per exposure area for exposure to naphthalene in indoor air by a site worker ranged from 5×10^{-7} to 1×10^{-6}, which is equal to or is less than the lower end of the USEPA acceptable

risk range of 1 x 10^{-4} to x 1 x 10^{-6}. The estimated hazard results per exposure area for exposure to naphthalene in indoor air by a site worker ranged from 0.01 to 0.03, which is below the USEPA target of 1.

The estimated risk results per exposure area for exposure to naphthalene in indoor air by a hypothetical resident ranged from 2 x 10^{-6} to 4 x 10^{-6}, which is within the USEPA acceptable risk range of 1 x 10^{-4} to x 1 x 10^{-6}. The estimated hazard results per exposure area for exposure to naphthalene in indoor air by a resident ranged from 0.05 to 0.1, which is below the USEPA target of 1. However, as previously stated, the Site is not used for residential purposes and the hypothetical residential receptor was evaluated for informational purposes.

References

USEPA. 2003. Human health Toxicity Values in Superfund Risk Assessments. Office of Solid Waste and Emergency Response. OSWER Directive 9285.7-53.

USEPA. 2009. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment). EPA-540-R-070-002. Office of Superfund Remediation and Technology Innovation, Washington, D.C.

USEPA. 2017a. USEPA. 2017a. Regional Screening Level User's Guide (November 2017). Available at: https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2017.

USEPA. 2017b. USEPA. 2017b. Integrated Risk Information System. Office of Research and Development, National Center of Environmental Assessment (NCEA). Available at: http://www.epa.gov/iris.

Table 1. Risk and Hazard Calculations for a Current and Future Site Worker for Exposure to Indoor Air
PIH Olympia LLC
415 Capitol Way North
Olympia, WA

Constituent Per Exposure Area	EPC_{air} [a] ($\mu g/m^3$)	CANCER RISK $ELCR_i$ Inhalation	NON-CANCER HAZARD HQ_i Inhalation
Naphthalene_Conference Room	2.00E-01	5.5E-07	0.02
Naphthalene_Office Area	1.90E-01	5.3E-07	0.01
Naphthalene_Gym	3.00E-01	8.3E-07	0.02
Naphthalene_Laundry Room	2.90E-01	8.0E-07	0.02
Naphthalene_Room 132	3.70E-01	1.0E-06	0.03
Naphthalene_Room 142	1.70E-01	4.7E-07	0.01
Naphthalene_Room 146	2.60E-01	7.2E-07	0.02
Naphthalene_Room 107	2.60E-01	7.2E-07	0.02

Notes
[a] The exposure point concentration is the concentration measure in indoor air per exposure area.

Equations
$ELCR_i = (EPC_{air} \times EF \times ED \times ET \times CF1 \times IUR) / (AT_c)$
$HQ_i = (EPC_{air} \times CF2 \times EF \times ED \times ET \times CF1) / (AT_{nc} \times RfC)$

Exposure Parameters	Acronym	Value	Units	Source
Averaging time, cancer	AT_c	25,550	days	USEPA 2017a
Averaging time, non-cancer	AT_{nc}	9,125	days	USEPA 2017a
Conversion factor 1	CF1	0.042	days/hour	
Conversion factor 2	CF2	0.001	µg/mg	
Exposure duration	ED	25	years	USEPA 2017a
Exposure frequency	EF	250	days/year	USEPA 2017a
Exposure time	ET	8	hours/day	USEPA 2017a

Constituent-Specific Values	Acronym	Value	Units	Source
Excess lifetime cancer risk - inhalation pathway	$ELCR_i$	EU specific	unitless	
Exposure point concentration in air	EPC_{air}	EU specific	$\mu g/m^3$	site-specific
Hazard quotient - inhalation pathway	HQ_i	EU specific	unitless	
Inhalation unit risk	IUR	3.4E-05	$(\mu g/m^3)^{-1}$	CalEPA 2017
Reference concentration	RfC	3.0E-03	mg/m^3	USEPA 2017b

Definitions

CalEPA	California Environmenal Protection Agency
EU	exposure unit
mg/m^3	milligram per cubic meter
$\mu g/m^3$	microgram per cubic meter
$(\mu g/m^3)^{-1}$	inverse microgram per cubic meter
µg/mg	microgram per milligram
USEPA	United States Environmental Protection Agency

Reference

USEPA. 2017a. Regional Screening Level User's Guide (November 2017). Available at: https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2017.

USEPA. 2017b. Integrated Risk Information System. Office of Research and Development, National Center of Environmental Assessment (NCEA). Available at: http://www.epa.gov/iris.

CalEPA. 2017. OEHHA Toxicity Criteria Database. Available at: http://www.oehha.ca.gov/tcdb/index.asp.

Table 2. Risk and Hazard Calculations for a Hypothetical Future Child Resident for Exposure to Indoor Air Per Exposure Unit
PIH Olympia LLC
415 Capitol Way North
Olympia, WA

Constituent Per Exposure Area	EPC_{air} [a] ($\mu g/m^3$)	CANCER RISK 0 - 6 years $ELCR_i$ Inhalation	NON-CANCER HAZARD 0 - 6 years HQ_i Inhalation
Naphthalene_Conference Room	2.0E-01	5.6E-07	0.06
Naphthalene_Office Area	1.9E-01	5.3E-07	0.06
Naphthalene_Gym	3.0E-01	8.4E-07	0.1
Naphthalene_Laundry Room	2.9E-01	8.1E-07	0.09
Naphthalene_Room 132	3.7E-01	1.0E-06	0.1
Naphthalene_Room 142	1.7E-01	4.8E-07	0.05
Naphthalene_Room 146	2.6E-01	7.3E-07	0.08
Naphthalene_Room 107	2.6E-01	7.3E-07	0.08

Notes
[a] The exposure point concentration is the concentration measure in indoor air per exposure area.

Equations
$ELCR_i = (EPC_{air} \times EF \times ED \times ET \times CF1 \times IUR) / (AT_c)$
$HQ_i = (EPC_{air} \times CF2 \times EF \times ED \times ET \times CF1) / (AT_{nc} \times RfC)$

Exposure Parameters	Acronym	Child 0 - 6 years Value	Units	Source
Averaging time, cancer	AT_c	25,550	days	USEPA 2017a
Averaging time, non-cancer	AT_{nc}	2,190	days	USEPA 2017a
Conversion factor 1	CF1	0.042	days/hour	
Conversion factor 2	CF2	0.001	µg/mg	
Exposure duration	ED	6	years	USEPA 2017a
Exposure frequency	EF	350	days/year	USEPA 2017a
Exposure time	ET	24	hours/day	USEPA 2017a

Constituent-Specific Values	Acronym	Value	Units	Source
Excess lifetime cancer risk - inhalation pathway	$ELCR_i$	EU specific	unitless	
Exposure point concentration in air	EPC_{air}	EU specific	$\mu g/m^3$	site-specific
Hazard quotient - inhalation pathway	HQ_i	EU specific	unitless	
Inhalation unit risk	IUR	3.4E-05	$(\mu g/m^3)^{-1}$	CalEPA 2017
Reference concentration	RfC	3.0E-03	mg/m^3	USEPA 2017b

Definitions

CalEPA	California Environmenal Protection Agency
EU	exposure unit
mg/m^3	milligram per cubic meter
$\mu g/m^3$	microgram per cubic meter
$(\mu g/m^3)^{-1}$	inverse microgram per cubic meter
µg/mg	microgram per milligram
USEPA	United States Environmental Protection Agency

References

USEPA. 2017a. Regional Screening Level User's Guide (November 2017). Available at: https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2017.
USEPA. 2017b. Integrated Risk Information System. Office of Research and Development, National Center of Environmental Assessment (NCEA). Available at: http://www.epa.gov/iris.
CalEPA. 2017. OEHHA Toxicity Criteria Database. Available at: http://www.oehha.ca.gov/tcdb/index.asp.

Table 3. Risk and Hazard Calculations for a Hypothetical Future Adult Resident for Exposure to Indoor Air
PIH Olympia LLC
415 Capitol Way North
Olympia, WA

Constituent Per Exposure Area	EPC_{air} [a] ($\mu g/m^3$)	CANCER RISK 6 - 26 years $ELCR_i$ Inhalation	NON-CANCER HAZARD 6 - 26 years HQ_i Inhalation
Naphthalene_Conference Room	2.0E-01	1.9E-06	0.06
Naphthalene_Office Area	1.9E-01	1.8E-06	0.06
Naphthalene_Gym	3.0E-01	2.8E-06	0.1
Naphthalene_Laundry Room	2.9E-01	2.7E-06	0.09
Naphthalene_Room 132	3.7E-01	3.4E-06	0.1
Naphthalene_Room 142	1.7E-01	1.6E-06	0.05
Naphthalene_Room 146	2.6E-01	2.4E-06	0.08
Naphthalene_Room 107	2.6E-01	2.4E-06	0.08

Notes
[a] The exposure point concentration is the concentration measure in indoor air per exposure area.

Equations
$ELCR_i = (EPC_{air} \times EF \times ED \times ET \times CF1 \times IUR) / (AT_c)$
$HQ_i = (EPC_{air} \times CF2 \times EF \times ED \times ET \times CF1) / (AT_{nc} \times RfC)$

Exposure Parameters	Acronym	Adult 6 - 26 years Value	Units	Source
Averaging time, cancer	AT_c	25,550	days	USEPA 2017a
Averaging time, non-cancer	AT_{nc}	7,300	days	USEPA 2017a
Conversion factor 1	CF1	0.042	days/hour	
Conversion factor 2	CF2	0.001	µg/mg	
Exposure duration	ED	20	years	USEPA 2017a
Exposure frequency	EF	350	days/year	USEPA 2017a
Exposure time	ET	24	hours/day	USEPA 2017a

Constituent-Specific Values	Acronym	Value	Units	Source
Excess lifetime cancer risk - inhalation pathway	$ELCR_i$	EU specific	unitless	
Exposure point concentration in air	EPC_{air}	EU specific	$\mu g/m^3$	site-specific
Hazard quotient - inhalation pathway	HQ_i	EU specific	unitless	
Inhalation unit risk	IUR	3.4E-05	$(\mu g/m^3)^{-1}$	CalEPA 2017
Reference concentration	RfC	3.0E-03	mg/m^3	USEPA 2017b

Definitions

CalEPA	California Environmenal Protection Agency
EU	exposure unit
mg/m^3	milligram per cubic meter
$\mu g/m^3$	microgram per cubic meter
$(\mu g/m^3)^{-1}$	inverse microgram per cubic meter
µg/mg	microgram per milligram
USEPA	United States Environmental Protection Agency

References

USEPA. 2017a. Regional Screening Level User's Guide (November 2017). Available at: https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2017.
USEPA. 2017b. Integrated Risk Information System. Office of Research and Development, National Center of Environmental Assessment (NCEA). Available at: http://www.epa.gov/iris.
CalEPA. 2017. OEHHA Toxicity Criteria Database. Available at: http://www.oehha.ca.gov/tcdb/index.asp.

Table 4. Summary of Calculated Human Health Risks and Hazards
PIH Olympia LLC
415 Capitol Way North
Olympia, WA

Scenario	Receptor / Exposure Medium	Table	Total Excess Lifetime Cancer Risk [a]	Total Non-Cancer Hazard [a]
Future	Hypothetical Site Worker			
	Inhalation of Volatiles from Indoor Air_Conference Room	Table 1	6E-07	0.02
	Inhalation of Volatiles from Indoor Air_Office Area	Table 1	5E-07	0.01
	Inhalation of Volatiles from Indoor Air_Gym	Table 1	8E-07	0.02
	Inhalation of Volatiles from Indoor Air_Laundry Room	Table 1	8E-07	0.02
	Inhalation of Volatiles from Indoor Air_Room 132	Table 1	1E-06	0.03
	Inhalation of Volatiles from Indoor Air_Room 142	Table 1	5E-07	0.01
	Inhalation of Volatiles from Indoor Air_Room 146	Table 1	7E-07	0.02
	Inhalation of Volatiles from Indoor Air_Room 107	Table 1	7E-07	0.02
Future	Hypothetical Child Resident			
	Inhalation of Volatiles from Indoor Air_Conference Room	Table 2	6E-07	0.06
	Inhalation of Volatiles from Indoor Air_Office Area	Table 2	5E-07	0.06
	Inhalation of Volatiles from Indoor Air_Gym	Table 2	8E-07	0.1
	Inhalation of Volatiles from Indoor Air_Laundry Room	Table 2	8E-07	0.09
	Inhalation of Volatiles from Indoor Air_Room 132	Table 2	1E-06	0.1
	Inhalation of Volatiles from Indoor Air_Room 142	Table 2	5E-07	0.05
	Inhalation of Volatiles from Indoor Air_Room 146	Table 2	7E-07	0.08
	Inhalation of Volatiles from Indoor Air_Room 107	Table 2	7E-07	0.08
	Hypothetical Adult Resident			
	Inhalation of Volatiles from Indoor Air_Conference Room	Table 3	**2E-06**	0.06
	Inhalation of Volatiles from Indoor Air_Office Area	Table 3	**2E-06**	0.06
	Inhalation of Volatiles from Indoor Air_Gym	Table 3	**3E-06**	0.1
	Inhalation of Volatiles from Indoor Air_Laundry Room	Table 3	**3E-06**	0.09
	Inhalation of Volatiles from Indoor Air_Room 132	Table 3	**3E-06**	0.1
	Inhalation of Volatiles from Indoor Air_Room 142	Table 3	**2E-06**	0.05
	Inhalation of Volatiles from Indoor Air_Room 146	Table 3	**2E-06**	0.08
	Inhalation of Volatiles from Indoor Air_Room 107	Table 3	**2E-06**	0.08
	Hypothetical Resident			
	Inhalation of Volatiles from Indoor Air_Conference Room	NA	**2E-06**	0.06
	Inhalation of Volatiles from Indoor Air_Office Area	NA	**2E-06**	0.06
	Inhalation of Volatiles from Indoor Air_Gym	NA	**4E-06**	0.1
	Inhalation of Volatiles from Indoor Air_Laundry Room	NA	**4E-06**	0.09
	Inhalation of Volatiles from Indoor Air_Room 132	NA	**4E-06**	0.1
	Inhalation of Volatiles from Indoor Air_Room 142	NA	**2E-06**	0.05
	Inhalation of Volatiles from Indoor Air_Room 146	NA	**3E-06**	0.08
	Inhalation of Volatiles from Indoor Air_Room 107	NA	**3E-06**	0.08

[a] Cancer risk estimates exceeding $1x10^{-6}$ and non-cancer hazard estimates exceeding one are in bold.

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