



2021 Baseline Groundwater Monitoring Report

Former K2 Facility, Vashon, WA

20 October 2021

Project No.: 0552295

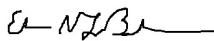
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Document title	2021 Baseline Groundwater Monitoring Report
Document subtitle	Former K2 Facility, Vashon, WA
Project No.	0552295
Date	20 October 2021
Version	1.0
Author	ERM-West, Inc.
Client Name	Sitca LLC

Signature Page

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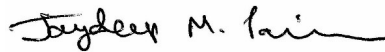
Former K2 Facility, Vashon, WA



Elise LeBlanc
Project Manager



Kathleen Kwasniak
Senior Engineer



Jaydeep Parikh
Partner

ERM-West, Inc.

1218 3rd Avenue
Suite 1412
Seattle, Washington
98101

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Acronyms and Abbreviations

Name	Description
bgs	below ground surface
CUL	clean-up level
CVOC	chlorinated volatile organic compound
DPE	dual phase extraction
EDR	engineering design report
ERM	ERM-West, Inc.
MTCA	Model Toxics Control Act
MW	monitoring well
NTU	Nephelometric turbidity unit
Sitca	Sitca LLC
TCE	trichloroethene
TPH	total petroleum hydrocarbon
VOC	volatile organic compound

1. INTRODUCTION

On behalf of Sitca LLC (Sitca), ERM-West, Inc. (ERM), prepared this 2021 Baseline Groundwater Monitoring Report for the former K2 manufacturing facility located at 19215 Vashon Highway SW in Vashon, King County, Washington (the Site). The Site location is shown on **Figure 1**.

Sitca has been implementing Site investigation and remediation activities under Voluntary Cleanup Program Project ID Number NW2894, Facility Site ID Number 15413386, and Cleanup Site ID Number 12390. The Facility ID Number is 2340 and the Voluntary Cleanup Program Number is NW0942.

The Cleanup Action Plan for the Site was submitted to the Washington State Department of Ecology in June 2019. The goals of the selected cleanup actions for the Site include the following:

- Restrict potential exposure to petroleum-impacted soils beneath the northern portion of the main facility building;
- Remove total petroleum hydrocarbon (TPH) impacted soils from under the machine shop building in the northeast corner of the Site;
- Reduce chlorinated volatile organic compound (CVOC) concentrations from the groundwater and soil vapor matrices in the main facility area;
- Reduce CVOC concentrations in groundwater to concentrations that are compliant with applicable regulations and are protective of human health and the environment; and
- Reduce TPH concentrations in soil to concentrations that are compliant, or restrict exposure to be compliant, with applicable regulations and protective of human health and the environment.

An Engineering Design Report was submitted in June 2020 to the Washington State Department of Ecology that presented the engineering design of the dual phase extraction (DPE) remedy for the CVOC groundwater plume. Construction activities for the DPE system started in June 2020 and continued through May 2021. The system start-up activities continued through July 2021 and the system is currently operational. System operation and maintenance activities are expected to continue through 2026.

Prior to system start-up, ERM conducted an initial baseline groundwater monitoring event in November 2020 and a supplemental groundwater event in January 2021. This report summarizes the results of those monitoring events and presents a schedule of future proposed monitoring events.

2. SITE DESCRIPTION AND BACKGROUND

The Site is located on an 11.6-acre parcel in an area of rural residential development with some scattered commercial and light industrial development (**Figure 1**). The climate in the area is temperate. Topography in the Site vicinity generally slopes towards the south and east. The ground surface at the Site is generally occupied by a large warehouse-style building and two smaller buildings—the machine shop building and the carpentry shop building—with associated paved areas and landscaping. The manufacturing facility is currently inactive, but was previously used by K2 to manufacture skis, snowboards, and bicycles. Previous environmental investigations indicate the contaminated media at the Site include: (1) shallow (less than 15 feet below ground surface [bgs]) soil; and (2) groundwater in the upper-most, water-bearing zone. The contaminants of concern at the Site are as listed below.

- Soil: TPH-Diesel, TPH-Heavy Oil, and trichloroethene (TCE).
- Groundwater: CVOCs including TCE, cis-1,2-dichloroethene, vinyl chloride, and dibromochloromethane, and arsenic.¹

2.1 Site Geology

The subject property is located on Vashon Island in the Puget Lowlands. The primary geological units on the island are glacial sediments related to multiple continental glaciation events in the Pleistocene Epoch—during which, ice flowed southward across the Puget Lowlands—and sediments deposited during interglacial periods.

On-Site soils include glacial till and outwash deposited during the most recent glaciation approximately 13,000 to 16,000 years ago. The till is composed of very dense silt with sand and gravel that extends to at least 45 feet bgs, per the deepest investigation completed to date on the subject property. Based on available geologic mapping, the till at the Site is approximately 60 to 80 feet thick and is underlain by the Esperance Sand member of the Vashon advance outwash.

2.2 Site Hydrogeology

Groundwater at the Site was observed at approximately 2 to 10 feet bgs, or approximately 383 to 396 feet above mean sea level, and is present under unconfined conditions. Aquifer soils encountered consist of dense silt with fine sand and variable amounts of gravel. Groundwater generally flows to the south to southeast.

¹Per the 2019 Cleanup Action Plan, a dissolved arsenic concentration greater than the MTCA Method A was reported in a groundwater sample from monitoring well MW1-2, which is near the Machine Shop. This limited identification of arsenic is suspected to be the result of native soil particulates in a dissolved-phase groundwater sample and not Site contamination. It is expected that the arsenic issue will be resolved through semi-annual groundwater monitoring and will not require active remediation.

3. MONITORING PROGRAM

In accordance with the 2020 Engineering Design Report (EDR), ERM conducted a baseline groundwater monitoring event in November 2020 to assess baseline groundwater conditions prior to DPE system start-up. The baseline monitoring event included sampling of the following monitoring locations:

- The two newly installed monitoring wells (MWs)—MW8-1 and MW8-2;
- Approximately 15 DPE wells—DPE-01, DPE-02, DPE-06, DPE-09, DPE-11, DPE-14, DPE-15, DPE-18, DPE-23, DPE-26, DPE-28, DPE-32, DPE-35, DPE-37, DPE-40, and the 2019 Pilot Study Well; and
- Select additional MWs—MW4-2, MW4-3, MW4-4, and MW5-2.

A site layout figure, including the locations of the Site monitoring and extraction wells, is presented on **Figure 2**. The boring and well construction logs for the extraction wells and two newly installed monitoring wells are presented in **Appendix A**. Monitoring well MW4-5 was unable to be sampled due to access issues during the sampling event and monitoring well MW4-6 was unable to be sampled due to a silted-in screen. Efforts will be made to redevelop and clear the screen of MW4-6 prior to the next groundwater sampling event.

Prior to the collection of groundwater samples for the baseline sampling event, ERM measured the depth to static water elevation using an electronic water level meter. Following the collection of static water level measurements, monitoring wells and extraction wells were purged using low-flow sampling methodology consistent with United States Environmental Protection Agency's Low Stress (Low Flow) Purging and Sampling Procedure for Collection of Groundwater Samples from Monitoring Wells. Both monitoring wells and extraction wells were purged until field indicator parameters (i.e., pH, temperature, dissolved oxygen, oxidation/reduction potential, specific conductance, and turbidity) stabilized. For wells that were purged dry before field indicator parameters stabilized, a sample was collected after the water level was restored to the pre-purged depth at least 24 hours after the well was purged dry.

ERM subsequently conducted a supplemental groundwater monitoring event in January 2021, the purpose of which was to vertically profile groundwater impacts within the DPE system footprint. The groundwater samples were collected from three depths (approximately 16, 27, and 42 feet bgs) within the screened interval of selected extraction wells (approximately 10 to 45 feet bgs) to be able to approximate CVOC concentrations within the vertical profile. Groundwater samples were collected from the middle of the well screen for sampled monitoring wells. The supplemental monitoring event included sampling of DPE-02, DPE-03, DPE-08, DPE-09, DPE-15, DPE-16, DPE-22, DPE-29, MW5-2, and MW8-2. Each well was purged using low-flow sampling methodology and wells were purged until field indicator parameters stabilized.

Following the purging of each well, groundwater quality samples were collected in laboratory-supplied containers and submitted under chain-of-custody protocols to ALS Laboratory Group in Everett, Washington for analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency Method 8260.

4. RESULTS

A summary of groundwater elevation and groundwater quality analytical data is presented below. Laboratory analytical reports are included in [Appendix B](#).

4.1 Groundwater Elevation & Flow Direction

Groundwater elevation measurements were collected on 16 November 2020 during the baseline monitoring event. ERM used an electronic water level indicator to measure the static water level and total depth of the selected monitoring wells. Depth to water measurements at the Site measured during the baseline monitoring event ranged from 2.25 to 20.90 feet bgs resulting in groundwater elevations ranging from approximately 370 to 397 feet above mean sea level. During the baseline monitoring event, measurements were not collected from six locations due to access and well condition issues.

Groundwater elevation measurements were collected from select extraction and monitoring wells on 20 January 2021 during the supplemental monitoring event. ERM used an electronic water level indicator to measure the static water level and total depth of the selected monitoring wells. Depth to water measurements ranged from 4.20 to 15.35 feet bgs.

Table 1 presents a summary of groundwater elevation data collected during the baseline and supplemental monitoring events.

During the baseline monitoring event, groundwater was observed to flow from the north to the south-southwest, generally consistent with previous investigations. Though groundwater elevations fluctuate seasonally, the groundwater flow direction is consistent season to season. A potentiometric surface map for the baseline monitoring event is presented on [Figure 3](#).

The direction of groundwater flow in November 2020 is toward the southeast at a gradient of 0.026 feet per foot. Previous groundwater investigations at the Site as described in the 2018 Feasibility Study showed the groundwater flow direction was generally toward the south and southeast with an average horizontal gradient of 0.019 feet per foot.

4.2 Groundwater Monitoring Results

4.2.1 Groundwater Quality Parameters

Groundwater quality parameters measured in November 2020 showed an average pH of 6.53, with the lowest pH of 6.36 measured in DPE-35 and the highest pH of 7.84 measured in MW8-1. In January 2021, the average pH was 7.18, with the lowest pH of 6.63 measured in DPE-22 and the highest pH of 7.89 measured in MW5-2.

In November 2020, field measurements of dissolved oxygen ranged from 0.26 milligrams per liter to 6.79 milligrams per liter, suggesting a combination of both aerobic and anaerobic conditions throughout the Site. These observations are generally consistent with dissolved oxygen levels measured in previous investigations at the Site.

Turbidity measurements were generally low (less than 10 Nephelometric turbidity units [NTU]), with the exception of MW4-4 (67.2 NTU) and MW8-1 (29.7 NTU). These measurements were generally consistent with previous investigations at the Site.

Table 2 presents a summary of groundwater field parameter measurements.

4.2.2 Groundwater Analytical Results

A total of 48 groundwater samples were collected at the Site in November 2020 and January 2021, during the events listed below.

- Baseline monitoring event: 22 groundwater samples were collected from distinct wells from 17 through 19 November 2020.
- Supplemental monitoring event: 26 groundwater samples were collected from 10 wells from 20 through 22 January 2021.

Table 3 presents a summary of constituents detected in groundwater. The TCE concentrations from the baseline and supplemental monitoring events are shown on **Figures 4** and **5**, respectively. Groundwater analytical results were compared to the clean-up levels (CULs) defined in the 2020 EDR, also included as Table 4-1 below.

Table 4-1: CULs for Groundwater

Substance	Clean-up Level	Basis
TPH-Diesel	500 µg/L	Model Toxics Control Act (MTCA) Method A
TPH-Heavy Oil	500 µg/L	
TCE	5 µg/L	
Vinyl chloride	0.2 µg/L	
Arsenic	5 µg/L	
Dibromochloromethane	0.52 µg/L	MTCA Method B Cancer ^a
cis-1,2 Dichloroethene	16 µg/L	MTCA Method B Non-Cancer ^a

µg/L = micrograms per liter

^a = where MTCA Method A CULs for groundwater were not available, the MTCA Method B CULs were used.

The purpose of both the November 2020 and January 2021 groundwater monitoring events was to collect baseline groundwater data and obtain further resolution of CVOC distribution in the groundwater treatment area. **Figure 5** presents the vertical characterization of groundwater impacts throughout the screened interval in the southern portion of the treatment area. Groundwater impacts were primarily observed between 15 and 30 feet bgs, and generally decrease between 30 and 40 feet bgs.² The results are consistent with previously observed trends at the Site.

During the 2019 Pilot Study, soil was continuously logged during drilling activities and headspace readings and grab soil samples were collected at several depths. The headspace readings from the photoionization detector and analytical soil and groundwater data indicated the greatest concentrations of CVOCs were found in soil and groundwater between 15 and 30 feet bgs and then decreased between 30 and 40 feet bgs. This information was used to inform the design of the DPE system and is described further in the 2020 EDR. Consistent with observations from the 2019 Pilot Study, headspace readings collected during extraction well drilling activities indicate the greatest concentrations of CVOCs are found in soil logged between approximately 15 and 35 feet bgs.

² During the supplemental monitoring event, groundwater samples were collected from multiple intervals within the screened interval of the extraction wells. The approach of collecting groundwater samples from multiple depths within a long screen should only be used as a screening tool, since there could be cross contamination across different intervals or carry down of contamination from shallower depths.

5. SUMMARY

The objective of the baseline and supplemental groundwater monitoring events was to collect baseline groundwater data prior to DPE system operation. The November 2020 and January 2021 groundwater monitoring events confirmed the CVOC distribution in the groundwater treatment area. The first semi-annual groundwater monitoring event was conducted in September 2021 and semi-annual monitoring will continue throughout system operation.

6. SUMMARY OF PLANNED NEAR-TERM ACTIVITIES

Below is a summary of near-term activities that will be conducted at the Site.

Table 6-1: Schedule of Upcoming Site Activities

Task	Estimated Timeframe	Estimated Calendar Schedule
Start-up Remediation System	6 Weeks	May – July 2021
Semi-Annual Groundwater Sampling	1 week	September 2021
Indoor Air Sampling Event	1 day	December 2021
Semi-Annual Groundwater Sampling	1 week	January 2022
Annual Progress Report	-	April 2022
CSA-1 Excavation	1 month	2022
CSA-2 Excavation	1 month	2023

7. REFERENCES

ERM-West, Inc. (ERM). 2015. *Draft Site Characterization Report, Former K2 Facility*. July 2015.

ERM. 2018. *Feasibility Study Report*. 4 May 2018.

ERM. 2019. *Draft Cleanup Action Plan for Former K2 Manufacturing Facility*. 27 June 2019.

ERM. 2020. *Engineering Design Report, Former K2 Facility*. 26 June 2020.

United States Environmental Protection Agency. 2017. *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*. 20 September 2017.

FIGURES

DRAWN BY: Mike Appel

M:\Projects\0266125_K2\maps\Draft\Figure 1 Facility Location.mxd, REVISED: 03/22/2018, SCALE: 1:4,800 when printed at 8.5x11



Legend
[Dashed Line] Property Boundary

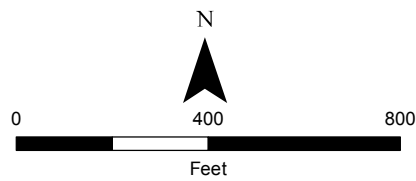
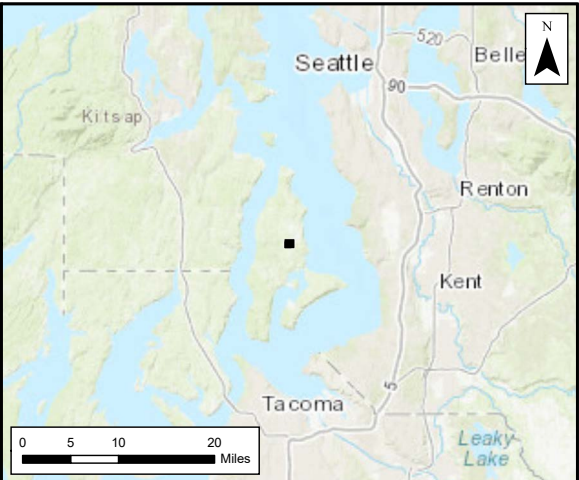
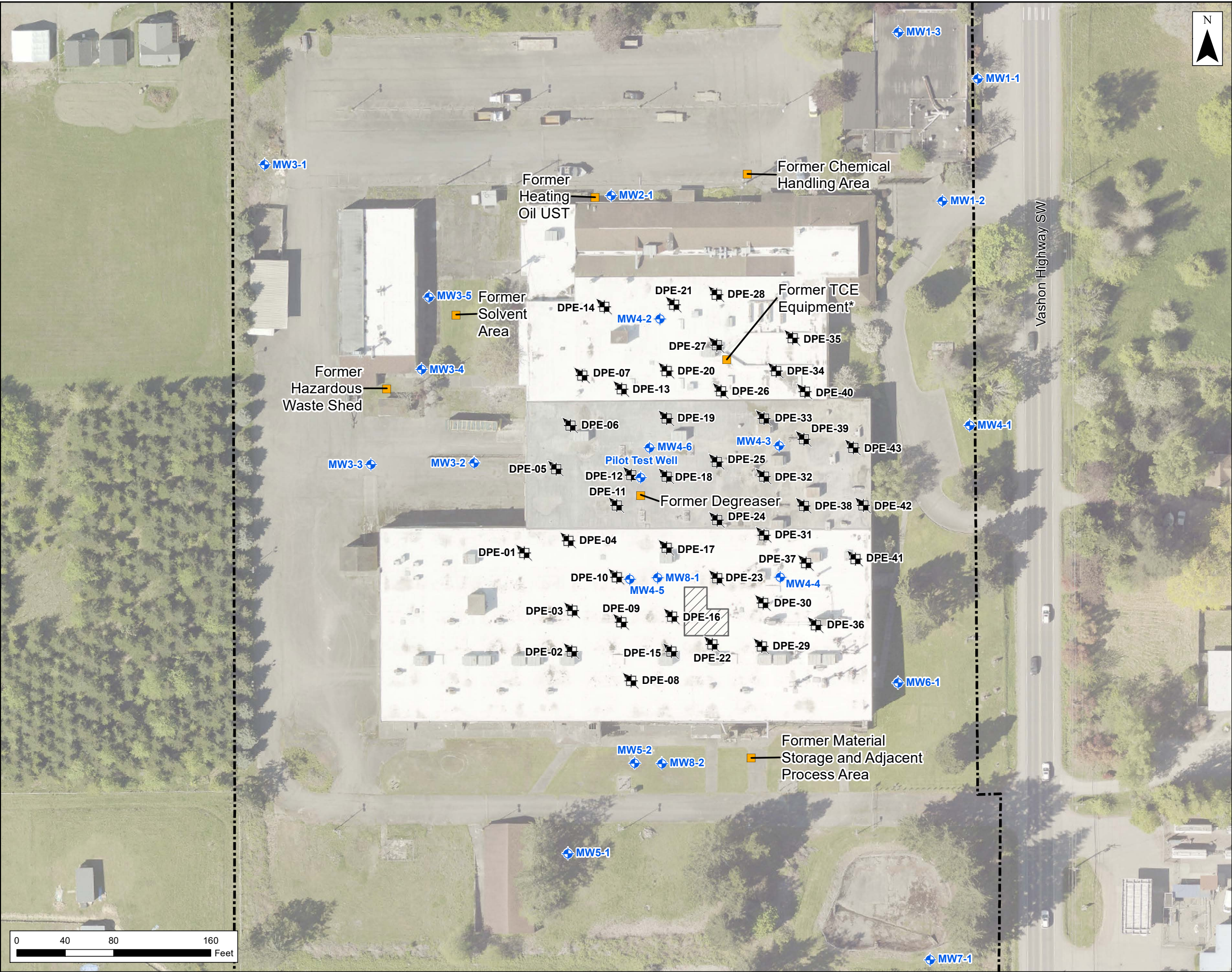


Figure 1
Site Location Map
K2 Site
Vashon Highway SW
Vashon, Washington



Legend

- Monitoring Well
- Multi-phase Extraction Well
- Source Area
- Approximate Remediation System Equipment Room
- Property Boundary

Notes:

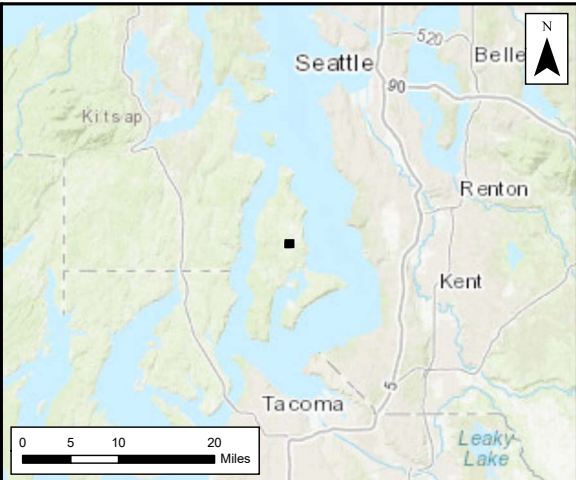
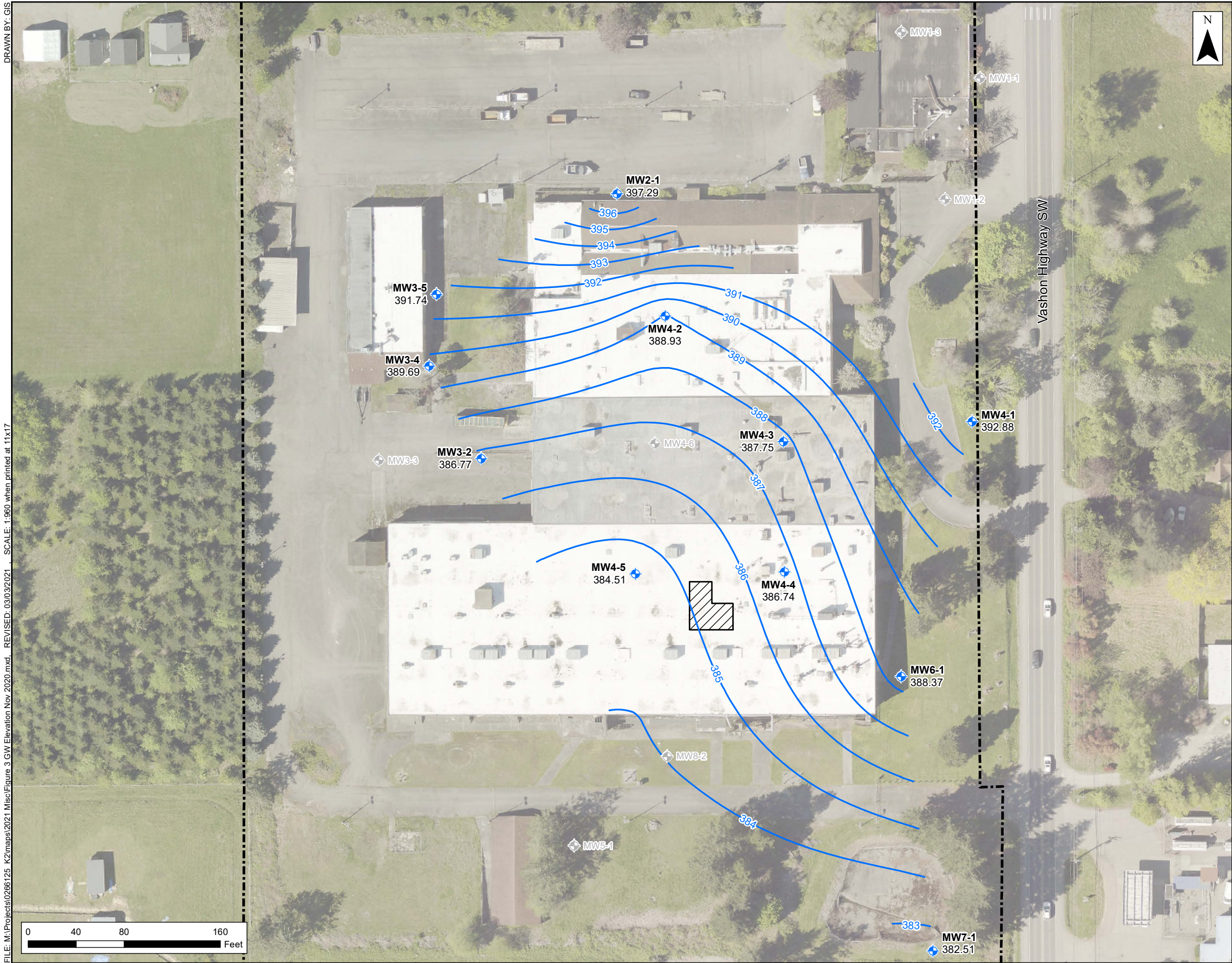
Source area locations are approximate.

*Former Trichloroethene (TCE) Equipment location based on information from facility personnel.

Figure 2
Well Summary Map
K2 Site
Vashon Highway SW
Vashon Island, Washington

DRAWN BY: GIS

FILE: M:\Projects\0266125 K2\maps\2021 Misc\Figure 3 GW Elevation Nov 2020.mxd REVISED: 03/03/2021 SCALE: 1:960 when printed at 11x17



Legend

- Monitoring Well
- Monitoring Well Not Gauged
- Groundwater Elevation Contour November 2020
- Approximate Remediation System Equipment Room
- Property Boundary

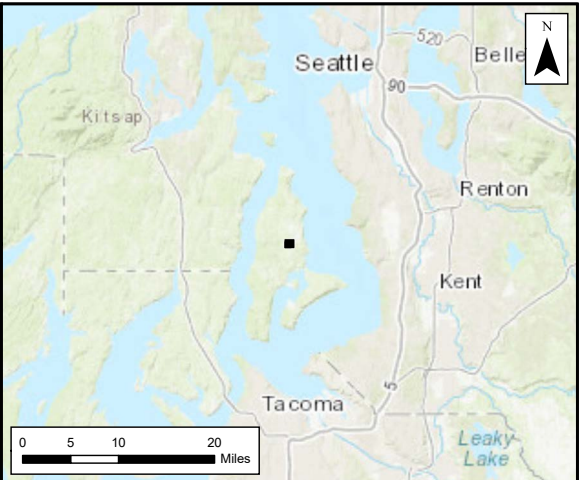
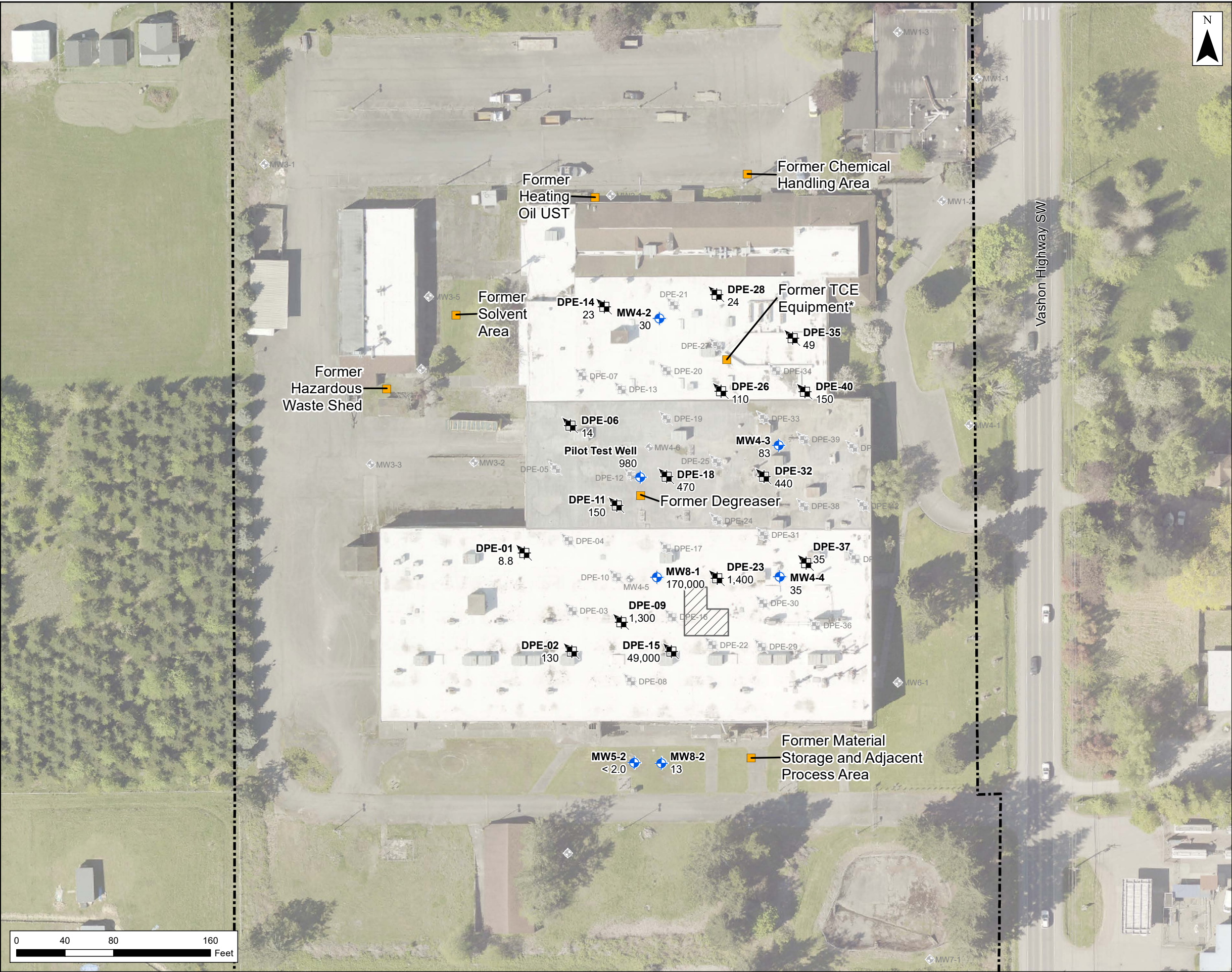
Notes:

Groundwater elevations in feet above mean sea level.

Figure 3
Groundwater Elevation
November 2020
K2 Site
Vashon Highway SW
Vashon Island, Washington

DRAWN BY: GIS

FILE: M:\Projects\0266125 K2\maps\2021 Misc\Figure 4 TCE Nov2020.mxd REVISED: 03/02/2021 SCALE: 1:960 when printed at 11x17



Legend

- Monitoring Well with TCE in Groundwater Result
- Multi-phase Extraction Well with TCE in Groundwater Result
- Monitoring Well Not Sampled
- Extraction Well Not Sampled
- Source Area
- Approximate Remediation System Equipment Room
- Property Boundary

Notes:
Results shown in micrograms per liter (µg/L)

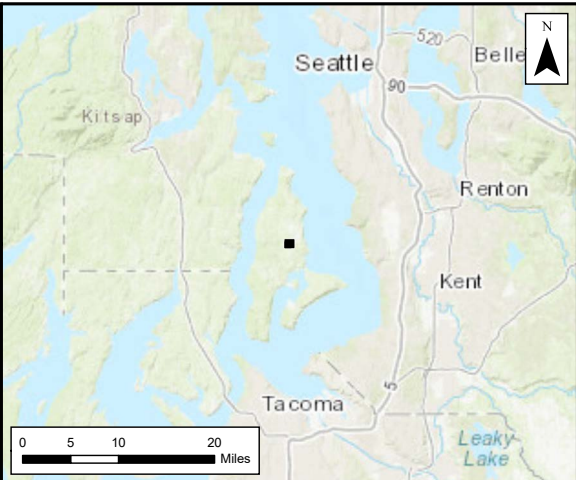
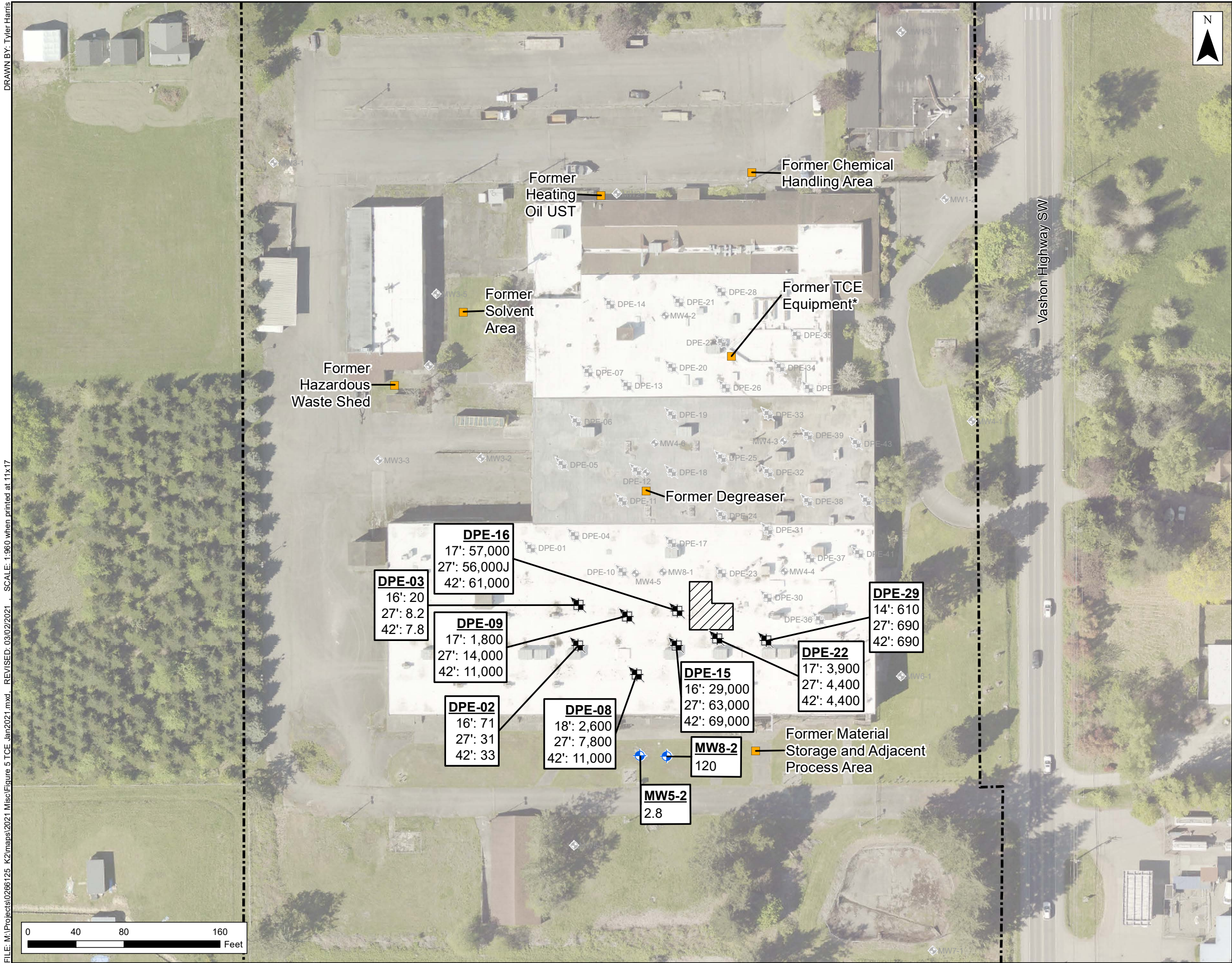
Samples were collected from the middle of the screen for both the extraction and monitoring wells sampled.

Source area locations are approximate.

*Former Trichloroethene (TCE) Equipment location based on information from facility personnel.

< 2.0 : TCE not detected at or above the laboratory reporting limit.

Figure 4
TCE Concentrations in
Groundwater - November 2020
K2 Site
Vashon Highway SW
Vashon Island, Washington



Legend

- Monitoring Well with TCE in Groundwater Result
- Multi-phase Extraction Well with TCE in Groundwater Result
- Monitoring Well Not Sampled
- Extraction Well Not Sampled
- Source Area
- Approximate Remediation System Equipment Room
- Property Boundary

Notes:

Results shown in micrograms per liter ($\mu\text{g/L}$).

Monitoring well samples were collected from the middle of the screen. Multi-phase extraction well samples were collected from three depths within the screen as noted.

Source area locations are approximate.

*Former Trichloroethene (TCE) Equipment location based on information from facility personnel.

< 2.0 : TCE not detected at or above the laboratory reporting limit.

J: Result qualified as estimated due to associated lab QC issues.

Figure 5
TCE Concentrations in
Groundwater - January 2021
K2 Site
Vashon Highway SW
Vashon Island, Washington

TABLES

Table 1
Summary of Groundwater Gauging
Former K2 Facility
Vashon Island, WA

Well	Measurement Date	Historical Reference Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
DPE-02	1/20/2021	NS	12.50	-
DPE-03	1/20/2021	NS	12.80	-
DPE-08	1/20/2021	NS	15.35	-
DPE-09	1/20/2021	NS	14.40	-
DPE-15	1/20/2021	NS	13.10	-
DPE-16	1/20/2021	NS	13.60	-
DPE-22	1/20/2021	NS	14.20	-
DPE-29	1/20/2021	NS	11.05	-
MW2-1	11/16/2020	399.542	2.25	397.292
MW3-2	11/16/2020	395.773	9.00	386.773
MW3-4	11/16/2020	399.987	10.30	389.687
MW3-5	11/16/2020	399.388	7.65	391.738
MW4-1	11/16/2020	397.384	4.50	392.884
MW4-2	11/16/2020	399.482	10.55	388.932
MW4-3	11/16/2020	399.75	12.00	387.75
MW4-4	11/16/2020	399.485	12.75	386.735
MW4-5	11/16/2020	399.31	14.80	384.51
MW5-2	11/16/2020	391	20.90	370.1
	1/20/2021		11.15	379.85
MW6-1	11/16/2020	390.965	2.60	388.365
MW7-1	11/16/2020	390.51	8.00	382.51
MW8-1	11/16/2020	NS	8.20	-
MW8-2	11/16/2020	NS	3.50	-
	1/20/2021		4.20	-

Notes:

ft = feet

amsl = above mean sea level

NS = Not Surveyed

- = Groundwater elevation could not be calculated because the well has not been surveyed

NM = Not measured

Table 2
Summary of Geochemical Parameters
Former K2 Facility
Vashon Island, Washington

	Location ID Sample Date	DPE-01 11/18/2020	DPE-02 11/18/2020	DPE-02 1/20/2021	DPE-02 1/22/2021	DPE-02 1/22/2021	DPE-03 1/22/2021	DPE-03 1/22/2021	DPE-03 1/22/2021	DPE-06 11/18/2020	DPE-08 1/20/2021	DPE-08 1/20/2021	DPE-08 1/20/2021	DPE-09 11/18/2020	DPE-09 1/20/2021
Geochemical Parameters	Unit														
Dissolved Oxygen, Field	% Sat	NM	NM	26.1	25.3	29.5	NM	NM	NM	NM	26.4	18.7	18.1	7.9	NM
Dissolved Oxygen, Field	mg/L	6.79	6.11	NM	NM	NM	3.57	3.39	3.31	4.54	NM	NM	NM	NM	0.24
Oxidation-Reduction Potential, Field	mV	158.5	168.4	109.9	124.6	113.7	43.6	40.9	45.5	147.6	101	48.4	43.9	79.7	27.3
pH	pH units	7.04	6.91	6.94	7.23	7.05	7.13	7.02	6.98	7.03	6.86	6.79	6.81	6.92	7.02
Specific Conductivity	µS/cm	115.7	180.7	195	229	194	163.5	163.1	164.1	151.1	261	306	321	236.4	320.5
Temperature, Field	deg C	14.6	14.8	13.8	12.9	13.2	13.7	14	14.6	15.2	13	13.5	13.8	15.5	14.3
Turbidity, Field	NTU	0.99	2.48	1.24	0.82	1.17	0.74	0.61	0.75	0.89	0.71	0.87	1.75	14.3	0.36

Notes:

- % Sat = Percent saturated
- deg C = degrees Celsius
- mg/L = milligrams per Liter
- mV = millivolts
- NTU = nephelometric turbidity units
- uS/cm = microSiemens per centimeter
- NM = Not Measured

Table 2
Summary of Geochemical Parameters
Former K2 Facility
Vashon Island, Washington

	Location ID Sample Date	DPE-09 1/20/2021	DPE-09 1/20/2021	DPE-11 11/19/2020	DPE-14 11/18/2020	DPE-15 11/18/2020	DPE-15 1/20/2021	DPE-15 1/20/2021	DPE-15 1/20/2021	DPE-16 1/21/2021	DPE-16 1/21/2021	DPE-16 1/21/2021	DPE-16 1/21/2021	DPE-18 11/19/2020	DPE-22 1/20/2021
Geochemical Parameters	Unit														
Dissolved Oxygen, Field	% Sat	NM	NM	NM	NM	NM	NM	NM	NM	11.7	8.6	11.7	11	6.5	NM
Dissolved Oxygen, Field	mg/L	0.22	0.19	0.97	4.64	4.78	2.66	0.24	0.2	NM	NM	NM	NM	NM	0.44
Oxidation-Reduction Potential, Field	mV	-3.1	2.1	149	150.2	183.5	54.8	67.9	31.1	103.9	111.4	103.9	103.4	183.1	36.6
pH	pH units	7.11	7.11	6.96	7.18	6.8	6.91	7.4	7.45	7.43	7.47	7.43	7.42	6.5	6.63
Specific Conductivity	µS/cm	351.9	353.8	171	146.9	562	745	767	771	700	700	700	700	218.5	477.5
Temperature, Field	deg C	14.6	14.7	15.7	14.8	15.2	13.8	13.9	14.7	14.4	14.1	14.4	14.6	16.1	14
Turbidity, Field	NTU	0.31	0.44	0.72	2.09	0.61	0.56	5.77	6.32	0.65	0.89	0.65	0.27	6.51	0.37

Notes:

- % Sat = Percent saturated
- deg C = degrees Celsius
- mg/L = milligrams per Liter
- mV = millivolts
- NTU = nephelometric turbidity units
- uS/cm = microSiemens per centimeter
- NM = Not Measured

Table 2
Summary of Geochemical Parameters
Former K2 Facility
Vashon Island, Washington

	Location ID Sample Date	DPE-22 1/21/2021	DPE-22 1/21/2021	DPE-23 11/19/2020	DPE-26 11/17/2020	DPE-28 11/17/2020	DPE-29 1/21/2021	DPE-29 1/21/2021	DPE-29 1/21/2021	DPE-32 11/17/2020	DPE-35 11/17/2020	DPE-37 11/17/2020	DPE-40 11/17/2020	MW4-2 11/19/2020	MW4-3 11/19/2020
Geochemical Parameters	Unit														
Dissolved Oxygen, Field	% Sat	NM	NM	NM	NM	72.1	17.8	11	11.9	NM	10.7	3.6	NM	NM	NM
Dissolved Oxygen, Field	mg/L	0.77	0.45	0.38	0.45	NM	NM	NM	NM	0.26	NM	NM	1.11	5.09	6.33
Oxidation-Reduction Potential, Field	mV	35.6	35.2	154.5	155.1	181.1	125.2	104.4	95.4	140.3	175.6	167.2	151.5	180.9	184.7
pH	pH units	6.9	6.66	6.52	6.44	6.5	7.46	7.52	7.51	6.5	6.36	6.35	6.48	6.74	6.47
Specific Conductivity	µS/cm	475.9	477	367.8	281.3	109.8	613	617	617	347.3	287.3	287.8	288.8	278.8	303.7
Temperature, Field	deg C	12.9	13.8	16.3	15.8	15.3	12.7	13.4	13.7	16.2	15.3	15.9	15.4	15	14.8
Turbidity, Field	NTU	0.31	0.62	0.96	1.19	6.95	12.8	14.5	15.9	1.43	0.9	15.1	8.49	NM	NM

Notes:

- % Sat = Percent saturated
- deg C = degrees Celsius
- mg/L = milligrams per Liter
- mV = millivolts
- NTU = nephelometric turbidity units
- uS/cm = microSiemens per centimeter
- NM = Not Measured

Table 2
Summary of Geochemical Parameters
Former K2 Facility
Vashon Island, Washington

	Location ID Sample Date	MW4-4 11/19/2020	MW4-5 11/19/2020	MW5-2 11/17/2020	MW5-2 1/20/2021	MW5-2 1/20/2021	MW8-1 11/18/2020	MW8-2 11/17/2020	MW8-2 1/20/2021	Pilot Test Well 11/19/2020
Geochemical Parameters	Unit									
Dissolved Oxygen, Field	% Sat	NM	75	3.4	3.3	3.3	6	38.3	NM	21.5
Dissolved Oxygen, Field	mg/L	5.2	NM	NM	NM	NM	NM	NM	0.31	NM
Oxidation-Reduction Potential, Field	mV	176.6	206.1	225.5	71.5	71.5	-26.7	22.8	1.5	183.6
pH	pH units	6.62	6.6	7.82	7.89	7.89	7.84	7.06	6.89	7.98
Specific Conductivity	µS/cm	272.1	1.6	346	428	428	569	234	303.5	312.7
Temperature, Field	deg C	15.4	11.3	14.1	12.6	12.6	15.5	14.7	11.6	14.7
Turbidity, Field	NTU	67.2	NM	12.9	16.2	16.2	29.7	3.82	0.38	28.1

Notes:

- % Sat = Percent saturated
- deg C = degrees Celsius
- mg/L = milligrams per Liter
- mV = millivolts
- NTU = nephelometric turbidity units
- uS/cm = microSiemens per centimeter
- NM = Not Measured

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID Sample Date Sample Type Depth			DPE-01 11/18/2020 N 10 - 45 ft	DPE-02 11/18/2020 N 10 - 45 ft	DPE-02 1/20/2021 N 42 - 42 ft	DPE-02 1/22/2021 N 16 - 16 ft	DPE-02 1/22/2021 N 27 - 27 ft	DPE-03 1/22/2021 N 16 - 16 ft	DPE-03 1/22/2021 N 27 - 27 ft	DPE-03 1/22/2021 N 42 - 42 ft
	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs								
Volatile Organic Compounds, µg/L											
1,1-Dichloroethene	NE	400	880	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
cis-1,2-Dichloroethene	NE	16	35	< 2.0	13	3.2	6.5	3.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	NE	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	NE	160	350	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	5	0.54	8.8	8.8	130	33	71	31	20	8.2	7.8
Vinyl chloride	0.2	0.029	0.29	< 0.20	0.23	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID Sample Date Sample Type Depth			DPE-06 11/18/2020 N 10 - 45 ft	DPE-08 1/20/2021 N 18 - 18 ft	DPE-08 1/20/2021 N 27 - 27 ft	DPE-08 1/20/2021 N 42 - 42 ft	DPE-09 11/18/2020 N 10 - 45 ft	DPE-09 1/20/2021 N 17 - 17 ft	DPE-09 1/20/2021 N 27 - 27 ft	DPE-09 1/20/2021 N 42 - 42 ft
	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs								
Volatile Organic Compounds, µg/L											
1,1-Dichloroethene	NE	400	880	< 2.0	< 2.0	2.1	2.7	< 2.0	< 2.0	2.9	4.3
cis-1,2-Dichloroethene	NE	16	35	2.8	120	250	480	57	79	300	260
Dibromochloromethane	NE	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	NE	160	350	< 2.0	< 2.0	18	40	< 2.0	3.6	3.2	6.0
Trichloroethene	5	0.54	8.8	14	2,600	7,800	11,000	1,300	1,800	14,000	11,000
Vinyl chloride	0.2	0.029	0.29	< 0.20	1.8	8.1	15	2.2	2.9	16	19

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID Sample Date Sample Type Depth			DPE-11 11/19/2020 N 10 - 45 ft	DPE-14 11/18/2020 N 10 - 45 ft	DPE-15 11/18/2020 N 10 - 45 ft	DPE-15 1/20/2021 N 16 - 16 ft	DPE-15 1/20/2021 N 27 - 27 ft	DPE-15 1/20/2021 N 42 - 42 ft	DPE-16 1/21/2021 N 17 - 17 ft
	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs							
Volatile Organic Compounds, µg/L										
1,1-Dichloroethene	NE	400	880	< 2.0	< 2.0	10	2.0	19	20	15
cis-1,2-Dichloroethene	NE	16	35	5.2	< 2.0	4,100	2,600	3,800	3,800	2,600
Dibromochloromethane	NE	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	NE	160	350	< 2.0	< 2.0	95	22	820	820	1,900
Trichloroethene	5	0.54	8.8	150	23	49,000	29,000	63,000	69,000	57,000
Vinyl chloride	0.2	0.029	0.29	< 0.20	< 0.20	59	13	130	130	100

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID		DPE-16	DPE-16	DPE-16	DPE-18	DPE-18	DPE-22	DPE-22
	Sample Date		1/21/2021	1/21/2021	1/21/2021	11/19/2020	11/19/2020	1/20/2021	1/21/2021
	Sample Type		N	FD	N	FD	N	N	N
	Depth		27 - 27 ft	27 - 27 ft	42 - 42 ft	10 - 45 ft	10 - 45 ft	42 - 42 ft	17 - 17 ft
Volatil Organic Compounds, µg/L	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs						
1,1-Dichloroethene	NE	400	880	15	18	15	< 2.0	< 2.0	< 2.0
cis-1,2-Dichloroethene	NE	16	35	2,700	2,200	2,600	17	17	29
Dibromochloromethane	NE	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	NE	160	350	2,100	1,600	1,800	< 2.0	< 2.0	< 2.0
Trichloroethene	5	0.54	8.8	56,000 J	40,000	61,000	470	470	4,400
Vinyl chloride	0.2	0.029	0.29	100	150	100	< 0.20	< 0.20	2.5

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

Volatile Organic Compounds, µg/L	Sample ID Sample Date Sample Type Depth			DPE-22 1/21/2021 N 27 - 27 ft	DPE-23 11/19/2020 N 10 - 45 ft	DPE-26 11/17/2020 N 10 - 45 ft	DPE-28 11/17/2020 N 10 - 45 ft	DPE-29 1/21/2021 N 14 - 14 ft	DPE-29 1/21/2021 N 27 - 27 ft	DPE-29 1/21/2021 N 42 - 42 ft	
	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs								
	1,1-Dichloroethene	NE 400	400	880	< 2.0	< 2.0	< 2.0	< 2.0	4.3	4.5	4.7
	cis-1,2-Dichloroethene	NE 16	16	35	29	30	2.5	< 2.0	230	260	260
	Dibromochloromethane	NE 0.52	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	trans-1,2-Dichloroethene	NE 160	160	350	< 2.0	< 2.0	< 2.0	< 2.0	47	56	54
	Trichloroethene	5 0.54	0.54	8.8	4,400	1,400	110	24	610	690	690
	Vinyl chloride	0.2 0.029	0.029	0.29	2.5	3.3	< 0.20	< 0.20	25	27	28

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID Sample Date Sample Type Depth			DPE-32 11/17/2020 N 10 - 45 ft	DPE-35 11/17/2020 N 10 - 45 ft	DPE-37 11/17/2020 N 10 - 45 ft	DPE-40 11/17/2020 N 10 - 45 ft	MW4-2 11/19/2020 N 3 - 13 ft	MW4-3 11/19/2020 N 3 - 13 ft	MW4-4 11/19/2020 N 5 - 15 ft
	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs							
Volatile Organic Compounds, µg/L										
1,1-Dichloroethene	NE	400	880	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
cis-1,2-Dichloroethene	NE	16	35	13	3.2	< 2.0	3.5	28	6.5	3.2
Dibromochloromethane	NE	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	NE	160	350	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	5	0.54	8.8	440	49	35	150	30	83	35
Vinyl chloride	0.2	0.029	0.29	1.1	< 0.20	< 0.20	< 0.20	< 0.20	0.35	< 0.20

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID Sample Date Sample Type Depth			MW5-2 11/17/2020 N 32 - 37 ft	MW5-2 1/20/2021 N 32 - 37 ft	MW5-2 1/20/2021 FD 32 - 37 ft	MW8-1 11/18/2020 N 34 - 40 ft	MW8-2 11/17/2020 N 6 - 12 ft	MW8-2 1/20/2021 N 6 - 12 ft	Pilot Test Well 11/19/2020 FD 10 - 40 ft
	MTCA Method A GW CULs	MTCA Method B GW CULs	MTCA Method C GW CULs							
Volatile Organic Compounds, µg/L										
1,1-Dichloroethene	NE	400	880	< 2.0	< 2.0	< 2.0	78	< 2.0	< 2.0	8.9
cis-1,2-Dichloroethene	NE	16	35	< 2.0	< 2.0	< 2.0	5,500	23	33	1,800
Dibromochloromethane	NE	0.52	5.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	NE	160	350	< 2.0	< 2.0	< 2.0	1,500	< 2.0	< 2.0	41
Trichloroethene	5	0.54	8.8	< 2.0	2.8	2.8	170,000	13	120	790
Vinyl chloride	0.2	0.029	0.29	< 0.20	< 0.20	< 0.20	360	1.1	0.62	0.27

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

Table 3
Summary of Groundwater Analytical Results
Former K2 Facility
Vashon Island, WA

	Sample ID	Sample Date	Sample Type	Depth	Pilot Test Well
					11/19/2020
					N
					10 - 40 ft
Volatile Organic Compounds, µg/L	MTCA Method A	MTCA Method B	MTCA Method C		
	GW CULs	GW CULs	GW CULs		
1,1-Dichloroethene	NE	400	880		8.1
cis-1,2-Dichloroethene	NE	16	35		2,100
Dibromochloromethane	NE	0.52	5.2		< 2.0
trans-1,2-Dichloroethene	NE	160	350		39
Trichloroethene	5	0.54	8.8		980
Vinyl chloride	0.2	0.029	0.29		0.29

Notes:

< = Compound not detected at concentrations above the laboratory detection limit. The laboratory detection limit is shown.

ug/L = micrograms per liter

Bold indicates detected concentration exceeds an applicable criteria.

For the November 2020 sampling event, samples were collected from the middle of the well screen. Screen depths are provided in the table above.

For the January 2021 sampling event, samples were collected from specific depths noted in the table above.

FD = Field Duplicate Sample

N = Normal Environmental Sample

ft= feet

NE = Not established

MTCA Method A GW CULs = Model Toxic Control Act Method A Groundwater Cleanup Levels

MTCA Method B GW CULs = Model Toxic Control Act Method B Groundwater Cleanup Levels

MTCA Method C GW CULs = Model Toxic Control Act Method C Groundwater Cleanup Levels

APPENDIX A

EXTRACTION WELL BORING AND WELL CONSTRUCTION LOGS



ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, Washington 98101
Telephone: 425-462-8591

DPE-01
PAGE 1 OF 2

CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/9/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/31/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 14.60 feet / Elev 385.40 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU	60	100	SP		(SP) Brown fine-medium sand with silt and fine-coarse subrounded gravel; dry and loose.			
5	395						5.0	395.0		
							(SP) Trace gravel; moist and loose at 5 feet bgs.		PID = 0.7	
		CC	60	100	SP				PID = 0.5	
10	390						10.0	390.0		
		CC	60	100	SM		(SM) Brown silty fine SAND with trace gravel; moist and medium dense.		PID = 0.4	
15	385						15.0	385.0		
		CC	60	100	SP		(SP) Brown fine-medium SAND with trace silt and gravel; moist and loose.		PID = 0.1	
							18.0	382.0		
							(SM) Brown silty fine SAND; moist and medium dense.		PID = 0.9	
20	380						20.0		PID = 1.2	
		CC	60	100	SM				PID = 0.5	
							22.5	377.5		
							(SM) Color change to gray at 22.5 feet bgs.		PID = 0.6	
25	375								PID = 0.6	
		CC	60	100	SM				PID = 0.3	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, Washington 98101
Telephone: 425-462-8591

DPE-01
PAGE 2 OF 2

CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Color change to gray at 22.5 feet bgs. <i>(continued)</i>		PID = 0.2	
35	365								PID = 0.2	
		CC	60	100	SM				PID = 0.2	
40	360								PID = 0.1	
		CC	60	100					PID = 0.1	
45	355						45.0	355.0	PID = 0.1	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, Washington 98101
Telephone: 425-462-8591

DPE-02
PAGE 1 OF 2

CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/15/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/4/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Kenzi Smith

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 14.40 feet / Elev 385.60 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3' 4" Concrete Slab	399.7		
		AU					(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose.			
5	395						Darker brown in color; more moist at 4.5 feet bgs. Trace gravel; moist and medium dense at 5 feet bgs.			
		CC	60	100					PID = 800	Native 6" schedule 40 PVC blank well casing
10	390								PID = 74.1	Bentonite chips
		CC	60	100					PID = 1.4	Bentonite seal
15	385				SM				PID = 3.4	
		CC	54	90			Gray silty fine SAND with trace gravel; slightly moist and dense at 17 feet bgs.		PID = 2.4	
20	380								PID = 0.7	
		CC	60	100					PID = 0.9	6" 0.010" schedule 40 slotted screen
25	375						Gray-brown silty SAND at 24 feet bgs.		PID = 0.4	
		CC	60	100					PID = 1.8	
30	370								PID = 0.3	

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

- amsl = above mean sea level
- bgs = below ground surface
- eV = electron volt
- NM = not measured
- ppm = parts per million
- PID = photoionization detector
- USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose. <i>(continued)</i> Gray silty fine SAND with trace gravel; moist and medium dense at 31 feet bgs.		PID = 0.3	
35	365								PID = 0.8	
		CC	60	100	SM				PID = 1.4	
40	360								PID = 1.2	
		CC	60	100					PID = 1.4	
45	355						45.0	355.0	PID = 0.7	
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
							eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/15/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/4/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 14.10 feet / Elev 385.90 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab (SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; dry and loose. Darker brown in color; moist and loose at 3 feet bgs.	399.7		
5	395				SM		Trace gravel at 5 feet bgs.			
		CC	60	100					PID = 2.2	
									PID = 2.8	
10	390						10.0	390.0		
		CC	60	100	SP		(SP) Brown fine-medium SAND with silt and trace gravel; moist and loose.		PID = 2.8	
15	385								PID = 3.9	
		CC	48	80					PID = 3	
							18.0	382.0		
		CC	60	100	SM		(SM) Gray silty fine SAND; moist and medium dense.		PID = 2.5	
20	380								PID = 2.4	
		CC	60	100					PID = 2.4	
25	375								PID = 0.5	
		CC	60	100					PID = 0.5	
30	370						30.0	370.0		

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100	SP		(SP) Gray fine-medium SAND with silt and trace gravel; moist and loose.			
							33.0	367.0	PID = 0.4	
35	365						(SM) Gray silty fine SAND with trace gravel; moist and medium dense.		PID = 0.5	
		CC	60	100	SM				PID = 0.2	
40	360								PID = 0.2	
		CC	60	100					PID = 0.2	
45	355							355.0	PID = 0.2	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									

SAMPLE TYPE:

Auger Cuttings

Continuous Core

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level

bgs = below ground surface

eV = electron volt

NM = not measured

ppm = parts per million

PID = photoionization detector

USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/10/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/31/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 14.50 feet / Elev 385.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU			SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; moist and loose. Slightly gray-brown in color at 2 feet bgs.			
5	395						5.0	395.0		
							(SM) Brown silty fine SAND with trace subrounded gravel; moist and loose.		PID = 0.4	
		CC	60	100					PID = 0.5	
10	390						Medium dense at 10 feet bgs.		PID = 0.7	
		CC	60	100	SM				PID = 0.6	
15	385								PID = 1.1	
		CC	60	100			Gray silty fine SAND with trace subrounded gravel; moist and medium dense at 16.5 feet bgs.		PID = 0.4	
20	380									
		CC	60	100			22.5	377.5	PID = 0.4	
							(SP) Fine-medium SAND with trace silt and gravel; moist and loose.		PID = 0.6	
25	375				SP				PID = 0.6	
		CC	60	100			27.0	373.0	PID = 0.2	
							(SM) Gray silty fine SAND with trace gravel; moist and medium dense.			
30	370				SM					

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Gray silty fine SAND with trace gravel; moist and medium dense. (continued)		PID = 0.2	
35	365								PID = 0.3	
		CC	60	100	SM				PID = 0.4	
40	360								PID = 0.6	
		CC	60	100					PID = 0.4	
45	355						45.0	355.0	PID = 0.4	
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/10/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/7/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 13.70 feet / Elev 386.30 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0							0.3 4" Concrete Slab	399.7		Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
5	395	AU					(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose. Dryer and slightly gray in color at 3 feet bgs.			Native 6" schedule 40 PVC blank well casing
10	390	CC	60	100			Brown silty fine SAND with trace gravel; moist and medium dense at 5 feet bgs.		PID = 0.3	Bentonite chips
15	385	CC	60	100					PID = 0.3	Bentonite seal
20	380	CC	60	100	SM		Gray silty fine SAND with trace gravel; moist and medium dense at 18 feet bgs.		PID = 0.4	
25	375	CC	60	100			Color change to dark gray at 25 feet bgs.		PID = 0.8	
30	370	CC	60	100					PID = 0.6	
									PID = 0.5	6" 0.010" schedule 40 slotted screen
									PID = 0.4	
									PID = 0.4	
									PID = 0.3	
									PID = 0.3	

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose. <i>(continued)</i>		PID = 0.3	
35	365								PID = 0.3	
		CC	60	100	SM				PID = 0.3	
40	360								PID = 0.3	
		CC	60	100					PID = 0.4	
45	355						45.0	355.0	PID = 0.5	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
							eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/10/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/10/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 13.10 feet / Elev 386.90 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3' 4" Concrete Slab	399.7		
5	395						(SM) Brown fine-medium silty SAND with trace fine-coarse subrounded gravel; moist and medium dense.			
		CC	60	100					PID = 0.1	Native 6" schedule 40 PVC blank well casing
10	390								PID = 0.1	Bentonite chips
		CC	60	100						Bentonite seal
15	385				SM				PID = 0.6	
		CC	60	100					PID = 0.4	
20	380								PID = 0.1	
		CC	60	100			Gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense at 20 feet bgs.		PID = 0.1	6" 0.010" schedule 40 slotted screen
25	375								PID = 0.2	
		CC	60	100					PID = 0.3	
30	370								PID = 0.1	
		CC	60	100					PID = 0.2	

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with trace fine-coarse subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 0.1	
35	365								PID = 0.1	
		CC	60	100	SM				PID = 0.1	
40	360								PID = 0.1	
		CC	60	100					PID = 0.1	
45	355						45.0	355.0	PID = 0.1	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					USCS Silty Sand			bgs = below ground surface		
								eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/8/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/20/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 10.05 feet / Elev 389.95 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
							(SP) Brown fine-medium SAND with silt and trace fine-coarse subrounded gravel; moist and loose.			
5	395									Native 6" schedule 40 PVC blank well casing
		CC	60	100					PID = 0.4	Bentonite chips
10	390				SP					Bentonite seal
		CC	60	100			Medium dense at 11 feet bgs.		PID = 0.9	
15	385									
		CC	60	100					PID = 0.5	
20	380						18.0	382.0		
		CC	60	100			(SM) Dark gray silty fine SAND with trace fine-medium subrounded gravel; moist and medium dense.			6" 0.010" schedule 40 slotted screen
25	375				SM				PID = 0.5	
		CC	60	100						
30	370								PID = 0.4	
		CC	60	100						

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace fine-medium subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 0.4	
35	365									
		CC	60	100	SM				PID = 0.4	
40	360									
		CC	60	100					PID = 0.4	
45	355						45.0	355.0		
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					Poorly-graded Sand			bgs = below ground surface		
					USCS Silty Sand			eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/11/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/12/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING: ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING: ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 14.60 feet / Elev 385.40 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
5	395	AU					4" Concrete Slab. Concrete grout from 4 inches to 4.5 feet bgs.			
5.0					SP		4" Concrete Slab. (SP) Sandy gravel.	395.0	PID = 0.6	Native 6" schedule 40 PVC blank well casing
8.0		CC	60	100			(SM) Brown silty fine SAND with fine to coarse subrounded gravel; moist and loose.	392.0	PID = 0.6	Bentonite chips
10	390						Trace gravel; medium dense at 10 feet bgs.		PID = 2	Bentonite seal
15	385	CC	60	100					PID = 1.6	
20	380	CC	60	100	SM				PID = 3.3	
25	375	CC	60	100			Gray silty fine SAND with trace gravel; moist and medium dense at 21 feet bgs.		PID = 7.3	
30	370	CC	60	100					PID = 31	6" 0.010" schedule 40 slotted screen
									PID = 52.7	
									PID = 107.4	
									PID = 79.8	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND with fine to coarse subrounded gravel; moist and loose. <i>(continued)</i>		PID = 299	
35	365								PID = 346	
		CC	60	100	SM				PID = 7.2	
40	360								PID = 1	
		CC	60	100					PID = 0.3	
45	355						45.0	355.0	PID = 1.5	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/10/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/3/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 14.20 feet / Elev 385.80 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
5	395				SM		(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel.			
		CC	60	100			Brown silty fine SAND with trace gravel; moist and loose at 5 feet bgs.		PID = 1.5	Native 6" schedule 40 PVC blank well casing
10	390							390.0	PID = 2.3	Bentonite chips
		CC	60	100	SP		(SP) Brown fine-medium SAND with trace silt and gravel; moist and loose.	388.0	PID = 2.5	Bentonite seal
					SM		(SM) Brown silty fine SAND with trace gravel; medium dense.		PID = 9.8	
15	385							385.0	PID = 7.2	
		CC	48	80	SP		(SP) Brown fine-medium SAND with trace silt and gravel; moist and loose.	383.0	PID = 51.1	
							(SM) Brown silty fine SAND with trace gravel; moist and medium dense.		PID = 2.4	
20	380						Gray silty fine SAND with trace gravel; moist and medium dense at 18 feet bgs.		PID = 4.7	6" 0.010" schedule 40 slotted screen
		CC	60	100	SM				PID = 35.8	
25	375								PID = 380	
		CC	60	100						
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND with trace gravel; moist and medium dense. <i>(continued)</i>		PID = 584	
35	365								PID = 543	
		CC	60	100	SM		A few large clasts 1-3" subround to round at 35 feet bgs.		PID = 632	
40	360								PID = 641	
		CC	60	100					PID = 620	
45	355						45.0	355.0		
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
		USCS Poorly-graded Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands **PROJECT NAME** K2 DPE Well Install
PROJECT NUMBER 0552295 **PROJECT LOCATION** Vashon Island, WA

DATE STARTED: 7/10/2020 **TOTAL DEPTH:** 45 feet bgs **GROUND ELEVATION:** 400 feet amsl
DATE COMPLETED: 7/30/2020 **HOLE DIAMETER:** 10" inches **CASING ELEVATION:** feet amsl
LOGGED BY: Jessie Cooper **NORTHING:** **GROUND WATER LEVELS:**
CHECKED BY: Dave Edwards **EASTING:** **AT TIME OF DRILLING** ---
SUBCONTRACTOR: Cascade **AT END OF DRILLING** ---
DRILLING EQUIPMENT: Sonic **AFTER DRILLING** 13.60 feet / Elev 386.40 feet
NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0							0.3 4" Concrete Slab	399.7		Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
5	395	AU					(SM) Brown fine-medium silty SAND with silt and trace fine-coarse subrounded gravel; moist and loose. Dryer and more gray in color at 3 feet bgs. Loose to medium dense at 5 feet bgs.			Native 6" schedule 40 PVC blank well casing
10	390	CC	60	100					PID = 1.9	Bentonite chips
15	385	CC	60	100	SM				PID = 2	Bentonite seal
20	380	CC	60	100			Gray silty fine SAND with trace gravel; moist and medium dense at 19 feet bgs.		PID = 4.3	
25	375	CC	60	100					PID = 4.8	
30	370	CC	60	100					PID = 3.9	
									PID = 33.1	6" 0.010" schedule 40 slotted screen
									PID = 0.9	
									PID = 1.3	
									PID = 1	
									PID = 0.8	

SAMPLE TYPE:
Auger Cuttings
Continuous Core

GRAPHIC LOG LEGEND:
Concrete USCS Silty Sand

ACRONYM LEGEND:
amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with silt and trace fine-coarse subrounded gravel; moist and loose. <i>(continued)</i>		PID = 0.9	
35	365								PID = 0.9	
		CC	60	100	SM				PID = 0.7	
40	360								PID = 0.6	
		CC	60	100					PID = 0.5	
45	355						45.0	355.0	PID = 0.4	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
							eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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PAGE 1 OF 2

CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/10/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/21/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.40 feet / Elev 387.60 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
							(SP) Brown fine-medium SAND with silt and some fine-coarse subrounded gravel; moist and loose.			
5	395						Trace gravel at 5 feet bgs.			
		CC	60	100					PID = 0.6	Native 6" schedule 40 PVC blank well casing
10	390				SP					Bentonite chips
		CC	60	100					PID = 1.2	Bentonite seal
15	385						Medium dense at 14 feet bgs.		PID = 1	
		CC	60	100						
20	380						19.5 (SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and dense.	380.5		
		CC	60	100					PID = 0.1	6" 0.010" schedule 40 slotted screen
25	375				SM					
		CC	60	100					PID = 0.3	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100	SM		(SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and dense. (continued)		PID = 0.3	
35	365						35.0	365.0		
		CC	60	100	SP		(SP) Dark gray fine SAND with silt and trace gravel; moist and loose.		PID = 0.4	
40	360						40.0	360.0		
		CC	60	100	SM		(SM) Dark gray silty fine SAND with trace gravel; moist and medium dense.		PID = 0.1	
45	355						45.0	355.0		
Bottom of borehole at 45.0 feet.										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/9/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/10/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 13.50 feet / Elev 386.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
					SP		0.3 4" Concrete Slab	399.7		
							(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel.	398.0		
		AU					(SM) Dark gray silty fine SAND; moist and loose.			
5	395						Brown silty fine SAND with trace gravel; moist and loose at 5 feet bgs.		PID = 1.3	Native 6" schedule 40 PVC blank well casing
		CC	60	100					PID = 0.5	Bentonite chips
10	390						Medium dense at 10 feet bgs.		PID = 0.4	Bentonite seal
		CC	60	100					PID = 1.7	
15	385				SM		Gray silty fine SAND with trace gravel; moist and medium dense at 16 feet bgs.		PID = 1.2	
		CC	60	100					PID = 6.5	
20	380								PID = 49.9	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 48.2	
25	375								PID = 42.5	
		CC	60	100					PID = 26.7	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30							(SM) Dark gray silty fine SAND; moist and loose. <i>(continued)</i>			
		CC	60	100					PID = 30.5	
35	365								PID = 64.3	
		CC	60	100	SM				PID = 97.5	
40	360								PID = 43.8	
		CC	60	100					PID = 0.1	
45	355						45.0	355.0	PID = 0.1	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									

SAMPLE TYPE:

Auger Cuttings

Continuous Core

GRAPHIC LOG LEGEND:

Concrete

USCS Poorly-graded Sand

USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level

bgs = below ground surface

eV = electron volt

NM = not measured

ppm = parts per million

PID = photoionization detector

USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/7/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/20/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.00 feet / Elev 388.00 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
							(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; moist and loose.			
5	395									
		CC	60	100	SP				PID = 0.6	Native 6" schedule 40 PVC blank well casing
10	390									Bentonite chips
		CC	60	100			Moist and medium dense at 11 feet bgs.		PID = 1.5	Bentonite seal
15	385								PID = 5.8	
		CC	60	100					PID = 1.8	
20	380								PID = 5.4	
		CC	60	100			17.5 (SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense.	382.5		
25	375								PID = 2.7	6" 0.010" schedule 40 slotted screen
		CC	60	100	SM		Looser at 20 feet bgs.		PID = 23.7	
30	370								PID = 21.7	
		CC	60	100					PID = 21.7	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 28.8	
35	365									
		CC	60	100	SM				PID = 22.1	
40	360									
		CC	24	40					PID = 0.2	
45	355						45.0	355.0		
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/8/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/17/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 11.71 feet / Elev 388.29 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3' 4" Concrete Slab	399.7		
		AU					(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and medium dense.			
5	395						Trace gravel at 5 feet bgs.			
		CC	60	100					PID = 0.5	Native 6" schedule 40 PVC blank well casing
10	390									Bentonite chips
		CC	60	100					PID = 0.2	Bentonite seal
15	385				SM				PID = 0.4	
		CC	60	100			Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense at 16 feet bgs.		PID = 1.2	
20	380								PID = 0.4	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 0.4	
25	375								PID = 0.5	
		CC	36	60						
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100	SM		(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 0.1	
35	365								PID = 0.3	
		CC	60	100			38.0	362.0	PID = 0.5	
40	360				SP		(SP) Dark gray fine-medium SAND with trace silt; moist and loose.	360.0		
							40.0			
		CC	60	100	SM		(SM) Dark gray silty fine SAND with less than trace gravel; moist and medium dense.		PID = 0.3	
45	355						45.0	355.0		
Bottom of borehole at 45.0 feet.										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					USCS Silty Sand			bgs = below ground surface		
					USCS Poorly-graded Sand			eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/11/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/11/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 14.30 feet / Elev 385.70 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.5 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3' 4" Concrete Slab (SM) Brown silty fine SAND with trace fine-coarse subrounded gravel; moist and loose.	399.7		
5	395									
		CC	60	100					PID = 2.9	Native 6" schedule 40 PVC blank well casing
10	390						Medium dense at 10 feet bgs.		PID = 17.3	Bentonite chips
		CC	60	100						Bentonite seal
15	385				SM				PID = 64.5	
		CC	60	100					PID = 100.5	
20	380						Gray silty fine SAND with trace gravel; moist and medium dense at 18 feet bgs.		PID = 101.9	
		CC	60	100					PID = 106.5	
25	375								PID = 291.7	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 175.5	
30	370								PID = 58.2	
		CC	60	100					PID = 299.6	

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

- amsl = above mean sea level
- bgs = below ground surface
- eV = electron volt
- NM = not measured
- ppm = parts per million
- PID = photoionization detector
- USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND with trace fine-coarse subrounded gravel; moist and loose. <i>(continued)</i>		PID = 152.2	
35	365								PID = 126.5	
		CC	60	100	SM				PID = 14.7	
40	360								PID = 1.5	
		CC	60	100					PID = 0.6	
45	355						45.0	355.0	PID = 0.5	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
							eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/9/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/5/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 13.50 feet / Elev 386.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU			SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; moist and loose.			
5	395						5.0	395.0		
							(SM) Brown silty fine SAND with trace gravel; moist and loose.			
		CC	60	100			Medium dense at 8 feet bgs.		PID = 1.5	
10	390								PID = 14.8	
		CC	60	100					PID = 125	
15	385								PID = 119	
		CC	60	100	SM		Gray silty fine SAND with trace gravel; moist and medium dense at 17 feet bgs.		PID = 349	
20	380								PID = 433	
		CC	60	100					PID = 445	
25	375								PID = 283	
		CC	60	100					PID = 179	
30	370								PID = 178	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND with trace gravel; moist and loose. (continued)		PID = 135	
35	365								PID = 109	
		CC	60	100	SM				PID = 0.7	
40	360								PID = 4.8	
		CC	60	100					PID = 26	
45	355						45.0	355.0	PID = 12.5	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace gravel; medium dense. (continued) Dryer and dense at 30 feet bgs.		PID = 125	
35	365								PID = 139	
		CC	60	100	SM				PID = 4.2	
40	360								PID = 0.3	
		CC	60	100					PID = 0.1	
45	355						45.0	355.0	PID = 0.1	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/9/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/22/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.50 feet / Elev 387.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU			SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; moist and loose.			
5	395						5.0	395.0		
							(SM) Brown fine-medium silty SAND with trace gravel; moist and medium dense.		PID = 4	Native 6" schedule 40 PVC blank well casing
		CC	60	100					PID = 1.7	Bentonite chips
10	390									Bentonite seal
		CC	60	100					PID = 10.6	
15	385								PID = 13.2	
		CC	60	100	SM				PID = 196	
20	380						Dark gray silty fine SAND with trace gravel; moist and medium dense at 19 feet bgs.		PID = 351	
		CC	60	100					PID = 386	6" 0.010" schedule 40 slotted screen
25	375								PID = 221	
		CC	60	100					PID = 221	
30	370								PID = 311	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with trace gravel; moist and medium dense. (continued)		PID = 501	
35	365								PID = 174	
		CC	60	100	SM				PID = 60.6	
40	360								PID = 2.7	
		CC	60	100					PID = 0.6	
45	355						45.0	355.0	PID = 0.6	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/9/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/11/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.50 feet / Elev 387.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU			SP		0.3 4" Concrete Slab	399.7		
							(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; dry and loose.			
5	395							395.0		
							(SM) Brown silty fine SAND with trace gravel; moist and loose.			
		CC	60	100					PID = 4.8	
									PID = 67.5	
10	390						Medium dense at 10 feet bgs.			
		CC	60	100					PID = 35.7	
									PID = 22.3	
15	385								PID = 24.5	
		CC	60	100	SM		Gray silty fine SAND with trace gravel; moist and medium dense at 15 feet bgs.		PID = 96.5	
20	380									
		CC	60	100					PID = 20.3	
25	375								PID = 1.4	
		CC	60	100					PID = 10.6	
									PID = 2.2	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND with trace gravel; moist and loose. (continued)		PID = 2.1	
35	365								PID = 0.6	
		CC	60	100	SM				PID = 0.6	
40	360								PID = 0.6	
		CC	60	100					PID = 0.1	
45	355						45.0	355.0	PID = 0.1	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands PROJECT NAME K2 DPE Well Install
PROJECT NUMBER 0552295 PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/7/2020 TOTAL DEPTH: 45 feet bgs GROUND ELEVATION: 400 feet amsl
DATE COMPLETED: 7/15/2020 HOLE DIAMETER: 10" inches CASING ELEVATION: feet amsl
LOGGED BY: Jessie Cooper NORTHING: _____ GROUND WATER LEVELS:
CHECKED BY: Dave Edwards EASTING: _____ AT TIME OF DRILLING: _____
SUBCONTRACTOR: Cascade AT END OF DRILLING: _____
DRILLING EQUIPMENT: Sonic AFTER DRILLING 10.55 feet / Elev 389.45 feet
NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU			SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; moist and loose.			
5	395						5.0	395.0		
							(SM) Trace gravel at 5 feet bgs.		PID = 0.9	Native 6" schedule 40 PVC blank well casing
		CC	60	100						Bentonite chips
10	390									Bentonite seal
		CC	60	100					PID = 11.3	
15	385								PID = 2.2	
		CC	60	100	SM					
20	380									
		CC	60	100			Dark gray silty fine SAND with trace fine subrounded gravel; moist and dense at 20 feet bgs.		PID = 13.9	6" 0.010" schedule 40 slotted screen
25	375								PID = 2.5	
		CC	60	100					PID = 2.4	
30	370									

SAMPLE TYPE:
 Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:
Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:
amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30							(SM) Trace gravel at 5 feet bgs. <i>(continued)</i>			
		CC	60	100					PID = 6.3	
35	365									
		CC	60	100	SM				PID = 7.4	
40	360									
		CC	60	100					PID = 1	
45	355						45.0	355.0		
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/6/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/15/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.30 feet / Elev 387.70 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3' 4" Concrete Slab (SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and medium dense.	399.7		
5	395						Trace gravel at 5 feet bgs.			
		CC	60	100					PID = 0.7	Native 6" schedule 40 PVC blank well casing
10	390								PID = 0.7	Bentonite chips
		CC	60	100						Bentonite seal
15	385				SM				PID = 0.9	
		CC	60	100					PID = 1.8	
20	380								PID = 0.9	
		CC	60	100					PID = 2.3	
25	375						Dark gray silty fine SAND with trace gravel; moist and medium dense at 21.5 feet bgs.		PID = 19.1	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 21.1	
									PID = 14.6	
30	370								PID = 12.4	

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

- amsl = above mean sea level
- bgs = below ground surface
- eV = electron volt
- NM = not measured
- ppm = parts per million
- PID = photoionization detector
- USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 16.1	
35	365								PID = 2.4	
		CC	60	100	SM				PID = 0.4	
40	360								PID = 0.6	
		CC	60	100					PID = 0.3	
45	355						45.0	355.0	PID = 0.4	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:				ACRONYM LEGEND:				
Auger Cuttings		Concrete				amsl = above mean sea level				
Continuous Core		USCS Silty Sand				bgs = below ground surface				
						eV = electron volt				
						NM = not measured				
						ppm = parts per million				
						PID = photoionization detector				
						USCS = Unified Soil Classification System				



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/4/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/5/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 14.10 feet / Elev 385.90 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU			SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; dry and loose.			
5	395						5.0	395.0		
							(SM) Brown silty fine SAND with trace gravel; moist and loose.		PID = 0.2	
		CC	60	100			Medium dense at 8 feet bgs.		PID = 1.6	Native 6" schedule 40 PVC blank well casing
10	390									Bentonite chips
		CC	60	100					PID = 11.4	Bentonite seal
15	385								PID = 8.9	
		CC	60	100	SM				PID = 23.7	
20	380						Gray silty fine SAND with trace gravel; moist and medium dense at 19 feet bgs.		PID = 71.2	
		CC	60	100					PID = 86.6	6" 0.010" schedule 40 slotted screen
25	375								PID = 55.6	
		CC	60	100					PID = 20.8	
30	370								PID = 5.9	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND with trace gravel; moist and loose. (continued)		PID = 0.5	
35	365								PID = 0.9	
		CC	60	100	SM				PID = 0.1	
40	360								PID = 0.1	
		CC	60	100					PID = 0.1	
45	355						45.0	355.0	PID = 0.1	
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/10/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/23/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 13.60 feet / Elev 386.40 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
5	395				SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; somewhat moist.			
		CC	60	100			Dark brown/black organic material and tree roots; trace subrounded gravel at 6 feet bgs.		PID = 0.4	Native 6" schedule 40 PVC blank well casing
10	390							390.0	PID = 0.4	Bentonite chips
		CC	24	40	SM		(SM) End of organics; brown silty fine SAND with trace gravel; moist and medium dense.		PID = 7	Bentonite seal
15	385							385.0	PID = 18.5	
		CC	60	100	SP		(SP) Brown fine SAND with trace silty sand and trace gravel; moist and medium dense.		PID = 5.7	
20	380						Dark gray fine SAND with trace silty sand and trace gravel; moist and medium dense at 19.5 feet bgs.		PID = 15.1	
		CC	60	100				378.0	PID = 37.6	6" 0.010" schedule 40 slotted screen
25	375				SM		(SM) Dark gray silty fine SAND with trace gravel; moist and medium dense.		PID = 69.5	
		CC	60	100					PID = 143	
									PID = 183	
									PID = 84	
									PID = 12.4	
30	370								PID = 2.3	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace gravel; moist and medium dense. (continued)		PID = 71.5	
35	365								PID = 15.9	
		CC	60	100	SM				PID = 10	
40	360								PID = 6.3	
		CC	60	100					PID = 0.3	
45	355						45.0	355.0	PID = 0.2	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/8/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/23/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.50 feet / Elev 387.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU					(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; dry and loose.			
5	395						Trace gravel; moist and loose at 5 feet bgs.		PID = 0.7	
		CC	60	100	SP				PID = 1.1	Native 6" schedule 40 PVC blank well casing
10	390						Medium dense at 10 feet bgs.			Bentonite chips
		CC	60	100					PID = 2.5	Bentonite seal
15	385								PID = 3.2	
		CC	60	100					PID = 3.9	
									PID = 4.3	
20	380						18.0 (SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense.	382.0	PID = 9.3	
		CC	60	100	SM				PID = 36.1	
25	375								PID = 92.3	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 70.1	
									PID = 79.9	
									PID = 80.2	
30	370								PID = 94.5	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 81.6	
									PID = 21.1	
35	365								PID = 4.2	
		CC	60	100	SM				PID = 1.1	
									PID = 0.9	
40	360								PID = 0.8	
		CC	60	100					PID = 0.8	
									PID = 0.7	
45	355						45.0	355.0		
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					Poorly-graded Sand			bgs = below ground surface		
					USCS Silty Sand			eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/8/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/24/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 12.30 feet / Elev 387.70 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
5	395				SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; dry and loose.			
							Trace gravel; moist and loose at 5 feet bgs.		PID = 0.1	
		CC	60	100			Moist and medium dense at 7.5 feet bgs.		PID = 0.2	
10	390									
		CC	60	100					PID = 1.1	
15	385								PID = 4.9	
		CC	60	100	SM		15.0 (SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense.	385.0		
									PID = 13.8	
20	380								PID = 29	
		CC	60	100					PID = 34.1	
									PID = 75.1	
		CC	60	100					PID = 53.2	
									PID = 24.1	
25	375								PID = 8.4	
		CC	60	100					PID = 2.5	
									PID = 0.2	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 0.1 PID = 0.1	
35	365									
		CC	60	100	SM					
40	360									
		CC	60	100						
45	355						45.0	355.0		
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					USCS Poorly-graded Sand			bgs = below ground surface		
					USCS Silty Sand			eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/7/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/14/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 9.50 feet / Elev 390.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3' 4" Concrete Slab	399.7		
		AU					(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose.			
5	395						Trace gravel at 5 feet bgs.			
		CC	60	100					PID = 1.4	Native 6" schedule 40 PVC blank well casing
									PID = 1.5	Bentonite chips
10	390									Bentonite seal
		CC	60	100					PID = 1.4	
15	385				SM				PID = 2.1	
		CC	60	100						
20	380						Dark gray silty fine SAND with trace fine subrounded gravel; moist and dense at 19 feet bgs.		PID = 13.8	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 4.7	
25	375								PID = 11.7	
		CC	60	100					PID = 12.3	
30	370									

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

- amsl = above mean sea level
- bgs = below ground surface
- eV = electron volt
- NM = not measured
- ppm = parts per million
- PID = photoionization detector
- USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose. <i>(continued)</i>		PID = 0.9	
35	365								PID = 1.3	
		CC	60	100	SM				PID = 0.5	
40	360								PID = 0.8	
		CC	30	50					PID = 0.8	
45	355						45.0	355.0	PID = 0.8	
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
							eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/11/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/11/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING: ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING: ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 13.72 feet / Elev 386.28 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3 4" Concrete Slab	399.7		
		AU					(SM) Brown silty fine SAND with fine-coarse subrounded gravel; moist and loose.			
5	395						Trace gravel; medium dense at 5 feet bgs.			
		CC	60	100					PID = 0.2	
									PID = 0.3	
10	390				SM					
		CC	60	100					PID = 0.6	
									PID = 0.6	
15	385								PID = 1.2	
		CC	60	100					PID = 1.6	
20	380						20.0	380.0		
		CC	60	100	SP		(SP) Gray fine-medium SAND with silt and trace gravel; moist and loose.			
							23.0	377.0		
		CC	60	100			(SM) Gray silty fine SAND with trace gravel; moist and medium dense.		PID = 1.1	
25	375								PID = 6.9	
		CC	60	100	SM				PID = 11.4	
									PID = 4.7	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Gray silty fine SAND with trace gravel; moist and medium dense. <i>(continued)</i>		PID = 9.3	
35	365								PID = 1.3	
		CC	60	100	SM				PID = 0.5	
40	360								PID = 0.5	
		CC	60	100					PID = 0.3	
45	355						45.0	355.0	PID = 0.2	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
		USCS Poorly-graded Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/7/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/16/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 11.40 feet / Elev 388.60 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3' 4" Concrete Slab	399.7		
		1					(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose.			
5	395	AU					Trace gravel; medium dense at 5 feet bgs.			
										Native 6" schedule 40 PVC blank well casing
										Bentonite chips
		CC	60	100					PID = 0.8	Bentonite seal
10	390									
		CC	60	100					PID = 0.5	
15	385				SM					
		CC	60	100					PID = 1.5	
20	380									
										6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 1.1	
25	375									
							Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and dense at 25 feet bgs.			
		CC	60	100					PID = 1.7	
30	370									

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

- amsl = above mean sea level
- bgs = below ground surface
- eV = electron volt
- NM = not measured
- ppm = parts per million
- PID = photoionization detector
- USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; moist and loose. <i>(continued)</i>		PID = 1.2	
35	365									
		CC	60	100	SM				PID = 0.9	
40	360									
		CC	60	100					PID = 0.3	
45	355						45.0	355.0		
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					USCS Silty Sand			bgs = below ground surface		
								eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/15/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/6/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 14.30 feet / Elev 385.70 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3' 4" Concrete Slab (SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; dry and loose.	399.7		
5	395						Brown silty fine SAND; moist and loose at 5 feet bgs.		PID = 0.2	Native 6" schedule 40 PVC blank well casing
		CC	60	100					PID = 0.4	Bentonite chips
10	390						Trace gravel; medium dense at 10 feet bgs.		PID = 0.8	Bentonite seal
		CC	60	100					PID = 4.1	
15	385				SM				PID = 2.1	
		CC	60	100			Dark gray silty fine SAND with trace fine-coarse subrounded gravel; moist and medium dense at 17 feet bgs.		PID = 3.4	
20	380								PID = 9.8	
		CC	60	100					PID = 23.3	6" 0.010" schedule 40 slotted screen
25	375								PID = 1.6	
		CC	60	100					PID = 5.9	
30	370									

SAMPLE TYPE:

- Auger Cuttings
- Continuous Core

GRAPHIC LOG LEGEND:

- Concrete
- USCS Silty Sand

ACRONYM LEGEND:

- amsl = above mean sea level
- bgs = below ground surface
- eV = electron volt
- NM = not measured
- ppm = parts per million
- PID = photoionization detector
- USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; dry and loose. (continued)		PID = 0.6	
35	365								PID = 0.9	
		CC	60	100	SM				PID = 0.5	
40	360								PID = 0.6	
		CC	60	100					PID = 0.3	
45	355						45.0	355.0	PID = 0.3	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
							eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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PAGE 1 OF 2

CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/15/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/6/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 14.60 feet / Elev 385.40 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3' 4" Concrete Slab (SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; dry and loose.	399.7		
5	395						Brown silty fine SAND with trace gravel; moist and loose at 5 feet bgs.		PID = 0.1	Native 6" schedule 40 PVC blank well casing
		CC	60	100			Dark brown silty fine SAND with trace gravel; moist and medium dense at 8 feet bgs.		PID = 0.3	Bentonite chips
10	390									Bentonite seal
		CC	60	100					PID = 1	
15	385				SM				PID = 0.5	
		CC	60	100			Grey silty fine SAND with trace gravel; moist and medium dense at 17 feet bgs.		PID = 1.4	
20	380								PID = 18	
		CC	60	100					PID = 18.4	6" 0.010" schedule 40 slotted screen
25	375								PID = 23.4	
		CC	60	100					PID = 2.3	
30	370								PID = 0.8	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



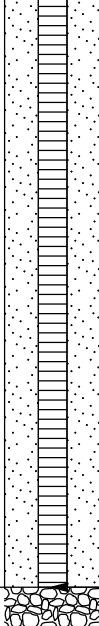
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PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100	SM		(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; dry and loose. <i>(continued)</i>		PID = 0.4	
35	365						35.0	365.0	PID = 0.4	
		CC	60	100	SP		(SP) Grey fine-medium SAND with silt; trace gravel; moist and medium dense.		PID = 1.3	
							39.0	361.0	PID = 0.3	
40	360						(SM) Grey silty fine SAND; trace gravel; moist and medium dense.		PID = 0.3	
		CC	60	100	SM				PID = 0.3	
45	355						45.0	355.0	PID = 0.3	
							Bottom of borehole at 45.0 feet.			
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
 Auger Cuttings		 Concrete					amsl = above mean sea level			
 Continuous Core		 USCS Silty Sand					bgs = below ground surface			
		 USCS Poorly-graded Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/13/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/29/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 13.20 feet / Elev 386.80 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
5	395				SM		(SM) Brown fine-medium silty SAND with fine-coarse subrounded gravel; slightly moist and loose.			
		CC	60	100					PID = 0.3	Native 6" schedule 40 PVC blank well casing
10	390								PID = 0.2	Bentonite chips
		CC	60	100						Bentonite seal
15	385				SP		(SP) Brown fine-medium SAND with silt and trace gravel; moist and loose.	390.0		
		CC	60	100			Medium dense at 14 feet bgs.		PID = 1	
20	380								PID = 3.3	
		CC	60	100					PID = 10.1	
25	375				SM		(SM) Gray silty fine SAND with trace gravel; moist and medium dense.	382.5		
		CC	60	100					PID = 109	
30	370								PID = 62.5	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 98.3	
									PID = 185	
									PID = 132	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



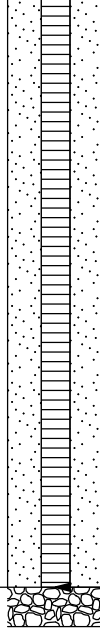
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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100	SM		31.0	369.0	PID = 30.1	
	SP					(SP) Gray fine-medium SAND; loose. 32.0	368.0			
	SM					(SM) Gray silty fine SAND; medium dense. 33.0	367.0			
	SP					(SP) Gray fine-medium SAND; loose. 34.0	366.0			
35	365						(SM) Gray silty fine SAND; medium dense.			
		CC	60	100	SM				PID = 16.9	
									PID = 0.3	
40	360							PID = 0.3		
		CC	60	100					PID = 0.2	
45	355							PID = 0.1		
							45.0	355.0		
Bottom of borehole at 45.0 feet.										
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
 Auger Cuttings					 Concrete			amsl = above mean sea level		
 Continuous Core					 USCS Silty Sand			bgs = below ground surface		
					 USCS Poorly-graded Sand			eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/14/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/29/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 12.80 feet / Elev 387.20 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
5	395				SM		(SM) Brown fine-medium silty SAND with trace fine-coarse subrounded gravel; moist and loose.			
		CC	60	100			Medium dense at 7.5 feet bgs.		PID = 0.7	Native 6" schedule 40 PVC blank well casing
10	390								PID = 1.6	Bentonite chips
		CC	60	100						Bentonite seal
15	385						(SP) Brown fine-medium SAND with silt; trace gravel; moist and medium dense.	390.0	PID = 1.7	
		CC	60	100					PID = 2.9	
20	380				SP		Gray fine-medium SAND with silt; trace gravel; moist and medium dense at 16 feet bgs.		PID = 6.7	
		CC	60	100					PID = 13.7	
25	375								PID = 36.6	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 3.2	
30	370								PID = 2.5	
		CC	60	100					PID = 43.7	
					SM		27.5 (SM) Gray silty fine SAND; trace gravel; moist and medium dense.	372.5		

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Gray silty fine SAND; trace gravel; moist and medium dense. (continued)		PID = 31.3	
35	365								PID = 2.7	
		CC	60	100	SM				PID = 0.3	
40	360								PID = 0.3	
		CC	60	100					PID = 0.8	
45	355						45.0	355.0	PID = 0.1	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
		USCS Poorly-graded Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/13/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/24/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.60 feet / Elev 387.40 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab (SM) Brown fine-medium silty SAND with trace fine-coarse subrounded gravel; moist and loose.	399.7		
5	395									
		CC	60	100					PID = 0.4	Native 6" schedule 40 PVC blank well casing
									PID = 0.3	Bentonite chips
10	390						Medium dense at 10 feet bgs.			Bentonite seal
		CC	60	100	SM				PID = 1.7	
									PID = 4.8	
15	385						Dark gray silty fine SAND with trace gravel; moist and medium dense at 15 feet bgs.		PID = 5.4	
		CC	60	100					PID = 19.7	
20	380									
		CC	60	100					PID = 28.5	
					SP		22.5 (SP) Fine SAND; moist and loose.	377.5		
							24.0 (SM) Gray silty fine SAND; moist and medium dense.	376.0	PID = 6.1	
25	375									
		CC	60	100	SM				PID = 74.3	
									PID = 110	
30	370									
										6" 0.010" schedule 40 slotted screen

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Gray silty fine SAND; moist and medium dense. <i>(continued)</i>		PID = 84.1	
35	365								PID = 94	
		CC	60	100	SM				PID = 0.6	
40	360								PID = 0.6	
		CC	60	100					PID = 0.6	
45	355						45.0	355.0	PID = 1.8	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Silty Sand					bgs = below ground surface			
		USCS Poorly-graded Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 10/6/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 10/7/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

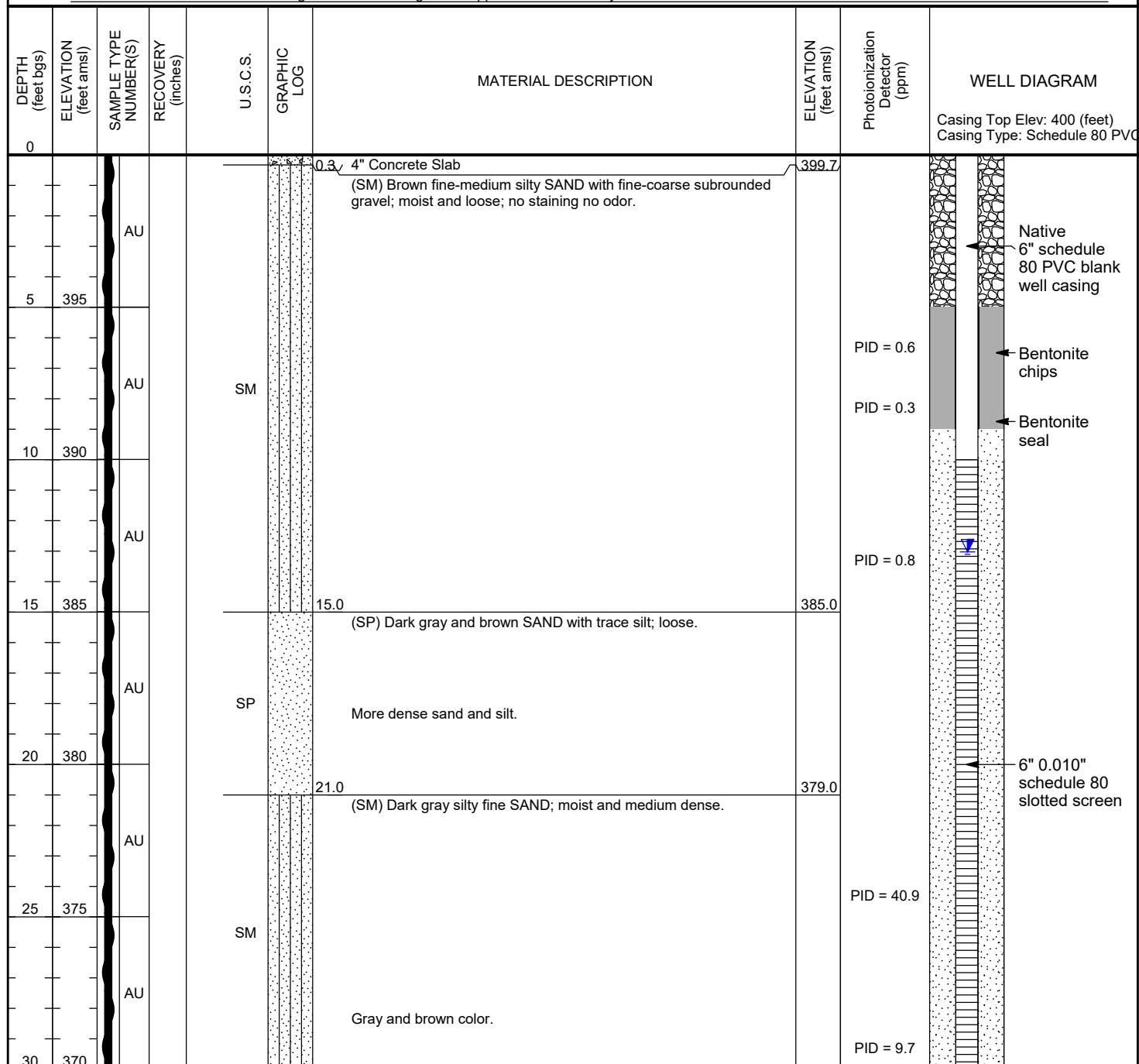
SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Limited Access Sonic

▼ AFTER DRILLING 14.00 feet / Elev 386.00 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.



SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level

bgs = below ground surface

eV = electron volt

NM = not measured

ppm = parts per million

PID = photoionization detector

USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30									
		AU				(SM) Dark gray silty fine SAND; moist and medium dense. (continued)			
35	365			SM				PID = 10.4	
		AU				Trace gravel.			
40	360							PID = 16.1	
		AU				42.0	358.0		
				SP		(SP) Gray sand slurry.			
45	355					45.0	355.0	PID = 12.5	
						Bottom of borehole at 45.0 feet.			Cap at 45'
50	350								
55	345								
60	340								
65	335								

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 10/8/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 10/9/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Limited Access Sonic

AFTER DRILLING 17.00 feet / Elev 383.00 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.5 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0									Casing Top Elev: 400 (feet) Casing Type: Schedule 80 PVC
		AU				0.3 4" Concrete Slab Additional slab	399.7		
5	395	AU				5.0 (SM) Brown silty fine SAND with trace subrounded gravel; moist and loose; no odor; no staining.	395.0		
10	390	AU		SM				PID = 0.4	Native 6" schedule 80 PVC blank well casing Bentonite chips Bentonite seal
15	385	AU						PID = 0.4	
20	380	AU						PID = 0.8	
25	375	AU				23.0 (SM) Gray silty fine SAND with trace gravel; moist and medium dense.	377.0	PID = 1.6	6" 0.010" schedule 80 slotted screen
30	370	AU		SM				PID = 1.7	

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30									
		AU				(SM) Gray silty fine SAND with trace gravel; moist and medium dense. <i>(continued)</i>			
35	365							PID = 1.2	
		AU		SM					
40	360							PID = 0.8	
		AU							
45	355					45.0	355.0	PID = 0.4	
						Bottom of borehole at 45.0 feet.			Cap at 45'
50	350								
55	345								
60	340								
65	335								

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/5/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/5/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 14.50 feet / Elev 385.50 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.4 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					4" Concrete Slab	399.7		
5	395				SP		(SP) Brown fine-medium SAND with silt and fine-coarse subrounded gravel; moist and loose.			
		CC	60	100			Trace gravel; medium dense at 8 feet bgs.		PID = 0.3	Native 6" schedule 40 PVC blank well casing
10	390								PID = 0.8	Bentonite chips
		CC	60	100						Bentonite seal
15	385								PID = 0.7	
		CC	60	100					PID = 0.8	
20	380				SM		(SM) Brown silty fine SAND; trace gravel; medium dense.	385.0		
		CC	60	100			Gray silty fine SAND; trace gravel; medium dense at 19 feet bgs.		PID = 0.8	
25	375								PID = 1	
		CC	60	100					PID = 14.8	6" 0.010" schedule 40 slotted screen
									PID = 19	
		CC	60	100					PID = 1.5	
30	370								PID = 0.7	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Brown silty fine SAND; trace gravel; medium dense. (continued)		PID = 0.5	
35	365								PID = 0.6	
		CC	60	100	SM				PID = 0.5	
40	360								PID = 0.5	
		CC	48	80					PID = 0.5	
45	355						45.0	355.0	PID = 0.5	
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/28/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/28/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

AFTER DRILLING 13.10 feet / Elev 386.90 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU			SP		0.3 4" Concrete Slab	399.7		
5	395						(SP) Brown fine-medium SAND with silt and trace fine-coarse subrounded gravel; moist and loose.			
		CC	60	100	SM		7.0	393.0		
							(SM) Dark brown organics.		PID = 1.3	
10	390						Light brown silty fine SAND with trace gravel; moist and medium dense.		PID = 1.4	
		CC	60	100	SM		17.5	382.5		
							(SP) Brown fine-medium SAND with some silt and trace gravel; moist and loose.		PID = 1.4	
15	385								PID = 5.7	
		CC	60	100	SP		19.5	380.5		
							(SM) Gray silty fine SAND with trace gravel; moist and medium dense.		PID = 20.1	
20	380								PID = 21	
		CC	60	100	SM				PID = 0.3	
									PID = 0.5	
25	375									
		CC	60	100						
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Poorly-graded Sand USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
					SM		31.0	369.0		
					SP		(SP) Gray fine-medium SAND with some silt; moist and loose.			
		CC	60	100			33.0	367.0	PID = 0.4	
							(SM) Gray silty fine SAND with trace gravel; moist and medium dense.		PID = 0.3	
35	365								PID = 0.6	
									PID = 0.6	
40	360	CC	60	100	SM				PID = 0.4	
									PID = 0.2	
45	355	CC	60	100			45.0	355.0		
Bottom of borehole at 45.0 feet.										
										Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:					GRAPHIC LOG LEGEND:			ACRONYM LEGEND:		
Auger Cuttings					Concrete			amsl = above mean sea level		
Continuous Core					Poorly-graded Sand			bgs = below ground surface		
					USCS Silty Sand			eV = electron volt		
								NM = not measured		
								ppm = parts per million		
								PID = photoionization detector		
								USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 7/13/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 7/27/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Sonic

▼ AFTER DRILLING 12.70 feet / Elev 387.30 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.3 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab (SM) Brown fine-medium silty SAND and trace fine-coarse subrounded gravel; slightly moist and loose.	399.7		
5	395				SM				PID = 0.5	Native 6" schedule 40 PVC blank well casing
		CC	60	100					PID = 0.9	Bentonite chips
10	390						Medium dense at 10 feet bgs.			Bentonite seal
		CC	60	100	SP		12.0 (SP) Brown fine-medium SAND with silt and trace gravel; moist and loose.	388.0	PID = 1.1	
15	385						15.0 (SM) Brown silty fine SAND; trace gravel; moist and medium dense.	385.0	PID = 0.8	
		CC	60	100	SM		18.0 Dark gray silty fine SAND with trace gravel; moist and medium dense.	382.0	PID = 3.3	
20	380								PID = 2.2	6" 0.010" schedule 40 slotted screen
		CC	60	100					PID = 5.6	
25	375								PID = 1.4	
		CC	60	100					PID = 0.8	
30	370								PID = 0.5	

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand USCS Poorly-graded Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			Dark gray silty fine SAND with trace gravel; moist and medium dense. (continued)		PID = 0.4	
35	365									
		CC	60	100					PID = 0.3	
40	360									
		CC	60	100					PID = 0.3	
45	355						45.0	355.0		
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE: Auger Cuttings Continuous Core					GRAPHIC LOG LEGEND: Concrete USCS Silty Sand USCS Poorly-graded Sand			ACRONYM LEGEND: amsl = above mean sea level bgs = below ground surface eV = electron volt NM = not measured ppm = parts per million PID = photoionization detector USCS = Unified Soil Classification System		



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CLIENT Newell Brands **PROJECT NAME** K2 DPE Well Install
PROJECT NUMBER 0552295 **PROJECT LOCATION** Vashon Island, WA

DATE STARTED: 7/13/2020 **TOTAL DEPTH:** 45 feet bgs **GROUND ELEVATION:** 400 feet amsl
DATE COMPLETED: 7/27/2020 **HOLE DIAMETER:** 10" inches **CASING ELEVATION:** feet amsl
LOGGED BY: Jessie Cooper **NORTHING:** **GROUND WATER LEVELS:**
CHECKED BY: Dave Edwards **EASTING:** **AT TIME OF DRILLING** ---
SUBCONTRACTOR: Cascade **AT END OF DRILLING** ---
DRILLING EQUIPMENT: Sonic **AFTER DRILLING** 12.20 feet / Elev 387.80 feet
NOTES Surface elevation estimated. Background PID reading 0.0-0.2 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
		AU					0.3 4" Concrete Slab	399.7		
							(SP) Brown fine-medium SAND with silt and trace fine-coarse subrounded gravel; moist and loose.			
5	395									
		CC	60	100	SP				PID = 0.1	Native 6" schedule 40 PVC blank well casing
									PID = 0.1	Bentonite chips
10	390						Medium dense at 10 feet bgs.			Bentonite seal
		CC	60	100					PID = 0.1	
15	385								PID = 0.6	
		CC	60	100					PID = 0.8	
20	380						16.0	384.0	PID = 10.5	
		CC	60	100	SM		(SM) Dark gray silty fine SAND with trace subrounded gravel; moist and medium dense.			6" 0.010" schedule 40 slotted screen
									PID = 4.8	
25	375								PID = 9.7	
		CC	60	100					PID = 19.7	
									PID = 27.1	
30	370									

SAMPLE TYPE:
 Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:
 Concrete
 USCS Poorly-graded Sand
 USCS Silty Sand

ACRONYM LEGEND:
amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100			(SM) Dark gray silty fine SAND with trace subrounded gravel; moist and medium dense. <i>(continued)</i>		PID = 6.7	
35	365								PID = 5.3	
		CC	60	100	SM				PID = 1.1	
40	360								PID = 0.6	
		CC	60	100					PID = 0.8	
45	355						45.0	355.0	PID = 0.6	
							Bottom of borehole at 45.0 feet.			Cap at 45'
50	350									
55	345									
60	340									
65	335									
SAMPLE TYPE:		GRAPHIC LOG LEGEND:					ACRONYM LEGEND:			
Auger Cuttings		Concrete					amsl = above mean sea level			
Continuous Core		USCS Poorly-graded Sand					bgs = below ground surface			
		USCS Silty Sand					eV = electron volt			
							NM = not measured			
							ppm = parts per million			
							PID = photoionization detector			
							USCS = Unified Soil Classification System			



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 10/7/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 10/8/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Limited Access Sonic

▼ AFTER DRILLING 13.00 feet / Elev 387.00 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.5 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0									Casing Top Elev: 400 (feet) Casing Type: Schedule 80 PVC
		AU				0.3 4" Concrete Slab (SM) Brown silty fine-medium SAND with subrounded gravel; moist and loose; no odor; no staining.	399.7		
5	395	AU						PID = 0.4	Native 6" schedule 80 PVC blank well casing
10	390	AU		SM				PID = 0.4	Bentonite chips
15	385	AU						PID = 0.6	Bentonite seal
20	380	AU				20.0 (SM) Gray silty fine SAND with trace gravel; moist and medium dense.	380.0	PID = 0.8	6" 0.010" schedule 80 slotted screen
25	375	AU		SM				PID = 36.8	
30	370	AU						PID = 12.2	

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level

bgs = below ground surface

eV = electron volt

NM = not measured

ppm = parts per million

PID = photoionization detector

USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30						(SM) Gray silty fine SAND with trace gravel; moist and medium dense. (continued)			
35	365	AU		SM				PID = 9.7	
40	360	AU						PID = 8.4	
45	355	AU				45.0	355.0	PID = 6.2	
						Bottom of borehole at 45.0 feet.			Cap at 45'
50	350								
55	345								
60	340								
65	335								

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/17/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 8/18/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

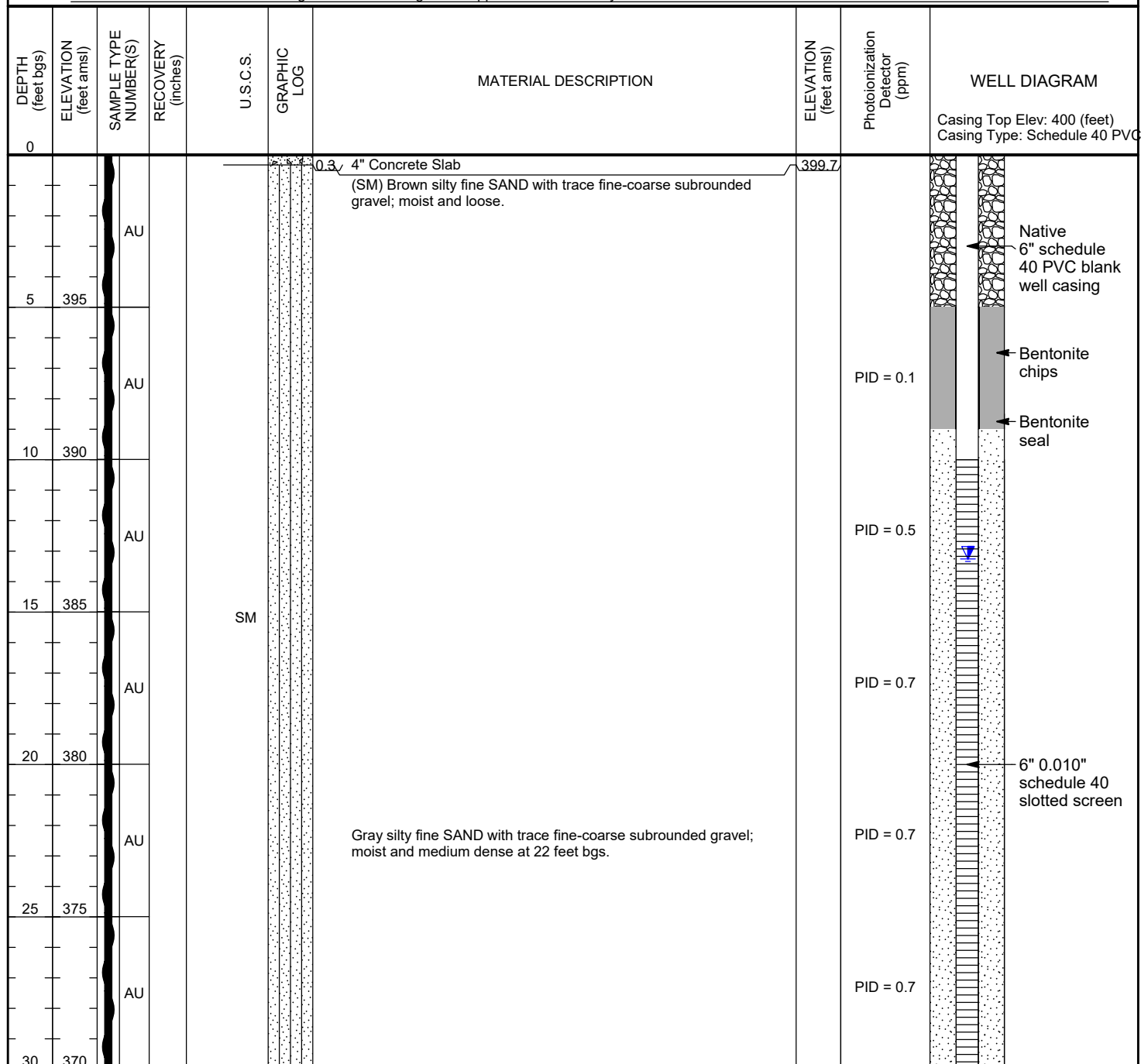
SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Limited Access Sonic

▼ AFTER DRILLING 14.23 feet / Elev 385.77 feet

NOTES Surface elevation estimated. Background PID reading 0.0-0.5 ppm. Well not surveyed.



SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level

bgs = below ground surface

eV = electron volt

NM = not measured

ppm = parts per million

PID = photoionization detector

USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30									
		AU				(SM) Brown silty fine SAND with trace fine-coarse subrounded gravel; moist and loose. <i>(continued)</i>			
35	365							PID = 0.6	
		AU		SM				PID = 0.2	
40	360								
		AU						PID = 0.2	
45	355					45.0	355.0		Cap at 45'
						Bottom of borehole at 45.0 feet.			
50	350								
55	345								
60	340								
65	335								

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System

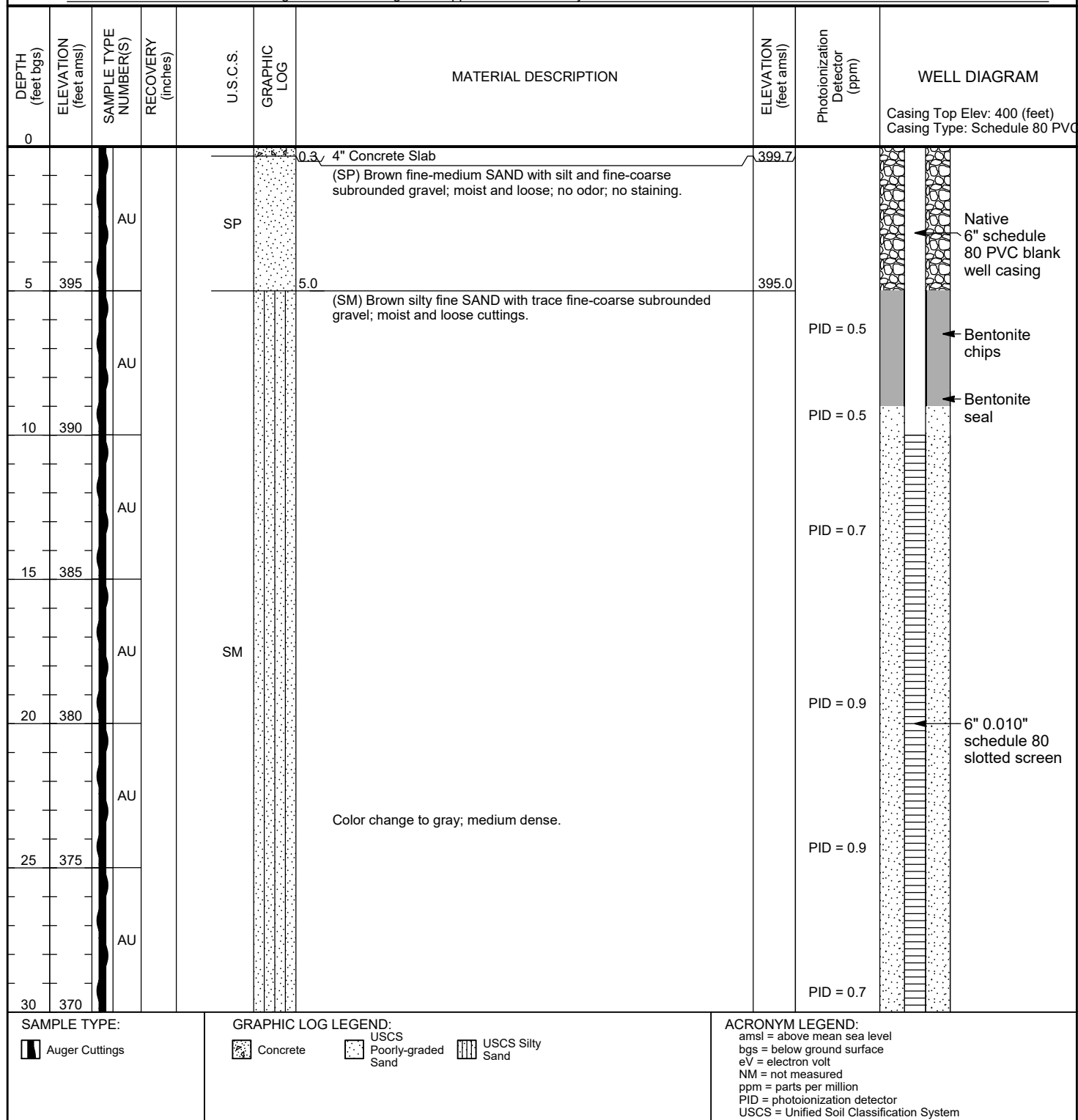


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CLIENT Newell Brands PROJECT NAME K2 DPE Well Install
PROJECT NUMBER 0552295 PROJECT LOCATION Vashon Island, WA

DATE STARTED: 10/5/2020 TOTAL DEPTH: 45 feet bgs GROUND ELEVATION: 400 feet amsl
DATE COMPLETED: 10/6/2020 HOLE DIAMETER: 10" inches CASING ELEVATION: feet amsl
LOGGED BY: Jessie Cooper NORTHING: _____ GROUND WATER LEVELS:
CHECKED BY: Dave Edwards EASTING: _____ AT TIME OF DRILLING: ---
SUBCONTRACTOR: Cascade AT END OF DRILLING: ---
DRILLING EQUIPMENT: Limited Access Sonic AFTER DRILLING: ---
NOTES Surface elevation estimated. Background PID reading 0.0-0.5 ppm. Well not surveyed.





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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30									
35	365	AU		SM		(SM) Brown silty fine SAND with trace fine-coarse subrounded gravel; moist and loose cuttings. <i>(continued)</i>		PID = 0.4	
40	360	AU						PID = 0.4	
45	355	AU						PID = 0.4	
						45.0	355.0		Cap at 45'
						Bottom of borehole at 45.0 feet.			
50	350								
55	345								
60	340								
65	335								
SAMPLE TYPE: Auger Cuttings				GRAPHIC LOG LEGEND: USCS Concrete Poorly-graded Sand USCS Silty Sand			ACRONYM LEGEND: amsl = above mean sea level bgs = below ground surface eV = electron volt NM = not measured ppm = parts per million PID = photoionization detector USCS = Unified Soil Classification System		



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DATE STARTED: 10/9/2020

TOTAL DEPTH: 45 feet bgs

GROUND ELEVATION: 400 feet amsl

DATE COMPLETED: 10/12/2020

HOLE DIAMETER: 10" inches

CASING ELEVATION: feet amsl

LOGGED BY: Jessie Cooper

NORTHING: _____

GROUND WATER LEVELS:

CHECKED BY: Dave Edwards

EASTING: _____

AT TIME OF DRILLING ---

SUBCONTRACTOR: Cascade

AT END OF DRILLING ---

DRILLING EQUIPMENT: Limited Access Sonic

15hrs AFTER DRILLING ---

NOTES Surface elevation estimated. Background PID reading 0.0-0.5 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0									Casing Top Elev: 400 (feet) Casing Type: Schedule 80 PVC
						0.3' 4" Concrete Slab	399.7		
						(SM) Brown silty fine SAND and trace subrounded gravel; moist and loose; no odor; no staining.			
5	395	AU							Native 6" schedule 80 PVC blank well casing
								PID = 0.1	Bentonite chips
10	390	AU						PID = 0.4	Bentonite seal
15	385	AU				Medium dense.			
				SM					
20	380	AU						PID = 1.6	6" 0.010" schedule 80 slotted screen
						Color change to gray.			
25	375	AU						PID = 1.14	
30	370	AU						PID = 1.02	

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level

bgs = below ground surface

eV = electron volt

NM = not measured

ppm = parts per million

PID = photoionization detector

USCS = Unified Soil Classification System



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CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30									
		AU				(SM) Brown silty fine SAND and trace subrounded gravel; moist and loose; no odor; no staining. <i>(continued)</i>			
35	365							PID = 0.9	
		AU		SM					
40	360							PID = 0.6	
		AU							
45	355					45.0	355.0		Cap at 45'
						Bottom of borehole at 45.0 feet.			
50	350								
55	345								
60	340								
65	335								

SAMPLE TYPE:

Auger Cuttings

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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PAGE 1 OF 2

CLIENT Newell Brands PROJECT NAME K2 DPE Well Install
PROJECT NUMBER 0552295 PROJECT LOCATION Vashon Island, WA

DATE STARTED: 8/12/2020 TOTAL DEPTH: 40 feet bgs GROUND ELEVATION: 400 feet amsl
DATE COMPLETED: 8/13/2020 HOLE DIAMETER: 10" inches CASING ELEVATION: feet amsl
LOGGED BY: Jessie Cooper NORTHING: _____ GROUND WATER LEVELS:
CHECKED BY: Dave Edwards EASTING: _____ AT TIME OF DRILLING: ---
SUBCONTRACTOR: Cascade AT END OF DRILLING: ---
DRILLING EQUIPMENT: Sonic AFTER DRILLING 22.87 feet / Elev 377.13 feet
NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
							0.3' 4" Concrete slab.	399.7		
		AU					(SM) Brown silty fine SAND with trace subrounded gravel; moist and medium dense; no staining; no odor.			
5	395								PID = 7.1	
		CC	60	100						
10	390								PID = 32.4	
		CC	60	100					PID = 16.9	
15	385				SM				PID = 29.9	
		CC	60	100					PID = 35.5	
20	380						Color change to gray.		PID = 373	
		CC	60	100					PID = 4.2	
25	375								PID = 509.5	
		CC	60	100					PID = 553	
30	370									

SAMPLE TYPE:

Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:

Concrete USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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PAGE 2 OF 2

CLIENT Newell Brands

PROJECT NAME K2 DPE Well Install

PROJECT NUMBER 0552295

PROJECT LOCATION Vashon Island, WA

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
30										
		CC	60	100	SM		(SM) Brown silty fine SAND with trace subrounded gravel; moist and medium dense; no staining; no odor. <i>(continued)</i>		PID = 566	
35	365						Slight gasoline odor.		PID = 611	
		CC	60	100					PID = 589	
40	360						40.0	360.0	PID = 340	
							Bottom of borehole at 40.0 feet.			Sand pack 6" 0.010" schedule 40 slotted screen
		CC	60	100						Cap at 40'
45	355									
50	350									
55	345									
60	340									
65	335									

SAMPLE TYPE:

Auger Cuttings

Continuous Core

GRAPHIC LOG LEGEND:

Concrete

USCS Silty Sand

ACRONYM LEGEND:

amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System



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CLIENT Newell Brands **PROJECT NAME** K2 DPE Well Install
PROJECT NUMBER 0552295 **PROJECT LOCATION** Vashon Island, WA

DATE STARTED: 8/13/2020 **TOTAL DEPTH:** 12 feet bgs **GROUND ELEVATION:** 387 feet amsl
DATE COMPLETED: 8/13/2020 **HOLE DIAMETER:** 10" inches **CASING ELEVATION:** feet amsl
LOGGED BY: Jessie Cooper **NORTHING:** **GROUND WATER LEVELS:**
CHECKED BY: Dave Edwards **EASTING:** **AT TIME OF DRILLING** ---
SUBCONTRACTOR: Cascade **AT END OF DRILLING** ---
DRILLING EQUIPMENT: Sonic **AFTER DRILLING** 7.25 feet / Elev 379.75 feet
NOTES Surface elevation estimated. Background PID reading 0.0-0.1 ppm. Well not surveyed.

DEPTH (feet bgs)	ELEVATION (feet amsl)	SAMPLE TYPE NUMBER(S)	RECOVERY (inches)	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (feet amsl)	Photoionization Detector (ppm)	WELL DIAGRAM
0										Casing Top Elev: 400 (feet) Casing Type: Schedule 40 PVC
5	382	AU					(SM) Brown silty SAND with trace subrounded gravel; moist and medium dense; no odor; no staining.			Well monument Bentonite Seal Bentonite Chips
10	377	CC	84	100	SM			375.0	PID = 0.5	Sand pack 6" 0.010" schedule 40 slotted screen
							Bottom of borehole at 12.0 feet.		PID = 0.5	Cap at 12'
15	372									
20	367									
25	362									
30	357									

SAMPLE TYPE:
 Auger Cuttings
 Continuous Core

GRAPHIC LOG LEGEND:
 USCS Silty Sand

ACRONYM LEGEND:
amsl = above mean sea level
bgs = below ground surface
eV = electron volt
NM = not measured
ppm = parts per million
PID = photoionization detector
USCS = Unified Soil Classification System

APPENDIX B ANALYTICAL LABORATORY REPORTS



December 3, 2020

Ms. Elise LeBlanc
ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

Dear Ms. LeBlanc,

On November 20th, 26 samples were received by our laboratory and assigned our laboratory project number EV20110138. The project was identified as your 0552295. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Glen Perry
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-01
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 8:38:00 AM
CLIENT SAMPLE ID	MW-5-2-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.02	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-02
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 9:25:00 AM
CLIENT SAMPLE ID	MW-8-2-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	1.1		UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	23		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	13		UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	99.7		5.00	4.98	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-03
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 1:30:00 PM
CLIENT SAMPLE ID	DPE-35-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	3.2		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	49		UG/L	5	10	0.044	0.13	12/02/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.05	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 5X Dilution	EPA-8260	102		25.0	25.5	71	130	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-04
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 12:25:00 PM
CLIENT SAMPLE ID	DPE-37-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	35		UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.05	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101
DATE: 12/3/2020
ALS JOB#: EV20110138
ALS SAMPLE#: EV20110138-05
CLIENT CONTACT: Elise LeBlanc
DATE RECEIVED: 11/20/2020
CLIENT PROJECT: 0552295
COLLECTION DATE: 11/17/2020 2:20:00 PM
CLIENT SAMPLE ID: DPE-28-20201117
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	24		UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.08	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-06
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 12:23:00 PM
CLIENT SAMPLE ID	DPE-32-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	1.1		UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	13		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	440		UG/L	25	50	0.22	0.65	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.12	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 25X Dilution	EPA-8260	104		125	130	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-07
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 1:37:00 PM
CLIENT SAMPLE ID	DPE-40-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	3.5		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	150		UG/L	10	20	0.087	0.26	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.05	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	102		50.0	51.0	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-08
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/17/2020 2:18:00 PM
CLIENT SAMPLE ID	DPE-26-20201117	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	2.5		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	110		UG/L	10	20	0.087	0.26	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.11	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	102		50.0	51.0	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-09
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 8:33:00 AM
CLIENT SAMPLE ID	DPE-14-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	23		UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.09	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-10
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 9:48:00 AM
CLIENT SAMPLE ID	DPE-6-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	2.8		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	14		UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.12	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-11
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 11:05:00 AM
CLIENT SAMPLE ID	DPE-1/45-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	8.8		UG/L	1	2.0	0.0087	0.026	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.11	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-12
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 10:40:00 AM
CLIENT SAMPLE ID	MW-8-1-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	360		UG/L	100	20	0.36	1.1	12/01/2020	DLC
1,1-Dichloroethene	EPA-8260	78		UG/L	100	1.6	0.53	1.6	12/01/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	1500		UG/L	100	200	7.8	24	12/01/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	5500		UG/L	500	1000	38	110	12/02/2020	DLC
Trichloroethene	EPA-8260	170000		UG/L	5000	10000	44	130	12/02/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	99.9		5.00	4.99	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	102		500	508	71	130	12/01/2020	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	104		2500	2590	71	130	12/02/2020	DLC
1,2-Dichloroethane-d4 5000X Dilution	EPA-8260	104		25000	26000	71	130	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-13
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 12:00:00 PM
CLIENT SAMPLE ID	DPE-2-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	0.23		UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	13		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	130		UG/L	10	20	0.087	0.26	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.11	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	102		50.0	51.0	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-14
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 12:05:00 PM
CLIENT SAMPLE ID	DPE-9-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	2.2		UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	57		UG/L	25	50	1.9	5.7	12/01/2020	DLC
Trichloroethene	EPA-8260	1300		UG/L	100	200	0.87	2.6	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.04	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	102		500	512	71	130	12/01/2020	DLC
1,2-Dichloroethane-d4 25X Dilution	EPA-8260	103		125	128	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-15
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 9:32:00 AM
CLIENT SAMPLE ID	DPE-11-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	5.2		UG/L	1	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	150		UG/L	5	10	0.044	0.13	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	103		5.00	5.15	71	130	11/23/2020	DLC
1,2-Dichloroethane-d4 5X Dilution	EPA-8260	103		25.0	25.7	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-16
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 8:38:00 AM
CLIENT SAMPLE ID	DPE-23-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	3.3		UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/24/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	30		UG/L	1	2.0	0.076	0.23	11/24/2020	DLC
Trichloroethene	EPA-8260	1400		UG/L	100	200	0.87	2.6	12/02/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	103		5.00	5.13	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	102		500	511	71	130	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-17
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/18/2020 2:12:00 PM
CLIENT SAMPLE ID	DPE-15-20201118	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	59		UG/L	40	8.0	0.14	0.43	12/02/2020	DLC
1,1-Dichloroethene	EPA-8260	10		UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	95		UG/L	40	80	3.1	9.4	12/02/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	4100		UG/L	2000	4000	150	460	12/02/2020	DLC
Trichloroethene	EPA-8260	49000		UG/L	2000	4000	17	52	12/02/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.09	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 2000X Dilution	EPA-8260	104		10000	10400	71	130	12/02/2020	DLC
1,2-Dichloroethane-d4 40X Dilution	EPA-8260	103		200	205	71	130	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-18
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 9:10:00 AM
CLIENT SAMPLE ID	DPE-18-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/24/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	17		UG/L	1	2.0	0.076	0.23	11/24/2020	DLC
Trichloroethene	EPA-8260	470		UG/L	25	50	0.22	0.65	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	103		5.00	5.14	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 25X Dilution	EPA-8260	103		125	129	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-19
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 10:20:00 AM
CLIENT SAMPLE ID	MW-4-4-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	12/01/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	12/01/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	12/01/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	3.2		UG/L	1	2.0	0.076	0.23	12/01/2020	DLC
Trichloroethene	EPA-8260	35		UG/L	1	2.0	0.0087	0.026	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	12/01/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		20.0	20.0	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-20
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 11:00:00 AM
CLIENT SAMPLE ID	MW-4-2-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	12/01/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	12/01/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	12/01/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	28		UG/L	1	2.0	0.076	0.23	12/01/2020	DLC
Trichloroethene	EPA-8260	30		UG/L	1	2.0	0.0087	0.026	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	12/01/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	96.2		20.0	19.2	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-21
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 10:40:00 AM
CLIENT SAMPLE ID	MW-4-3-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	0.35		UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/24/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	6.5		UG/L	1	2.0	0.076	0.23	11/24/2020	DLC
Trichloroethene	EPA-8260	83		UG/L	10	20	0.087	0.26	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.07	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	102		50.0	50.9	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-22
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 10:45:00 AM
CLIENT SAMPLE ID	Pilot Well-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	0.29		UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
1,1-Dichloroethene	EPA-8260	8.1		UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	39		UG/L	1	2.0	0.078	0.24	11/24/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	2100		UG/L	100	200	7.6	23	12/02/2020	DLC
Trichloroethene	EPA-8260	980		UG/L	100	200	0.87	2.6	12/02/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.07	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	104		500	521	71	130	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-23
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020
CLIENT SAMPLE ID	DUP-01	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/24/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	17		UG/L	1	2.0	0.076	0.23	11/24/2020	DLC
Trichloroethene	EPA-8260	470		UG/L	20	40	0.17	0.52	12/01/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.06	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	103		100	103	71	130	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-24
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020
CLIENT SAMPLE ID	DUP-02	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	0.27		UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
1,1-Dichloroethene	EPA-8260	8.9		UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	41		UG/L	25	5.9	2.0	5.9	12/02/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	1800		UG/L	100	200	7.6	23	12/01/2020	DLC
Trichloroethene	EPA-8260	790		UG/L	25	50	0.22	0.65	12/02/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.04	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	102		500	509	71	130	12/01/2020	DLC
1,2-Dichloroethane-d4 25X Dilution	EPA-8260	102		125	127	71	130	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	12/3/2020
		ALS JOB#:	EV20110138
		ALS SAMPLE#:	EV20110138-25
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 2:30:00 PM
CLIENT SAMPLE ID	Purge Water-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	11/24/2020	DLC
Chloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.068	0.20	11/24/2020	DLC
Vinyl Chloride	EPA-8260	20		UG/L	1	0.20	0.0036	0.011	11/24/2020	DLC
Bromomethane	EPA-8260	ND	U	UG/L	1	2.0	0.082	0.24	11/24/2020	DLC
Chloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.073	0.22	11/24/2020	DLC
Carbon Tetrachloride	EPA-8260	ND	U	UG/L	1	2.0	0.020	0.058	11/24/2020	DLC
Trichlorofluoromethane	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.39	11/24/2020	DLC
Carbon Disulfide	EPA-8260	ND	U	UG/L	1	2.0	0.10	0.31	11/24/2020	DLC
Acetone	EPA-8260	ND	U	UG/L	40	160	8.7	160	12/02/2020	DLC
1,1-Dichloroethene	EPA-8260	4.4		UG/L	1	2.0	0.0053	0.016	11/24/2020	DLC
Methylene Chloride	EPA-8260	ND	U	UG/L	1	5.0	0.34	1.0	11/24/2020	DLC
Acrylonitrile	EPA-8260	ND	U	UG/L	1	10	0.096	0.29	11/24/2020	DLC
Methyl T-Butyl Ether	EPA-8260	ND	U	UG/L	1	2.0	0.049	0.15	11/24/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	64		UG/L	40	9.4	3.1	9.4	12/02/2020	DLC
Diisopropyl Ether	EPA-8260	ND	U	UG/L	1	10	0.11	0.34	11/24/2020	DLC
Ethyl T-Butyl Ether	EPA-8260	ND	U	UG/L	1	10	0.10	0.31	11/24/2020	DLC
1,1-Dichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.068	0.21	11/24/2020	DLC
2-Butanone	EPA-8260	ND	U	UG/L	1	10	0.23	0.68	11/24/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	530		UG/L	40	80	3.0	9.1	12/02/2020	DLC
2,2-Dichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.47	11/24/2020	DLC
Bromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.063	0.19	11/24/2020	DLC
Chloroform	EPA-8260	ND	U	UG/L	1	2.0	0.096	0.29	11/24/2020	DLC
1,1,1-Trichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.091	0.27	11/24/2020	DLC
1,1-Dichloropropene	EPA-8260	ND	U	UG/L	1	2.0	0.094	0.28	11/24/2020	DLC
1,2-Dichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.0012	0.0035	11/24/2020	DLC
Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.0037	0.011	11/24/2020	DLC
Trichloroethene	EPA-8260	11000		UG/L	500	1000	4.4	13	12/02/2020	DLC
tert-Amyl Methyl Ether	EPA-8260	ND	U	UG/L	1	2.0	0.11	0.34	11/24/2020	DLC
tert-Butanol	EPA-8260	ND	U	UG/L	1	20	0.62	1.9	11/24/2020	DLC
1,2-Dichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.057	0.17	11/24/2020	DLC
Dibromomethane	EPA-8260	ND	U	UG/L	1	2.0	0.042	0.13	11/24/2020	DLC
Bromodichloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.053	0.16	11/24/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	1	2.0	0.091	0.27	11/24/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	ND	U	UG/L	1	10	0.18	0.53	11/24/2020	DLC
Toluene	EPA-8260	4.1		UG/L	1	2.0	0.081	0.24	11/24/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	1	2.0	0.055	0.17	11/24/2020	DLC
1,1,2-Trichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.064	0.19	11/24/2020	DLC
2-Hexanone	EPA-8260	ND	U	UG/L	1	10	0.11	0.32	11/24/2020	DLC
1,3-Dichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.081	0.24	11/24/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-25
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 2:30:00 PM
CLIENT SAMPLE ID	Purge Water-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Tetrachloroethylene	EPA-8260	ND	U	UG/L	1	2.0	0.037	0.11	11/24/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/24/2020	DLC
1,2-Dibromoethane	EPA-8260	ND	U	UG/L	1	0.010	0.0026	0.0080	11/24/2020	DLC
Chlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.089	0.27	11/24/2020	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.092	0.28	11/24/2020	DLC
Ethylbenzene	EPA-8260	3.8		UG/L	1	2.0	0.097	0.29	11/24/2020	DLC
m,p-Xylene	EPA-8260	19		UG/L	1	4.0	0.19	0.57	11/24/2020	DLC
Styrene	EPA-8260	ND	U	UG/L	1	2.0	0.075	0.22	11/24/2020	DLC
o-Xylene	EPA-8260	7.3		UG/L	1	2.0	0.086	0.26	11/24/2020	DLC
Bromoform	EPA-8260	ND	U	UG/L	1	2.0	0.072	0.22	11/24/2020	DLC
Isopropylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.099	0.30	11/24/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.048	0.14	11/24/2020	DLC
1,2,3-Trichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.0060	0.018	11/24/2020	DLC
Bromobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	11/24/2020	DLC
N-Propyl Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.15	0.46	11/24/2020	DLC
2-Chlorotoluene	EPA-8260	ND	U	UG/L	1	2.0	0.15	0.44	11/24/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.15	0.44	11/24/2020	DLC
4-Chlorotoluene	EPA-8260	ND	U	UG/L	1	2.0	0.14	0.43	11/24/2020	DLC
T-Butyl Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.48	11/24/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.14	0.43	11/24/2020	DLC
S-Butyl Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.48	11/24/2020	DLC
P-Isopropyltoluene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.47	11/24/2020	DLC
1,3-Dichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.40	11/24/2020	DLC
1,4-Dichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.39	11/24/2020	DLC
N-Butylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.48	11/24/2020	DLC
1,2-Dichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.12	0.37	11/24/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	ND	U	UG/L	1	10	0.0085	0.027	11/24/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	11/24/2020	DLC
Hexachlorobutadiene	EPA-8260	ND	U	UG/L	1	2.0	0.17	0.50	11/24/2020	DLC
Naphthalene	EPA-8260	ND	U	UG/L	1	2.0	0.12	0.36	11/24/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	11/24/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.12	71	130	11/24/2020	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	104		2500	2600	71	130	12/02/2020	DLC
1,2-Dichloroethane-d4 40X Dilution	EPA-8260	103		200	206	71	130	12/02/2020	DLC
Toluene-d8	EPA-8260	99.1		5.00	4.96	80	120	11/24/2020	DLC
Toluene-d8 500X Dilution	EPA-8260	99.0		2500	2480	80	120	12/02/2020	DLC
Toluene-d8 40X Dilution	EPA-8260	98.0		200	196	80	120	12/02/2020	DLC

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-25
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020 2:30:00 PM
CLIENT SAMPLE ID	Purge Water-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
4-Bromofluorobenzene	EPA-8260	98.0		5.00	4.90	78	120	11/24/2020	DLC
4-Bromofluorobenzene 500X Dilution	EPA-8260	105		2500	2640	78	120	12/02/2020	DLC
4-Bromofluorobenzene 40X Dilution	EPA-8260	104		200	209	78	120	12/02/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	12/3/2020
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV20110138
	Seattle, WA 98101	ALS SAMPLE#:	EV20110138-26
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	11/20/2020
CLIENT PROJECT:	0552295	COLLECTION DATE:	11/19/2020
CLIENT SAMPLE ID	TB-001-20201119	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	11/30/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	11/30/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	11/30/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	11/30/2020	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0087	0.026	11/30/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	11/30/2020	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	103		20.0	20.6	71	130	11/30/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

LABORATORY BLANK RESULTS

MB-112320W - Batch 160194 - Water by EPA-8260 Prepared 11/23/2020 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	11/23/2020	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	11/23/2020	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	11/23/2020	DLC

SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	99.9		5.00	5.00	71	130	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-112320W2 - Batch 160278 - Water by EPA-8260 Prepared 11/23/2020 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Dichlorodifluoromethane	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	11/23/2020	DLC
Chloromethane	EPA-8260	ND	U	UG/L	2.0	0.068	0.20	11/23/2020	DLC
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	11/23/2020	DLC
Bromomethane	EPA-8260	ND	U	UG/L	2.0	0.082	0.24	11/23/2020	DLC
Chloroethane	EPA-8260	ND	U	UG/L	2.0	0.073	0.22	11/23/2020	DLC
Carbon Tetrachloride	EPA-8260	ND	U	UG/L	2.0	0.020	0.058	11/23/2020	DLC
Trichlorofluoromethane	EPA-8260	ND	U	UG/L	2.0	0.13	0.39	11/23/2020	DLC
Carbon Disulfide	EPA-8260	ND	U	UG/L	2.0	0.10	0.31	11/23/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	11/23/2020	DLC
Methylene Chloride	EPA-8260	ND	U	UG/L	5.0	0.34	1.0	11/23/2020	DLC
Acrylonitrile	EPA-8260	ND	U	UG/L	10	0.096	0.29	11/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	ND	U	UG/L	2.0	0.049	0.15	11/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	11/23/2020	DLC
Diisopropyl Ether	EPA-8260	ND	U	UG/L	10	0.11	0.34	11/23/2020	DLC
Ethyl T-Butyl Ether	EPA-8260	ND	U	UG/L	10	0.10	0.31	11/23/2020	DLC
1,1-Dichloroethane	EPA-8260	ND	U	UG/L	2.0	0.068	0.21	11/23/2020	DLC
2-Butanone	EPA-8260	ND	U	UG/L	10	0.23	0.68	11/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	11/23/2020	DLC
2,2-Dichloropropane	EPA-8260	ND	U	UG/L	2.0	0.16	0.47	11/23/2020	DLC
Bromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.063	0.19	11/23/2020	DLC
Chloroform	EPA-8260	ND	U	UG/L	2.0	0.096	0.29	11/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	ND	U	UG/L	2.0	0.091	0.27	11/23/2020	DLC
1,1-Dichloropropene	EPA-8260	ND	U	UG/L	2.0	0.094	0.28	11/23/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-112320W2 - Batch 160278 - Water by EPA-8260 Prepared 11/23/2020 00:00

1,2-Dichloroethane	EPA-8260	ND	U	UG/L	2.0	0.0012	0.0035	11/23/2020	DLC
Benzene	EPA-8260	ND	U	UG/L	2.0	0.0037	0.011	11/23/2020	DLC
tert-Amyl Methyl Ether	EPA-8260	ND	U	UG/L	2.0	0.11	0.34	11/23/2020	DLC
tert-Butanol	EPA-8260	ND	U	UG/L	20	0.62	1.9	11/23/2020	DLC
1,2-Dichloropropane	EPA-8260	ND	U	UG/L	2.0	0.057	0.17	11/23/2020	DLC
Dibromomethane	EPA-8260	ND	U	UG/L	2.0	0.042	0.13	11/23/2020	DLC
Bromodichloromethane	EPA-8260	ND	U	UG/L	2.0	0.053	0.16	11/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	2.0	0.091	0.27	11/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	ND	U	UG/L	10	0.18	0.53	11/23/2020	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	11/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	2.0	0.055	0.17	11/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	ND	U	UG/L	2.0	0.064	0.19	11/23/2020	DLC
2-Hexanone	EPA-8260	ND	U	UG/L	10	0.11	0.32	11/23/2020	DLC
1,3-Dichloropropane	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	11/23/2020	DLC
Tetrachloroethylene	EPA-8260	ND	U	UG/L	2.0	0.037	0.11	11/23/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	11/23/2020	DLC
1,2-Dibromoethane	EPA-8260	ND	U	UG/L	0.010	0.0026	0.0080	11/23/2020	DLC
Chlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.089	0.27	11/23/2020	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	2.0	0.092	0.28	11/23/2020	DLC
Ethylbenzene	EPA-8260	ND	U	UG/L	2.0	0.097	0.29	11/23/2020	DLC
m,p-Xylene	EPA-8260	ND	U	UG/L	4.0	0.19	0.57	11/23/2020	DLC
Styrene	EPA-8260	ND	U	UG/L	2.0	0.075	0.22	11/23/2020	DLC
o-Xylene	EPA-8260	ND	U	UG/L	2.0	0.086	0.26	11/23/2020	DLC
Bromoform	EPA-8260	ND	U	UG/L	2.0	0.072	0.22	11/23/2020	DLC
Isopropylbenzene	EPA-8260	ND	U	UG/L	2.0	0.099	0.30	11/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	2.0	0.048	0.14	11/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	ND	U	UG/L	2.0	0.0060	0.018	11/23/2020	DLC
Bromobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	11/23/2020	DLC
N-Propyl Benzene	EPA-8260	ND	U	UG/L	2.0	0.15	0.46	11/23/2020	DLC
2-Chlorotoluene	EPA-8260	ND	U	UG/L	2.0	0.15	0.44	11/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	ND	U	UG/L	2.0	0.15	0.44	11/23/2020	DLC
4-Chlorotoluene	EPA-8260	ND	U	UG/L	2.0	0.14	0.43	11/23/2020	DLC
T-Butyl Benzene	EPA-8260	ND	U	UG/L	2.0	0.16	0.48	11/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	ND	U	UG/L	2.0	0.14	0.43	11/23/2020	DLC
S-Butyl Benzene	EPA-8260	ND	U	UG/L	2.0	0.16	0.48	11/23/2020	DLC
P-Isopropyltoluene	EPA-8260	ND	U	UG/L	2.0	0.16	0.47	11/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.40	11/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.39	11/23/2020	DLC
N-Butylbenzene	EPA-8260	ND	U	UG/L	2.0	0.16	0.48	11/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.12	0.37	11/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	ND	U	UG/L	10	0.0085	0.027	11/23/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	12/3/2020
		ALS SDG#:	EV20110138
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295		

LABORATORY BLANK RESULTS

MB-112320W2 - Batch 160278 - Water by EPA-8260 Prepared 11/23/2020 00:00

1,2,4-Trichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	11/23/2020	DLC
Hexachlorobutadiene	EPA-8260	ND	U	UG/L	2.0	0.17	0.50	11/23/2020	DLC
Naphthalene	EPA-8260	ND	U	UG/L	2.0	0.12	0.36	11/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	11/23/2020	DLC

SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.09	71	130	11/23/2020	DLC
Toluene-d8	EPA-8260	99.7		5.00	4.98	80	120	11/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	102		5.00	5.10	78	120	11/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-113020W2 - Batch 160222 - Water by EPA-8260 Prepared 11/30/2020 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	11/30/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	11/30/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	11/30/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	11/30/2020	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	11/30/2020	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	11/30/2020	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	11/30/2020	DLC

SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	106		20.0	21.2	71	130	11/30/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-120120W - Batch R373797 - Water by EPA-8260 Prepared 12/01/2020 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	12/01/2020	DLC
Acetone	EPA-8260	ND	U	UG/L	0.66	0.22	0.66	12/01/2020	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	12/01/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	0.24	0.078	0.24	12/01/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	12/01/2020	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	12/01/2020	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	12/01/2020	DLC

SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.01	71	130	12/01/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101
DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601
CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

LABORATORY BLANK RESULTS

MB-120120W - Batch R373797 - Water by EPA-8260 Prepared 12/01/2020 00:00

Toluene-d8	EPA-8260	ND	0	80	120	12/01/2020	DLC
4-Bromofluorobenzene	EPA-8260	ND	0	78	120	12/01/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 160194 - Water by EPA-8260 Prepared 11/23/2020 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Vinyl Chloride - BS	EPA-8260	99.8			10.0	9.98	50	150		11/23/2020	DLC
Vinyl Chloride - BSD	EPA-8260	96.9	3		10.0	9.69	50	150	25	11/23/2020	DLC
1,1-Dichloroethene - BS	EPA-8260	107			10.0	10.7	72.5	136		11/23/2020	DLC
1,1-Dichloroethene - BSD	EPA-8260	105	2		10.0	10.5	72.5	136	20.5	11/23/2020	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	112			10.0	11.2	50	150		11/23/2020	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	109	3		10.0	10.9	50	150	25	11/23/2020	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	109			10.0	10.9	50	150		11/23/2020	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	107	2		10.0	10.7	50	150	25	11/23/2020	DLC
Trichloroethene - BS	EPA-8260	117			10.0	11.7	74.4	141		11/23/2020	DLC
Trichloroethene - BSD	EPA-8260	119	2		10.0	11.9	74.4	141	20.5	11/23/2020	DLC
Toluene - BS	EPA-8260	108			10.0	10.8	71.7	139		11/23/2020	DLC
Toluene - BSD	EPA-8260	107	2		10.0	10.7	71.7	139	20.5	11/23/2020	DLC
Dibromochloromethane - BS	EPA-8260	107			10.0	10.7	50	150		11/23/2020	DLC
Dibromochloromethane - BSD	EPA-8260	108	1		10.0	10.8	50	150	25	11/23/2020	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
1,2-Dichloroethane-d4 - BS	EPA-8260	97.0			5.00	4.85	71	130		11/23/2020	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	97.7			5.00	4.88	71	130		11/23/2020	DLC

ALS Test Batch ID: 160222 - Water by EPA-8260 Prepared 11/30/2020 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Vinyl Chloride - BS	EPA-8260	102			10.0	10.2	50	150		11/30/2020	DLC
Vinyl Chloride - BSD	EPA-8260	102	0		10.0	10.2	50	150	25	11/30/2020	DLC
1,1-Dichloroethene - BS	EPA-8260	99.4			10.0	9.94	72.5	136		11/30/2020	DLC
1,1-Dichloroethene - BSD	EPA-8260	99.7	0		10.0	9.97	72.5	136	20.5	11/30/2020	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	109			10.0	10.9	50	150		11/30/2020	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	111	2		10.0	11.1	50	150	25	11/30/2020	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	107			10.0	10.7	50	150		11/30/2020	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	106	1		10.0	10.6	50	150	25	11/30/2020	DLC
Trichloroethene - BS	EPA-8260	106			10.0	10.6	74.4	141		11/30/2020	DLC
Trichloroethene - BSD	EPA-8260	107	0		10.0	10.7	74.4	141	20.5	11/30/2020	DLC
Toluene - BS	EPA-8260	102			10.0	10.2	71.7	139		11/30/2020	DLC
Toluene - BSD	EPA-8260	101	1		10.0	10.1	71.7	139	20.5	11/30/2020	DLC
Dibromochloromethane - BS	EPA-8260	101			10.0	10.1	50	150		11/30/2020	DLC
Dibromochloromethane - BSD	EPA-8260	104	3		10.0	10.4	50	150	25	11/30/2020	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			

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CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	12/3/2020
		ALS SDG#:	EV20110138
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295		

LABORATORY CONTROL SAMPLE RESULTS

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 - BS	EPA-8260	101			20.0	20.3	71	130		11/30/2020	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	98.3			20.0	19.7	71	130		11/30/2020	DLC

ALS Test Batch ID: 160278 - Water by EPA-8260 Prepared 11/23/2020 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	82.7			10.0	8.27	50	150		11/23/2020	DLC
Dichlorodifluoromethane - BSD	EPA-8260	87.6	6		10.0	8.76	50	150	25	11/23/2020	DLC
Chloromethane - BS	EPA-8260	83.6			10.0	8.36	50	150		11/23/2020	DLC
Chloromethane - BSD	EPA-8260	89.5	7		10.0	8.95	50	150	25	11/23/2020	DLC
Vinyl Chloride - BS	EPA-8260	94.3			10.0	9.43	50	150		11/23/2020	DLC
Vinyl Chloride - BSD	EPA-8260	101	7		10.0	10.1	50	150	25	11/23/2020	DLC
Bromomethane - BS	EPA-8260	91.1			10.0	9.11	50	150		11/23/2020	DLC
Bromomethane - BSD	EPA-8260	97.5	7		10.0	9.75	50	150	25	11/23/2020	DLC
Chloroethane - BS	EPA-8260	99.5			10.0	9.95	50	150		11/23/2020	DLC
Chloroethane - BSD	EPA-8260	106	7		10.0	10.6	50	150	25	11/23/2020	DLC
Carbon Tetrachloride - BS	EPA-8260	110			10.0	11.0	50	150		11/23/2020	DLC
Carbon Tetrachloride - BSD	EPA-8260	118	7		10.0	11.8	50	150	25	11/23/2020	DLC
Trichlorofluoromethane - BS	EPA-8260	112			10.0	11.2	50	150		11/23/2020	DLC
Trichlorofluoromethane - BSD	EPA-8260	119	6		10.0	11.9	50	150	25	11/23/2020	DLC
Carbon Disulfide - BS	EPA-8260	98.9			10.0	9.89	50	150		11/23/2020	DLC
Carbon Disulfide - BSD	EPA-8260	106	7		10.0	10.6	50	150	25	11/23/2020	DLC
1,1-Dichloroethene - BS	EPA-8260	101			10.0	10.1	72.5	136		11/23/2020	DLC
1,1-Dichloroethene - BSD	EPA-8260	108	7		10.0	10.8	72.5	136	20.5	11/23/2020	DLC
Methylene Chloride - BS	EPA-8260	119			10.0	11.9	50	150		11/23/2020	DLC
Methylene Chloride - BSD	EPA-8260	122	2		10.0	12.2	50	150	25	11/23/2020	DLC
Acrylonitrile - BS	EPA-8260	107			10.0	10.7	50	150		11/23/2020	DLC
Acrylonitrile - BSD	EPA-8260	114	7		10.0	11.4	50	150	25	11/23/2020	DLC
Methyl T-Butyl Ether - BS	EPA-8260	104			10.0	10.4	50	150		11/23/2020	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	110	5		10.0	11.0	50	150	25	11/23/2020	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	105			10.0	10.5	50	150		11/23/2020	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	112	7		10.0	11.2	50	150	25	11/23/2020	DLC
Diisopropyl Ether - BS	EPA-8260	79.5			25.0	19.9	50	150		11/23/2020	DLC
Diisopropyl Ether - BSD	EPA-8260	84.3	6		25.0	21.1	50	150	25	11/23/2020	DLC
Ethyl T-Butyl Ether - BS	EPA-8260	86.1			25.0	21.5	50	150		11/23/2020	DLC
Ethyl T-Butyl Ether - BSD	EPA-8260	91.0	6		25.0	22.8	50	150	25	11/23/2020	DLC
1,1-Dichloroethane - BS	EPA-8260	103			10.0	10.3	50	150		11/23/2020	DLC
1,1-Dichloroethane - BSD	EPA-8260	110	7		10.0	11.0	50	150	25	11/23/2020	DLC
2-Butanone - BS	EPA-8260	153		SQ1	10.0	15.3	50	150		11/23/2020	DLC
2-Butanone - BSD	EPA-8260	163	6	SQ1	10.0	16.3	50	150	25	11/23/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Cis-1,2-Dichloroethene - BS	EPA-8260	104			10.0	10.4	50	150		11/23/2020	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	110	6		10.0	11.0	50	150	25	11/23/2020	DLC
2,2-Dichloropropane - BS	EPA-8260	94.8			10.0	9.48	50	150		11/23/2020	DLC
2,2-Dichloropropane - BSD	EPA-8260	99.5	5		10.0	9.95	50	150	25	11/23/2020	DLC
Bromochloromethane - BS	EPA-8260	95.8			10.0	9.58	50	150		11/23/2020	DLC
Bromochloromethane - BSD	EPA-8260	102	6		10.0	10.2	50	150	25	11/23/2020	DLC
Chloroform - BS	EPA-8260	107			10.0	10.7	50	150		11/23/2020	DLC
Chloroform - BSD	EPA-8260	114	6		10.0	11.4	50	150	25	11/23/2020	DLC
1,1,1-Trichloroethane - BS	EPA-8260	105			10.0	10.5	50	150		11/23/2020	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	113	7		10.0	11.3	50	150	25	11/23/2020	DLC
1,1-Dichloropropene - BS	EPA-8260	106			10.0	10.6	50	150		11/23/2020	DLC
1,1-Dichloropropene - BSD	EPA-8260	114	7		10.0	11.4	50	150	25	11/23/2020	DLC
1,2-Dichloroethane - BS	EPA-8260	95.9			10.0	9.59	50	150		11/23/2020	DLC
1,2-Dichloroethane - BSD	EPA-8260	100	4		10.0	10.0	50	150	25	11/23/2020	DLC
Benzene - BS	EPA-8260	109			10.0	10.9	74.7	143		11/23/2020	DLC
Benzene - BSD	EPA-8260	115	6		10.0	11.5	74.7	143	20.5	11/23/2020	DLC
tert-Amyl Methyl Ether - BS	EPA-8260	107			20.0	21.3	50	150		11/23/2020	DLC
tert-Amyl Methyl Ether - BSD	EPA-8260	112	5		20.0	22.4	50	150	25	11/23/2020	DLC
tert-Butanol - BS	EPA-8260	103			100	103	50	150		11/23/2020	DLC
tert-Butanol - BSD	EPA-8260	107	4		100	107	50	150	25	11/23/2020	DLC
1,2-Dichloropropane - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
1,2-Dichloropropane - BSD	EPA-8260	107	5		10.0	10.7	50	150	25	11/23/2020	DLC
Dibromomethane - BS	EPA-8260	101			10.0	10.1	50	150		11/23/2020	DLC
Dibromomethane - BSD	EPA-8260	106	5		10.0	10.6	50	150	25	11/23/2020	DLC
Bromodichloromethane - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
Bromodichloromethane - BSD	EPA-8260	107	5		10.0	10.7	50	150	25	11/23/2020	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	107	5		10.0	10.7	50	150	25	11/23/2020	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	108			10.0	10.8	50	150		11/23/2020	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	113	4		10.0	11.3	50	150	25	11/23/2020	DLC
Toluene - BS	EPA-8260	102			10.0	10.2	71.7	139		11/23/2020	DLC
Toluene - BSD	EPA-8260	108	6		10.0	10.8	71.7	139	20.5	11/23/2020	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	103			10.0	10.3	50	150		11/23/2020	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	108	5		10.0	10.8	50	150	25	11/23/2020	DLC
1,1,2-Trichloroethane - BS	EPA-8260	101			10.0	10.1	50	150		11/23/2020	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	105	4		10.0	10.5	50	150	25	11/23/2020	DLC
2-Hexanone - BS	EPA-8260	150		SQ1	10.0	15.0	50	150		11/23/2020	DLC
2-Hexanone - BSD	EPA-8260	160	6	SQ1	10.0	16.0	50	150	25	11/23/2020	DLC
1,3-Dichloropropane - BS	EPA-8260	99.7			10.0	9.97	50	150		11/23/2020	DLC
1,3-Dichloropropane - BSD	EPA-8260	104	4		10.0	10.4	50	150	25	11/23/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Tetrachloroethylene - BS	EPA-8260	145			10.0	14.5	50	150		11/23/2020	DLC
Tetrachloroethylene - BSD	EPA-8260	153	5	SQ1	10.0	15.3	50	150	25	11/23/2020	DLC
Dibromochloromethane - BS	EPA-8260	101			10.0	10.1	50	150		11/23/2020	DLC
Dibromochloromethane - BSD	EPA-8260	106	5		10.0	10.6	50	150	25	11/23/2020	DLC
1,2-Dibromoethane - BS	EPA-8260	100			10.0	10.0	50	150		11/23/2020	DLC
1,2-Dibromoethane - BSD	EPA-8260	105	4		10.0	10.5	50	150	25	11/23/2020	DLC
Chlorobenzene - BS	EPA-8260	101			10.0	10.1	73	131		11/23/2020	DLC
Chlorobenzene - BSD	EPA-8260	106	5		10.0	10.6	73	131	20.5	11/23/2020	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	107	5		10.0	10.7	50	150	25	11/23/2020	DLC
Ethylbenzene - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
Ethylbenzene - BSD	EPA-8260	109	6		10.0	10.9	50	150	25	11/23/2020	DLC
m,p-Xylene - BS	EPA-8260	105			20.0	21.0	50	150		11/23/2020	DLC
m,p-Xylene - BSD	EPA-8260	111	5		20.0	22.1	50	150	25	11/23/2020	DLC
Styrene - BS	EPA-8260	106			10.0	10.6	50	150		11/23/2020	DLC
Styrene - BSD	EPA-8260	112	6		10.0	11.2	50	150	25	11/23/2020	DLC
o-Xylene - BS	EPA-8260	104			10.0	10.4	50	150		11/23/2020	DLC
o-Xylene - BSD	EPA-8260	110	6		10.0	11.0	50	150	25	11/23/2020	DLC
Bromoform - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
Bromoform - BSD	EPA-8260	107	4		10.0	10.7	50	150	25	11/23/2020	DLC
Isopropylbenzene - BS	EPA-8260	104			10.0	10.4	50	150		11/23/2020	DLC
Isopropylbenzene - BSD	EPA-8260	110	6		10.0	11.0	50	150	25	11/23/2020	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	68.2			10.0	6.82	50	150		11/23/2020	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	66.6	2		10.0	6.66	50	150	25	11/23/2020	DLC
1,2,3-Trichloropropane - BS	EPA-8260	92.0			10.0	9.20	50	150		11/23/2020	DLC
1,2,3-Trichloropropane - BSD	EPA-8260	97.6	6		10.0	9.76	50	150	25	11/23/2020	DLC
Bromobenzene - BS	EPA-8260	97.1			10.0	9.71	50	150		11/23/2020	DLC
Bromobenzene - BSD	EPA-8260	104	7		10.0	10.4	50	150	25	11/23/2020	DLC
N-Propyl Benzene - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
N-Propyl Benzene - BSD	EPA-8260	110	8		10.0	11.0	50	150	25	11/23/2020	DLC
2-Chlorotoluene - BS	EPA-8260	101			10.0	10.1	50	150		11/23/2020	DLC
2-Chlorotoluene - BSD	EPA-8260	108	7		10.0	10.8	50	150	25	11/23/2020	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	103			10.0	10.3	50	150		11/23/2020	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	111	7		10.0	11.1	50	150	25	11/23/2020	DLC
4-Chlorotoluene - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
4-Chlorotoluene - BSD	EPA-8260	109	7		10.0	10.9	50	150	25	11/23/2020	DLC
T-Butyl Benzene - BS	EPA-8260	97.8			10.0	9.78	50	150		11/23/2020	DLC
T-Butyl Benzene - BSD	EPA-8260	105	7		10.0	10.5	50	150	25	11/23/2020	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	105			10.0	10.5	50	150		11/23/2020	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	112	7		10.0	11.2	50	150	25	11/23/2020	DLC



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 12/3/2020
ALS SDG#: EV20110138
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
S-Butyl Benzene - BS	EPA-8260	101			10.0	10.1	50	150		11/23/2020	DLC
S-Butyl Benzene - BSD	EPA-8260	109	8		10.0	10.9	50	150	25	11/23/2020	DLC
P-Isopropyltoluene - BS	EPA-8260	102			10.0	10.2	50	150		11/23/2020	DLC
P-Isopropyltoluene - BSD	EPA-8260	110	8		10.0	11.0	50	150	25	11/23/2020	DLC
1,3-Dichlorobenzene - BS	EPA-8260	101			10.0	10.1	50	150		11/23/2020	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	109	7		10.0	10.9	50	150	25	11/23/2020	DLC
1,4-Dichlorobenzene - BS	EPA-8260	100			10.0	10.0	50	150		11/23/2020	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	108	7		10.0	10.8	50	150	25	11/23/2020	DLC
N-Butylbenzene - BS	EPA-8260	105			10.0	10.5	50	150		11/23/2020	DLC
N-Butylbenzene - BSD	EPA-8260	114	8		10.0	11.4	50	150	25	11/23/2020	DLC
1,2-Dichlorobenzene - BS	EPA-8260	100			10.0	10.0	50	150		11/23/2020	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	107	7		10.0	10.7	50	150	25	11/23/2020	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	93.6			10.0	9.36	50	150		11/23/2020	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	99.4	6		10.0	9.94	50	150	25	11/23/2020	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	98.2			10.0	9.82	50	150		11/23/2020	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	108	10		10.0	10.8	50	150	25	11/23/2020	DLC
Hexachlorobutadiene - BS	EPA-8260	105			10.0	10.5	50	150		11/23/2020	DLC
Hexachlorobutadiene - BSD	EPA-8260	113	8		10.0	11.3	50	150	25	11/23/2020	DLC
Naphthalene - BS	EPA-8260	93.7			10.0	9.37	50	150		11/23/2020	DLC
Naphthalene - BSD	EPA-8260	106	13		10.0	10.6	50	150	25	11/23/2020	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	97.3			10.0	9.73	50	150		11/23/2020	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	107	9		10.0	10.7	50	150	25	11/23/2020	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
1,2-Dichloroethane-d4 - BS	EPA-8260	98.9			5.00	4.95	71	130		11/23/2020	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	99.2			5.00	4.96	71	130		11/23/2020	DLC
Toluene-d8 - BS	EPA-8260	99.2			5.00	4.96	80	120		11/23/2020	DLC
Toluene-d8 - BSD	EPA-8260	99.3			5.00	4.96	80	120		11/23/2020	DLC
4-Bromofluorobenzene - BS	EPA-8260	96.4			5.00	4.82	78	120		11/23/2020	DLC
4-Bromofluorobenzene - BSD	EPA-8260	97.8			5.00	4.89	78	120		11/23/2020	DLC

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.

ALS Test Batch ID: R373797 - Water by EPA-8260 Prepared 12/01/2020 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Trichloroethene - BS	EPA-8260	110			10.0	11.0	74.4	141		12/01/2020	DLC
Trichloroethene - BSD	EPA-8260	106	4		10.0	10.6	74.4	141	20.5	12/01/2020	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	12/3/2020
CLIENT CONTACT:	Elise LeBlanc	ALS SDG#:	EV20110138
CLIENT PROJECT:	0552295	WDOE ACCREDITATION:	C601

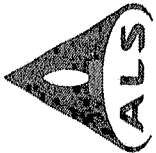
LABORATORY CONTROL SAMPLE RESULTS

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
1,2-Dichloroethane-d4 - BS	EPA-8260	99.6			5.00	4.98	71	130		12/01/2020	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	98.2			5.00	4.91	71	130		12/01/2020	DLC

APPROVED BY



Laboratory Director



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

EV20110138

Date 11-17-20 Page 1 Of 3

PROJECT ID: 0552295
REPORT TO COMPANY: ERM
PROJECT MANAGER: Elise LeBlanc
ADDRESS: 1218 3rd Ave Suite 1418
Seattle, WA 98101
Added dashes here: 743 P.O. #:
E-MAIL: jessie.cooper@erm.com / elise.leblanc@erm.com
INVOICE TO COMPANY: ERM
ATTENTION: Elise LeBlanc
ADDRESS: Same as above

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐	MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐	Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐	RCRA-8 ☐	Pt Pol ☐	TAL ☐	Metals Other (Specify)	TCLP-Metals ☐	VOA ☐	Semi-Vol ☐	Pest ☐	Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-5-2-2020117	11-17-20	0838	GW	B1						X																			
2. MW-8-2-2020117	11-17-20	0925	GW	B2						X																			
3. DPE-35-2020117	11-17-20	1330	GW	B3						X																			
4. DPE-37-2020117	11-17-20	1225	GW	B4						X																			
5. DPE-28-2020117	11-17-20	1410	GW	B5						X																			
6. DPE-32-2020117	11-17-20	1223	GW	B6						X																			
7. DPE-40-2020117	11-17-20	1337	GW	B7						X																			
8. DPE-26-2020117	11-17-20	1418	GW	B8						X																			
9. DPE-14-2020118	11-18-20	0833	GW	B9						X																			
10. DPE-6-2020118	11-18-20	0948	GW	B10						X																			

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Jessie Cooper ERM 11/20/20 1615

Received By: Ym Part ALS 11/20/20 16145

2. Relinquished By:

Received By:

TURNAROUND REQUESTED in Business Days*
Organic, Metals & Inorganic Analysis
OTHER:

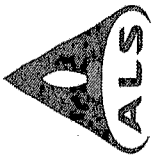
Specify:

10 5 3 2 1
Standard

Fuels & Hydrocarbon Analysis

5 3 1
Standard

*Turnaround request less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

EV20110138

Date 11-17-20 Page 2 of 3

PROJECT ID: 0752295				ANALYSIS REQUESTED										OTHER (Specify)																						
REPORT TO COMPANY:	PROJECT MANAGER:	ADDRESS:	PHONE:	E-MAIL:	INVOICE TO COMPANY:	ATTENTION:	ADDRESS:	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTX by EPA 8021	MTBE by EPA 8021	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 (water)	EDB / EDC by EPA 8260 (soil)	Semi-volatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Pesticides by EPA 8081	Metals-MTCA-5	RCRA-8	Pb	Pb	TAL	Metals Other (Specify)	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?			
	ERM	Elise LeBlanc	1218 3rd Ave Suite 1418	Seattle, WA 98101	914-714-1243	PO. #	Elise LeBlanc	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com	erm.com
1. DPE-145-20201118	11-18-20	1105	600	B11																																
2. MW-81-20201118	11-18-20	1040	600	B12																																
3. DPE-2-20201118	11-18-20	1200	600	B13																																
4. DPE-9-20201118	11-18-20	1205	600	B14																																
5. DPE-11-20201119	11-19-20	932	600	B15																																
6. DPE-23-20201119	11-19-20	0838	600	B16																																
7. DPE-15-20201118	11-18-20	1412	600	B17																																
8. DPE-18-20201119	11-19-20	0910	600	B18																																
9. MW-4-4-20201119	11-19-20	1020	600	B19																																
10. MW-4-2-20201119	11-19-20	1106	600	B20																																

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

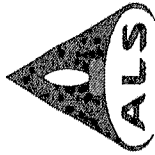
1. Relinquished By: Jessie Cooper ERM 11/20/20 1645
Received By: Elise LeBlanc ALS 11/20/20 1645

2. Relinquished By: _____
Received By: _____

TURNAROUND REQUESTED in Business Days*
Organic, Metals & Inorganic Analysis
OTHER:

Specify: _____
10 5 3 1 1
Standard
Fuels & Hydrocarbon Analysis
5 3 1
Standard

*Turnaround request less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain of Custody/ Laboratory Analysis Request

ALS Job#

(Laboratory Use Only)

EV20110138

Date 11-17-20 Page 3 of 3

PROJECT ID: 0552295				ANALYSIS REQUESTED																									
REPORT TO COMPANY: ERM				OTHER (Specify)																									
PROJECT MANAGER: Elise LeBlanc																													
ADDRESS: 1218 3rd Ave. Suite 1418																													
Seattle WA 98101																													
PHONE: 919 4141243																													
E-MAIL: jessie-cooper@erm.com/elise.leblanc@erm.com																													
INVOICE TO COMPANY: ERM																													
ATTENTION: Elise LeBlanc																													
ADDRESS: Same as above																													
SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021	MTBE by EPA 8021	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Pesticides by EPA 8081	Metals-MTCA-5	RCRA-8	Pt Pol	TAL	Metals Other (Specify)	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-4-3-20201119	11-19-20	1040	GW	321							X																		
2. P101111-20201119	11-19-20	1045	GW	322							X																		
3. DUP-01	11-19-20	—	GW	323							X																		
4. DUP-02	11-19-20	—	GW	324							X																		
5. Argenter-20201119	11-19-20	1430	GW	325							X																		
6. TB-001-20201119	11-19-20	—	GW	26																									
7.																													
8.																													
9.																													
10.																													

SPECIAL INSTRUCTIONS: - Give request full 171 8260 for -25, 12/3/20 CCN

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Jessie Cooper ERM 11/20/20 16:45

Received By: Wm Rury ALS 11/27/20 16:14 S

2. Relinquished By: _____

Received By: _____

TURNAROUND REQUESTED in Business Days*
OTHER: _____

Specify: _____

Organic, Metals & Inorganic Analysis
10 5 3 2 1
Standard

Fuels & Hydrocarbon Analysis
5 3 1
Standard

10 5 3 2 1
Standard

*Turnaround request less than standard may incur Rush Charges



February 3, 2021

Ms. Elise LeBlanc
ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

Dear Ms. LeBlanc,

On January 22nd, 1 sample was received by our laboratory and assigned our laboratory project number EV21010166. The project was identified as your 0552295.01. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Glen Perry
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/3/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010166
	Seattle, WA 98101	ALS SAMPLE#:	EV21010166-01
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021 10:30:00 AM
CLIENT SAMPLE ID	Waste Profile-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	02/02/2021	DLC
Chloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.068	0.20	02/02/2021	DLC
Vinyl Chloride	EPA-8260	12		UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
Bromomethane	EPA-8260	ND	U	UG/L	1	2.0	0.082	0.24	02/02/2021	DLC
Chloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.073	0.22	02/02/2021	DLC
Carbon Tetrachloride	EPA-8260	ND	U	UG/L	1	2.0	0.020	0.058	02/02/2021	DLC
Trichlorofluoromethane	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.39	02/02/2021	DLC
Carbon Disulfide	EPA-8260	ND	U	UG/L	1	2.0	0.10	0.31	02/02/2021	DLC
Acetone	EPA-8260	ND	U	UG/L	1	25	0.22	0.66	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	3.7		UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Methylene Chloride	EPA-8260	ND	U	UG/L	1	5.0	0.34	1.0	02/02/2021	DLC
Acrylonitrile	EPA-8260	ND	U	UG/L	1	10	0.096	0.29	02/02/2021	DLC
Methyl T-Butyl Ether	EPA-8260	ND	U	UG/L	1	2.0	0.049	0.15	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	130		UG/L	20	40	1.6	4.7	02/02/2021	DLC
1,1-Dichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.068	0.21	02/02/2021	DLC
2-Butanone	EPA-8260	ND	U	UG/L	1	10	0.23	0.68	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	360		UG/L	20	40	1.5	4.6	02/02/2021	DLC
2,2-Dichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.47	02/02/2021	DLC
Bromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.063	0.19	02/02/2021	DLC
Chloroform	EPA-8260	ND	U	UG/L	1	2.0	0.096	0.29	02/02/2021	DLC
1,1,1-Trichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.091	0.27	02/02/2021	DLC
1,1-Dichloropropene	EPA-8260	ND	U	UG/L	1	2.0	0.094	0.28	02/02/2021	DLC
1,2-Dichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.0012	0.0035	02/02/2021	DLC
Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.0037	0.011	02/02/2021	DLC
Trichloroethene	EPA-8260	6300		UG/L	250	500	2.2	6.5	02/02/2021	DLC
1,2-Dichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.057	0.17	02/02/2021	DLC
Dibromomethane	EPA-8260	ND	U	UG/L	1	2.0	0.042	0.13	02/02/2021	DLC
Bromodichloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.053	0.16	02/02/2021	DLC
Trans-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	1	2.0	0.091	0.27	02/02/2021	DLC
4-Methyl-2-Pentanone	EPA-8260	ND	U	UG/L	1	10	0.18	0.53	02/02/2021	DLC
Toluene	EPA-8260	ND	U	UG/L	1	2.0	0.081	0.24	02/02/2021	DLC
Cis-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	1	2.0	0.055	0.17	02/02/2021	DLC
1,1,2-Trichloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.064	0.19	02/02/2021	DLC
2-Hexanone	EPA-8260	ND	U	UG/L	1	10	0.11	0.32	02/02/2021	DLC
1,3-Dichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.081	0.24	02/02/2021	DLC
Tetrachloroethylene	EPA-8260	ND	U	UG/L	1	2.0	0.037	0.11	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC
1,2-Dibromoethane	EPA-8260	ND	U	UG/L	1	0.010	0.0026	0.0080	02/02/2021	DLC
Chlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.089	0.27	02/02/2021	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	2/3/2021
		ALS JOB#:	EV21010166
CLIENT CONTACT:	Elise LeBlanc	ALS SAMPLE#:	EV21010166-01
CLIENT PROJECT:	0552295.01	DATE RECEIVED:	01/22/2021
CLIENT SAMPLE ID	Waste Profile-210122	COLLECTION DATE:	1/22/2021 10:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.092	0.28	02/02/2021	DLC
Ethylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.097	0.29	02/02/2021	DLC
m,p-Xylene	EPA-8260	ND	U	UG/L	1	4.0	0.19	0.57	02/02/2021	DLC
Styrene	EPA-8260	ND	U	UG/L	1	2.0	0.075	0.22	02/02/2021	DLC
o-Xylene	EPA-8260	ND	U	UG/L	1	2.0	0.086	0.26	02/02/2021	DLC
Bromoform	EPA-8260	ND	U	UG/L	1	2.0	0.072	0.22	02/02/2021	DLC
Isopropylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.099	0.30	02/02/2021	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	1	2.0	0.048	0.14	02/02/2021	DLC
1,2,3-Trichloropropane	EPA-8260	ND	U	UG/L	1	2.0	0.0060	0.018	02/02/2021	DLC
Bromobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	02/02/2021	DLC
N-Propyl Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.15	0.46	02/02/2021	DLC
2-Chlorotoluene	EPA-8260	ND	U	UG/L	1	2.0	0.15	0.44	02/02/2021	DLC
1,3,5-Trimethylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.15	0.44	02/02/2021	DLC
4-Chlorotoluene	EPA-8260	ND	U	UG/L	1	2.0	0.14	0.43	02/02/2021	DLC
T-Butyl Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.48	02/02/2021	DLC
1,2,4-Trimethylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.14	0.43	02/02/2021	DLC
S-Butyl Benzene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.48	02/02/2021	DLC
P-Isopropyltoluene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.47	02/02/2021	DLC
1,3-Dichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.40	02/02/2021	DLC
1,4-Dichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.39	02/02/2021	DLC
N-Butylbenzene	EPA-8260	ND	U	UG/L	1	2.0	0.16	0.48	02/02/2021	DLC
1,2-Dichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.12	0.37	02/02/2021	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	ND	U	UG/L	1	10	0.0085	0.027	02/02/2021	DLC
1,2,4-Trichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	02/02/2021	DLC
Hexachlorobutadiene	EPA-8260	ND	U	UG/L	1	2.0	0.17	0.50	02/02/2021	DLC
Naphthalene	EPA-8260	ND	U	UG/L	1	2.0	0.12	0.36	02/02/2021	DLC
1,2,3-Trichlorobenzene	EPA-8260	ND	U	UG/L	1	2.0	0.13	0.38	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 250X Dilution	EPA-8260	98.8		5000	4940	71	130	02/02/2021	DLC
1,2-Dichloroethane-d4	EPA-8260	87.9		20.0	17.6	71	130	02/02/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	87.1		400	348	71	130	02/02/2021	DLC
Toluene-d8 250X Dilution	EPA-8260	87.0		5000	4350	80	120	02/02/2021	DLC
Toluene-d8	EPA-8260	77.5	SQ2	20.0	15.5	80	120	02/02/2021	DLC
Toluene-d8 20X Dilution	EPA-8260	79.2	SQ2	400	317	80	120	02/02/2021	DLC
4-Bromofluorobenzene 250X Dilution	EPA-8260	102		5000	5110	78	120	02/02/2021	DLC
4-Bromofluorobenzene	EPA-8260	97.2		20.0	19.4	78	120	02/02/2021	DLC
4-Bromofluorobenzene 20X Dilution	EPA-8260	95.0		400	380	78	120	02/02/2021	DLC

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/3/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010166
	Seattle, WA 98101	ALS SAMPLE#:	EV21010166-01
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021 10:30:00 AM
CLIENT SAMPLE ID	Waste Profile-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
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U - Analyte analyzed for but not detected at level above reporting limit.
 SQ2 - Spike outside of control limits due to matrix effect.



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	2/3/2021
		ALS SDG#:	EV21010166
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295.01		

LABORATORY BLANK RESULTS

MB-020121W - Batch 162171 - Water by EPA-8260 Prepared 02/01/2021 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Dichlorodifluoromethane	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	02/01/2021	DLC
Chloromethane	EPA-8260	ND	U	UG/L	2.0	0.068	0.20	02/01/2021	DLC
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	02/01/2021	DLC
Bromomethane	EPA-8260	ND	U	UG/L	2.0	0.082	0.24	02/01/2021	DLC
Chloroethane	EPA-8260	ND	U	UG/L	2.0	0.073	0.22	02/01/2021	DLC
Carbon Tetrachloride	EPA-8260	ND	U	UG/L	2.0	0.020	0.058	02/01/2021	DLC
Trichlorofluoromethane	EPA-8260	ND	U	UG/L	2.0	0.13	0.39	02/01/2021	DLC
Carbon Disulfide	EPA-8260	ND	U	UG/L	2.0	0.10	0.31	02/01/2021	DLC
Acetone	EPA-8260	ND	U	UG/L	25	0.22	0.66	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	02/01/2021	DLC
Methylene Chloride	EPA-8260	ND	U	UG/L	5.0	0.34	1.0	02/01/2021	DLC
Acrylonitrile	EPA-8260	ND	U	UG/L	10	0.096	0.29	02/01/2021	DLC
Methyl T-Butyl Ether	EPA-8260	ND	U	UG/L	2.0	0.049	0.15	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	02/01/2021	DLC
1,1-Dichloroethane	EPA-8260	ND	U	UG/L	2.0	0.068	0.21	02/01/2021	DLC
2-Butanone	EPA-8260	ND	U	UG/L	10	0.23	0.68	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	02/01/2021	DLC
2,2-Dichloropropane	EPA-8260	ND	U	UG/L	2.0	0.16	0.47	02/01/2021	DLC
Bromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.063	0.19	02/01/2021	DLC
Chloroform	EPA-8260	ND	U	UG/L	2.0	0.096	0.29	02/01/2021	DLC
1,1,1-Trichloroethane	EPA-8260	ND	U	UG/L	2.0	0.091	0.27	02/01/2021	DLC
1,1-Dichloropropene	EPA-8260	ND	U	UG/L	2.0	0.094	0.28	02/01/2021	DLC
1,2-Dichloroethane	EPA-8260	ND	U	UG/L	2.0	0.0012	0.0035	02/01/2021	DLC
Benzene	EPA-8260	ND	U	UG/L	2.0	0.0037	0.011	02/01/2021	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	02/01/2021	DLC
1,2-Dichloropropane	EPA-8260	ND	U	UG/L	2.0	0.057	0.17	02/01/2021	DLC
Dibromomethane	EPA-8260	ND	U	UG/L	2.0	0.042	0.13	02/01/2021	DLC
Bromodichloromethane	EPA-8260	ND	U	UG/L	2.0	0.053	0.16	02/01/2021	DLC
Trans-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	2.0	0.091	0.27	02/01/2021	DLC
4-Methyl-2-Pentanone	EPA-8260	ND	U	UG/L	10	0.18	0.53	02/01/2021	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	02/01/2021	DLC
Cis-1,3-Dichloropropene	EPA-8260	ND	U	UG/L	2.0	0.055	0.17	02/01/2021	DLC
1,1,2-Trichloroethane	EPA-8260	ND	U	UG/L	2.0	0.064	0.19	02/01/2021	DLC
2-Hexanone	EPA-8260	ND	U	UG/L	10	0.11	0.32	02/01/2021	DLC
1,3-Dichloropropane	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	02/01/2021	DLC
Tetrachloroethylene	EPA-8260	ND	U	UG/L	2.0	0.037	0.11	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	02/01/2021	DLC
1,2-Dibromoethane	EPA-8260	ND	U	UG/L	0.010	0.0026	0.0080	02/01/2021	DLC
Chlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.089	0.27	02/01/2021	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	2/3/2021
		ALS SDG#:	EV21010166
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295.01		

LABORATORY BLANK RESULTS

MB-020121W - Batch 162171 - Water by EPA-8260 Prepared 02/01/2021 00:00

1,1,1,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	2.0	0.092	0.28	02/01/2021	DLC
Ethylbenzene	EPA-8260	ND	U	UG/L	2.0	0.097	0.29	02/01/2021	DLC
m,p-Xylene	EPA-8260	ND	U	UG/L	4.0	0.19	0.57	02/01/2021	DLC
Styrene	EPA-8260	ND	U	UG/L	2.0	0.075	0.22	02/01/2021	DLC
o-Xylene	EPA-8260	ND	U	UG/L	2.0	0.086	0.26	02/01/2021	DLC
Bromoform	EPA-8260	ND	U	UG/L	2.0	0.072	0.22	02/01/2021	DLC
Isopropylbenzene	EPA-8260	ND	U	UG/L	2.0	0.099	0.30	02/01/2021	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	ND	U	UG/L	2.0	0.048	0.14	02/01/2021	DLC
1,2,3-Trichloropropane	EPA-8260	ND	U	UG/L	2.0	0.0060	0.018	02/01/2021	DLC
Bromobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	02/01/2021	DLC
N-Propyl Benzene	EPA-8260	ND	U	UG/L	2.0	0.15	0.46	02/01/2021	DLC
2-Chlorotoluene	EPA-8260	ND	U	UG/L	2.0	0.15	0.44	02/01/2021	DLC
1,3,5-Trimethylbenzene	EPA-8260	ND	U	UG/L	2.0	0.15	0.44	02/01/2021	DLC
4-Chlorotoluene	EPA-8260	ND	U	UG/L	2.0	0.14	0.43	02/01/2021	DLC
T-Butyl Benzene	EPA-8260	ND	U	UG/L	2.0	0.16	0.48	02/01/2021	DLC
1,2,4-Trimethylbenzene	EPA-8260	ND	U	UG/L	2.0	0.14	0.43	02/01/2021	DLC
S-Butyl Benzene	EPA-8260	ND	U	UG/L	2.0	0.16	0.48	02/01/2021	DLC
P-Isopropyltoluene	EPA-8260	ND	U	UG/L	2.0	0.16	0.47	02/01/2021	DLC
1,3-Dichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.40	02/01/2021	DLC
1,4-Dichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.39	02/01/2021	DLC
N-Butylbenzene	EPA-8260	ND	U	UG/L	2.0	0.16	0.48	02/01/2021	DLC
1,2-Dichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.12	0.37	02/01/2021	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	ND	U	UG/L	10	0.0085	0.027	02/01/2021	DLC
1,2,4-Trichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	02/01/2021	DLC
Hexachlorobutadiene	EPA-8260	ND	U	UG/L	2.0	0.17	0.50	02/01/2021	DLC
Naphthalene	EPA-8260	ND	U	UG/L	2.0	0.12	0.36	02/01/2021	DLC
1,2,3-Trichlorobenzene	EPA-8260	ND	U	UG/L	2.0	0.13	0.38	02/01/2021	DLC

SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	91.4		20.0	18.3	71	130	02/01/2021	DLC
Toluene-d8	EPA-8260	92.5		20.0	18.5	80	120	02/01/2021	DLC
4-Bromofluorobenzene	EPA-8260	96.7		20.0	19.3	78	120	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	2/3/2021
		ALS SDG#:	EV21010166
CLIENT CONTACT:	Elise LeBlanc	WDOE ACCREDITATION:	C601
CLIENT PROJECT:	0552295.01		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 162171 - Water by EPA-8260 Prepared 02/01/2021 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Dichlorodifluoromethane - BS	EPA-8260	61.3			10.0	6.13	50	150		02/01/2021	DLC
Dichlorodifluoromethane - BSD	EPA-8260	59.9	2		10.0	5.99	50	150	25	02/01/2021	DLC
Chloromethane - BS	EPA-8260	75.7			10.0	7.57	50	150		02/01/2021	DLC
Chloromethane - BSD	EPA-8260	73.0	4		10.0	7.30	50	150	25	02/01/2021	DLC
Vinyl Chloride - BS	EPA-8260	81.6			10.0	8.16	50	150		02/01/2021	DLC
Vinyl Chloride - BSD	EPA-8260	79.0	3		10.0	7.90	50	150	25	02/01/2021	DLC
Bromomethane - BS	EPA-8260	72.4			10.0	7.24	50	150		02/01/2021	DLC
Bromomethane - BSD	EPA-8260	68.6	5		10.0	6.86	50	150	25	02/01/2021	DLC
Chloroethane - BS	EPA-8260	84.0			10.0	8.40	50	150		02/01/2021	DLC
Chloroethane - BSD	EPA-8260	82.9	1		10.0	8.29	50	150	25	02/01/2021	DLC
Carbon Tetrachloride - BS	EPA-8260	88.3			10.0	8.83	50	150		02/01/2021	DLC
Carbon Tetrachloride - BSD	EPA-8260	85.4	3		10.0	8.54	50	150	25	02/01/2021	DLC
Trichlorofluoromethane - BS	EPA-8260	90.6			10.0	9.06	50	150		02/01/2021	DLC
Trichlorofluoromethane - BSD	EPA-8260	85.8	5		10.0	8.58	50	150	25	02/01/2021	DLC
Carbon Disulfide - BS	EPA-8260	87.4			10.0	8.74	50	150		02/01/2021	DLC
Carbon Disulfide - BSD	EPA-8260	85.1	3		10.0	8.51	50	150	25	02/01/2021	DLC
Acetone - BS	EPA-8260	112			10.0	11.2	50	150		02/01/2021	DLC
Acetone - BSD	EPA-8260	109	2		10.0	10.9	50	150	25	02/01/2021	DLC
1,1-Dichloroethene - BS	EPA-8260	92.5			10.0	9.25	72.5	136		02/01/2021	DLC
1,1-Dichloroethene - BSD	EPA-8260	90.5	2		10.0	9.05	72.5	136	20.5	02/01/2021	DLC
Methylene Chloride - BS	EPA-8260	88.0			10.0	8.80	50	150		02/01/2021	DLC
Methylene Chloride - BSD	EPA-8260	94.5	7		10.0	9.45	50	150	25	02/01/2021	DLC
Acrylonitrile - BS	EPA-8260	87.5			10.0	8.75	50	150		02/01/2021	DLC
Acrylonitrile - BSD	EPA-8260	85.8	2		10.0	8.58	50	150	25	02/01/2021	DLC
Methyl T-Butyl Ether - BS	EPA-8260	100			10.0	10.0	50	150		02/01/2021	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	101	0		10.0	10.1	50	150	25	02/01/2021	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	93.9			10.0	9.39	50	150		02/01/2021	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	89.3	5		10.0	8.93	50	150	25	02/01/2021	DLC
1,1-Dichloroethane - BS	EPA-8260	91.5			10.0	9.15	50	150		02/01/2021	DLC
1,1-Dichloroethane - BSD	EPA-8260	90.4	1		10.0	9.04	50	150	25	02/01/2021	DLC
2-Butanone - BS	EPA-8260	94.7			10.0	9.47	50	150		02/01/2021	DLC
2-Butanone - BSD	EPA-8260	99.4	5		10.0	9.94	50	150	25	02/01/2021	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	95.9			10.0	9.59	50	150		02/01/2021	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	94.5	1		10.0	9.45	50	150	25	02/01/2021	DLC
2,2-Dichloropropane - BS	EPA-8260	89.1			10.0	8.91	50	150		02/01/2021	DLC
2,2-Dichloropropane - BSD	EPA-8260	86.6	3		10.0	8.66	50	150	25	02/01/2021	DLC
Bromochloromethane - BS	EPA-8260	90.6			10.0	9.06	50	150		02/01/2021	DLC
Bromochloromethane - BSD	EPA-8260	90.8	0		10.0	9.08	50	150	25	02/01/2021	DLC
Chloroform - BS	EPA-8260	99.7			10.0	9.97	50	150		02/01/2021	DLC

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ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626

ALS Group USA, Corp dba ALS Environmental



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295.01

DATE: 2/3/2021
ALS SDG#: EV21010166
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Chloroform - BSD	EPA-8260	98.5	1		10.0	9.85	50	150	25	02/01/2021	DLC
1,1,1-Trichloroethane - BS	EPA-8260	87.1			10.0	8.71	50	150		02/01/2021	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	83.5	4		10.0	8.35	50	150	25	02/01/2021	DLC
1,1-Dichloropropene - BS	EPA-8260	88.0			10.0	8.80	50	150		02/01/2021	DLC
1,1-Dichloropropene - BSD	EPA-8260	84.0	5		10.0	8.40	50	150	25	02/01/2021	DLC
1,2-Dichloroethane - BS	EPA-8260	93.6			10.0	9.36	50	150		02/01/2021	DLC
1,2-Dichloroethane - BSD	EPA-8260	93.6	0		10.0	9.36	50	150	25	02/01/2021	DLC
Benzene - BS	EPA-8260	89.4			10.0	8.94	74.7	143		02/01/2021	DLC
Benzene - BSD	EPA-8260	88.5	1		10.0	8.85	74.7	143	20.5	02/01/2021	DLC
Trichloroethene - BS	EPA-8260	88.9			10.0	8.89	74.4	141		02/01/2021	DLC
Trichloroethene - BSD	EPA-8260	87.7	1		10.0	8.77	74.4	141	20.5	02/01/2021	DLC
1,2-Dichloropropane - BS	EPA-8260	87.3			10.0	8.73	50	150		02/01/2021	DLC
1,2-Dichloropropane - BSD	EPA-8260	87.9	1		10.0	8.79	50	150	25	02/01/2021	DLC
Dibromomethane - BS	EPA-8260	88.8			10.0	8.88	50	150		02/01/2021	DLC
Dibromomethane - BSD	EPA-8260	92.9	4		10.0	9.29	50	150	25	02/01/2021	DLC
Bromodichloromethane - BS	EPA-8260	86.1			10.0	8.61	50	150		02/01/2021	DLC
Bromodichloromethane - BSD	EPA-8260	85.9	0		10.0	8.59	50	150	25	02/01/2021	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	95.0			10.0	9.50	50	150		02/01/2021	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	96.8	2		10.0	9.68	50	150	25	02/01/2021	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	87.2			10.0	8.72	50	150		02/01/2021	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	89.1	2		10.0	8.91	50	150	25	02/01/2021	DLC
Toluene - BS	EPA-8260	88.8			10.0	8.88	71.7	139		02/01/2021	DLC
Toluene - BSD	EPA-8260	87.3	2		10.0	8.73	71.7	139	20.5	02/01/2021	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	90.4			10.0	9.04	50	150		02/01/2021	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	89.3	1		10.0	8.93	50	150	25	02/01/2021	DLC
1,1,2-Trichloroethane - BS	EPA-8260	105			10.0	10.5	50	150		02/01/2021	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	104	1		10.0	10.4	50	150	25	02/01/2021	DLC
2-Hexanone - BS	EPA-8260	103			10.0	10.3	50	150		02/01/2021	DLC
2-Hexanone - BSD	EPA-8260	100	3		10.0	10.0	50	150	25	02/01/2021	DLC
1,3-Dichloropropane - BS	EPA-8260	103			10.0	10.3	50	150		02/01/2021	DLC
1,3-Dichloropropane - BSD	EPA-8260	106	3		10.0	10.6	50	150	25	02/01/2021	DLC
Tetrachloroethylene - BS	EPA-8260	105			10.0	10.5	50	150		02/01/2021	DLC
Tetrachloroethylene - BSD	EPA-8260	104	1		10.0	10.4	50	150	25	02/01/2021	DLC
Dibromochloromethane - BS	EPA-8260	95.1			10.0	9.51	50	150		02/01/2021	DLC
Dibromochloromethane - BSD	EPA-8260	95.5	1		10.0	9.55	50	150	25	02/01/2021	DLC
1,2-Dibromoethane - BS	EPA-8260	104			10.0	10.4	50	150		02/01/2021	DLC
1,2-Dibromoethane - BSD	EPA-8260	106	2		10.0	10.6	50	150	25	02/01/2021	DLC
Chlorobenzene - BS	EPA-8260	94.5			10.0	9.45	73	131		02/01/2021	DLC
Chlorobenzene - BSD	EPA-8260	95.7	1		10.0	9.57	73	131	20.5	02/01/2021	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	99.2			10.0	9.92	50	150		02/01/2021	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	2/3/2021
		ALS SDG#:	EV21010166
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295.01		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	101	2		10.0	10.1	50	150	25	02/01/2021	DLC
Ethylbenzene - BS	EPA-8260	90.6			10.0	9.06	50	150		02/01/2021	DLC
Ethylbenzene - BSD	EPA-8260	91.0	0		10.0	9.10	50	150	25	02/01/2021	DLC
m,p-Xylene - BS	EPA-8260	93.9			20.0	18.8	50	150		02/01/2021	DLC
m,p-Xylene - BSD	EPA-8260	94.2	0		20.0	18.8	50	150	25	02/01/2021	DLC
Styrene - BS	EPA-8260	99.0			10.0	9.90	50	150		02/01/2021	DLC
Styrene - BSD	EPA-8260	102	3		10.0	10.2	50	150	25	02/01/2021	DLC
o-Xylene - BS	EPA-8260	95.8			10.0	9.58	50	150		02/01/2021	DLC
o-Xylene - BSD	EPA-8260	96.0	0		10.0	9.60	50	150	25	02/01/2021	DLC
Bromoform - BS	EPA-8260	98.5			10.0	9.85	50	150		02/01/2021	DLC
Bromoform - BSD	EPA-8260	104	5		10.0	10.4	50	150	25	02/01/2021	DLC
Isopropylbenzene - BS	EPA-8260	97.2			10.0	9.72	50	150		02/01/2021	DLC
Isopropylbenzene - BSD	EPA-8260	96.0	1		10.0	9.60	50	150	25	02/01/2021	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	85.1			10.0	8.51	50	150		02/01/2021	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	87.5	3		10.0	8.75	50	150	25	02/01/2021	DLC
1,2,3-Trichloropropane - BS	EPA-8260	88.7			10.0	8.87	50	150		02/01/2021	DLC
1,2,3-Trichloropropane - BSD	EPA-8260	94.1	6		10.0	9.41	50	150	25	02/01/2021	DLC
Bromobenzene - BS	EPA-8260	91.7			10.0	9.17	50	150		02/01/2021	DLC
Bromobenzene - BSD	EPA-8260	92.0	0		10.0	9.20	50	150	25	02/01/2021	DLC
N-Propyl Benzene - BS	EPA-8260	84.2			10.0	8.42	50	150		02/01/2021	DLC
N-Propyl Benzene - BSD	EPA-8260	83.4	1		10.0	8.34	50	150	25	02/01/2021	DLC
2-Chlorotoluene - BS	EPA-8260	83.7			10.0	8.37	50	150		02/01/2021	DLC
2-Chlorotoluene - BSD	EPA-8260	83.9	0		10.0	8.39	50	150	25	02/01/2021	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	86.3			10.0	8.63	50	150		02/01/2021	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	84.2	2		10.0	8.42	50	150	25	02/01/2021	DLC
4-Chlorotoluene - BS	EPA-8260	85.0			10.0	8.50	50	150		02/01/2021	DLC
4-Chlorotoluene - BSD	EPA-8260	84.6	1		10.0	8.46	50	150	25	02/01/2021	DLC
T-Butyl Benzene - BS	EPA-8260	90.0			10.0	9.00	50	150		02/01/2021	DLC
T-Butyl Benzene - BSD	EPA-8260	89.4	1		10.0	8.94	50	150	25	02/01/2021	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	87.4			10.0	8.74	50	150		02/01/2021	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	86.0	2		10.0	8.60	50	150	25	02/01/2021	DLC
S-Butyl Benzene - BS	EPA-8260	86.5			10.0	8.65	50	150		02/01/2021	DLC
S-Butyl Benzene - BSD	EPA-8260	84.7	2		10.0	8.47	50	150	25	02/01/2021	DLC
P-Isopropyltoluene - BS	EPA-8260	87.3			10.0	8.73	50	150		02/01/2021	DLC
P-Isopropyltoluene - BSD	EPA-8260	86.7	1		10.0	8.67	50	150	25	02/01/2021	DLC
1,3-Dichlorobenzene - BS	EPA-8260	91.8			10.0	9.18	50	150		02/01/2021	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	89.5	3		10.0	8.95	50	150	25	02/01/2021	DLC
1,4-Dichlorobenzene - BS	EPA-8260	86.7			10.0	8.67	50	150		02/01/2021	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	86.8	0		10.0	8.68	50	150	25	02/01/2021	DLC
N-Butylbenzene - BS	EPA-8260	85.2			10.0	8.52	50	150		02/01/2021	DLC



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 2/3/2021
ALS SDG#: EV21010166
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CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295.01

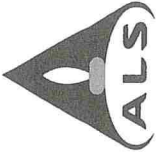
LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
N-Butylbenzene - BSD	EPA-8260	83.0	3		10.0	8.30	50	150	25	02/01/2021	DLC
1,2-Dichlorobenzene - BS	EPA-8260	92.2			10.0	9.22	50	150		02/01/2021	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	92.7	1		10.0	9.27	50	150	25	02/01/2021	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	86.0			10.0	8.60	50	150		02/01/2021	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	94.5	9		10.0	9.45	50	150	25	02/01/2021	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	96.9			10.0	9.69	50	150		02/01/2021	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	94.1	3		10.0	9.41	50	150	25	02/01/2021	DLC
Hexachlorobutadiene - BS	EPA-8260	89.3			10.0	8.93	50	150		02/01/2021	DLC
Hexachlorobutadiene - BSD	EPA-8260	86.9	3		10.0	8.69	50	150	25	02/01/2021	DLC
Naphthalene - BS	EPA-8260	93.0			10.0	9.30	50	150		02/01/2021	DLC
Naphthalene - BSD	EPA-8260	93.7	1		10.0	9.37	50	150	25	02/01/2021	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	96.3			10.0	9.63	50	150		02/01/2021	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	96.0	0		10.0	9.60	50	150	25	02/01/2021	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
1,2-Dichloroethane-d4 - BS	EPA-8260	91.1			20.0	18.2	71	130		02/01/2021	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	92.8			20.0	18.6	71	130		02/01/2021	DLC
Toluene-d8 - BS	EPA-8260	111			20.0	22.2	80	120		02/01/2021	DLC
Toluene-d8 - BSD	EPA-8260	112			20.0	22.5	80	120		02/01/2021	DLC
4-Bromofluorobenzene - BS	EPA-8260	94.5			20.0	18.9	78	120		02/01/2021	DLC
4-Bromofluorobenzene - BSD	EPA-8260	94.0			20.0	18.8	78	120		02/01/2021	DLC

APPROVED BY

Laboratory Director



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

EV21010166

Date 1-22-21 Page 1 Of 1

PROJECT ID: 0552295.01	ANALYSIS REQUESTED										OTHER (Specify)									
REPORT TO COMPANY: ERM	NWTPH-HCID										Metals-Metals									
PROJECT MANAGER: Elise LeBlanc	NWTPH-DX										Metals-Other (Specify)									
ADDRESS: 1218 3rd Ave Suite 1422	NWTPH-GX										TCLP-Metals									
Seattle, WA 98101	BTEX by EPA 8021										VOA									
Jessie Cooper #914-714-1243	MTBE by EPA 8021										Semi-Vol									
E-MAIL: elise.leblanc@erm.com	Halogenated Volatiles by EPA 8260										Pest									
INVOICE TO COMPANY: ERM	Volatile Organic Compounds by EPA 8260										Herbs									
ATTENTION: Elise LeBlanc	EDB / EDC by EPA 8260 (water)										Pesticides by EPA 8081									
ADDRESS: Same as above	EDB / EDC by EPA 8260 (soil)										Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM									
	Semivolatile Organic Compounds by EPA 8270										PCB by EPA 8082									
	X										Metals-MTCA-5									
											RCRA-8									
											Pb Pol									
											TAL									
											RECEIVED IN GOOD CONDITION?									

SPECIAL INSTRUCTIONS Report full list of Analytes 8260

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Jessie Cooper ERM 1-22-21 16:00
Received By: Shm 7:17 AL 1/22/21 16:00
2. Relinquished By: _____
Received By: _____

TURNAROUND REQUESTED in Business Days*
OTHER:

Specify: 10 5 3 2 1
Standard SAME DAY
Fuels & Hydrocarbon Analysis
5 3 1
Standard SAME DAY

*Turnaround request less than standard may incur Rush Charges



February 4, 2021

Ms. Elise LeBlanc
ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

Dear Ms. LeBlanc,

On January 22nd, 29 samples were received by our laboratory and assigned our laboratory project number EV21010167. The project was identified as your 0552295.01. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Glen Perry
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101
DATE: 2/4/2021
ALS JOB#: EV21010167
ALS SAMPLE#: EV21010167-01
CLIENT CONTACT: Elise LeBlanc
DATE RECEIVED: 01/22/2021
CLIENT PROJECT: 0552295.01
COLLECTION DATE: 1/20/2021 9:20:00 AM
CLIENT SAMPLE ID: MW-5-2-210120
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	2.8		UG/L	1	2.0	0.0087	0.026	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	96.1		5.00	4.80	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-02
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 9:21:00 AM
CLIENT SAMPLE ID	MW-8-2-210120	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	0.62		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	01/25/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	33		UG/L	1	2.0	0.076	0.23	01/25/2021	DLC
Trichloroethene	EPA-8260	120		UG/L	10	20	0.087	0.26	01/27/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	99.5		5.00	4.97	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	101		50.0	50.7	71	130	01/27/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-03
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021
CLIENT SAMPLE ID	DUP-01	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	2.8		UG/L	1	2.0	0.0087	0.026	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	95.9		5.00	4.80	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-04
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 12:55:00 PM
CLIENT SAMPLE ID	DPE-8-18-210120	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	1.8		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	01/25/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	120		UG/L	10	20	0.76	2.3	01/27/2021	DLC
Trichloroethene	EPA-8260	2600		UG/L	100	200	0.87	2.6	01/27/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.07	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	102		500	510	71	130	01/27/2021	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	101		50.0	50.5	71	130	01/27/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-05
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 1:25:00 PM
CLIENT SAMPLE ID	DPE-8-27-210120	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	8.1		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	2.1		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	18		UG/L	1	2.0	0.078	0.24	01/25/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	250		UG/L	20	40	1.5	4.6	01/27/2021	DLC
Trichloroethene	EPA-8260	7800		UG/L	500	1000	4.4	13	01/27/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.10	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	101		2500	2520	71	130	01/27/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	102		100	102	71	130	01/27/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-06
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 1:55:00 PM
CLIENT SAMPLE ID	DPE-8-42-210120	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	15		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	2.7		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	40		UG/L	1	2.0	0.078	0.24	01/25/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	480		UG/L	100	200	7.6	23	02/02/2021	DLC
Trichloroethene	EPA-8260	11000		UG/L	500	1000	4.4	13	01/27/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	103		5.00	5.15	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	102		2500	2540	71	130	01/27/2021	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	93.7		500	469	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101
DATE: 2/4/2021
ALS JOB#: EV21010167
ALS SAMPLE#: EV21010167-07
CLIENT CONTACT: Elise LeBlanc
DATE RECEIVED: 01/22/2021
CLIENT PROJECT: 0552295.01
COLLECTION DATE: 1/20/2021 12:41:00 PM
CLIENT SAMPLE ID: DPE-15-16-210120
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	13		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	2.0		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	22		UG/L	1	2.0	0.078	0.24	01/25/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	2600		UG/L	1000	2000	76	230	01/31/2021	DLC
Trichloroethene	EPA-8260	29000		UG/L	1000	2000	8.7	26	01/31/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.09	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 1000X Dilution	EPA-8260	110		5000	5510	71	130	01/31/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-08
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 1:12:00 PM
CLIENT SAMPLE ID	DPE-15-27-210120	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	130		UG/L	200	40	0.72	2.2	01/27/2021	DLC
1,1-Dichloroethene	EPA-8260	19		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	820		UG/L	200	400	16	47	01/27/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	3800		UG/L	200	400	15	46	01/27/2021	DLC
Trichloroethene	EPA-8260	63000		UG/L	2000	4000	17	52	01/31/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	103		5.00	5.14	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 200X Dilution	EPA-8260	102		1000	1020	71	130	01/27/2021	DLC
1,2-Dichloroethane-d4 2000X Dilution	EPA-8260	111		10000	11100	71	130	01/31/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-09
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 1:50:00 PM
CLIENT SAMPLE ID	DPE-15-42-210120	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	130		UG/L	1000	11	3.6	11	01/27/2021	DLC
1,1-Dichloroethene	EPA-8260	20		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	820		UG/L	1000	240	78	240	01/27/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	3800		UG/L	1000	2000	76	230	01/27/2021	DLC
Trichloroethene	EPA-8260	69000		UG/L	2000	4000	17	52	01/31/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.11	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 1000X Dilution	EPA-8260	102		5000	5080	71	130	01/27/2021	DLC
1,2-Dichloroethane-d4 2000X Dilution	EPA-8260	111		10000	11100	71	130	01/31/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-10
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 9:45:00 AM
CLIENT SAMPLE ID	DPE-29-14-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	25		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	4.3		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	47		UG/L	20	40	1.6	4.7	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	230		UG/L	20	40	1.5	4.6	02/02/2021	DLC
Trichloroethene	EPA-8260	610		UG/L	20	40	0.17	0.52	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.02	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	96.5		100	96.5	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-11
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 10:40:00 AM
CLIENT SAMPLE ID	DPE-29-27-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	27		UG/L	1	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	4.5		UG/L	1	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	56		UG/L	20	40	1.6	4.7	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	260		UG/L	20	40	1.5	4.6	02/02/2021	DLC
Trichloroethene	EPA-8260	690		UG/L	20	40	0.17	0.52	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/25/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.02	71	130	01/25/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	94.6		100	94.6	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-12
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 11:15:00 AM
CLIENT SAMPLE ID	DPE-29-42-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	28		UG/L	1	0.20	0.0036	0.011	01/26/2021	DLC
1,1-Dichloroethene	EPA-8260	4.7		UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	54		UG/L	20	40	1.6	4.7	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	260		UG/L	20	40	1.5	4.6	02/02/2021	DLC
Trichloroethene	EPA-8260	690		UG/L	20	40	0.17	0.52	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.00	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	95.8		100	95.8	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-13
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 9:35:00 AM
CLIENT SAMPLE ID	DPE-22-17-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	2.4		UG/L	1	0.20	0.0036	0.011	01/26/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	01/26/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	29		UG/L	1	2.0	0.076	0.23	01/26/2021	DLC
Trichloroethene	EPA-8260	3900		UG/L	100	200	0.87	2.6	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.02	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	96.1		500	481	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-14
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 10:21:00 AM
CLIENT SAMPLE ID	DPE-22-27-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	2.5		UG/L	1	0.20	0.0036	0.011	01/26/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	01/26/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	29		UG/L	1	2.0	0.076	0.23	01/26/2021	DLC
Trichloroethene	EPA-8260	4400		UG/L	200	400	1.7	5.2	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	100		5.00	5.00	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 200X Dilution	EPA-8260	93.1		1000	931	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-15
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 10:55:00 AM
CLIENT SAMPLE ID	DPE-22-42-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	2.5		UG/L	1	0.20	0.0036	0.011	01/26/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	01/26/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	29		UG/L	1	2.0	0.076	0.23	01/26/2021	DLC
Trichloroethene	EPA-8260	4400		UG/L	200	400	1.7	5.2	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.04	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 200X Dilution	EPA-8260	92.6		1000	926	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-16
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 1:00:00 PM
CLIENT SAMPLE ID	DPE-16-17-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	100		UG/L	500	100	1.8	5.4	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	15		UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	1900		UG/L	500	1000	39	120	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	2600		UG/L	500	1000	38	110	02/02/2021	DLC
Trichloroethene	EPA-8260	57000		UG/L	2000	4000	17	52	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.10	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	94.0		2500	2350	71	130	02/02/2021	DLC
1,2-Dichloroethane-d4 2000X Dilution	EPA-8260	91.9		10000	9190	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-17
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 1:35:00 PM
CLIENT SAMPLE ID	DPE-16-27-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	100		UG/L	500	100	1.8	5.4	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	15		UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	2100		UG/L	500	1000	39	120	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	2700		UG/L	500	1000	38	110	02/02/2021	DLC
Trichloroethene	EPA-8260	56000		UG/L	2000	4000	17	52	02/03/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.12	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	94.7		2500	2370	71	130	02/02/2021	DLC
1,2-Dichloroethane-d4 2000X Dilution	EPA-8260	91.7		10000	9170	71	130	02/03/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-18
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021 2:15:00 PM
CLIENT SAMPLE ID	DPE-16-42-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	100		UG/L	1000	11	3.6	11	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	15		UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	1800		UG/L	1000	240	78	240	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	2600		UG/L	1000	2000	76	230	02/02/2021	DLC
Trichloroethene	EPA-8260	61000		UG/L	2000	4000	17	52	02/03/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.10	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 1000X Dilution	EPA-8260	94.7		5000	4730	71	130	02/02/2021	DLC
1,2-Dichloroethane-d4 2000X Dilution	EPA-8260	91.7		10000	9170	71	130	02/03/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-19
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 1:08:00 PM
CLIENT SAMPLE ID	DPE-9-17-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	2.9		UG/L	1	0.20	0.0036	0.011	01/26/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	3.6		UG/L	1	2.0	0.078	0.24	01/26/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	79		UG/L	20	40	1.5	4.6	02/03/2021	DLC
Trichloroethene	EPA-8260	1800		UG/L	200	400	1.7	5.2	02/03/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102		5.00	5.09	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 200X Dilution	EPA-8260	91.3		1000	913	71	130	02/03/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	91.4		100	91.4	71	130	02/03/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-20
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 1:55:00 PM
CLIENT SAMPLE ID	DPE-9-27-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	16		UG/L	1	0.20	0.0036	0.011	01/26/2021	DLC
1,1-Dichloroethene	EPA-8260	2.9		UG/L	1	2.0	0.0053	0.016	01/26/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	3.2		UG/L	1	2.0	0.078	0.24	01/26/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	300		UG/L	20	40	1.5	4.6	02/03/2021	DLC
Trichloroethene	EPA-8260	14000		UG/L	500	1000	4.4	13	02/03/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	01/26/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.04	71	130	01/26/2021	DLC
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	94.6		2500	2370	71	130	02/03/2021	DLC
1,2-Dichloroethane-d4 20X Dilution	EPA-8260	92.1		100	92.1	71	130	02/03/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-21
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 2:25:00 PM
CLIENT SAMPLE ID	DPE-9-42-210121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	19		UG/L	1	0.20	0.0036	0.011	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	4.3		UG/L	1	2.0	0.0053	0.016	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	6.0		UG/L	1	2.0	0.078	0.24	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	260		UG/L	10	20	0.76	2.3	02/01/2021	DLC
Trichloroethene	EPA-8260	11000		UG/L	500	1000	4.4	13	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/01/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 500X Dilution	EPA-8260	97.0		10000	9700	71	130	02/01/2021	DLC
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	94.3		200	189	71	130	02/01/2021	DLC
1,2-Dichloroethane-d4	EPA-8260	89.5		20.0	17.9	71	130	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-22
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/21/2021
CLIENT SAMPLE ID	DUP-02	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	150		UG/L	250	50	0.90	2.7	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	18		UG/L	1	2.0	0.0053	0.016	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	1600		UG/L	250	500	20	59	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	2200		UG/L	250	500	19	57	02/01/2021	DLC
Trichloroethene	EPA-8260	40000		UG/L	1000	2000	8.7	26	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/01/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 1000X Dilution	EPA-8260	95.1		20000	19000	71	130	02/01/2021	DLC
1,2-Dichloroethane-d4 250X Dilution	EPA-8260	97.3		5000	4870	71	130	02/01/2021	DLC
1,2-Dichloroethane-d4	EPA-8260	88.7		20.0	17.7	71	130	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-23
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021 8:35:00 AM
CLIENT SAMPLE ID	DPE-2-16-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	6.5		UG/L	1	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	71		UG/L	10	20	0.087	0.26	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	96.0		200	192	71	130	02/01/2021	DLC
1,2-Dichloroethane-d4	EPA-8260	90.4		20.0	18.1	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-24
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021 8:57:00 AM
CLIENT SAMPLE ID	DPE-2-27-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	3.0		UG/L	1	2.0	0.076	0.23	02/01/2021	DLC
Trichloroethene	EPA-8260	31		UG/L	1	2.0	0.0087	0.026	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/01/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	88.9		20.0	17.8	71	130	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-25
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/20/2021 9:25:00 AM
CLIENT SAMPLE ID	DPE-2-42-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	3.2		UG/L	1	2.0	0.076	0.23	02/01/2021	DLC
Trichloroethene	EPA-8260	33		UG/L	1	2.0	0.0087	0.026	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/01/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	93.2		20.0	18.6	71	130	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-26
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021 8:50:00 AM
CLIENT SAMPLE ID	DPE-3-16-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	20		UG/L	1	2.0	0.0087	0.026	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	94.9		20.0	19.0	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101
DATE: 2/4/2021
ALS JOB#: EV21010167
ALS SAMPLE#: EV21010167-27
CLIENT CONTACT: Elise LeBlanc
DATE RECEIVED: 01/22/2021
CLIENT PROJECT: 0552295.01
COLLECTION DATE: 1/22/2021 9:32:00 AM
CLIENT SAMPLE ID: DPE-3-27-210122
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	8.2		UG/L	1	2.0	0.0087	0.026	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	94.2		20.0	18.8	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-28
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021 10:08:00 AM
CLIENT SAMPLE ID	DPE-3-42-210122	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	7.8		UG/L	1	2.0	0.0087	0.026	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/02/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	94.5		20.0	18.9	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS JOB#:	EV21010167
	Seattle, WA 98101	ALS SAMPLE#:	EV21010167-29
CLIENT CONTACT:	Elise LeBlanc	DATE RECEIVED:	01/22/2021
CLIENT PROJECT:	0552295.01	COLLECTION DATE:	1/22/2021
CLIENT SAMPLE ID	TRIP BLANK	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	QUAL	UNITS	DILUTION FACTOR	RL	LIMITS MDL	PQL	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	ND	U	UG/L	1	0.20	0.0036	0.011	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0053	0.016	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.078	0.24	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.076	0.23	02/01/2021	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	1	2.0	0.0087	0.026	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	1	2.0	0.077	0.23	02/01/2021	DLC

SURROGATE	METHOD	RESULTS	QUAL	SPIKE ADDED	RESULT	MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	92.0		20.0	18.4	71	130	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 2/4/2021
ALS SDG#: EV21010167
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295.01

LABORATORY BLANK RESULTS

MB-012521W - Batch 161891 - Water by EPA-8260 Prepared 01/25/2021 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	01/25/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	01/25/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	01/25/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	01/25/2021	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	01/25/2021	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	01/25/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	01/25/2021	DLC
SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	101		5.00	5.05	71	130	01/25/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020121W - Batch 162171 - Water by EPA-8260 Prepared 02/01/2021 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	02/01/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	02/01/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	02/01/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	02/01/2021	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	02/01/2021	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	02/01/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	02/01/2021	DLC
SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	91.4		20.0	18.3	71	130	02/01/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020121W2 - Batch 162176 - Water by EPA-8260 Prepared 02/01/2021 00:00

ANALYTE	METHOD	RESULTS	QUAL	UNITS	RL	LIMITS		ANALYSIS DATE	ANALYSIS BY
						MDL	PQL		
Vinyl Chloride	EPA-8260	ND	U	UG/L	0.20	0.0036	0.011	02/02/2021	DLC
1,1-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0053	0.016	02/02/2021	DLC
Trans-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.078	0.24	02/02/2021	DLC
Cis-1,2-Dichloroethene	EPA-8260	ND	U	UG/L	2.0	0.076	0.23	02/02/2021	DLC
Trichloroethene	EPA-8260	ND	U	UG/L	2.0	0.0087	0.026	02/02/2021	DLC
Toluene	EPA-8260	ND	U	UG/L	2.0	0.081	0.24	02/02/2021	DLC
Dibromochloromethane	EPA-8260	ND	U	UG/L	2.0	0.077	0.23	02/02/2021	DLC

CERTIFICATE OF ANALYSIS

CLIENT:	ERM West	DATE:	2/4/2021
	1218 - 3rd Ave, Suite 1412	ALS SDG#:	EV21010167
	Seattle, WA 98101	WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295.01		

LABORATORY BLANK RESULTS
MB-020121W2 - Batch 162176 - Water by EPA-8260 Prepared 02/01/2021 00:00

SURROGATE	METHOD	%REC	QUAL	SPIKE ADDED	RESULT	CONTROL LIMITS		ANALYSIS DATE	ANALYSIS BY
						MIN	MAX		
1,2-Dichloroethane-d4	EPA-8260	98.5		5.00	4.92	71	130	02/02/2021	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: ERM West
1218 - 3rd Ave, Suite 1412
Seattle, WA 98101

DATE: 2/4/2021
ALS SDG#: EV21010167
WDOE ACCREDITATION: C601

CLIENT CONTACT: Elise LeBlanc
CLIENT PROJECT: 0552295.01

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 161891 - Water by EPA-8260 Prepared 01/25/2021 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Vinyl Chloride - BS	EPA-8260	115			10.0	11.5	50	150		01/25/2021	DLC
Vinyl Chloride - BSD	EPA-8260	123	7		10.0	12.3	50	150	25	01/25/2021	DLC
1,1-Dichloroethene - BS	EPA-8260	109			10.0	10.9	72.5	136		01/25/2021	DLC
1,1-Dichloroethene - BSD	EPA-8260	116	7		10.0	11.6	72.5	136	20.5	01/25/2021	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	108			10.0	10.8	50	150		01/25/2021	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	114	6		10.0	11.4	50	150	25	01/25/2021	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	104			10.0	10.4	50	150		01/25/2021	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	109	4		10.0	10.9	50	150	25	01/25/2021	DLC
Trichloroethene - BS	EPA-8260	103			10.0	10.3	74.4	141		01/25/2021	DLC
Trichloroethene - BSD	EPA-8260	109	5		10.0	10.9	74.4	141	20.5	01/25/2021	DLC
Toluene - BS	EPA-8260	106			10.0	10.6	71.7	139		01/25/2021	DLC
Toluene - BSD	EPA-8260	111	4		10.0	11.1	71.7	139	20.5	01/25/2021	DLC
Dibromochloromethane - BS	EPA-8260	104			10.0	10.4	50	150		01/25/2021	DLC
Dibromochloromethane - BSD	EPA-8260	106	2		10.0	10.6	50	150	25	01/25/2021	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
1,2-Dichloroethane-d4 - BS	EPA-8260	98.6			5.00	4.93	71	130		01/25/2021	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	99.7			5.00	4.99	71	130		01/25/2021	DLC

ALS Test Batch ID: 162171 - Water by EPA-8260 Prepared 02/01/2021 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			
Vinyl Chloride - BS	EPA-8260	81.6			10.0	8.16	50	150		02/01/2021	DLC
Vinyl Chloride - BSD	EPA-8260	79.0	3		10.0	7.90	50	150	25	02/01/2021	DLC
1,1-Dichloroethene - BS	EPA-8260	92.5			10.0	9.25	72.5	136		02/01/2021	DLC
1,1-Dichloroethene - BSD	EPA-8260	90.5	2		10.0	9.05	72.5	136	20.5	02/01/2021	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	93.9			10.0	9.39	50	150		02/01/2021	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	89.3	5		10.0	8.93	50	150	25	02/01/2021	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	95.9			10.0	9.59	50	150		02/01/2021	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	94.5	1		10.0	9.45	50	150	25	02/01/2021	DLC
Trichloroethene - BS	EPA-8260	88.9			10.0	8.89	74.4	141		02/01/2021	DLC
Trichloroethene - BSD	EPA-8260	87.7	1		10.0	8.77	74.4	141	20.5	02/01/2021	DLC
Toluene - BS	EPA-8260	88.8			10.0	8.88	71.7	139		02/01/2021	DLC
Toluene - BSD	EPA-8260	87.3	2		10.0	8.73	71.7	139	20.5	02/01/2021	DLC
Dibromochloromethane - BS	EPA-8260	95.1			10.0	9.51	50	150		02/01/2021	DLC
Dibromochloromethane - BSD	EPA-8260	95.5	1		10.0	9.55	50	150	25	02/01/2021	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
							MIN	MAX			



CERTIFICATE OF ANALYSIS

CLIENT:	ERM West 1218 - 3rd Ave, Suite 1412 Seattle, WA 98101	DATE:	2/4/2021
		ALS SDG#:	EV21010167
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Elise LeBlanc		
CLIENT PROJECT:	0552295.01		

LABORATORY CONTROL SAMPLE RESULTS

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 - BS	EPA-8260	91.1			20.0	18.2	MIN	MAX		02/01/2021	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	92.8			20.0	18.6	71	130		02/01/2021	DLC

ALS Test Batch ID: 162176 - Water by EPA-8260 Prepared 02/01/2021 00:00

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride - BS	EPA-8260	119			10.0	11.9	MIN	MAX		02/02/2021	DLC
Vinyl Chloride - BSD	EPA-8260	109	9		10.0	10.9	50	150	25	02/02/2021	DLC
1,1-Dichloroethene - BS	EPA-8260	118			10.0	11.8	72.5	136		02/02/2021	DLC
1,1-Dichloroethene - BSD	EPA-8260	107	9		10.0	10.7	72.5	136	20.5	02/02/2021	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	128			10.0	12.8	50	150		02/02/2021	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	116	10		10.0	11.6	50	150	25	02/02/2021	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	123			10.0	12.3	50	150		02/02/2021	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	113	8		10.0	11.3	50	150	25	02/02/2021	DLC
Trichloroethene - BS	EPA-8260	117			10.0	11.7	74.4	141		02/02/2021	DLC
Trichloroethene - BSD	EPA-8260	110	6		10.0	11.0	74.4	141	20.5	02/02/2021	DLC
Toluene - BS	EPA-8260	118			10.0	11.8	71.7	139		02/02/2021	DLC
Toluene - BSD	EPA-8260	113	5		10.0	11.3	71.7	139	20.5	02/02/2021	DLC
Dibromochloromethane - BS	EPA-8260	116			10.0	11.6	50	150		02/02/2021	DLC
Dibromochloromethane - BSD	EPA-8260	111	4		10.0	11.1	50	150	25	02/02/2021	DLC

SURROGATE	METHOD	%REC	RPD	QUAL	SPIKE ADDED	RESULT	LIMITS		RPD	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 - BS	EPA-8260	96.9			5.00	4.85	MIN	MAX		02/02/2021	DLC
1,2-Dichloroethane-d4 - BSD	EPA-8260	96.7			5.00	4.83	71	130		02/02/2021	DLC

APPROVED BY

Laboratory Director



ALS Job# (Laboratory Use Only)

Date 6-20-21 Page 1 Of 3[illegible]

SPECIAL INSTRUCTIONS

only report TCE cis-1,2-DCE, vinyl chloride, dibromochloro methane, trans-1,2-DCE, 1,1-DCE

SIGNATURES (Name, Company, Date, Time):

SIGNATURES (Name, Company, Date, Time):
 Bellinghoush Bv. JESSIE MARRER ERM 01-27-71 11:00
 TURNAROUND REQUESTED in Business Days
 Organic, Metals & Inorganic Analysis
 OTHER:

Received By: Swartz ALS 122 2024 1600

2. Relinquished By: _____

Received By: _____

TURNAROUND
Organic, Metals & Inorganic Analysis

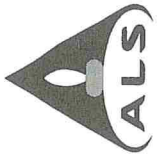
10 5 3 2 1 SAME DAY

Fuels & Hydrocarbon Analysis

SAME DAY 1 3 5

Standard

*Turnaround request less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
<http://www.alsglobal.com>

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

EV21010167

Date 1-21-21 Page 2 Of 3

PROJECT ID: 0552295.01				ANALYSIS REQUESTED												OTHER (Specify)													
REPORT TO COMPANY: ERM																													
PROJECT MANAGER: Glisele Blanc																													
ADDRESS: 1218 3rd Ave Suite 1422																													
PHONE: Seattle, WA 98101																													
E-MAIL: jessiecooper@erm.com																													
INVOICE TO COMPANY: ERM																													
ATTENTION: Elise LeBlanc																													
ADDRESS: same as above																													
SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021	MTBE by EPA 8021	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Pesticides by EPA 8081	Metals-MTCA-5	RCRA-8	Pb Pol	TAL	Metals Other (Specify)	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. DPE-29-14-21	1-21-21	1040	GW	11							X																		
2. DPE-29-12-21	1-21-21	1115	GW	12							X																		
3. DPE-22-17-21	1-21-21	0935	GW	13							X																		
4. DPE-22-27-21	1-21-21	1021	GW	14							X																		
5. DPE-22-42-21	1-21-21	1055	GW	15							X																		
6. DPE-14-17-21	1-21-21	1300	GW	16							X																		
7. DPE-16-27-21	1-21-21	1335	GW	17							X																		
8. DPE-16-42-21	1-21-21	1415	GW	18							X																		
9. DPE-9-17-21	1-21-21	1308	GW	19							X																		
10. DPE-9-27-21	1-21-21	1355	GW	20							X																		

SPECIAL INSTRUCTIONS Only report TCE, cis-1,2-DCE, vinyl chloride, dibromochloro methane, trans-1,2-DCE, 1,1-DCE

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: jessiecooper ERM 1-22-21 16:00

Received By: jessiecooper AUS 1/22/2021 1600

2. Relinquished By:

Received By:

TURNAROUND REQUESTED in Business Days*
OTHER:

Specify:

Organic, Metals & Inorganic Analysis
10 Standard 5 3 1 SAME DAY

Fuels & Hydrocarbon Analysis
5 3 1 SAME DAY

*Turnaround request less than standard may incur Rush Charges



ALS Job#

E'V21010167

Date 1-21-21 Page 3 Of 3

SPECIAL INSTRUCTIONS

Only report TCE, cis-1,2-DCE, vinyl chloride, dibromochloromethane, trans-1,2-DCE, 1,1-DCE

SIGNATURES (Name, Company, Date, Time):

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: psieconer ERM 1-22-21 16:00

Received By: Shweta ALS 1/22/2021 1600

2. Relinquished By: _____

Received By:

TURNAROUND
Organic, Metals & Inorganic Analysis

Specify:

10	5	3	2	1	SAME DAY
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Fuels & Hydrocarbon Analysis

SAME DAY
1
3
5

Standard

*Turnaround request less than standard may incur Rush Charges

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Guyana	Singapore
Hong Kong	South Africa
India	South Korea
Indonesia	Spain
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ERM's Seattle Office

1218 3rd Avenue
Suite 1412
Seattle, Washington
98101

T: 425-462-8591

F: 425-455-3573

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