EVERETT
WASHINGTON

February 23, 2022

Sunny Becker, Site Manager
Washington State Department of Ecology
Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Everett Landfill – 2022 Groundwater Performance Monitoring Report

Dear Sunny:

Floyd | Snider has completed the 2022 Groundwater Performance Monitoring annual report for the Everett Landfill site. This report satisfies the groundwater reporting requirements outlined in Section 4.5.3 of the Compliance Monitoring and Contingency Plan.

The attached letter report presents data and results from the two Groundwater Monitoring events for 2022. As the report describes, sampling was performed in February and October of 2022.

If you have any comments or questions on the attached, please don't hesitate to contact me. Alternatively, you can contact Kate Snider at Floyd | Snider.

Sincerely,

Randy Loveless, P.E.
Senior Engineer, Landfill Site Manager

Enclosure

Public Works

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Memorandum

To: Randy Loveless, P.E., City of Everett Public Works

From: Kate Snider, Sabine Datum, and Brett Beaulieu, Floyd|Snider

Date: February 21, 2023

Project No: COEv-DEVEL 2014

Re: **2022 Annual Groundwater Monitoring Report – Everett Landfill/Tire Fire Site, Everett, Washington**

This memorandum presents the 2022 sampling and analytical results of groundwater monitoring at the Everett Landfill/Tire Fire Site (Site), located in Everett, Washington (Figure 1). Sampling was performed in accordance with the Site Cleanup Action Plan (CAP) and Compliance Monitoring and Contingency Plan (CMCP; Floyd|Snider 2001) and the Site Sampling and Analysis Plan (HWA 2015). Groundwater has been monitored at the Site since 2001. Historical groundwater data collected by HWA Geosciences, Inc. (HWA) prior to 2021 are appended to this report as Attachment 1 (HWA 2020).

BACKGROUND

The Site is approximately 70 acres and located east of Interstate 5 and the western shore of the Snohomish River between 36th Street and 41st Street. Nine groundwater monitoring wells screened within the deep aquifer (MW-11R, MW-21R, MW-29R, MW-30, MW-31, MW-36, MW-37, MW-38, and MW-39R)[1] are currently selected for compliance monitoring.

Per the CMCP, Evaluation Monitoring was performed for 3 years between 2001 and 2004, prior to Performance Monitoring to supplement existing information regarding baseline conditions at the Site. The CMCP then requires that Performance Monitoring be conducted for at least 10 years (referred to as compliance monitoring in this report), in which seasonal and long-term changes in groundwater quality are monitored semiannually. Initial compliance monitoring was performed between 2005 and 2015. In addition, the CMCP requires compliance monitoring to be reset or be reinstated after the first significant pile installation activity and after additional pile installation in a zone identified for pile restrictions. The 10-year compliance monitoring period reset in October 2020 after the first pile installation that penetrated the aquitard occurred.

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[1] Deep aquifer wells are screened at depths from 18 to 28 feet to 32 to 40.5 feet below ground surface (bgs).

Groundwater in the shallow (leachate) aquifer[2] is collected in the leachate collection system and conveyed off-site for treatment. A small section of the shallow aquifer is present east of the leachate collection system (and west of the East Ditch; Figure 2). There is residual waste in a narrow strip of land between the leachate collection trench and the East Ditch; however, as documented in the 2001 CAP (Floyd|Snider 2001), groundwater from this narrow strip of land is collected in the leachate collection system and conveyed off-site, preventing groundwater discharge to surface water.

The shallow aquifer point of compliance is located on the strip of land between the East Ditch and the leachate collection trench. Shallow aquifer compliance criteria are based on hydraulic control through operation of the leachate collection system. Hydraulic control is demonstrated through monitoring of water levels to show that hydraulic gradients are toward the leachate collection system, which would indicate that no shallow aquifer discharge to surface water is occurring. No water quality monitoring of the shallow aquifer is required while operating the leachate collection trench.

Because the shallow aquifer is discharging to the leachate collection system, groundwater quality compliance is only monitored in the deep aquifer, per the requirements of the CMCP. Groundwater in the deep aquifer discharges to the Snohomish River. The deep aquifer is a potential future source of drinking water. The points of compliance for the deep aquifer are MW-36, MW-37, MW-38, and MW-39R, the groundwater monitoring wells closest to the Snohomish River.

Contaminants of concern (COCs) and their site-specific cleanup levels (CULs) were initially presented in the CMCP. After completion of Evaluation Monitoring, the COCs were refined and limited to the following for compliance monitoring: metals (arsenic, iron, manganese, nickel, and zinc), chloride, and bis(2-ethylhexyl)phthalate (BEHP; HWA 2004).

For additional background details refer to the CMCP (Floyd|Snider 2001) and the 2004 HWA Evaluation Monitoring Report (HWA 2004).

GROUNDWATER MONITORING EVENTS

Floyd|Snider completed two groundwater monitoring events in 2022. The sampling locations are depicted on Figure 2. Groundwater monitoring was performed using low-flow purging and sampling techniques, per the Floyd|Snider Standard Guideline Low-Flow Groundwater Sampling (Attachment 1).

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[2] The shallow aquifer is present at depths less than 22 feet bgs.

February 2022 Sampling Event

On February 15 and 16, 2022, groundwater samples were collected from the following nine wells:

- Deep aquifer monitoring wells MW-11R, MW-21R, MW-29R, MW-30, and MW-31
- Deep aquifer point of compliance wells MW-36, MW-37, MW-38, and MW-39R

A field duplicate was collected from well MW-29R.

Water level measurements from the top of casing were collected immediately prior to sampling at each well during the 2 days of sampling. Water level measurements and groundwater elevations are summarized in Table 1. During low-flow purging of the wells, field parameters (i.e., pH, temperature, dissolved oxygen, turbidity, oxidation reduction potential, and specific conductance) were recorded every 3 to 5 minutes for up to 1 hour or until parameters stabilized prior to sampling. The recorded field parameters are reported in Table 2. Low-flow purging of the wells was maintained throughout the sampling process. Samples analyzed for dissolved metals were field filtered with a disposable 0.45-micron filter. After completion of sampling, groundwater samples were transported to the analytical laboratories and analyzed for the site-specific COCs (see Laboratory Analysis section below).

During the February 2022 sampling event, the transducer and barometric logger[3] in MW-46 were removed from the well for data download. However, the transducer appeared to be defective and was shipped to the manufacturer for repair. The transducer and barologger were reinstalled in MW-46 in March 2022. The pressure transducer measures water level and temperature continuously while the barologger measures barometric pressure to correct for barometric pressure effects on water level data.

October 2022 Sampling Event

On October 18 and 19, 2022, groundwater samples were collected from the following wells:

- Deep aquifer monitoring wells MW-11R, MW-21R, MW-29R, MW-30, and MW-31
- Deep aquifer point of compliance wells MW-36, MW-37, MW-38, and MW-39R

A field duplicate sample was collected from MW-30.

Depth to water measurements were collected immediately prior to sampling at each well. Water level measurements were also collected from wells MW-22, MW-24, MW-25, MW-26, and MW-46.[4] Water level measurements are summarized in Table 1. During low-flow purging of the wells, field parameters (pH, temperature, dissolved oxygen, turbidity, oxidation reduction

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[3] The pressure transducer consists of Model Solinst 3001 Levelogger 5 and the barometric logger consists of Model Solinst Barologger 5.

[4] MW-22, MW-24, MW-25, MW-26, and MW-46 are screened in the shallow aquifer and not sampled.

potential, and specific conductance) were recorded every 3 to 5 minutes for up to 1 hour or until parameters stabilized prior to sampling. Low-flow purging of the wells was maintained throughout the sampling process. Samples analyzed for dissolved metals were field filtered with a disposable 0.45-micron filter. The recorded field parameters are reported in Table 2. After completion of sampling, groundwater samples were transported to the analytical laboratories and analyzed for the site-specific COCs (see Laboratory Analysis section below).

During the October 2022 sampling event, the transducer and barometric logger in MW-46 were removed from the well for data download. The transducer appeared again to be defective and was shipped to the manufacturer for repair or replacement. The units were temporarily replaced with a Van Essen datalogger Micro-Diver® and Baro-Diver®. A new Solinst transducer Model Solinst 3001 Levelogger 5 and Solinst barologger were reinstalled in MW-46 on October 28, 2022.

LABORATORY ANALYSIS

Groundwater samples collected in February and October 2022 were submitted to the City of Everett Environmental Laboratory for the following analyses:

- Dissolved metals (arsenic, iron, manganese, nickel, and zinc) by EPA Method 200.8
- Dissolved chloride by Standard Method SM4500-CL-E

Groundwater samples were also submitted to OnSite Environmental in Redmond, Washington for the following analysis:

- BEHP by EPA method 8270E

ANALYTICAL RESULTS

Table 2 summarizes the groundwater analytical results from the February and October 2022 sampling events. The laboratory reports are included in Attachment 2. Floyd|Snider performed data validation for all analytical data with a U.S. Environmental Protection Agency (USEPA) Level 2B Data Quality Review. The analytical data were validated in accordance with the USEPA National Functional Guidelines for Organic Superfund Methods Data Review (USEPA 2020a) and/or USEPA National Functional Guidelines for Inorganic Superfund Data Review (USEPA 2020b). No qualifiers were added to the analytical results based on the data quality review. Data were determined to be of acceptable quality for use as reported by the laboratory. A data validation summary is included in Attachment 3. Historical groundwater analytical results from 2001 to 2020 (i.e., excerpts from previous HWA annual reports) are included as Attachment 4.

Arsenic

Arsenic concentrations were detected in wells MW-21R, MW-30, MW-31, and MW-36. Concentrations in MW-21R were the highest with 18.8 micrograms per liter (µg/L) in October. The site-specific CUL for arsenic is 25 µg/L. Arsenic concentrations in MW-21R have exceeded the CUL previously (in July 2009) and have been fluctuating between non-detect (below 1 µg/L) and 24.6 µg/L since 2010. Arsenic concentrations in MW-21R over time relative to the CUL are shown on the graph depicted on Figure 3.

Iron

Iron was detected in all wells during both sampling events. Detected concentrations ranged between 2,780 µg/L in MW-11R and 39,500 µg/L in MW-31. Both the February and October 2022 iron concentrations in MW-31 exceeded the iron CUL of 23,687 µg/L. Iron also exceeded the CUL during the October 2022 event in MW-37 with a concentration of 24,100 µg/L.

Iron concentrations in well MW-31 have exceeded the CUL since sampling began in 2001. Concentrations fluctuated from 2001 to 2013 between approximately 30,000 and 45,000 µg/L, and then increased sharply to over 70,000 µg/L between 2014 and 2015, as shown on the graph on Figure 4. Iron has also previously exceeded the CUL in MW-37. Trends of iron concentrations over time in MW-37 are shown on Figure 5. There has been an overall downward trend since 2015 with seasonal fluctuations; however, the detected exceedance of iron in MW-37 in October 2022 is the first exceedance since January 2017. Seasonally, lower concentrations are observed in the winter than in the summer sampling events.

Manganese

Manganese was detected in all wells during both sampling events but none of the concentrations exceeded the CUL of 4,040 µg/L. Concentrations ranged between 230 µg/L in MW-39R (detected in February 2022) and 2,180 µg/L in MW-21R (detected in October 2022).

Nickel

Nickel concentrations were detected in MW-31 and MW-36. Concentrations ranged between 1.70 and 4.70 µg/L, which are below nickel CUL of 10 µg/L.

Zinc

Zinc was not detected above the laboratory reporting limit in any of the samples collected in February or October 2022.

Chloride

Chloride concentrations were detected in all wells sampled in February and October 2022. Chloride in MW-37 was detected at a concentration of 1,080 milligrams per liter (mg/L) in February and at 242 mg/L in October. These concentrations exceed the CUL of 230 mg/L. Chloride concentrations in MW-37 have previously exceeded the CUL between 2005 and 2006 and since 2016. Sampling had been discontinued in this well between 2006 and 2015 due to the influence of saline water from the Snohomish River into groundwater. When sampling resumed in 2015, concentrations increased steadily between 2015 and 2017, decreased between 2017 and the January 2019, but have since increased again. Chloride concentrations in MW-37 over time relative to the CUL are shown on the graph depicted on Figure 6.

In 2006, HWA performed a chloride investigation to determine the cause of the elevated chloride concentrations in MW-37 (HWA 2006). The results of this investigation indicate that the tidally influenced rise and fall of Snohomish River water levels results in mixing of surface water into groundwater, and that the presence of a saltwater wedge in the river affects the salinity in shoreline monitoring wells, specifically MW-37. The study also identified increases in river salinity over time as the cause of increases in groundwater chloride concentrations. HWA also found that groundwater near the river is greatly influenced by river elevations and that gradient reversals between the river and MW-37 (indicated by the higher groundwater elevations compared to surface water elevations) occur as shown in Figure 7 from HWA's 2006 chloride investigation (refer to Attachment 5).

During the 2006 investigation, chloride concentrations in MW-37, located only 15 feet from the Snohomish River, were compared to the two upgradient wells—MW-31, screened in the deep aquifer, and MW-24, screened in the shallow aquifer. Chloride concentrations in both upgradient wells were less than in MW-37, indicating that neither the chloride in the shallow aquifer nor in upgradient deep aquifer locations were affecting MW-37. Chloride concentrations in leachate connected to the shallow aquifer was observed to be greatest in the center of the landfill, with a decreasing trend toward the river (refer to Attachment 5 Figure 4), inconsistent with the elevated chloride concentrations in MW-37.

HWA established a correlation between salinity and chloride concentrations in MW-37, determined by specific conductivity measurements as an indicator for salinity (refer to Attachment 5 Figure 6). Specific conductivity measurements in MW-37 also increased and decreased with tidally influenced water levels, following the same pattern as groundwater levels, and specific conductivity in the river varied in conjunction with tides, indicating a salt water wedge moving up and down with the tides (refer to Attachment 5 Figures 8 and 9). HWA reviewed long-term precipitation trends and average river conductivities between 1980 and 2005 and found that decreasing precipitation resulted in increasing specific conductivities, an indicator for salinity. These findings resulted in the conclusion that increasing chloride concentrations in the river were the result of increasing river salinity due to decreased precipitation and river flow.

Salinity data collected from the Snohomish River near the Site indicates salinities between 5 and 18 parts per thousand (ppt; Hall et el. 2018). The site-specific chloride cleanup level of 230 µg/L would correspond to approximately 0.42 ppt salinity,[5] assuming minimal contribution from ions other than chloride, which is consistent with specific conductance in Site groundwater. Even the greatest chloride concentrations of 1,790 mg/L measured in MW-37 in July 2017 corresponds to only approximately 3.23 ppt salinity, less than the salinities measured in the Snohomish River

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[5] Per the conversion salinity (ppt) = 0.0018066 × chloride ion concentration (mg/L).

near the Site. This indicates that chloride in groundwater from the deep aquifer at MW-37 is unlikely to affect chloride concentrations in the river. For these reasons, we would like to propose discontinuing the analysis of chloride in MW-37.

BEHP

BEHP was not detected above the laboratory reporting limit in any of the groundwater samples collected in February or October 2022.

GROUNDWATER GRADIENT

Groundwater gradients in the deep aquifer have been monitored since 2001, per the requirements of the CMCP. Easterly flow toward the Snohomish River has been established and documented during the past monitoring years, with the exception of the area between MW-31 and MW-37, as discussed below. Based on groundwater levels measured in 2022 and resulting elevations, groundwater in the deep aquifer flows to the east toward the Snohomish River, with a gradient of approximately 0.02 feet per foot (ft/ft). Groundwater elevations in February and October 2022 are shown on Figures 7 and 8, respectively.

Reverse (westerly) groundwater flow between MW-31 and MW-37 was observed in both February 2022, with a gradient of approximately 0.02 ft/ft, and October 2022 with a gradient of approximately 0.06 ft/ft. These gradients may not be permanent and are also strongly affected by tidal fluctuations in nearshore groundwater elevations from variation in the Snohomish River stage elevation. Previous sampling events have shown that seasonal groundwater elevations greatly fluctuated in the wells closest to the river. For example, groundwater elevations in MW-37 in January 2021 were more than 9 feet higher than in July 2021 (Floyd|Snider 2021). Significant differences were also measured in 2021 in MW-36, with over 6 feet of difference, and in MW-31, with over 4.5 feet of difference (Floyd|Snider 2021). The differences in water elevations in wells observed in February and October 2022 are not as significant as the seasonal changes observed in January and July 2021. The water level elevation in MW-36 was 2.92 feet greater in October than in February but the water elevation difference in MW-37 was less than 1 foot. The greatest difference in 2022 was observed in MW-31 with more than 5 feet of elevation change. Tidal influences from the Snohomish River are responsible for these variations, as previously determined by HWA (refer to discussion about chloride in MW-37 above). Based on the United States Geological Survey (USGS) river gage readings for the Snohomish River at Snohomish,[6] Washington, in February 2022, daily tidal fluctuations accounted for up to 8 feet in river water level differences. In October 2022, daily tidal differences resulted in up to 10 feet of changes in river levels. Seasonally, lowest river levels fluctuated by about 9 feet in 2022 and high river levels fluctuated by approximately 6 feet in 2022. As a result, in addition to seasonal

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[6] According to the USGS, the Snohomish River gage datum is 9.86 feet below National Geodetic Vertical Datum of 1929.

variations, the time of day at which water levels were measured in the wells explains the high variability in the water levels in the near shore wells.

Per the CMCP, hydraulic control of the shallow (leachate) aquifer is demonstrated through monitoring of water levels to show that hydraulic gradients are toward the leachate collection system. For this reason, groundwater levels at and near the Everett Landfill leachate collection system are monitored to evaluate hydraulic control of the shallow aquifer with review of the transducer data from well MW-46 (screened in the shallow aquifer) and level sensor data from wet well at Lift Station 21 (LS21). Water level and barometer readings collected hourly between July 7, 2021, and January 23, 2022, are presented on Figure 9, and readings collected hourly between March 25, 2022, and October 17, 2022, are presented on Figure 10. Note that due to the transducer malfunction, no data was collected from MW-46 between January 23, 2022, and March 25, 2022. Data show that LS21 wet well water elevations ranged between -1.7 and 3.9 feet North American Vertical Datum of 1988 (NAVD 88) between July 7, 2021, and January 23, 2022, and between -1.8 and 0.6 feet NAVD 88 between March 25, 2022, and October 17, 2022. Readings greater and less than this range occurred during wet well maintenance activities or transducer connection interruptions. A spike in LS21 wet well elevations on November 15, 2021, was also observed in MW-46 elevations. These spikes are consistent with moderate flood stage elevations of the Snohomish River. Groundwater elevations in MW-46 during this time frame ranged from 5.08 to 13.9 feet NAVD 88 between July 2021 and January 2022 and from 5.76 to 12.08 feet NAVD 88 between March 2022 and October 2022. Based on the elevation data, groundwater elevations inside the wet well were 4.48 to 15.7 feet lower than groundwater elevations in MW-46. Given that the wet well groundwater elevations were below the shallow aquifer groundwater elevations, no discharge from the shallow aquifer to the Snohomish River occurred between July 2021 and October 2022, as expected. The shallow aquifer continues to be hydraulically controlled.

SUMMARY

The 2022 groundwater analytical results are similar to results in previous monitoring years. Exceedances of the iron CUL were detected in MW-31 and MW-37 and exceedances of the chloride CUL were detected in MW-37. MW-37 is a point of compliance well, in which sampling was discontinued between 2006 and 2015 due to the presumed influence of saline water from the Snohomish River into groundwater. Chloride concentrations have been fluctuating in MW-37 since 2016, between 242 µg/L and 1,790 µg/L, exceeding the CUL. We continue to hold the opinion that this is due to influence of saline water from the Snohomish River, based on HWA's previous evaluation and the comparison of Snohomish River salinities with corresponding chloride concentrations. As stated in the chloride discussion in this report, we propose to discontinue the analysis of chloride in MW-37.

In response to Ecology's comments on the 2021 Annual Groundwater Monitoring Report, the City of Everett proposed in July 2022 to collect a leachate sample from Lift Station #21, analyze the sample for an expanded analyte list, and compare the results to previous leachate data collected in July 2020 to verify leachate quality. A response to this proposal from Ecology is still outstanding. Until further recommendations or comments are received, Floyd|Snider will continue to sample the nine wells selected for compliance monitoring semiannually. Per the CMCP, the 10-year performance monitoring period reset in October 2020 after the first pile installation that penetrated the aquitard occurred.

REFERENCES

Floyd|Snider. 2001. *Cleanup Action Plan for the Everett Landfill/Tire Fire Site (Site) in Everett, Washington*. March.

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LIST OF ATTACHMENTS

Table 1	2022 Groundwater Elevations
Table 2	Summary of 2022 Groundwater Analytical Results
Figure 1	Site Vicinity Map

Figure 2	Groundwater Monitoring Well Locations
Figure 3	Arsenic Concentrations in MW-21R
Figure 4	Iron Concentrations in MW-31
Figure 5	Iron Concentrations in MW-37
Figure 6	Chloride Concentrations in MW-37
Figure 7	Deep Aquifer Groundwater Elevations February 2022
Figure 8	Deep Aquifer Groundwater Elevations October 2022
Figure 9	LS21 vs MW-46 Groundwater Elevations July 2021 through January 2022
Figure 10	LS21 vs MW-46 Groundwater Elevations March 2022 through October 2022
Attachment 1	Floyd|Snider Standard Guidelines
Attachment 2	Analytical Laboratory Reports
Attachment 3	Data Validation Summary
Attachment 4	Historical Groundwater Monitoring Analytical Results and Groundwater Elevations
Attachment 5	Excerpts from December 2006 HWA MW-37 Chloride Investigation Everett Landfill

State of Washington
Hydrogeologist
2624
Licensed Geologist
BRETT BEAULIEU

Name: Brett Beaulieu
Date: 2/21/2023

Tables

Table 1
2022 Groundwater Elevations

				February 2022 Sampling Event					October 2022 Sampling Event				
Well ID	**Depth of well screen (ft bgs) (1)**	**TOC Elevation (ft MSL)**	**TOC Elevation (ft NAVD 88)**	**Date of water level measurement**	**Time of water level measurement**	**Depth to water (ft)**	**Groundwater elevation (ft NAVD 88)**	**Snohomish River Level Gage (2) elevation at time of water level measurement**	**Date of water level measurement**	**Time of water level measurement**	**Depth to water (ft)**	**Groundwater elevation (ft NAVD 88)**	**Snohomish River Level Gage (2) at time of water level measurement**
MW-11R	30–40	18.761	14.311	2/15/2022	8:41	10.95	3.36	8.35	10/18/2022	15:33	10.55	3.76	8.44
MW-21R	30–40	43.81	39.36	2/15/2022	10:17	11.93	27.43	6.98	10/19/2022	8:20	12.64	26.72	-0.37
MW-22	unknown	32.22	27.77	2/14/2022	15:40	5.29	22.48	8.15	10/19/2022	9:10	7.45	20.32	0.71
MW-24*	unknown	14.012	9.562	--	--	--	NA	--	10/19/2022	11:11	5.88	3.68	3.82
MW-25*	unknown	12.515	8.065	--	--	--	NA	--	10/19/2022	11:48	5.45	2.62	4.74
MW-26*	unknown	12.183	7.733	--	--	--	NA	--	10/19/2022	13:14	2.45	5.28	7.26
MW-29R	39–49	12.452	8.002	2/15/2022	13:40	3.62	4.38	6.69	10/19/2022	13:15	5.29	2.71	7.26
MW-30	28–38	12.773	8.323	2/16/2022	9:35	5.52	2.80	7.70	10/19/2022	11:47	7.50	0.82	4.74
MW-31	18–28	14.031	9.581	2/15/2022	15:34	6.36	3.22	7.98	10/19/2022	10:19	11.76	-2.18	2.14
MW-36	21.5–31.5	15.37	10.92	2/16/2022	11:47	6.14	4.78	5.48	10/18/2022	12:26	3.22	7.70	7.70
MW-37	27.5–37.5	18.73	14.28	2/16/2022	10:46	8.89	5.39	6.40	10/18/2022	11:05	8.02	6.26	5.39
MW-38	32–40.5	18.07	13.62	2/15/2022	11:50	8.16	5.46	5.86	10/18/2022	13:54	4.92	8.70	8.90
MW-39R	51–61	15.919	11.469	2/15/2022	14:17	8.30	3.17	7.07	10/19/2022	14:17	9.12	2.35	8.38
MW-46*	7–22	26.619	22.169	3/25/2022	9:25	11.12	11.05	8.54	10/27/2022	16:45	10.84	11.33	7.94

Notes:

▨	Wells not selected for performance monitoring.
--	Not measured.
*	Screened in shallow aquifer.
1	Information obtained from historical boring logs.
2	Snohomish River Level Gage at Snohomish, Washington, located approximately 7 miles upstream from the site in NAVD 88.

Abbreviations:

bgs	Below ground surface
ft	Feet
MSL	Mean Sea Level
NA	Not available
NAVD 88	North American Vertical Datum of 1988
TOC	Top of casing

Table 2
Summary of 2022 Groundwater Analytical Results

				Location Name	**MW-11R**		**MW-21R**		**MW-29R**			**MW-30**		
				Sample Name	**MW-11R-021522**	**MW-11R-101822**	**MW-21R-021522**	**MW-21R-101922**	**MW-29R-021522**	**Dup-1-021522**	**MW-29R-101922**	**MW-30-021622**	**MW-30-101922**	**MW-D30-101922**
				Sample Date	**2/15/2022**	**10/18/2022**	**2/15/2022**	**10/19/2022**	**2/15/2022**	**2/15/2022**	**10/19/2022**	**2/16/2022**	**10/19/2022**	**10/19/2022**
Analytes	**CAS No.**	**CUL**	**Units**	**Analysis Method**										
Dissolved Metals														
Arsenic	7440-38-2	25	µg/L	EPA 200.8	0.600 U	0.600 U	10.3	18.8	0.600 U	0.600 U	0.600 U	6.60	6.90	6.80
Iron	7439-89-6	23,687	µg/L	EPA 200.8	2,780	4,140	11,200	13,200	4,730	4,720	5,870	11,000	11,600	11,700
Manganese	7439-96-5	4,040	µg/L	EPA 200.8	625	727	1,680	2,180	314	317	391	503	516	519
Nickel	7440-02-0	10	µg/L	EPA 200.8	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U
Zinc	7440-66-6	76.6	µg/L	EPA 200.8	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Conventionals														
Chloride	16887-00-6	230	mg/L	SM 4500-CL-E	13.4	15.8	16.8	8.90	9.50	9.60	10.9	16.7	17.0	16.9
SVOCs														
Bis(2-ethylhexyl)phthalate	117-81-7	10	µg/L	EPA 8270E	1.0 U	0.95 U	1.1 U	0.95 U	1.0 U	0.98 U	0.97 U	1.0 U	0.99 U	0.96 U
Field Parameters														
Dissolved Oxygen	--	--	mg/L	YSI METER	1.24	0.21	1.24	1.01	1.16	--	0.15	1.48	0.13	
ORP	--	--	mV	YSI METER	173.2	-146.5	138.1	-76	154	--	-108.6	145	-118.4	
pH	pH	--	pH	YSI METER	7.02	7.03	6.59	6.72	6.37	--	6.42	6.52	6.63	
Specific Conductance	--	--	µS/cm	YSI METER	643	855	429.3	601	559	--	848	443.1	550	
Temperature	--	--	°C	YSI METER	13.5	14.6	12.1	12.74	11.6	--	13.9	11.9	13.3	
Turbidity	--	--	ntu	TURBM	4.98	2.32	4.14	2.45	3.25	--	1.15	0.87	1.36	

Notes:

Conventionals and dissolved metals results are rounded to 3 significant figures. SVOCs are rounded to two significant figures. Field Parameters are presented to the decimal places provided on the field meters.

--	Not applicable/available or not analyzed.
BOLD	Result exceeds the CUL.

Abbreviations:

°C	Degree Celsius
CAS	Chemical Abstracts Service
CUL	Cleanup level
µg/L	Micrograms per liter
µS/cm	Microsiemens per centimeter
mg/L	Milligrams per liter
mV	Millivolts
ntu	Nephelometric turbidity unit
ORP	Oxygen-reduction potential
SVOC	Semivolatile organic compound
TURBM	Lamotte turbidity meter
YSI METER	YSI water quality meter

Qualifiers:

J	Analyte is detected and the concentration is estimated.
JQ	Analyte is detected between the method detection limit and reporting limit and the concentration is estimated.
U	Analyte is not detected at the associated reporting limit.

Table 2
Summary of 2022 Groundwater Analytical Results

				Location Name	**MW-31**		**MW-36**		**MW-37**		**MW-38**		**MW-39R**	
				Sample Name	**MW-31-021522**	**MW-31-101922**	**MW-36-021622**	**MW-36-101822**	**MW-37-021622**	**MW-37-101822**	**MW-38-021522**	**MW-38-101822**	**MW-39R-021522**	**MW-39R-101922**
				Sample Date	**2/15/2022**	**10/19/2022**	**2/16/2022**	**10/18/2022**	**2/16/2022**	**10/18/2022**	**2/15/2022**	**10/18/2022**	**2/15/2022**	**10/19/2022**
Analytes	**CAS No.**	**CUL**	**Units**	**Analysis Method**										
Dissolved Metals														
Arsenic	7440-38-2	25	µg/L	EPA 200.8	1.60 J	1.40 JQ	10.4	5.40	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U
Iron	7439-89-6	23,687	µg/L	EPA 200.8	**39,300**	**39,500**	5,080	5,860	15,200	**24,100**	2,800	2,840	4,230	4,620
Manganese	7439-96-5	4,040	µg/L	EPA 200.8	1,240	1,220	453	326	1,440	814	268	278	230	238
Nickel	7440-02-0	10	µg/L	EPA 200.8	3.00	2.90	4.70	1.70 JQ	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U	0.600 U
Zinc	7440-66-6	76.6	µg/L	EPA 200.8	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Conventionals														
Chloride	16887-00-6	230	mg/L	SM 4500-CL-E	140	150	30.3	22.8	**1,080**	**242**	10.9	10.6	7.50	7.30
SVOCs														
Bis(2-ethylhexyl)phthalate	117-81-7	10	µg/L	EPA 8270E	0.99 U	0.95 U	1.1 U	0.95 U	1.1 U	0.95 U	1.0 U	0.95 U	1.0 U	0.98 U
Field Parameters														
Dissolved Oxygen	--	--	mg/L	YSI METER	1.15	0.82	1.28	0.93	1.42	2.5	1.3	0.29	7.99	0.29
ORP	--	--	mV	YSI METER	162.2	-17.6	135.2	-36.7	186.5	-30.8	135.6	-106.5	-108.1	-124.4
pH	pH	--	pH	YSI METER	6.02	6.07	6.63	6.7	6.4	6.32	6.54	6.68	6.79	6.87
Specific Conductance	--	--	µS/cm	YSI METER	914	1,160	492.2	668	3,007	1,391	304.9	380	235.5	293.2
Temperature	--	--	°C	YSI METER	13	13.41	11.1	11.64	11.3	11.7	10.8	11.8	11.8	13.7
Turbidity	--	--	ntu	TURBM	4.44	1.43	5.96	8.51	1.05	0.95	0.67	4.03	1.22	1.34

Notes:

Conventionals and dissolved metals results are rounded to 3 significant figures. SVOCs are rounded to two significant figures. Field Parameters are presented to the decimal places provided on the field meters.

-- Not applicable/available or not analyzed.

BOLD Result exceeds the CUL.

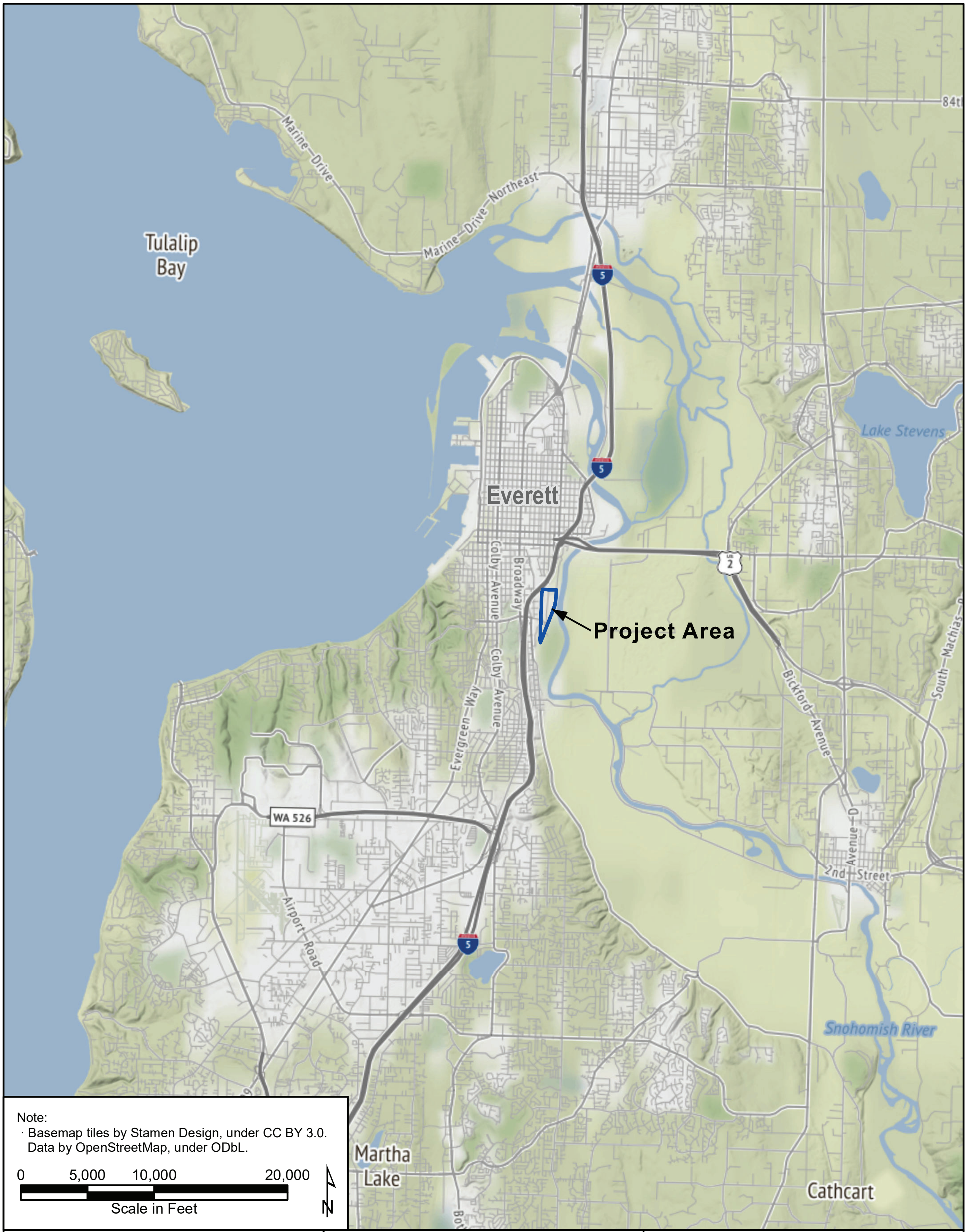
Abbreviations:

°C	Degree Celsius
CAS	Chemical Abstracts Service
CUL	Cleanup level
µg/L	Micrograms per liter
µS/cm	Microsiemens per centimeter
mg/L	Milligrams per liter
mV	Millivolts
ntu	Nephelometric turbidity unit
ORP	Oxygen-reduction potential
SVOC	Semivolatile organic compound
TURBM	Lamotte turbidity meter
YSI METER	YSI water quality meter

Qualifiers:

J	Analyte is detected and the concentration is estimated.
JQ	Analyte is detected between the method detection limit and reporting limit and the concentration is estimated.
U	Analyte is not detected at the associated reporting limit.

Figures



Note:
· Basemap tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL.

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Everett Landfill/Tire Fire Site
Everett, Washington

Figure 1
Site Vicinity Map

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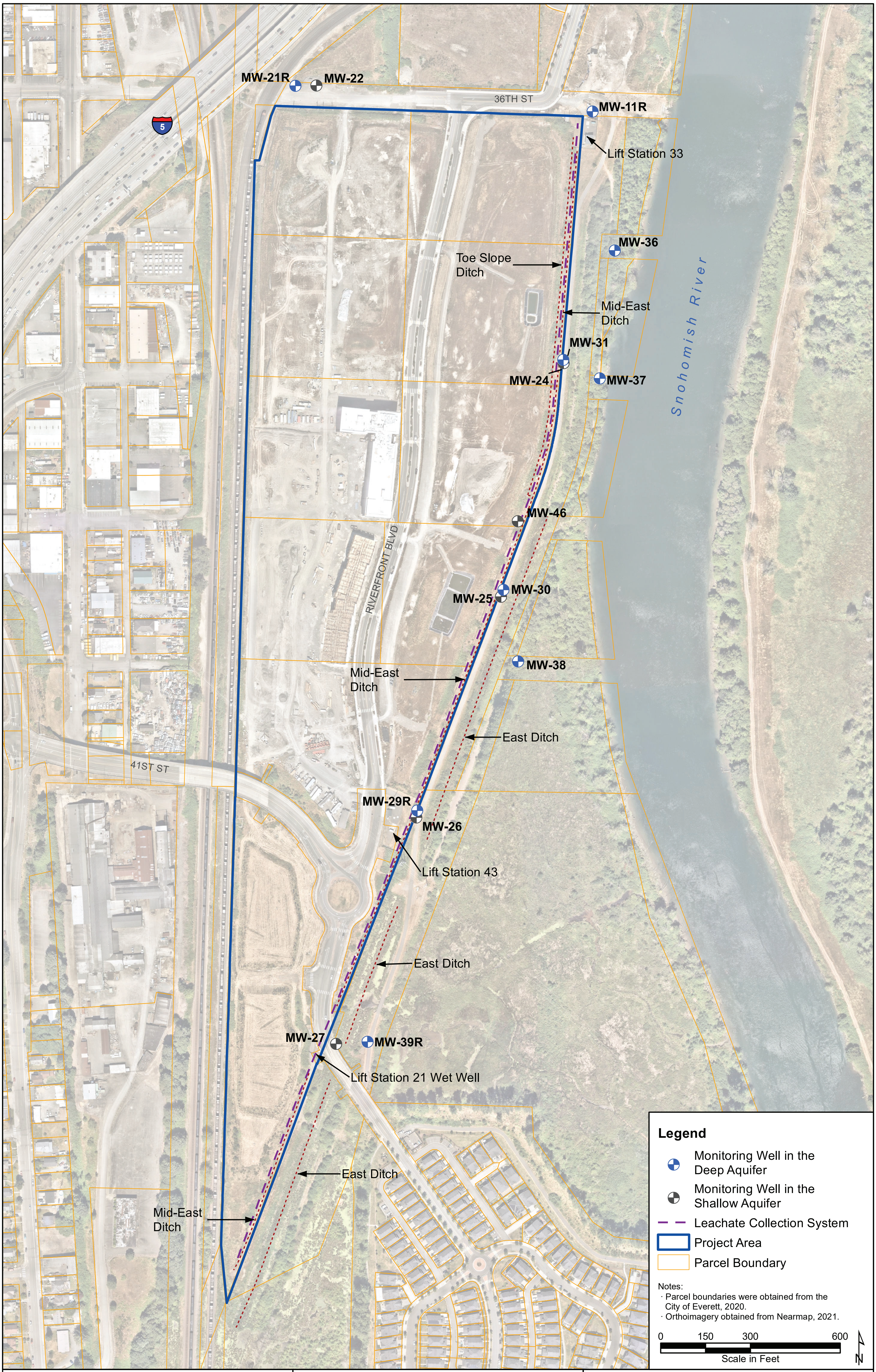
2/3/2023



Notes:
· Parcel boundaries were obtained from the City of Everett, 2020.
· Orthoimagery obtained from Nearmap, 2021.

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Everett Landfill/Tire Fire Site
Everett, Washington

Figure 2
Groundwater Monitoring Well Locations

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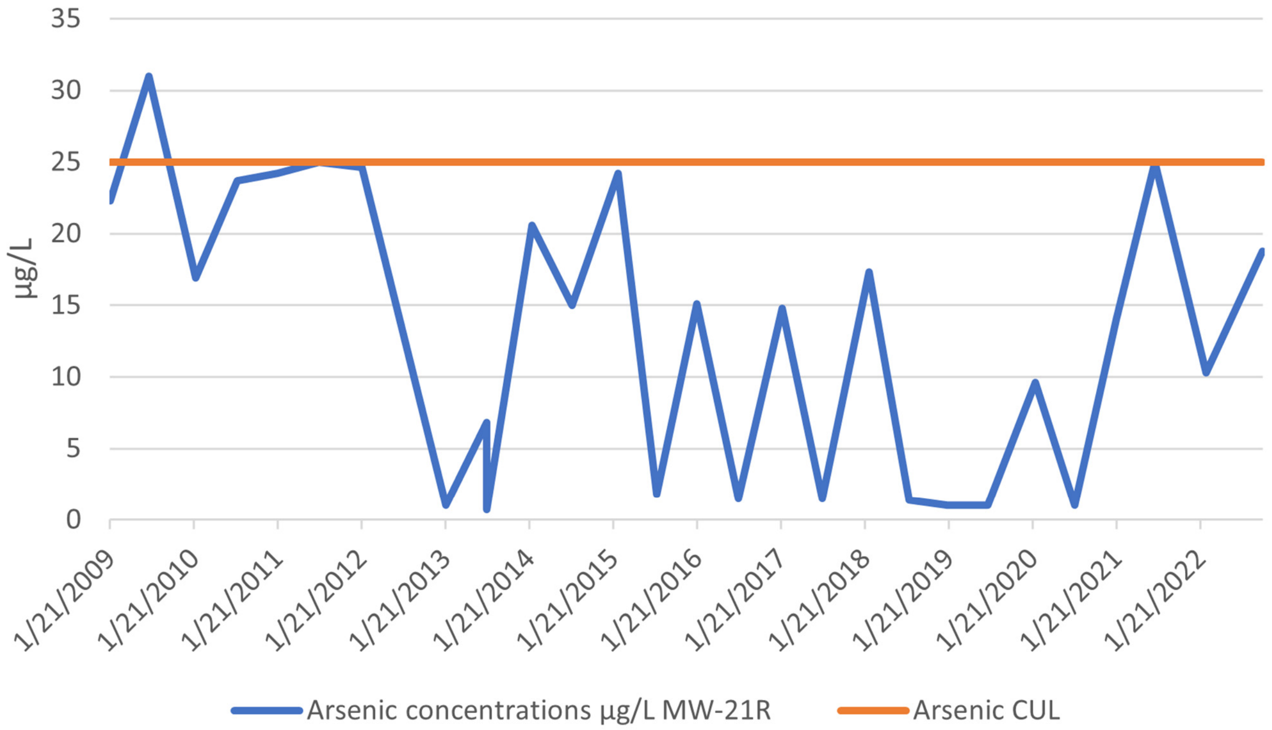
2/3/2023



Abbreviations: CUL = Cleanup level, µg/L = Micrograms per liter

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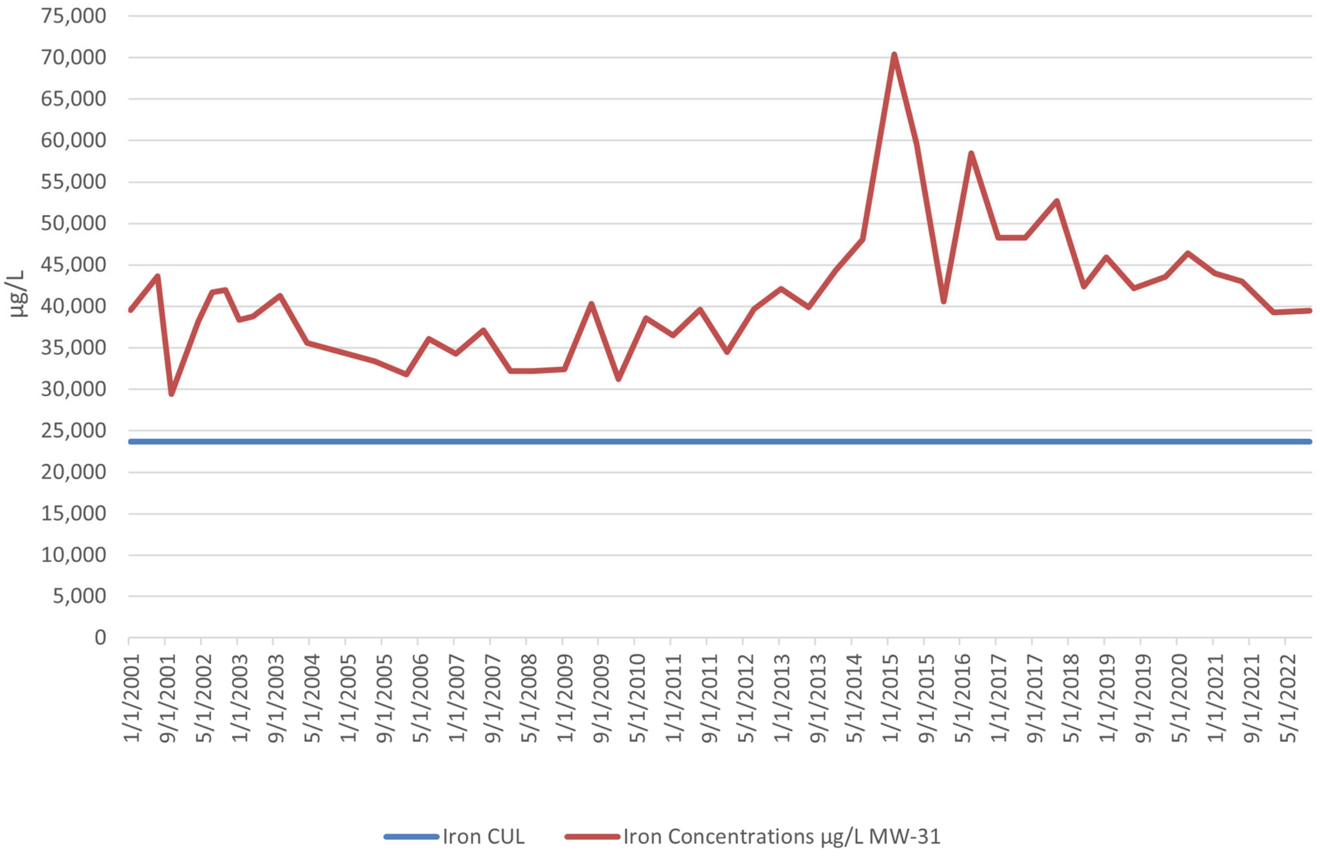
2022 Annual Groundwater Monitoring Report
Everett Landfill/Tire Fire Site
Everett, Washington

Figure 3
Arsenic Concentrations in MW-21R



Abbreviations: CUL = Cleanup level, µg/L = Micrograms per liter

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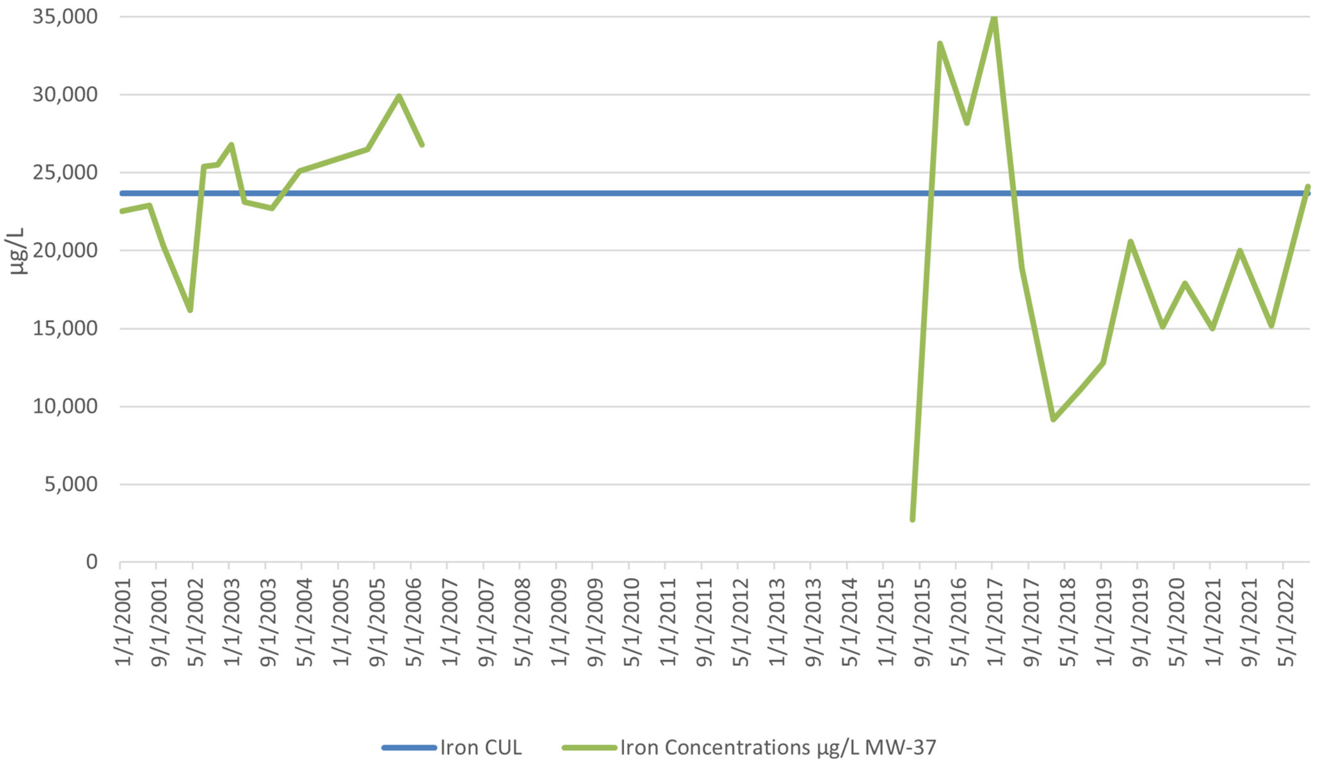
Everett Landfill/Tire Fire Site
Everett, Washington

Figure 4
Iron Concentrations in MW-31

2/3/2023



Abbreviations: CUL = Cleanup level, µg/L = Micrograms per liter

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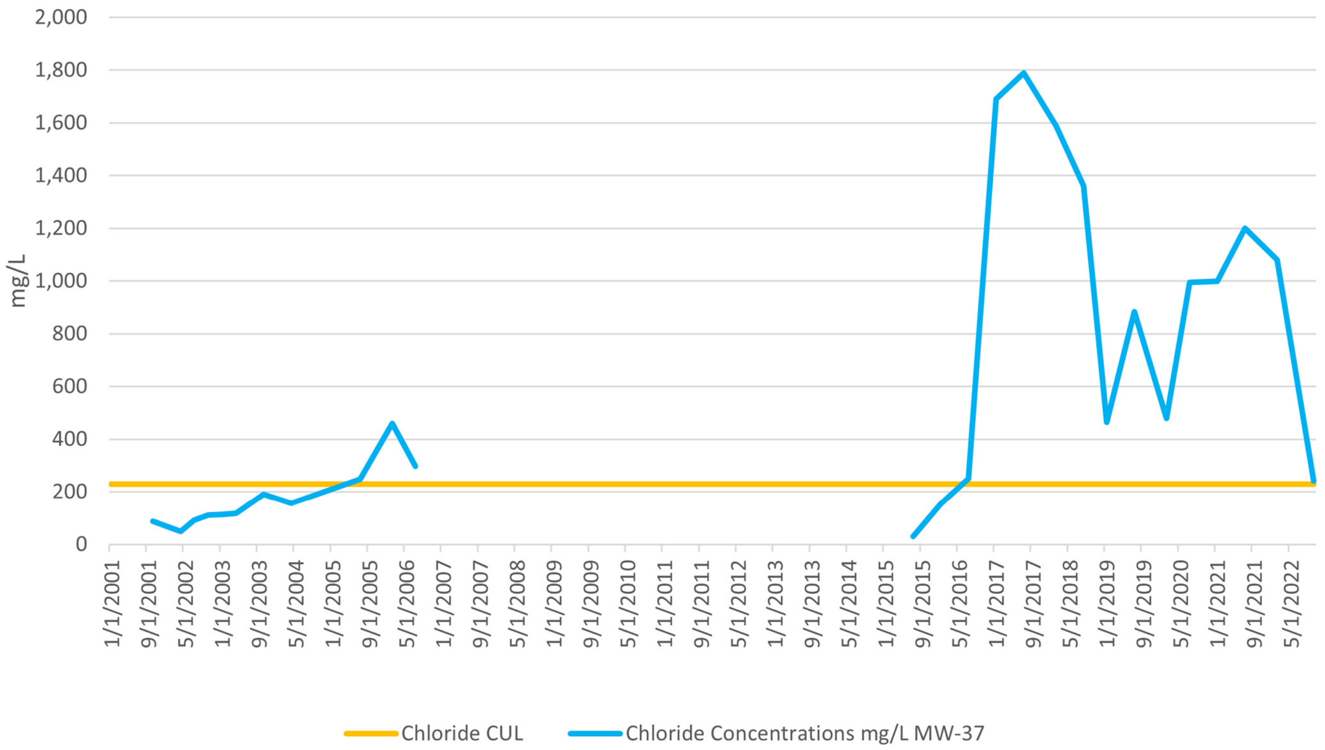
Everett Landfill/Tire Fire Site
Everett, Washington

Figure 5
Iron Concentrations in MW-37



Abbreviations: CUL = Cleanup level, mg/L = Milligrams per liter

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Everett Landfill/Tire Fire Site
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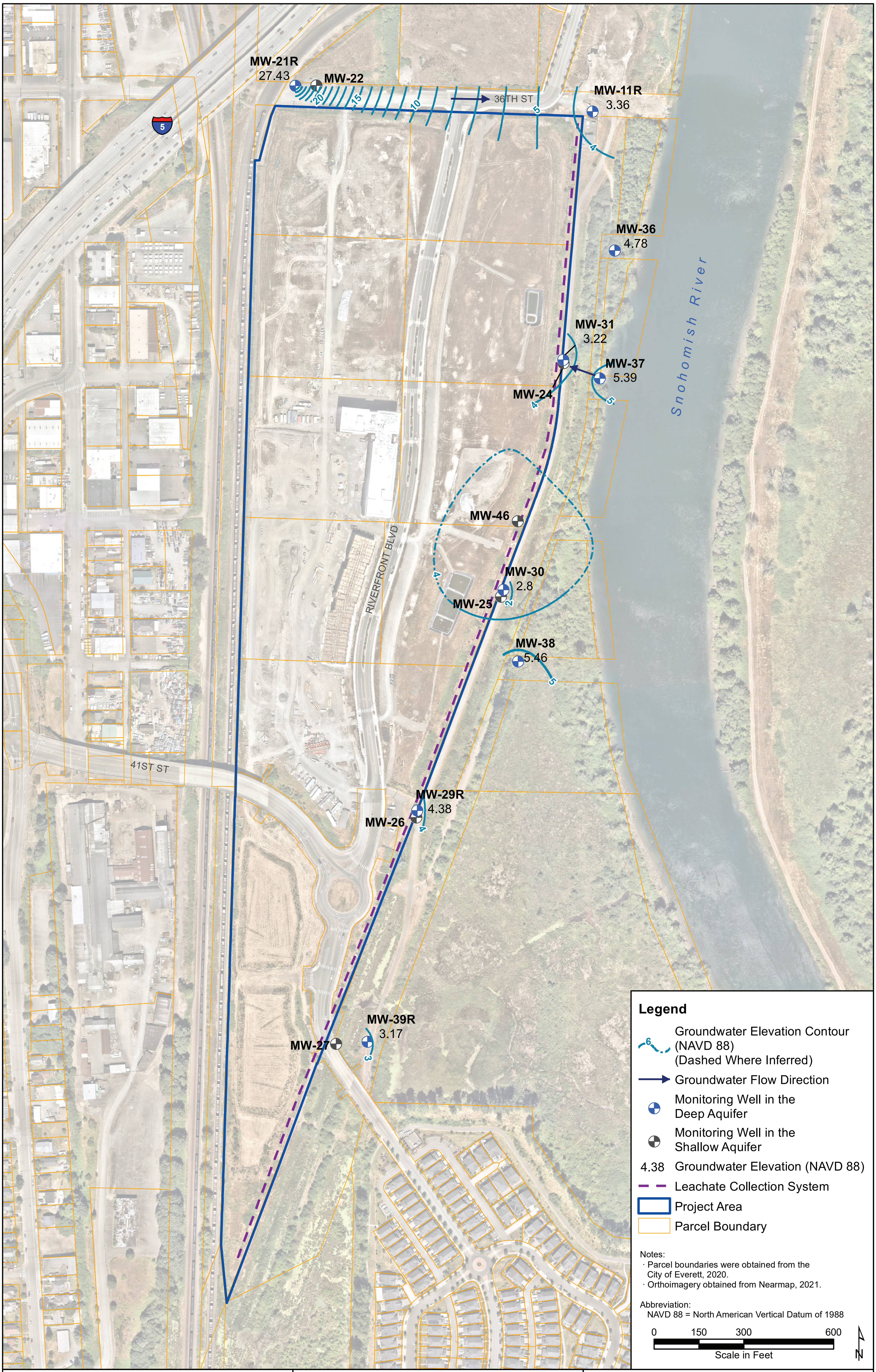
Figure 6
Chloride Concentrations in MW-37



Legend

6	Groundwater Elevation Contour (NAVD 88) (Dashed Where Inferred)
→	Groundwater Flow Direction
◓	Monitoring Well in the Deep Aquifer
◑	Monitoring Well in the Shallow Aquifer
4.38	Groundwater Elevation (NAVD 88)
– –	Leachate Collection System
▭	Project Area
▭	Parcel Boundary

Notes:

- Parcel boundaries were obtained from the City of Everett, 2020.
- Orthoimagery obtained from Nearmap, 2021.

Abbreviation:

NAVD 88 = North American Vertical Datum of 1988

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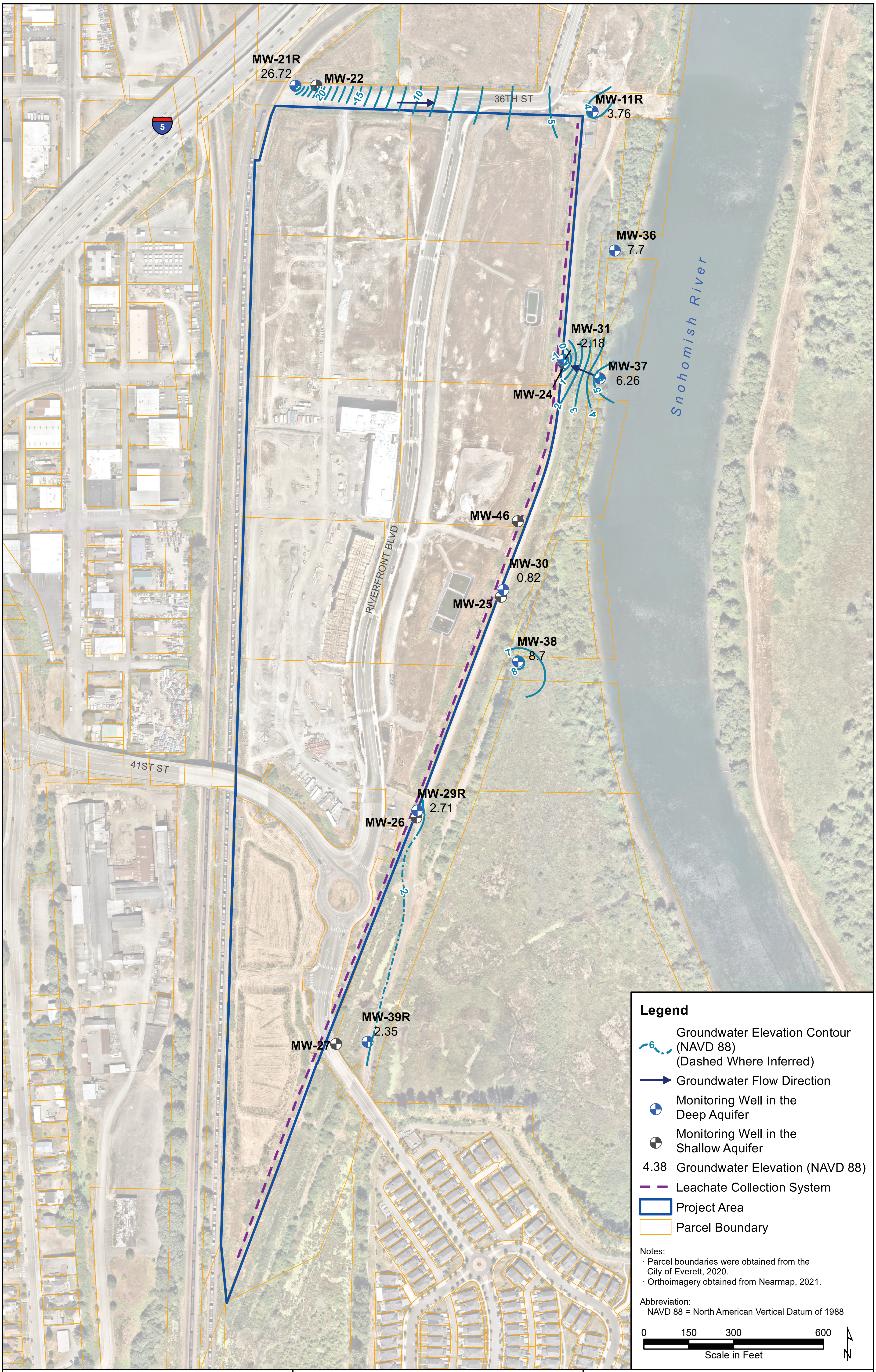
Everett Landfill/Tire Fire Site
Everett, Washington

Figure 7
Deep Aquifer Groundwater Elevations
February 2022



Notes:
- Parcel boundaries were obtained from the City of Everett, 2020.
- Orthoimagery obtained from Nearmap, 2021.

Abbreviation:
NAVD 88 = North American Vertical Datum of 1988

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Everett Landfill/Tire Fire Site
Everett, Washington

Figure 8
Deep Aquifer Groundwater Elevations
October 2022

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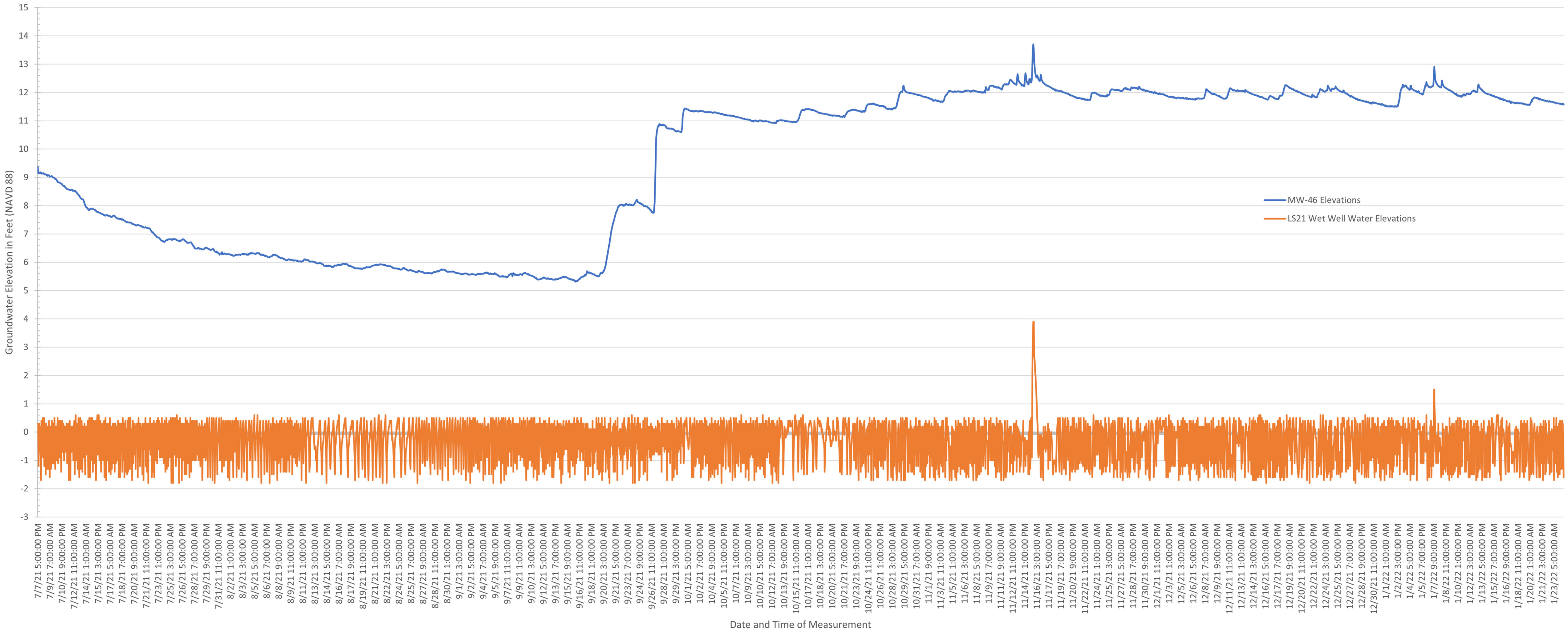
2/3/2023



Abbreviation: NAVD 88 = North American Vertical Datum of 1988

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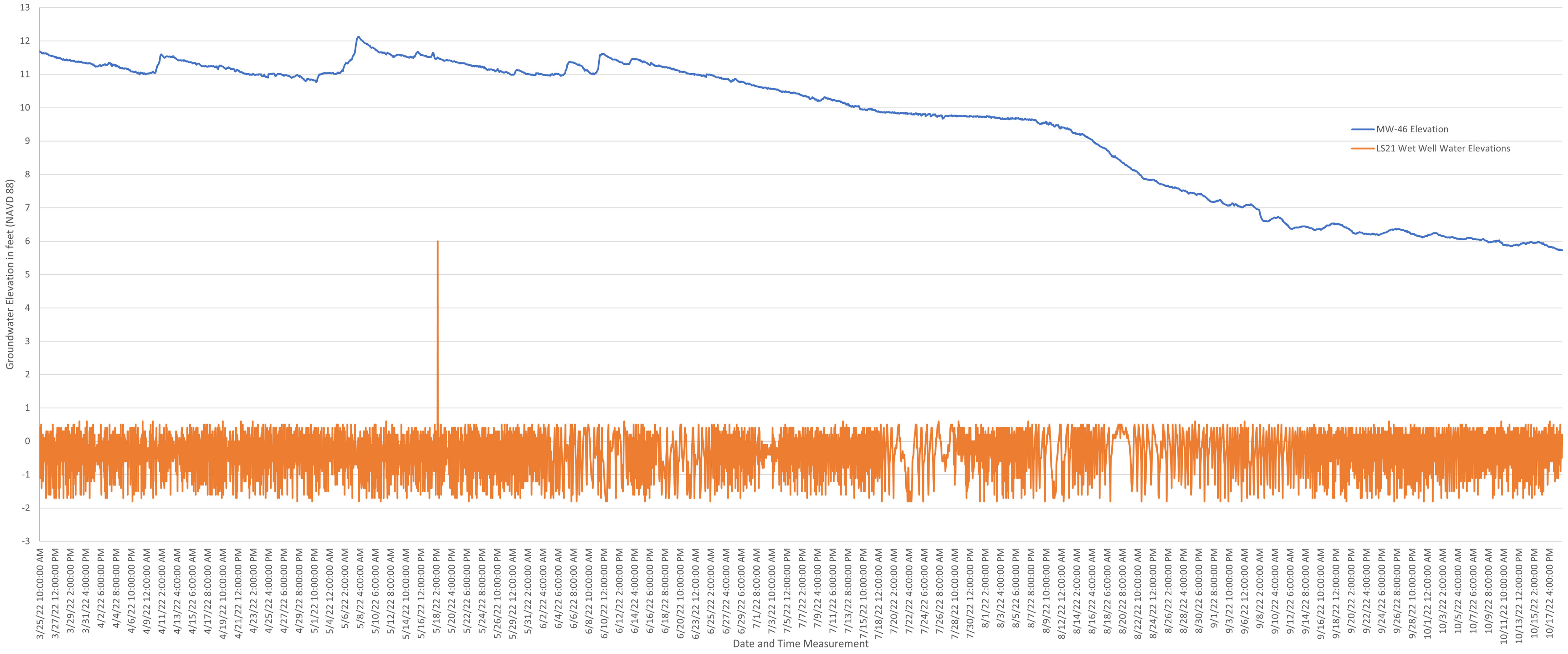
2022 Annual Groundwater Monitoring Report
Everett Landfill/Tire Fire Site
Everett, Washington

Figure 9
LS21 vs MW-46 Groundwater Elevations
July 2021 through January 2022



Abbreviation: NAVD 88 = North American Vertical Datum of 1988

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2022 Annual Groundwater Monitoring Report
Everett Landfill/Tire Fire Site
Everett, Washington

Figure 10
LS21 vs MW-46 Groundwater Elevations
March 2022 through October 2022

Attachment 1
Floyd|Snider Standard Guidelines

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F|S STANDARD GUIDELINE

Low-Flow Groundwater Sample Collection

DATE/LAST UPDATE: December 2022

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field but are not intended to be step-by-step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines for the sampling method they intend to use and should review and understand these procedures prior to going into the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This standard guideline provides details necessary for collecting representative groundwater samples from monitoring wells using low-flow methods. These guidelines are designed to meet or exceed guidelines set forth by the Washington State Department of Ecology (Ecology). Low-Flow sampling provides a method to minimize the volume of water that is purged and disposed from a monitoring well, and minimizes the impact that purging has on groundwater chemistry during sample collection.

2.0 Equipment and Supplies

Groundwater Sampling Equipment and Tools

- For wells with head less than 25 feet:
    - Peristaltic pump with fully charged internal battery or standalone battery and appropriate connectors
- For wells with head greater than 25 feet:
    - Bladder pump and controller, as well as an air cylinder, or air compressor (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)

      OR

  - Low-flow submersible pump and controller (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)
- Multi-parameter water quality meter
- Water level meter
- Polyethylene tubing, Teflon tubing, or similar (assume polyethylene unless otherwise specified in SAP) and tubing weights (for wells deeper than approximately 10 feet)
- Silicone tubing
- Filters (if field filtering)
- Tools for opening wells and drums (1/2-inch, 9/16-inch, 5/8 and 15/16-inch sockets ratchet, screwdriver, hammer/rubber mallet, bung wrench; any other necessary tools if non-standard monuments have been used)
- Well keys
- Tube cutters, razor blade, or scissors
- 5-gallon buckets, lids, and clamp
- Decontamination supplies: Alconox (or similar), distilled or deionized water, spray bottles, and paper towels
- Bailer or hand pump to drain well box if full of stormwater
- Trash bags

Lab Equipment

- Sample jars/bottles
- Coolers
- Chain-of-Custody Forms
- Labels
- Ice
- Ziploc bags

Paperwork

- Field notebook with site maps
- Table of well construction details and/or well logs, if available
- Sampling forms (enclosed)
- Purge water plan
- Rite-in-the-Rain pens, paper, and permanent markers

- Site-Specific Health and Safety Plan (HASP) and F|S Accident Prevention Plan (APP)
- List of emergency contacts for the Site or facility
- Safety Data Sheets (SDS) binder
- Sampling and Analysis Plan (SAP) and/or Quality Assurance Project Plan (QAPP) (including tables of analytes and bottle types)

Safety Equipment

- PPE:
    - Waterproof boots (safety toed, depending on site)
    - Safety vest
    - Safety glasses
    - Rain gear
    - Nitrile gloves
    - Work gloves
- First Aid kit
- Emergency kit (fire extinguisher, road flares)
- Traffic barricades or cones

3.0 Standard Procedures

Low-flow groundwater sampling consists of purging groundwater within the well casing at a rate equal to or less than the flow rate of representative groundwater from the surrounding aquifer into the well screen. The flow rate will depend on the hydraulic conductivity of the aquifer and the drawdown, with the goal of minimizing drawdown within the monitoring well. Field parameters are monitored during purging and groundwater samples are collected after field parameters have stabilized. Deviations from these procedures should be approved by the Project Manager and fully documented.

3.1 OFFICE PREPARATION

First, meet with the PM to identify the key objectives of the groundwater sampling effort. This may include the order of wells to be sampled (e.g., if using non-dedicated equipment, wells may need to be sampled in order of least contaminated to most contaminated), whether any wells require redevelopment at least 24-hours prior to sampling, and/or key stabilization parameters (e.g., elevated turbidity may require purging beyond 30 minutes, even if the readings are within 10%).

Conduct a kick-off meeting with the sampling team to discuss site health and safety protocols, data quality objectives, and any site-specific special considerations or sampling procedures.

3.2 TAILGATE SAFETY MEETING

Conduct a tailgate safety meeting prior to beginning work at the site. Emergency evacuation procedures, rally points, and onsite communication protocols should be discussed at the first tailgate meeting and repeated if new personnel join the field team onsite.

The safety meeting should cover the hazards specific to groundwater sampling. Typical hazards include the following:

- Chemical hazards (refer to HASP for site chemical exposure hazards)
- Site hazards
  - Traffic hazards onsite (e.g., truck traffic, heavy machinery)
  - Biological hazards (e.g., spiders or wasps within well monuments)
- Physical hazards associated with lifting and carrying heavy equipment and repeated bending while sampling
- Cuts and abrasions associated with using blades and tools
- Electrical hazards (make sure all wires/cables are in good condition and connections to battery or outlet are secure)
- Heat stress and cold stress

Record the meeting attendees and topics discussed on the front page of the tailgate safety meeting form (included as an attachment to the HASP). All attendees should sign the form.

3.3 OTHER HEALTH AND SAFETY GUIDELINES

The following are additional health and safety guidelines that should be followed in the field. These guidelines are intended to supplement the guidelines and requirements identified in the HASP and are not intended to replace the HASP.

- Review and sign the HASP prior to going into the field.
- Conduct a tailgate safety meeting prior to beginning work at the site as discussed in Section 3.2
- When moving between monitoring wells or switching to different tasks (e.g., transitioning from sampling to cooler QC prior to lab pickup), assess any additional hazards that may be associated with the new location or task. Record additional hazards noted and corrective actions to address those hazards on the Daily Tailgate Safety Meeting and Debrief Form (included as an attachment to the HASP).
- Record near misses and incidents on the Near Miss and Incident Reporting Form (included as an attachment to the HASP) and conduct management/client notifications according to the protocols detailed in the HASP.

3.4 CALIBRATION OF WATER QUALITY METERS

All multi-parameter water quality meters to be used will be calibrated prior to each sampling event. Calibration procedures are outlined in each instrument's specific user manual.

3.5 MONITORING, MAINTENANCE, AND SECURITY

Prior to sampling, depth to water and total depth measurements will be collected and recorded for accessible monitoring wells onsite (or an appropriate subset for larger sites). Check for an existing measuring point (notch or visible mark on top of casing). If a measuring point is not observed, a measuring point should be established on the north side of the casing. The conditions of the well box and bolts will also be observed, and deficiencies will be recorded on the sampling forms or logbook (i.e., missing or stripped bolt). The following should also be recorded:

- Condition of the well box, lid, bolts, locks, and gripper cap, if deficiencies
- Condition of gasket if deficient and if water is present in the well box
- Note any obstructions or kinks in the well casing
- Note any equipment in the well casing, such as transducers, bailers, or tubing
- Condition of general area surrounding the well, such as subsidence, potholes, or if the well is submerged within a puddle.

Replace any missing or stripped bolts and redevelop wells if needed.

3.6 LOW-FLOW PURGING METHOD AND SAMPLING PROCEDURES

Groundwater samples will be collected using low-flow purging and sampling procedures consistent with Ecology guidelines and the U.S. Environmental Protection Agency (USEPA) standard operating procedures (USEPA 1996). The following describes the Low-Flow purging and sampling procedures for collecting groundwater samples using a peristaltic pump. If the water level is greater than approximately 20 to 25 feet below ground surface (bgs), Grundfos or Geotech submersible pumps or bladder pumps can be used since their pumping rates can be adjusted to low-flow levels. Submersible pumps are preferable to bladder pumps in situations where less than 5 feet of water column are present in the well casing.

- Place the peristaltic pump and water quality equipment near the wellhead. Slowly lower new poly tubing down into the well casing approximately to the middle of the well screen. When sampling wells with a bottom screen depth greater than approximately 10 feet, it is important to measure the length of tubing prior to placement as longer lengths of tubing are more likely to get caught or otherwise obstructed and feel like it has reached the well bottom; this issue can be mitigated by using decontaminated stainless steel tubing weights. If the depth of the well screen is not known, lower the appropriate length of tubing to the bottom of the well, making sure that the tubing has not been caught on the slotted well casing, and then raise the tubing 3 to 5 feet off the bottom of the casing (limit this distance to 2 feet for wells with total depth less than 10 feet). Document the estimated depth of the tubing placement within the well. Connect the tubing to the peristaltic pump using new flex tubing and connect the discharge line to the flow-through cell of the water quality meter. The discharge line from the flow cell should be directed to a bucket to contain the purged water.

- If using a low-flow submersible pump, connect the pump head to dedicated or disposable tubing. If using a bladder pump, connect both the air intake and water discharge ports to decontaminated or disposable tubing, using the manufacturer's instructions to ensure a secure connection. Lower the pump with tubing into the well as described above and connect the water discharge tubing directly to the flow-through cell.
- Measure the depth to water to the nearest 0.01 foot with a decontaminated water level meter and record the information on a sampling form.
- Start pumping the well at a purge rate of 0.1 to 0.2 liters per minute and slowly increase the rate. Purge rate is adjusted using a speed control knob or arrows on peristaltic and low-flow submersible pumps. The purge rate for bladder pumps is controlled by the air compressor, which first pressurizes the pump chamber in order to compress the flexible bladder and force water through the discharge line, and then vents the chamber in order to allow the bladder to refill with water.
    - A good rule of thumb is to pressurize to 10 psi + 0.5 psi/foot of tubing depth and begin with 4 discharge/refill cycles per minute; using greater air pressure and accelerating the pump cycles will increase the purge rate.
- Check the water level. If the water level is dropping, lower the purge rate. Maintain a steady flow with no or minimal drawdown (less than 0.33 feet according to USEPA 2002). Maintaining a drawdown of less than 0.33 feet may not be feasible depending on hydrogeological conditions. If possible, measure the discharge rate of the pump with a graduated cylinder or use a stopwatch when filling sampling jars (500 milliliters [mL] polyethylene or glass ambers) to estimate the rate. When purging water through a flow cell, the maximum flow rate for accurate water quality readings is about 0.5 liters per minute (L/minute).
- The discharge tubing should be connected to the flow cell immediately upon initial water discharge, unless the discharge water is visibly turbid or flocculant is observed. Monitor and record water quality parameters every three to five minutes after one tubing volume (including the volume of water in the flow cell) has been purged.
    - One foot of ¼-inch interior diameter tubing holds about 10 mL of water, and flow-through cells typically hold less than 200 mL of water; one volume should be purged after about 5 minutes at a flow rate of 0.1 L/minute.
- Water-quality indicator parameters that will be monitored and recorded during purging include:
    - pH
    - Specific conductivity

  - Dissolved oxygen
  - Temperature
  - Turbidity
  - Oxidation reduction potential (ORP)
- Continue purging until temperature, pH, turbidity, and specific conductivity are approximately stable (when measurements are within 10 percent) for three consecutive readings, or 30 minutes have elapsed. Because these field parameters (especially dissolved oxygen and ORP) may not reach the stabilization criteria, collection of the groundwater sample will be based on the professional judgment of field personnel at the time of sampling. A minimum of 5 water quality readings should be collected prior to sampling.
- The water sample can be collected once the criteria above have been met.
- If drawdown in the well cannot be maintained at 0.33 feet or less, reduce the flow or turn off the pump for 15 minutes and allow for recovery. If the water quality parameters have stabilized, and if at least two tubing volumes and the flow cell volume have been purged, then sample collection can proceed when the water level has recovered, and the pump is turned back on. This should be noted on the sampling form.
- To collect the water sample, maintain the same pumping rate. After the well has been purged and the sample bottles have been labeled, the groundwater sample will be collected by directly filling the laboratory-provided bottles from the pump discharge line prior to passing through the flow cell. All sample containers should be filled with minimum disturbance by allowing the water to flow down the inside of the bottle or vial. When collecting a volatile organic compound (VOC) sample, fill to the top to form a meniscus over the mouth of the vial prior to placing the cap to eliminate air bubbles. Be careful not to overflow preserved bottles/pre-cleaned Volatile Organic Analyte (VOA) vials.
- If sampling for filtered metals, collect these samples last and fit an in-line filter at the end of the discharge line. Take note of the flow direction arrow on the filter prior to fitting, invert filter to eliminate air bubbles, and allow minimum of 0.5 to 1 liter of groundwater to pass through the filter prior to collecting the sample.
- Sample labels will clearly identify the project name, sampler’s initials, sample location and unique sample ID, analysis to be performed, date, and time. After collection, place samples a cooler maintained at a temperature of approximately 4 to 6 degrees Celsius (°C) using ice (if required). Complete the chain-of-Custody forms. Upon transfer of the samples to the laboratory, the Chain-of-Custody Form will be signed by the persons transferring custody of the sample containers to document change in possession.
- When sample collection is complete at a designated location, remove and properly dispose of the non-dedicated tubing. In most cases, this waste is considered solid waste and can be disposed of as refuse. Close and lock the well.

4.0 Decontamination

All reusable equipment that comes into contact with groundwater should be decontaminated using the processes described in this section prior to moving to the next sampling location.

Water Level Meter: The water level indicator and tape will be decontaminated between sampling locations and at the end the day by spraying the entire length of tape that came in contact with groundwater with an Alconox (or similar)/clean water solution followed by a thorough rinse with distilled or deionized water.

Water Quality Sensors and Flow-Through Cell: Distilled water or deionized water will be used to rinse the water quality sensors and flow-through cell. No other decontamination procedures are recommended since they are sensitive equipment. After the sampling event, the water quality meters will be cleaned and maintained according to the specific manual.

Submersible Pump (if applicable): Decontaminating the pump requires running the pump in three progressively cleaner grades of water.

1. Fill a bucket with approximately 4 gallons of an Alconox (or similar)/clean water solution to sufficiently cover the pump. Place the pump and the length of the power cord (if applicable) that was in contact with water into the bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
2. Fill a second bucket containing approximately 4 gallons of clean water to sufficiently cover the pump. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
3. Fill a third bucket with approximately 4 gallons of distilled or deionized water to sufficiently cover the pump. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.

The soap/water solution may be reused; however, rinse water should be collected for disposal as described in Section 5.0 below. When done for the day, dry the exterior of the pump and cord with clean towels to the extent practical prior to storage.

Bladder Pump: Clean the inside and outside of the pump body with an Alconox (or similar)/clean water solution, followed by a thorough rinse with distilled or deionized water. The outside of the air supply line that came in contact with groundwater may also be cleaned with Alconox (or similar) solution and re-used; bladders and water discharge lines must be replaced after each sample is collected.

5.0 Investigation-Derived Waste (IDW)

Unless otherwise specified in the project work plan, water generated during groundwater sampling activities will be contained, transported, disposed of in accordance with applicable laws, and stored in a designated area until transported off-site for disposal. This includes purge water and decontamination waste water.

The approach to handling and disposal of these materials for a typical cleanup site is as follows.

For IDW that is containerized, such as purge water, 55-gallon drums (or other smaller sized drums) approved by the Washington State Department of Transportation will be used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., “purge water”), the dates on which the wastes were placed in the container, the owner’s name and contact information for the field person who generated the waste, and the site name.

IDW containerized within drums will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used, as appropriate for disposal. Refer to the FS Special Condition Standard Guideline for Investigation Derived Waste for additional information regarding proper profiling and disposal of wastewater generated by groundwater sampling.

Disposable sampling materials and incidental trash such as tubing, paper towels and gloves/other disposable used in sample processing will be placed in heavy-duty garbage bags or other appropriate containers and disposed of as trash in the municipal collection system unless otherwise specified in the SAP.

6.0 Field Documentation

Groundwater sampling activities will be documented in field sampling forms and/or field notebooks, and Chain-of-Custody Forms. Information recorded will, at a minimum, include personnel present (including subcontractors or client representatives), purpose of field event, weather conditions, sample collection date and times, sample analytes, depths to water, water quality parameters, well box/lid conditions, amount of purged water generated, and any deviations from the SAP. Photographs of damaged well casings or well boxes should be taken.

At the end of the day, complete and review the second page of the tailgate safety meeting form detailing additional hazards, corrective actions, near-misses or incidents. Any incidents that result in equipment damage or field staff injuries should be reported immediately to the PM.

7.0 Demobilization

Upon returning to the office, ensure that all equipment is property cleaned and put away in the field room. Equipment with rechargeable batteries should be plugged in as appropriate. It is preferable to dispose of trash on-site, but any trash left in the field vehicle should be disposed as regular trash at Two Union Square.

If rented equipment or sample coolers will be placed at the front desk for pickup, clearly label each item with the company picking it up, anticipated pickup time frame, and your contact information so front desk staff can contact you if there are any questions. Notify front desk staff if any items require a signature at pickup.

Within one week of returning from the field, the field lead for the event should review field notes, sampling forms and tailgate safety meeting forms with the PM. Following PM review and approval, field notes will be scanned and saved to the project folder. Hard copies should be filed. The PM will provide copies of near miss and incident reports to the Safety Program Manager.

8.0 References

U.S. Environmental Protection Agency (USEPA). 1996. Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revision 2. Region 1. July 30, 1996.

_____. 2002. Groundwater Sampling Guidelines for Superfund and CAR Project Managers. Office of Solid Waste and Emergency Response. EPA 542.S-02-001. May 2002.

Enclosures: Groundwater or Surface Water Sample Collection Form

Record of Revisions:

Revisions	**Date**
Added health and safety information, reviewed EPA guidance, and added revisions table.	12/9/2022

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project:________________________________ Date of Collection: ____________________________________

Task:__________________________________ Field Personnel: ____________________________________

Purge Data

Well ID: _____________ Secure: ☐ Yes ☐ No Ecology Tag #: ______________ Casing Type/Diameter/Screened Interval ___________________________

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) _____ Stripped (#) _____ Other Damage: _________________________________

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC):____________________Time: _______________

Total Depth (from log or field measurement): _________________________

After 5 minutes of purging (from top of casing): ________________________

Begin purge (time): _______________End purge (time): ________________

Volume purged:____________ Purge water disposal method_____________

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼”	1.660”	1.380”	0.08	0.64
2”	2.375”	2.067”	0.17	1.45
3”	3.500”	3.068”	0.38	3.2
4”	4.500”	4.026”	0.66	5.51
6”	6.625”	6.065”	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (_____)	pH (s.u.)	DO (mg/L)	Specific Conductivity (µs/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments

Sampling Data

Sample No: ____ Location and Depth: ____

Date Collected (mo/dy/yr):_______________________ Time Collected: ______________ Weather:____

Type: ☐ Ground Water ☐ Surface Water Other: _____________________________ Sample: ☐ Filtered ☐ Unfiltered Filter Type:________________________

Sample Collected with: ☐ Bailer ☐ Pump Other: _______________ Type: ☐ Peristaltic ☐ Bladder ☐ Submersible Other: ________________________

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☐ Tudbidity Meter ☐ Other:____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☐ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): ____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes

QC samples

Duplicate Sample No: _________________________ Duplicate Time: __________ MS/MSD: ☐ Yes ☐ No

Signature: ____ **Date:** ______________________________

Attachment 2
Analytical Laboratory Reports

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

PROJECT #

00060384

Client: CITY OF EVERETT
Program: Everett Landfill
Contact: FLOYD SNIDER

Date Received: 02/16/22
Data Release: SF
Date Reported: 03/23/22

Department	Analysis	Units	DL	Method	PQL	BP00016	BP00017
						MN-11R-021522	MW-21R-021522
						02/15/22	02/15/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**10.3**
	Dis. Iron	µg/L	20	200.8	80	**2780**	**11200**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**625**	**1680**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2	**13.4**	**16.8**

Department	Analysis	Units	DL	Method	PQL	BP00018	BP00019
						MW-38-021522	MW-29R-021522
						02/15/22	02/15/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Iron	µg/L	20	200.8	80	**2800**	**4730**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**268**	**314**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2	**10.9**	**9.5**

Department	Analysis	Units	DL	Method	PQL	BP00020	BP00021
						DUP1-021522	MW-39R-021522
						02/15/22	02/15/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Iron	µg/L	20	200.8	80	**4720**	**4230**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**317**	**230**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2	**9.6**	**7.5**

Department	Analysis	Units	DL	Method	PQL	BP00022	BP00023
						MW-31-021522	MW-30-021622
						02/15/22	02/16/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**1.6 J**	**6.6**
	Dis. Iron	µg/L	20	200.8	80	**39300**	**11000**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**1240**	**503**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**3.0**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2		**16.7**
			3.0	SM4500-CL-E	12.0	**140**	

DATA REPORTING QUALIFIERS

DL = Detection Limit
PQL = Practical Quantitation Limit (= 4xDL)
J = Analyte concentration less than PQL
SA = See Attached
ND = No Data
TNTC = Too numerous to count

When Dissolved Metals > Total Metals note possible filtering process contamintion
P/A (used for Total Coliform results) P= Coliforms present, A = Coliforms absent
Y/N (used for E. Coli Results) Y= E. Coli present, N=E. Coli absent
E = Estimated Value. Count from plates not within ideal range.
R = Sample was re-analyzed after holding time.
PHT = Analyzed past hold time

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

PROJECT #

00060384

Client:	CITY OF EVERETT	Date Received:	02/16/22
Program:	Everett Landfill	Data Release:	SF
Contact:	FLOYD SNIDER	Date Reported:	03/23/22

Department	Analysis	Units	DL	Method	PQL	BP00024 MW-37-021622 02/16/22	BP00025 MW-36-021622 02/16/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**10.4**
	Dis. Iron	µg/L	20	200.8	80	**15200**	**5080**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**1440**	**453**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**4.7**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.6	SM4500-CL-E	2.4		**30.3**
			15	SM4500-CL-E	60	**1080**	

DATA REPORTING QUALIFIERS

DL = Detection Limit
PQL = Practical Quantitation Limit (= 4xDL)
J = Analyte concentration less than PQL
SA = See Attached
ND = No Data
TNTC = Too numerous to count

When Dissolved Metals > Total Metals note possible filtering process contamintion
P/A (used for Total Coliform results) P= Coliforms present, A = Coliforms absent
Y/N (used for E. Coli Results) Y= E. Coli present, N=E. Coli absent
E = Estimated Value. Count from plates not within ideal range.
R = Sample was re-analyzed after holding time.
PHT = Analyzed past hold time

CITY OF EVERETT
ENVIRONMENTAL LABORATORY
Phone: (425)257-8230 Fax: (425)257-8228
Sample Dropoff: 4027 4th St SE, Everett WA 98201
Mailing Address: 3200 Cedar St, Everett WA 98201

PROJECT #
00060384

QC Report

Client: Floyd Snider

Batch: N-CL-DIS-50642 **Dis. Chloride**	Result	MDL	Units	% Rec	%Rec Limits	RPD %	RPD % Limit	Comments
METHOD BLANK	<0.3	0.3	mg/L					U
LABORATORY FORTIFIED BLANK	9.4	0.3	mg/L	93.5	90-110			
CALIBRATION CHECK	5.2	0.3	mg/L	103.8	90-110			
DUP - BP00021	7	0.3	mg/L			6.0	20	
MATRIX SPIKE - BP00021	17	0.3	mg/L	95.1	90-110			
MATRIX SPIKE DUP - BP00021	17.1	0.3	mg/L			1.0	20	
LABORATORY CONTROL STANDARD	11.6	0.3	mg/L	105.2	90-110			

Batch: ICPMS-D-I-50786 **Method Blank**	Result	MDL	Units	% Rec	%Rec Limits	RPD %	RPD % Limit	Comments
Dis. Arsenic	<0.3	0.3	µg/L					U
Dis. Iron	<10	10	µg/L					U
Dis. Manganese	<0.3	0.3	µg/L					U
Dis. Nickel	<0.3	0.3	µg/L					U
Dis. Zinc	<5	5	µg/L					U
Laboratory Fortified Blank								
Dis. Arsenic	48.8	0.3	µg/L	97.6	85-115			
Dis. Iron	2010	10	µg/L	100.5	85-115			
Dis. Manganese	49.3	0.3	µg/L	98.5	85-115			
Dis. Nickel	49.9	0.3	µg/L	99.8	85-115			
Dis. Zinc	51	5	µg/L	101.6	85-115			
Calibration Check								
Dis. Arsenic	47.3	0.3	µg/L	94.6	90-110			
Dis. Iron	4770	10	µg/L	95.5	90-110			
Dis. Manganese	418	0.3	µg/L	92.8	90-110			
Dis. Nickel	46.7	0.3	µg/L	93.4	90-110			
Dis. Zinc	47	5	µg/L	94.7	90-110			
Matrix Spike - BP00016								
Dis. Arsenic	97.3	0.6	µg/L	97.1	70-130			
Dis. Iron	12100	20	µg/L	93.4	70-130			
Dis. Manganese	1520	0.6	µg/L	99.9	70-130			
Dis. Nickel	93.8	0.6	µg/L	93.5	70-130			
Dis. Zinc	97	10	µg/L	95.5	70-130			
Matrix Spike Dup - BP00016								
Dis. Arsenic	97.1	0.6	µg/L			0.2	20	
Dis. Iron	12000	20	µg/L			1.4	20	
Dis. Manganese	1500	0.6	µg/L			1.4	20	
Dis. Nickel	92.7	0.6	µg/L			1.0	20	
Dis. Zinc	95	10	µg/L			0.5	20	
Laboratory Control Standard								
Dis. Arsenic	125	0.3	µg/L	95.3	80-120			
Dis. Iron	2880	10	µg/L	98.3	80-120			
Dis. Manganese	615	0.3	µg/L	96.7	80-120			
Dis. Nickel	670	0.3	µg/L	96.9	80-120			
Dis. Zinc	1520	5	µg/L	100.1	80-120			

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

3200 CEDAR STREET; EVERETT WA 98201
Phone: (425)257-8230 Fax: (425)257-8228

PROJECT # 60354

ANALYSIS REQUEST
CHAIN OF CUSTODY

Date: 2/16/22

Client: FLOYD SNIDER / CITY OF EVERETT PUBLIC WORKS
Address: 600 UNION STREET #600 SEATTLE WA 98101
Program: COEv DEVEL
Sample Site: Tire Fire Site
Phone: 206-854-5203
Collected By: SD/TS
Requested By: FLOYD SNIDER

Requested sample report date (If less than 30 days): ____

Purpose: ___ In Lab Contract ___ Outside Lab Contract

Analyses Requested

Sample Description:	LIMS ID # (Lab Use Only)	Sample Date	Sample Time	Comp [✓ Grab]	Sample Matrix	DISSOLVED METALS *	DISSOLVED CHLORIDE **
MW-11R-021522	BN 00016	2/15/22	9:35	G	H2O	X	X
MW-21R-021522	17		11:00			X	X
MW-38-021522	18		12:45			X	X
MW-29R-021522	19		14:20			X	X
DUP-1-021522	20		14:25			X	X
MW-37R-021522	21		14:55			X	X
MW-31-021522	22		16:10			X	X
MW-30-021622	23	2/16/22	10:10			X	X
MW-37-021622	24		11:20			X	X
MW-36-021622	25		12:25			X	X

Cooler? [✓ Y] / N
Cooler Temp: 0.0 °C
—INDICATE: LAB PERFORMING ANALYSIS / # OF CONTAINERS— 20

CHAIN OF CUSTODY

*Relinquished:	Received:	Date: 2/16/22	Time: 1404
*Relinquished:	Received:	Date:	Time:
*Relinquished:	Received:	Date:	Time:
*Relinquished:	Received:	Date:	Time:

COMMENTS:
* As, Fe, Mn, Ni, Zn EPA 200.8
** SM-450-CLE
Sample temp = 5.5°C

Because the City of Everett Environmental Laboratory is a public agency, data, test results, reports and other documents are public records and therefore subject to disclosure to third parties upon their request pursuant to RCW Chap. 42.17.

OnSite
Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 23, 2022

Kate Snider
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re:	Analytical Data for Project Coev Devel
	Laboratory Reference No. 2202-204

Dear Kate:

Enclosed are the analytical results and associated quality control data for samples submitted on February 16, 2022.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 23, 2022
Samples Submitted: February 16, 2022
Laboratory Reference: 2202-204
Project: Coev Devel

Case Narrative

Samples were collected on February 15 and 16, 2022 and received by the laboratory on February 16, 2022. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Semivolatiles EPA 8270E/SIM Analysis

The spike blank and the spike blank duplicate had one recovery slightly above control limits indicating a high bias. All associated samples had no detectable recoveries. No further action was taken.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: February 23, 2022
Samples Submitted: February 16, 2022
Laboratory Reference: 2202-204
Project: Coev Devel

SEMIVOLATILE ORGANICS EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11R-021522**					
Laboratory ID:	02-204-01					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*51*	*10 - 82*				
Phenol-d6	*39*	*10 - 92*				
Nitrobenzene-d5	*79*	*32 - 105*				
2-Fluorobiphenyl	*69*	*38 - 105*				
2,4,6-Tribromophenol	*87*	*25 - 124*				
Terphenyl-d14	*72*	*42 - 116*				
Client ID:	**MW-21R-021522**					
Laboratory ID:	02-204-02					
bis(2-Ethylhexyl)phthalate	**ND**	1.1	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*45*	*10 - 82*				
Phenol-d6	*35*	*10 - 92*				
Nitrobenzene-d5	*69*	*32 - 105*				
2-Fluorobiphenyl	*65*	*38 - 105*				
2,4,6-Tribromophenol	*82*	*25 - 124*				
Terphenyl-d14	*74*	*42 - 116*				
Client ID:	**MW-38-021522**					
Laboratory ID:	02-204-03					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*52*	*10 - 82*				
Phenol-d6	*38*	*10 - 92*				
Nitrobenzene-d5	*78*	*32 - 105*				
2-Fluorobiphenyl	*70*	*38 - 105*				
2,4,6-Tribromophenol	*82*	*25 - 124*				
Terphenyl-d14	*74*	*42 - 116*				

Date of Report: February 23, 2022
Samples Submitted: February 16, 2022
Laboratory Reference: 2202-204
Project: Coev Devel

SEMIVOLATILE ORGANICS EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	**Result**	**PQL**	**Method**	**Date Prepared**	**Date Analyzed**	**Flags**
Client ID:	**MW-29R-021522**					
Laboratory ID:	02-204-04					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*55*	*10 - 82*				
Phenol-d6	*40*	*10 - 92*				
Nitrobenzene-d5	*81*	*32 - 105*				
2-Fluorobiphenyl	*74*	*38 - 105*				
2,4,6-Tribromophenol	*77*	*25 - 124*				
Terphenyl-d14	*71*	*42 - 116*				
Client ID:	**DUP1-021522**					
Laboratory ID:	02-204-05					
bis(2-Ethylhexyl)phthalate	**ND**	0.98	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*56*	*10 - 82*				
Phenol-d6	*40*	*10 - 92*				
Nitrobenzene-d5	*81*	*32 - 105*				
2-Fluorobiphenyl	*68*	*38 - 105*				
2,4,6-Tribromophenol	*77*	*25 - 124*				
Terphenyl-d14	*71*	*42 - 116*				
Client ID:	**MW-39R-021522**					
Laboratory ID:	02-204-06					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*44*	*10 - 82*				
Phenol-d6	*34*	*10 - 92*				
Nitrobenzene-d5	*65*	*32 - 105*				
2-Fluorobiphenyl	*61*	*38 - 105*				
2,4,6-Tribromophenol	*71*	*25 - 124*				
Terphenyl-d14	*69*	*42 - 116*				

SEMIVOLATILE ORGANICS EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-31-021522**					
Laboratory ID:	02-204-07					
bis(2-Ethylhexyl)phthalate	**ND**	0.99	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*31*	*10 - 82*				
Phenol-d6	*27*	*10 - 92*				
Nitrobenzene-d5	*51*	*32 - 105*				
2-Fluorobiphenyl	*54*	*38 - 105*				
2,4,6-Tribromophenol	*72*	*25 - 124*				
Terphenyl-d14	*63*	*42 - 116*				
Client ID:	**MW-30-021622**					
Laboratory ID:	02-204-08					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*52*	*10 - 82*				
Phenol-d6	*40*	*10 - 92*				
Nitrobenzene-d5	*78*	*32 - 105*				
2-Fluorobiphenyl	*73*	*38 - 105*				
2,4,6-Tribromophenol	*79*	*25 - 124*				
Terphenyl-d14	*74*	*42 - 116*				
Client ID:	**MW-37-021622**					
Laboratory ID:	02-204-09					
bis(2-Ethylhexyl)phthalate	**ND**	1.1	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*52*	*10 - 82*				
Phenol-d6	*42*	*10 - 92*				
Nitrobenzene-d5	*77*	*32 - 105*				
2-Fluorobiphenyl	*71*	*38 - 105*				
2,4,6-Tribromophenol	*78*	*25 - 124*				
Terphenyl-d14	*67*	*42 - 116*				

Date of Report: February 23, 2022
Samples Submitted: February 16, 2022
Laboratory Reference: 2202-204
Project: Coev Devel

SEMIVOLATILE ORGANICS EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-36-021622**					
Laboratory ID:	02-204-10					
bis(2-Ethylhexyl)phthalate	**ND**	1.1	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*53*	*10 - 82*				
Phenol-d6	*41*	*10 - 92*				
Nitrobenzene-d5	*78*	*32 - 105*				
2-Fluorobiphenyl	*69*	*38 - 105*				
2,4,6-Tribromophenol	*71*	*25 - 124*				
Terphenyl-d14	*63*	*42 - 116*				

Date of Report: February 23, 2022
Samples Submitted: February 16, 2022
Laboratory Reference: 2202-204
Project: Coev Devel

SEMIVOLATILE ORGANICS EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0218W1					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	2-18-22	2-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*58*	*10 - 82*				
Phenol-d6	*44*	*10 - 92*				
Nitrobenzene-d5	*81*	*32 - 105*				
2-Fluorobiphenyl	*70*	*38 - 105*				
2,4,6-Tribromophenol	*95*	*25 - 124*				
Terphenyl-d14	*83*	*42 - 116*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0218W1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**19.2**	**19.7**	40.0	40.0	48	49	21 - 53	3	26	
2-Chlorophenol	**30.3**	**31.4**	40.0	40.0	76	79	38 - 92	4	28	
1,4-Dichlorobenzene	**12.6**	**12.8**	20.0	20.0	63	64	30 - 88	2	32	
n-Nitroso-di-n-propylamine	**18.8**	**19.2**	20.0	20.0	94	96	40 - 103	2	27	
1,2,4-Trichlorobenzene	**13.9**	**13.9**	20.0	20.0	70	70	37 - 95	0	29	
4-Chloro-3-methylphenol	**37.8**	**37.7**	40.0	40.0	95	94	50 - 101	0	17	
Acenaphthene	**15.0**	**14.6**	20.0	20.0	75	73	46 - 97	3	19	
4-Nitrophenol	**29.4**	**29.3**	40.0	40.0	74	73	23 - 64	0	34	I,I
2,4-Dinitrotoluene	**17.9**	**17.3**	20.0	20.0	90	87	46 - 100	3	17	
Pentachlorophenol	**39.1**	**37.9**	40.0	40.0	98	95	39 - 123	3	29	
Pyrene	**16.0**	**15.7**	20.0	20.0	80	79	52 - 107	2	19	
Surrogate:										
2-Fluorophenol					*58*	*60*	*10 - 82*			
Phenol-d6					*44*	*46*	*10 - 92*			
Nitrobenzene-d5					*85*	*87*	*32 - 105*			
2-Fluorobiphenyl					*71*	*70*	*38 - 105*			
2,4,6-Tribromophenol					*79*	*78*	*25 - 124*			
Terphenyl-d14					*72*	*74*	*42 - 116*			

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical ____________.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Page 1 of 1

Laboratory Number: 02-204

Company: FLOYD SNIDER
Project Number:
Project Name: LOEV DEVEL
Project Manager: KATE SNIDER
Sampled by: SABINE DATUM / TYLER SCOTT

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ ____________ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (Acid / SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	BEHP 8270E SVOC *				% Moisture
1	MW-11R-021522	2/15/22	9:35	H_2O	2																		X				
2	MW-21R-021522	2/15/22	11:30	H_2O	2																		X				
3	MW-38-021522	2/15/22	12:45	H_2O	2																		X				
4	MW-29R-021522	|	14:20	|	2																		X				
5	DUP1-021522	|	14:25	|	2																		X				
6	MW-39R-021522	|	14:55	|	2																		X				
7	MW-31-021522	|	16:10	|	2																		X				
8	MW-30-021622	2/16/22	10:10	H_2O	2																		X				
9	MW-37-021622	|	11:20	|	2																		X				
10	MW-36-021622	|	12:25	|	2																		X				

	Signature	Company	Date	Time
Relinquished	Tyler Scott TS	FLOYD SNIDER	2/16/22	15:66
Received		COSE	2/16/22	1571
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

email results to : sabine.datum@floydsnider.com

* Bis-2 Ethylhexyl Phthalate only

Data Package: Standard ☒ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

PROJECT #
00062218

Client: FLOYD SNIDER
Program: Everett Landfill
Contact: SABINE DATUM

Date Received: 10/19/22
Data Release: CM
Date Reported: 11/28/22

Department	Analysis	Units	DL	Method	PQL	BP42193	BP42194
						MW-37-101822	MW-36-101822
						10/18/22	10/18/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**5.4**
	Dis. Iron	µg/L	20	200.8	80	**24100**	**5860**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**814**	**326**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**1.7 J**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.6	SM4500-CL-E	2.4		**22.8**
			3.0	SM4500-CL-E	12.0	**242**	

Department	Analysis	Units	DL	Method	PQL	BP42195	BP42196
						MW-38-101822	MW-11R-101822
						10/18/22	10/18/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Iron	µg/L	20	200.8	80	**2840**	**4140**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**278**	**727**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2	**10.6**	**15.8**

Department	Analysis	Units	DL	Method	PQL	BP42197	BP42198
						MW-30-101922	MW-D30-101922
						10/19/22	10/19/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**6.9**	**6.8**
	Dis. Iron	µg/L	20	200.8	80	**11600**	**11700**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**516**	**519**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2	**17.0**	**16.9**

Department	Analysis	Units	DL	Method	PQL	BP42199	BP42200
						MW-31-101922	MW-21R-101922
						10/19/22	10/19/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**1.4 J**	**18.8**
	Dis. Iron	µg/L	20	200.8	80	**39500**	**13200**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**1220**	**2180**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**2.9**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2		**8.9**
			3.0	SM4500-CL-E	12.0	**150**	

DATA REPORTING QUALIFIERS

DL = Detection Limit
PQL = Practical Quantitation Limit (= 4xDL)
J = Analyte concentration less than PQL
SA = See Attached
ND = No Data
TNTC = Too numerous to count

When Dissolved Metals > Total Metals note possible filtering process contamintion
P/A (used for Total Coliform results) P= Coliforms present, A = Coliforms absent
Y/N (used for E. Coli Results) Y= E. Coli present, N=E. Coli absent
E = Estimated Value. Count from plates not within ideal range.
R = Sample was re-analyzed after holding time.
PHT = Analyzed past hold time

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

PROJECT #

00062218

Client:	FLOYD SNIDER	Date Received:	10/19/22
Program:	Everett Landfill	Data Release:	CM
Contact:	SABINE DATUM	Date Reported:	11/28/22

						BP42201	BP42202
						MW-29R-101922	MW-39R-101922
Department	**Analysis**	**Units**	**DL**	**Method**	**PQL**	10/19/22	10/19/22
METALS(D)	Dis. Arsenic	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Iron	µg/L	20	200.8	80	**5870**	**4620**
	Dis. Manganese	µg/L	0.6	200.8	2.4	**391**	**238**
	Dis. Nickel	µg/L	0.6	200.8	2.4	**<0.6**	**<0.6**
	Dis. Zinc	µg/L	10	200.8	40	**<10**	**<10**
NUTRIENTS	Dis. Chloride	mg/L	0.3	SM4500-CL-E	1.2		**7.3**
			0.6	SM4500-CL-E	2.4	**10.9**	

DATA REPORTING QUALIFIERS

DL = Detection Limit

PQL = Practical Quantitation Limit (= 4xDL)

J = Analyte concentration less than PQL

SA = See Attached

ND = No Data

TNTC = Too numerous to count

When Dissolved Metals > Total Metals note possible filtering process contamintion

P/A (used for Total Coliform results) P= Coliforms present, A = Coliforms absent

Y/N (used for E. Coli Results) Y= E. Coli present, N=E. Coli absent

E = Estimated Value. Count from plates not within ideal range.

R = Sample was re-analyzed after holding time.

PHT = Analyzed past hold time

EVERETT
WASHINGTON

Everett Environmental Lab

QA/QC Report

11/28/22

Project Number

00062218

Batch # 52983 QA ID BP42193	Orig	LFM	LFM AMT	LFM % REC	LFD	LFD RPD	MB	LFB	LFB TV	LFB % REC	CAL CHK	CAL CK TV	CAL CK %	QCS	QCS TV	QCS % Rec
Dis. Arsenic	<0.6	97.7	100	97.5	97.6	0.1	<0.6	48.5	50.0	97.0	47.1	50.0	94.2	121	131	92.4
Dis. Iron	24100	33100	10000	90.2	34600	4.5	<21	1890	2000	94.6	4550	5000	91.0	2900	2930	98.8
Dis. Manganese	814	920	100	106.2	904	1.8	<0.6	50.5	50.0	101.1	47.4	50.0	94.8	620	636	97.4
Dis. Nickel	<0.6	92.4	100	91.8	93.8	1.4	<0.6	50.4	50.0	100.7	46.8	50.0	93.5	685	691	99.1
Dis. Zinc	<10	95	100	94.2	94	1.4	<10	50	50	99.8	47	50	93.0	1530	1520	100.5

Batch # 53021 QA ID BP42201	Orig	DUP	% RPD	LFM	LFM AMT	LFM % REC	LFD	LFD RPD	MB	LFB	LFB TV	LFB % REC	CAL CHK	CAL CK TV	CAL CK %	QCS	QCS TV	QCS % Rec
Dis. Chloride	10.9	11.3	3.8	31.9	20.0	104.8	31.7	0.5	<0.3	9.9	10.0	98.9	4.9	5.0	98.6	11.8	11.0	106.8

Orig = Original
DUP = Duplicate
LFM = Laboratory Fortified Matrix
LFD = Laboratory Fortifided Matrix Duplicate
MB = Method Blank
LFB = Laboratory Forified Blank
Cal Chk = Calibration Check
QCS = Quality Control Sample

EVERETT
WASHINGTON

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

Phone: (425)257-8230 Fax: (425)257-8228
Sample Dropoff: 4027 4th St SE, Everett WA 98201
Mailing Address: 3200 Cedar St, Everett WA 98201

PROJECT # 102218

ANALYSIS REQUEST
CHAIN OF CUSTODY

Date: 10/19/22

Client: FLOYD SNIDER
Address: 600 UNION ST #600
SEATTLE WA 98101
Program: City of Everett
Sample Site: COEv DEVEL
Phone: 206-292-
Collected By: SD/JL
Requested By:

*Requested sample report date (If less than 30 days):*______________

Purpose:
___ In Lab Contract
___ Outside Lab Contract

Sample Description:	LIMS ID # (Lab Use Only)	Sample Date	Sample Time	Comp [✓ Grab]	Sample Matrix	Dissolved Metals*	Dissolved Chloride**
MW-37-101822	BP42193	10/18/22	11:50		H2O	X	X
MW-36-101822	194		13:00	GRAB			
MW-38-101822	195		14:30				
MW-11R-101822	196		16:25				
MW-30-101922	197	10/19/22	12:30				
MW-D30-101922	198		12:35				
MW-31-101922	199		11:05				
MW-21R-101922	200		9:15				
MW-29R-101922	201		14:00				
MW-39R-101922	202		14:50				

Cooler w/Ice? [✓ Y] / N
Rec Temp: 1.9 °C
--INDICATE: LAB PERFORMING ANALYSIS / # OF CONTAINERS--

CHAIN OF CUSTODY

*Relinquished:	Received:	Date: 10/20/22	Time: 0845
*Relinquished:	Received:	Date:	Time:
*Relinquished:	Received:	Date:	Time:

COMMENTS: * As, Fe, Mn, Ni, Zn EPA 200.8
** SM-450-CLE

EMAIL: sabine.datum@floydsnider.com

**Because the City of Everett Environmental Laboratory is a public agency, data, test results, reports and other documents are public records and therefore subject to disclosure to third parties upon their request pursuant to RCW Chap. 42.17.*

OnSite
Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 25, 2022

Sabine Datum
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project COEV Devel
Laboratory Reference No. 2210-191

Dear Sabine:

Enclosed are the analytical results and associated quality control data for samples submitted on October 20, 2022.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 25, 2022
Samples Submitted: October 20, 2022
Laboratory Reference: 2210-191
Project: COEV Devel

Case Narrative

Samples were collected on October 18, 19, 2022 and received by the laboratory on October 20, 2022. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: October 25, 2022
Samples Submitted: October 20, 2022
Laboratory Reference: 2210-191
Project: COEV Devel

SEMIVOLATILE ORGANICS EPA 8270E

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-37-101822**					
Laboratory ID:	10-191-01					
bis(2-Ethylhexyl)phthalate	**ND**	0.95	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*28*	*10 - 81*				
Phenol-d6	*18*	*10 - 86*				
Nitrobenzene-d5	*47*	*27 - 105*				
2-Fluorobiphenyl	*51*	*33 - 100*				
2,4,6-Tribromophenol	*65*	*25 - 124*				
Terphenyl-d14	*70*	*40 - 116*				
Client ID:	**MW-36-101822**					
Laboratory ID:	10-191-02					
bis(2-Ethylhexyl)phthalate	**ND**	0.95	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*35*	*10 - 81*				
Phenol-d6	*22*	*10 - 86*				
Nitrobenzene-d5	*57*	*27 - 105*				
2-Fluorobiphenyl	*56*	*33 - 100*				
2,4,6-Tribromophenol	*58*	*25 - 124*				
Terphenyl-d14	*62*	*40 - 116*				
Client ID:	**MW-38-101822**					
Laboratory ID:	10-191-03					
bis(2-Ethylhexyl)phthalate	**ND**	0.95	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*36*	*10 - 81*				
Phenol-d6	*21*	*10 - 86*				
Nitrobenzene-d5	*58*	*27 - 105*				
2-Fluorobiphenyl	*56*	*33 - 100*				
2,4,6-Tribromophenol	*55*	*25 - 124*				
Terphenyl-d14	*61*	*40 - 116*				

Date of Report: October 25, 2022
Samples Submitted: October 20, 2022
Laboratory Reference: 2210-191
Project: COEV Devel

SEMIVOLATILE ORGANICS EPA 8270E

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11R-101822**					
Laboratory ID:	10-191-04					
bis(2-Ethylhexyl)phthalate	**ND**	0.95	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*28*	*10 - 81*				
Phenol-d6	*20*	*10 - 86*				
Nitrobenzene-d5	*65*	*27 - 105*				
2-Fluorobiphenyl	*62*	*33 - 100*				
2,4,6-Tribromophenol	*49*	*25 - 124*				
Terphenyl-d14	*64*	*40 - 116*				
Client ID:	**MW-30-101922**					
Laboratory ID:	10-191-05					
bis(2-Ethylhexyl)phthalate	**ND**	0.99	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*39*	*10 - 81*				
Phenol-d6	*25*	*10 - 86*				
Nitrobenzene-d5	*61*	*27 - 105*				
2-Fluorobiphenyl	*62*	*33 - 100*				
2,4,6-Tribromophenol	*64*	*25 - 124*				
Terphenyl-d14	*72*	*40 - 116*				
Client ID:	**MW-D30-101922**					
Laboratory ID:	10-191-06					
bis(2-Ethylhexyl)phthalate	**ND**	0.96	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*46*	*10 - 81*				
Phenol-d6	*27*	*10 - 86*				
Nitrobenzene-d5	*69*	*27 - 105*				
2-Fluorobiphenyl	*69*	*33 - 100*				
2,4,6-Tribromophenol	*67*	*25 - 124*				
Terphenyl-d14	*74*	*40 - 116*				

Date of Report: October 25, 2022
Samples Submitted: October 20, 2022
Laboratory Reference: 2210-191
Project: COEV Devel

SEMIVOLATILE ORGANICS EPA 8270E

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-31-101922**					
Laboratory ID:	10-191-07					
bis(2-Ethylhexyl)phthalate	**ND**	0.95	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*36*	*10 - 81*				
Phenol-d6	*23*	*10 - 86*				
Nitrobenzene-d5	*59*	*27 - 105*				
2-Fluorobiphenyl	*60*	*33 - 100*				
2,4,6-Tribromophenol	*63*	*25 - 124*				
Terphenyl-d14	*66*	*40 - 116*				
Client ID:	**MW-21R-101922**					
Laboratory ID:	10-191-08					
bis(2-Ethylhexyl)phthalate	**ND**	0.95	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*39*	*10 - 81*				
Phenol-d6	*25*	*10 - 86*				
Nitrobenzene-d5	*62*	*27 - 105*				
2-Fluorobiphenyl	*63*	*33 - 100*				
2,4,6-Tribromophenol	*68*	*25 - 124*				
Terphenyl-d14	*71*	*40 - 116*				
Client ID:	**MW-29R-101922**					
Laboratory ID:	10-191-09					
bis(2-Ethylhexyl)phthalate	**ND**	0.97	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*40*	*10 - 81*				
Phenol-d6	*27*	*10 - 86*				
Nitrobenzene-d5	*65*	*27 - 105*				
2-Fluorobiphenyl	*65*	*33 - 100*				
2,4,6-Tribromophenol	*64*	*25 - 124*				
Terphenyl-d14	*70*	*40 - 116*				

Date of Report: October 25, 2022
Samples Submitted: October 20, 2022
Laboratory Reference: 2210-191
Project: COEV Devel

SEMIVOLATILE ORGANICS EPA 8270E

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-39R-101922**					
Laboratory ID:	10-191-10					
bis(2-Ethylhexyl)phthalate	**ND**	0.98	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*29*	*10 - 81*				
Phenol-d6	*19*	*10 - 86*				
Nitrobenzene-d5	*45*	*27 - 105*				
2-Fluorobiphenyl	*46*	*33 - 100*				
2,4,6-Tribromophenol	*51*	*25 - 124*				
Terphenyl-d14	*57*	*40 - 116*				

Date of Report: October 25, 2022
Samples Submitted: October 20, 2022
Laboratory Reference: 2210-191
Project: COEV Devel

SEMIVOLATILE ORGANICS EPA 8270E
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	**Result**	**PQL**	**Method**	**Date Prepared**	**Date Analyzed**	**Flags**
METHOD BLANK						
Laboratory ID:	MB1024W1					
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	10-24-22	10-24-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*49*	*10 - 81*				
Phenol-d6	*31*	*10 - 86*				
Nitrobenzene-d5	*72*	*27 - 105*				
2-Fluorobiphenyl	*70*	*33 - 100*				
2,4,6-Tribromophenol	*69*	*25 - 124*				
Terphenyl-d14	*76*	*40 - 116*				

Analyte	**Result**		**Spike Level**		**Percent Recovery**		**Recovery Limits**	**RPD**	**RPD Limit**	**Flags**
SPIKE BLANKS										
Laboratory ID:	SB1024W1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**14.2**	**15.3**	40.0	40.0	36	38	16 - 53	7	33	
2-Chlorophenol	**29.5**	**31.1**	40.0	40.0	74	78	42 - 90	5	34	
1,4-Dichlorobenzene	**13.1**	**13.5**	20.0	20.0	66	68	32 - 83	3	34	
n-Nitroso-di-n-propylamine	**14.3**	**15.1**	20.0	20.0	72	76	41 - 99	5	32	
1,2,4-Trichlorobenzene	**14.0**	**14.5**	20.0	20.0	70	73	35 - 91	4	35	
4-Chloro-3-methylphenol	**34.6**	**36.5**	40.0	40.0	87	91	55 - 98	5	22	
Acenaphthene	**15.5**	**16.4**	20.0	20.0	78	82	40 - 96	6	23	
4-Nitrophenol	**16.0**	**16.7**	40.0	40.0	40	42	20 - 77	4	28	
2,4-Dinitrotoluene	**16.0**	**16.8**	20.0	20.0	80	84	50 - 102	5	22	
Pentachlorophenol	**38.1**	**39.1**	40.0	40.0	95	98	46 - 129	3	26	
Pyrene	**16.9**	**17.3**	20.0	20.0	85	87	52 - 105	2	20	
Surrogate:										
2-Fluorophenol					*45*	*49*	*10 - 81*			
Phenol-d6					*29*	*32*	*10 - 86*			
Nitrobenzene-d5					*68*	*72*	*27 - 105*			
2-Fluorobiphenyl					*67*	*71*	*33 - 100*			
2,4,6-Tribromophenol					*71*	*75*	*25 - 124*			
Terphenyl-d14					*73*	*78*	*40 - 116*			

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical ____________.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Page 1 of 1

Laboratory Number: 10-191

Company: FLOYD SNIDER
Project Number:
Project Name: COEV DEVEL
Project Manager: SABINE DATUM
Sampled by: SD/JL

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ ____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (Acid / SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	* Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664					% Moisture
1	MW-37-101822	10/18/22	11:50	H_2O	2								X														
2	MW-36-101822		13:00		2								X														
3	MW-38-101822		14:30		2								X														
4	MW-11R-101822		16:25		2								X														
5	MW-30-101922	10/19/22	12:30		2								X														
6	MW-D30-101922		12:35		2								X														
7	MW-31-101922		11:05		2								X														
8	MW-21R-101922		9:15		2								X														
9	MW-29R-101922		14:00		2								X														
10	MW-39R-101922		14:50		2								X														

	Signature	Company	Date	Time
Relinquished	Terry Duncan	FLOYD SNIDER	10/20/22	919
Received	Van	Spdy	10/20/22	919
Relinquished	Van	Spdy	10/20/22	1050
Received		OSE	10/20/22	1050
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* BEHP only
(Bis 2 ethyl hexyl phthalate only)

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

Sample/Cooler Receipt and Acceptance Checklist

Client: FLS

Client Project Name/Number: COEV DEVEL

OnSite Project Number: 10-191

Initiated by:

Date Initiated: 10/20/12

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	[✓ No]	N/A	1 2 3 4
1.2 Were the custody seals intact?	Yes	No	[✓ N/A]	1 2 3 4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	[✓ N/A]	1 2 3 4
1.4 Were the samples delivered on ice or blue ice?	[✓ Yes]	No	N/A	1 2 3 4
1.5 Were samples received between 0-6 degrees Celsius?	[✓ Yes]	No	N/A	Temperature: 0,3
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	[✓ N/A]		
1.7 How were the samples delivered?	Client	[✓ Courier]	UPS/FedEx	OSE Pickup Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	[✓ Yes]	No	1 2 3 4
2.2 Was the COC legible and written in permanent ink?	[✓ Yes]	No	1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	[✓ Yes]	No	1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	[✓ Yes]	No	1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	[✓ Yes]	No	1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	[✓ No]	1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	[✓ No]		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	[✓ No]		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	[✓ Yes]	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	[✓ N/A]	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	[✓ N/A]	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	[✓ Yes]	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	[✓ No]		1 2 3 4
3.8 Was method 5035A used?	Yes	No	[✓ N/A]	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		[✓ N/A]	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

//SERVER\OSE\Administration\forms\cooler_checklist.xls

Attachment 3
Data Validation Summary

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Data Validation Summary

Prepared by: Gretchen Heavner
Date: May 11, 2022
Project No.: COEv-DEVEL 2014
Sample Event(s): February 2022 Groundwater Sampling
Sample Delivery Group(s): OnSite 2202-204, COEv 60384
Sample Media: Groundwater

A Compliance Screening (Stages 1 & 2A) data quality review was performed on semi-volatile organic compounds, dissolved metals, and chloride resulting from laboratory analysis. The analytical data were validated in accordance with the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 2020a) and/or *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA 2020b).

A total of 10 groundwater samples were submitted in 2 sample delivery groups to OnSite Environmental under sample delivery group (SDG) 2202-204 for chemical analysis by USEPA 8270E and to the City of Everett Laboratory under SDG 60384 for chemical analysis by USEPA 200.8 and SM4500-CL-E.

For all sample delivery groups and analysis methods, the analytical holding times were met, and the method blanks had no detections. The matrix spike (MS), matrix spike duplicate (MSD) and laboratory control sample recoveries and MS/MSD relative percent differences all met U.S. Environmental Protection Agency (USEPA) requirements.

No qualifiers were added to the analytical results based on the data quality review. Data are determined to be of acceptable quality for use as reported by the laboratory.

REFERENCES

U.S. Environmental Protection Agency (USEPA). 2020a. *National Functional Guidelines for Inorganic Superfund Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-542-R-20-006/OLEM 9240.1-66. November.

______. 2020b. *National Functional Guidelines for Organic Superfund Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-540-R-20-005/OLEM 9240.0-51. November.

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strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
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Data Validation Summary

Prepared by:	Chell Black
Date:	December 9, 2022
Project No.:	COEv-DEVEL 2014
Sample Event(s):	October Groundwater Sampling
Sample Delivery Group(s):	COEv 62218, OnSite 2210-191
Sample Media:	Groundwater

A Compliance Screening (Stage 2A) data quality review was performed on select semi volatile organic compounds, select dissolved metals, and nutrients data resulting from laboratory analysis. The data were reviewed using guidance and quality control (QC) criteria documented in the *Everett Landfill/Tire Fire Site Ground Water Sampling and Analysis Plan* (HWA 2015), *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (USEPA 1986), *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 2020a), and the *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA 2020b).

A total of 10 groundwater samples were submitted to 2 separate laboratories for analysis. Samples were submitted to the City of Everett Environmental Laboratory in Everett, Washington, under sample delivery group (SDG) 62218 for chemical analysis by U.S. Environmental Protection Agency (USEPA) 200.8 and Standard Method 4500-CL-E. The samples were also submitted to OnSite Environmental, Inc. in Redmond, Washington, under SDG 2210-191 for chemical analysis by USEPA 8270E. For all sample delivery groups, the analytical holding times were met, and the method blanks had no detections. The surrogate, matrix spike (MS), matrix spike duplicate (MSD), and laboratory control sample recoveries and sample/sample duplicate and MS/MSD relative percent differences all met project requirements.

All data are determined to be of acceptable quality for use as reported, with select laboratory qualifiers being updated to conform to the final qualifiers used for data table reporting.

REFERENCES

HWA GeoSciences Inc (HWA). 2015. *Everett Landfill/Tire Fire Site Ground Water Sampling and Analysis Plan*. Project No. 1998 165-660. Prepared for City of Everett. 22 May.

U.S. Environmental Protection Agency (USEPA). 1986. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. U.S. Prepared by the Office of Solid Waste and Emergency Response. EPA-530/SW-846.

_____. 2020a. *National Functional Guidelines for Inorganic Superfund Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-540-R-20-005/OLEM 9240.0-51. November.

_____. 2020b. *National Functional Guidelines for Organic Superfund Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-542-R-20-006/OLEM 9240.1-66. November.

Attachment 4

Historical Groundwater Monitoring Analytical Results and Groundwater Elevations

Table 1
Performance Monitoring
Ground Water Analytical Results
Everett Landfill

			Dissolved Metals					Conventional	SVOC
	Chemical Name		Arsenic	Iron	Manganese	Nickel	Zinc	Chloride	bis (2-Ethylhexyl) phthalate
		Unit	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)
Sample Location	Sample Type	C.L. Date	25	23687	4040	10	76.6	230	10
MW-11R	NET	7/9/2001	6 U	9223	1430	5 U	8 U	11.8	1 U
MW-11R		10/3/2001	6 U	7945	1553	2 U	8 U	18.0	1 U
MW-11R		1/18/2002	6 U	9439	1910	2 U	10.45	11.6	4 U
MW-11R		4/10/2002	6 U	8742	2025	4 U	8 U	13.8	4 U
MW-11R		7/11/2002	4 U	32	440	4 U	8 U	13.3	4 U
MW-11R		10/9/2002	4	12400	2210	4 U	8 U	19.8	4 U
MW-11R		1/13/2003	4 U	3970	97	4.6	8	40.3	1 U
MW-11R		4/23/2003	4 U	11000	1810	4 U	8 U	20.2	1 U
MW-11R		10/9/2003	4 U	12800	1860	4 U	8 U	38.4	2.8 B
MW-11R		4/6/2004	2 U	10200	1260	2 U	8 U	8.8	1 U
MW-11R		7/15/2005	2 U	12500	1260	2 U	8 U	8.0	10 U
MW-11R		2/1/2006	4 U	11800	1240	2 U	8 U	14.0	10 U
MW-11R		7/10/2006	4 U	13500	1700	2 U	8 U	13.0	2 U
MW-11R		1/10/2007	4 U	12400	1560	4 U	8 U	18.3	2 U
MW-11RD		1/10/2007	4 U	12700	1600	4 U	8 U	18.3	2 U
MW-11R		7/17/2007	4 U	11800	1600	4 U	8 U	15.6	2 U
MW-11R		1/24/2008	2 U	11500	1490	4 U	8 U	12.6	10 U
MW-11R		6/18/2008	1.4 U	12300	1410	0.5 U	5 U	11.5	2 U
MW-11RD		6/18/2008	1.4 U	12400	1420	0.5 U	5 U	11.4	2 U
MW-11R		1/21/2009	1.7 U	12200	1430	0.5 U	5 U	10.7	2 U
MW-11R		7/10/2009	1.2	14100	1410	1 U	10 U	14.5	2 U
MW-11R		1/29/2010	1.9	10800	1300	1 U	10 U	12.9	2 U
MW-11R		7/28/2010	0.6 U	9860	992	0.5 U	5 U	7.4	2 U
MW-11R		1/20/2011	1.4 J	11300	1250	1 U	10 U	10.8	2 U
MW-11R		7/19/2011	1 U	7960	716	1 U	10 U	8.8	2 U
MW-11RD		7/19/2011	1 U	7980	720	1 U	10 U	8.8	2 U
MW-11R		1/23/2012	NS	NS	NS	NS	NS	NS	NS
MW-11R		7/11/2012	2.3	7600	535	0.5 U	5 U	4.1	2 U
MW-11R		1/22/2013	1.5 J	3320	294	1 U	10 U	3.5	2 U
MW-11R		7/18/2013	0.6 J	5800	444	0.5 U	5 U	3.9	2.6
MW-11R		1/31/2014	0.8 J	6260	446	0.5 U	5 U	8.3	2 U
MW-11R		7/25/2014	0.6 J	5920	400	0.5 U	5 U	4.9	2 U
MW-11R		2/9/2015	1 U	5630	433	1 U	10 U	3.1	2 U
MW-11R		7/29/2015	1 U	5600	509	1 U	10 U	3.4	2 U
MW-11R		1/19/2016	1 U	159000	20700	2.3 J	10 U	2320	2 U
MW-11R		7/18/2016	1 U	5880	640	1 U	10 U	18.2	2 U
MW-11R		1/26/2017	1 U	8250	1060	1 U	10 U	14.3	2 U
MW-11R		7/19/2017	1 U	180	131	1 U	10 U	4.6	2 U
MW-11R		2/9/2018	1 U	4430	877	1 U	10 U	7.6	2 U
MW-11R		7/31/2018	1 U	780	768	1 U	10.3 U	7.6	2 U
MW-11R		1/15/2019	1 U	3330	727	1 U	10 U	10.7	2 U
MW-11R		7/10/2019	1 U	320	559	1 U	10 U	8.5	2 U
MW-11R		2/3/2020	1 U	2500	631	1 U	10 U	7.1	2 U
MW-11R		7/21/2020	1 U	5200	428	1 U	10 U	7.7	2 U
MW-21	NET	7/3/2001	6 U	15	234	5 U	8 U	18.1	1 U
MW-21		10/2/2001	6 U	25	147	7.8	8 U	19.7	1 U
MW-21		1/18/2002	6 U	49	199	9.06	8 U	20.0	4 U
MW-21		4/9/2002	6 U	37	222	8.82	8 U	18.2	4 U
MW-21		7/9/2002	4 U	17	166	7.6	8 U	21.1	4 U
MW-21		10/9/2002	4 U	15	241	8.2	8 U	16.3	4 U
MW-21		1/14/2003	4 U	22	205	8.3	8 U	19.7	1 U
MW-21		4/22/2003	4 U	25	159	8.4	8 U	20.2	1 U
MW-21		10/9/2003	4 U	17	245	9.1	8 U	16.0	1 U
MW-21		4/5/2004	2 U	36	293	9.9	8 U	17.9	1 U
MW-21		7/14/2005	2 U	22	189	8.6	8 U	18.0	10 U
MW-21		1/31/2006	4 U	49	132	7.9	9	18.0	10 U
MW-21R	NET	1/21/2009	22.3	2470	1210	2.3	8 U	13.7	2 U
MW-21R		7/9/2009	31	7950	1970	1 U	10 U	9.1	2 U
MW-21RD		7/9/2009	30.4	7910	1940	1 U	10 U	9.4	2 U
MW-21R		1/28/2010	16.9	7510	1410	1 U	10 U	12.6	2 U
MW-21R		7/28/2010	23.7	8580	1660	0.5 U	5 U	9.1	2 U
MW-21R		1/20/2011	24.2	11400	1720	1 U	10 U	10.0	2 U
MW-21R		7/19/2011	25	11700	1830	1 U	10 U	8.5	2 U
MW-21R		1/23/2012	24.6	11400	2080	1 U	10 U	8.4	2 U
MW-21R		7/18/2012	6.8	8820	1600	0.6 J	5 U	11.1	2 U
MW-21R		1/22/2013	1.0 J	290	50	1 U	10 U	10.4	2 U
MW-21R		7/18/2013	0.7 J	98	121	0.7 J	5 U	12.2	2 U
MW-21R		2/1/2014	20.6	10300	1860	0.5 U	5 U	7.4	2 U
MW-21R		7/25/2014	15.0	9220	1280	0.5 U	5 U	9.6	2 U
MW-21R		2/10/2015	21	13700	1720	1 U	10 U	10.2	2 U
MW-21RD		2/10/2015	24.2	14000	1730	1 U	10 U	10.5	16
MW-21R		7/30/2015	1.8 J	42 J	3 J	1 U	10 U	10.9	2 U
MW-21R		1/19/2016	15.1	13500	1330	1 U	10 U	16.2	2 U
MW-21R		7/18/2016	1.5 J	100 J	19.3	1 U	10 U	13.3	2 U
MW-21R		1/26/2017	14.8	13900	1760	1 U	10 U	16.3	2 U
MW-21R		7/19/2017	1.5 J	48 J	4.5	1 U	10 U	14.0	2 U
MW-21R		2/9/2018	15.7	12100	1670	1 U	10 U	18.9	2.1
MW-21RD		2/9/2018	17.3	13600	1770	1 U	10 U	18.6	2.2
MW-21R		7/31/2018	1.4 J	50 J	13.1	1 U	10.3 U	17.0	2 U
MW-21R		1/15/2019	1.0 J	1950	1440	1 U	10 U	16.0	2 U
MW-21R		7/10/2019	1 U	67 J	9	1 U	10 U	12.2	2 U
MW-21R		2/3/2020	9.6	10800	1780	1 U	10 U	9.6	2 U
MW-21R		7/21/2020	1 U	40 U	319	1 U	10 U	11.2	2 U
MW-28	NET	7/6/2001	8	7972	247	5 U	8 U	4.5	1 U
MW-28		10/5/2001	8	5414	161	2 U	8 U	4.8	1 U
MW-28		1/23/2002	8.52	9332	273	2 U	8 U	4.8	4 U
MW-28		4/15/2002	8.18	7644	239	4 U	8 U	4.7	4 U
MW-28		7/9/2002	13	8220	231	4 U	8 U	5.3	4 U
MW-28D		7/9/2002	12	8260	233	4 U	8 U	5.3	4 U
MW-28		10/14/2002	8	7490	217	4 U	8 U	5.1	4 U
MW-28		1/16/2003	8	9190	257	4 U	8 U	5.4	1 U
MW-28		4/24/2003	8	7350	239	4 U	8 U	5.0	1 U
MW-28		10/14/2003	8	8020	225	4 U	8 U	5.2	5.6
MW-28		4/12/2004	7	7450	248	2 U	8 U	4.9	1 U
MW-28		7/19/2005	8	8750	265	2 U	8 U	5.0	10 U
MW-28		2/3/2006	8	8950	244	2 U	8 U	5.0	10 U
MW-28		7/11/2006	8	6440	200	2 U	10	5.2	2 U
MW-28		1/10/2007	8	8960	250	4 U	8 U	5.3	2 U
MW-28		7/18/2007	7	6110	240	4 U	8 U	5.6	2 U
MW-28		1/29/2008	9	7300	230	4 U	8 U	5.2	10 U
MW-28D		1/29/2008	7	6420	220	4 U	8 U	5.1	10 U
MW-28		6/19/2008	10.2	9000	236	0.5 U	5 U	4.9	2 U

Table 1
Performance Monitoring
Ground Water Analytical Results
Everett Landfill

			Dissolved Metals					Conventional	SVOC
	Chemical Name		Arsenic	Iron	Manganese	Nickel	Zinc	Chloride	bis (2-Ethylhexyl) phthalate
		Unit	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)
Sample Location	Sample Type	C.L. Date	25	23687	4040	10	76.6	230	10
MW-29	NET	7/10/2001	6 U	**3930**	**378**	5 U	8 U	**9.8**	1 U
MW-29		10/3/2001	6 U	**288**	**186**	2 U	8 U	**10.1**	1 U
MW-29		1/24/2002	6 U	**4472**	**376**	2 U	8 U	**10.1**	4 U
MW-29		4/12/2002	6 U	**4593**	**372**	4 U	8 U	**9.7**	4 U
MW-29		7/10/2002	4 U	**5240**	**361**	4 U	8 U	**10.4**	4 U
MW-29		10/11/2002	4 U	**4580**	**367**	4 U	8 U	**10.7**	4 U
MW-29		1/17/2003	4 U	**4480**	**346**	4 U	8 U	**11.3**	**1.1**
MW-29		4/30/2003	4 U	**4800**	**356**	4 U	8 U	**10.4**	**2**
MW-29		10/13/2003	4 U	**4670**	**373**	4 U	8 U	**10.4**	1 U
MW-29		4/9/2004	2 U	**5180**	**400**	2 U	8 U	**11.6**	1 U
MW-29		7/18/2005	2 U	**4310**	**394**	2 U	8 U	**10.0**	10 U
MW-29		2/3/2006	**5**	**4030**	**319**	2 U	8 U	**11.0**	10 U
MW-29		7/11/2006	4 U	**3320**	**360**	2 U	**8**	**10.4**	2 U
MW-29		1/12/2007	4 U	**4040**	**350**	4 U	8 U	**11.0**	2 U
MW-29		7/18/2007	4 U	**4270**	**380**	4 U	8 U	**11.4**	2 U
MW-29		1/29/2008	2 U	**4140**	**370**	4 U	8 U	**10.5**	10 U
MW-29		6/18/2008	0.5 U	**4650**	**352**	0.5 U	5 U	**10.7**	2 U
MW-29		1/22/2009	0.5 U	**7210**	**361**	0.5 U	5 U	**11.4**	2 U
MW-29		7/10/2009	1 U	**7010**	**380**	**1.3**	10 U	**10.7**	2 U
MW-29		1/28/2010	1 U	**4550**	**355**	1 U	10 U	**9.7**	2 U
MW-29		7/30/2010	0.6 J	**4270**	**326**	0.5 U	5 U	**9.1**	2 U
MW-29		1/21/2011	1 U	**5520**	**358**	1 U	10 U	**10.0**	2 U
MW-29		7/18/2011	1 U	**4420**	**341**	1 U	10 U	**9.3**	**2.4**
MW-29		1/23/2012	NS	NS	NS	NS	NS	NS	NS
MW-29		7/18/2012	NS	NS	NS	NS	NS	NS	NS
MW-29		1/22/2013	NS	NS	NS	NS	NS	NS	NS
MW-29R		7/29/2015	2.6 J	**1800**	**473**	3.6 J	10 U	**108**	**7.7**
MW-29R		1/19/2016	1 U	**9360**	**604**	1 U	10 U	**11.7**	2 U
MW-29R		7/14/2016	1 U	**7500**	**493**	1 U	10 U	**28.4**	2 U
MW-29R		1/26/2017	1 U	**10200**	**675**	1 U	10 U	**13.4**	2 U
MW-29R		7/20/2017	1 U	**9630**	**643**	1 U	10 U	**13.7**	2 U
MW-29R		2/9/2018	1 U	**9210**	**604**	1 U	10 U	**14.1**	2 U
MW-29R		8/1/2018	1 U	**6450**	**557**	1 U	10.3 U	**14.9**	2 U
MW-29R		1/29/2019	1 U	**160**	**500**	1 U	10 U	**15.8**	2 U
MW-29R		7/10/2019	1 U	**4110**	**527**	1 U	10 U	**13.3**	2 U
MW-29R		2/3/2020	1 U	**7790**	**424**	1 U	10 U	**11.4**	2 U
MW-29RD		2/3/2020	1 U	**7480**	**430**	1 U	10 U	**11.3**	2 U
MW-29R		7/22/2020	1 U	**2650**	**283**	1 U	10 U	**10.6**	2 U
MW-30	NET	7/5/2001	**8**	**4653**	**573.75**	5 U	8 U	**27.1**	1 U
MW-30		10/3/2001	6 U	**254**	**186**	2 U	8 U	**26.5**	1 U
MW-30		1/25/2002	**9.34**	**6578**	**548.08**	2 U	8 U	**23.7**	4 U
MW-30		4/11/2002	**11.14**	**6253**	**506.64**	4 U	8 U	**23.1**	4 U
MW-30		7/10/2002	4 U	**222**	**324**	4 U	8 U	**23.9**	4 U
MW-30		10/10/2002	**11**	**5810**	**484**	4 U	8 U	**19.4**	4 U
MW-30		1/16/2003	**11**	**6240**	**505**	4 U	8 U	**19.6**	1 U
MW-30		4/29/2003	**9**	**5850**	**500**	4 U	8 U	**19.7**	1 U
MW-30		10/13/2003	**10**	**5380**	**478**	4 U	8 U	**17.0**	1 U
MW-30		4/8/2004	**11**	**5160**	**495**	2 U	8 U	**18.4**	1 U
MW-30		7/14/2005	**9**	**5070**	**480**	2 U	8 U	**21.0**	10 U
MW-30		2/3/2006	**13**	**5290**	**460**	2 U	8 U	**20.0**	10 U
MW-30		7/11/2006	4 U	**4070**	**450**	2 U	8 U	**17.4**	2 U
MW-30		1/12/2007	**7**	**5780**	**490**	4 U	8 U	**16.8**	2 U
MW-30		7/18/2007	**5**	**3690**	**400**	4 U	8 U	**14.6**	2 U
MW-30		1/29/2008	**9**	**5240**	**480**	4 U	8 U	**13.2**	10 U
MW-30		6/18/2008	0.7 U	47 J	**116**	0.5 U	5 U	**16.8**	2 U
MW-30		1/22/2009	**5.6**	**4130**	**475**	0.5 U	5 U	**23.5**	2 U
MW-30		7/10/2009	**6.6**	**3630**	**346**	1 U	10 U	**12.9**	2 U
MW-30		1/28/2010	**7.2**	**4310**	**421**	1 U	10 U	**15.3**	2 U
MW-30		7/30/2010	**7**	**5250**	**406**	0.5 U	5 U	**15.7**	2 U
MW-30		1/21/2011	**8.5**	**5420**	**428**	1 U	10 U	**11.9**	2 U
MW-30		7/18/2011	**8.2**	**4940**	**417**	1 U	10 U	**12.3**	2 U
MW-30		1/24/2012	**7.2**	**5000**	**445**	1 U	10 U	**12.8**	2 U
MW-30		7/18/2012	1.7 J	**2340**	**691**	0.5 U	5 U	**13.5**	2 U
MW-30D		7/18/2012	1.8 J	**2380**	**688**	0.5 U	5 U	**13.0**	2 U
MW-30		1/22/2013	**6.7**	**4730**	**424**	1 U	10 U	**13.8**	2 U
MW-30D		1/22/2013	**6.8**	**4710**	**423**	1 U	10 U	**12.9**	2 U
MW-30		7/18/2013	**4.3**	**3530**	**386**	0.5 U	5 U	**14.7**	**2.4**
MW-30D		7/18/2013	**4.8**	**3820**	**394**	0.5 U	5 U	**14.9**	2 U
MW-30		1/31/2014	**8.2**	**6300**	**428**	0.5 U	5 U	**11.1**	2 U
MW-30		7/28/2014	1.2 J	**790**	**116**	0.5 U	5 U	**11.0**	2 U
MW-30		2/9/2015	b	**7110**	**447**	1 U	10 U	**10.7**	2 U
MW-30		7/29/2015	1 U	**320**	**25**	1 U	10 U	**9.8**	2 U
MW-30		1/19/2016	**4.3**	**6780**	**465**	1 U	10 U	**33.6**	2 U
MW-30		7/14/2016	**8**	**8320**	**559**	1 U	10 U	**142**	2 U
MW-30		1/26/2017	**8.6**	**7290**	**446**	1 U	**72**	**11.2**	2 U
MW-30		7/20/2017	1 U	**150** J	**14.4**	1 U	10 U	**11.2**	2 U
MW-30		2/9/2018	**9**	**8830**	**509**	1 U	10 U	**11.1**	2 U
MW-30		8/1/2018	**7.6**	**8690**	**482**	1 U	10.3 U	**12.8**	2 U
MW-30		1/15/2019	**7.2**	**8490**	**495**	1 U	10 U	**13.1**	2 U
MW-30		7/10/2019	**1.8** J	**1780**	**174**	1 U	10 U	**9.0**	2 U
MW-30		2/3/2020	**2.5** J	**6420**	**428**	1 U	10 U	**11.3**	2 U
MW-30		7/22/2020	1 U	**970**	**84**	1 U	10 U	**10.3**	2 U

Table 1
Performance Monitoring
Ground Water Analytical Results
Everett Landfill

			Dissolved Metals					Conventional	SVOC
	Chemical Name		Arsenic	Iron	Manganese	Nickel	Zinc	Chloride	bis (2-Ethylhexyl) phthalate
		Unit	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)
Sample Location	Sample Type	C.L. Date	25	23687	4040	10	76.6	230	10
MW-31	NET	7/5/2001	6 U	**43672**	**1261.8**	5 U	8 U	**149.8**	1 U
MW-31		10/3/2001	6 U	**29424**	**866.99**	**3.9**	8 U	**150.0**	1 U
MW-31		1/22/2002	6 U	**39542**	**1206.2**	**5.83**	8 U	**137.5**	**6**
MW-31		4/10/2002	6 U	**38227**	**1178**	4 U	8 U	**136.9**	4 U
MW-31		7/11/2002	4 U	**41700**	**1190**	4 U	8 U	**132.0**	4 U
MW-31		10/10/2002	4 U	**42000**	**1190**	**4.4**	8 U	**150.0**	4 U
MW-31D		10/10/2002	4 U	**41800**	**1180**	4 U	8 U	**151.0**	4 U
MW-31		1/16/2003	4 U	**38400**	**1150**	**4.5**	8 U	**13.5**	1 U
MW-31		4/29/2003	4 U	**38800**	**1130**	4 U	8 U	**131.0**	**320**
MW-31		10/13/2003	4 U	**41300**	**1230**	**4.4**	8 U	**147.0**	1 U
MW-31		4/8/2004	**3**	**35600**	**1220**	**4.7**	8 U	**120.0**	1.5 B
MW-31		7/14/2005	2 U	**33400**	**1150**	**3.9**	8 U	**127.0**	10 U
MW-31		2/3/2006	4 U	**31800**	**1150**	**2.9**	8 U	**130.0**	10 U
MW-31		7/12/2006	4 U	**36100**	**1160**	**3**	8 U	**132.0**	2 U
MW-31		1/12/2007	4 U	**34300**	**1170**	**4**	**16**	**134.0**	2 U
MW-31		7/17/2007	4 U	**37100**	**1180**	**7**	8 U	**149.0**	2 U
MW-31		1/29/2008	2 U	**32200**	**1160**	4 U	8 U	**138.0**	10 U
MW-31		6/18/2008	1.8 U	**39500**	**1160**	**3.2**	5 U	**132.0**	2 U
MW-31		1/22/2009	1.5 U	**32400**	**1080**	**3**	5 U	**149.7**	2 U
MW-31		7/10/2009	**1.3**	**40300**	**1170**	**3.2**	10 U	**148.0**	2 U
MW-31		1/28/2010	**1.3**	**31200**	**1130**	**3.2**	10 U	**147.0**	2 U
MW-31		7/30/2010	1.4 J	**38600**	**1150**	**3**	5 U	**143.0**	2 U
MW-31D		7/30/2010	1.3 J	**37600**	**1110**	**3.2**	5 U	**144.0**	2 U
MW-31		1/21/2011	1.4 J	**36500**	**1160**	3 J	10 U	**157.0**	2 U
MW-31D		1/21/2011	1.4 J	**36300**	**1160**	3 J	10 U	**161.0**	2 U
MW-31		7/18/2011	1.5 J	**39600**	**1210**	3.9 J	10 U	**132.0**	2 U
MW-31		1/24/2012	1.4 J	**34500**	**1190**	3.4 J	10 U	**143.0**	2 U
MW-31		7/18/2012	1.5 J	**39700**	**1150**	3.2	5 U	**138.0**	2 U
MW-31		1/22/2013	1.6 J	**42100**	**1210**	3.5 J	10 U	**134.0**	**2.7**
MW-31		7/19/2013	1.5 J	**39900**	**1180**	**3.1**	7 J	**149.0**	**3**
MW-31		1/31/2014	1.5 J	**44300**	**1220**	**3.3**	5 U	**139.0**	2 U
MW-31		7/28/2014	1.6 J	**48100**	**1170**	**3.3**	5 U	**150.0**	2 U
MW-31		2/9/2015	2.5 J	**70400**	**1180**	3.8 J	10 U	**144.0**	2 U
MW-31		7/29/2015	2 J	**59600**	**1220**	3.1 J	10 U	**148.0**	2 U
MW-31D		7/29/2015	2 J	**58800**	**1220**	3.7 J	10 U	**149.0**	2 U
MW-31		1/19/2016	1.4 J	**40400**	**1010**	2.7 J	10 U	**148.0**	2 U
MW-31D		1/19/2016	1.5 J	**40600**	**1010**	2.6 J	10 U	**148.0**	2 U
MW-31		7/14/2016	1.9 J	**58300**	**1250**	3.6 J	10 U	**36.8**	2 U
MW-31D		7/14/2016	2 J	**58500**	**1260**	3.4 J	10 U	**142.0**	2 U
MW-31		1/26/2017	1.7 J	**48300**	**1190**	3.4 J	10 U	**141.0**	2 U
MW-31		7/20/2017	1.9 J	**47500**	**1240**	3.5 J	10 U	**140.0**	2 U
MW-31D		7/20/2017	1.9 J	**48300**	**1250**	3.5 J	10 U	**130.0**	2 U
MW-31		2/9/2018	2.3 J	**52700**	**1260**	3.6 J	10 U	**137.0**	**2.8**
MW-31		8/1/2018	1.5 J	**42400**	**1170**	3.1 J	10.3 U	**133.0**	2 U
MW-31		1/15/2019	1.9 J	**45900**	**1140**	3.3 J	10 U	**133.0**	2 U
MW-31		7/10/2019	1.6 J	**42200**	**1210**	3.1 J	10 U	**136.0**	2 U
MW-31		2/3/2020	1.6 J	**43600**	**1190**	2.8 J	10 U	**136.0**	2 U
MW-31		7/22/2020	1.7 J	**46400**	**1250**	3.1 J	10 U	**144.0**	2 U
MW-31D		7/22/2020	1.6 J	**45200**	**1240**	3.1 J	10 U	**143.0**	2 U
MW-33	BG	7/5/2001	6 U	14 U	**54**	5 U	8 U	**20.4**	1 U
MW-33		10/2/2001	NS	NS	NS	NS	NS	NS	NS
MW-33		1/17/2002	6 U	14 U	**27**	**3.67**	**42.2**	**8.7**	4 U
MW-33		4/9/2002	6 U	14 U	**20**	**4.36**	**32.12**	**8.3**	4 U
MW-33		7/8/2002	4 U	14 U	**16**	4 U	**462.6**	**5.3**	4 U
MW-33		10/8/2002	4 U	14 U	**3**	4 U	**23**	**7.9**	4 U
MW-33		1/21/2003	4 U	14 U	**1**	4 U	**26**	**7.8**	**1.1**
MW-33		4/22/2003	4 U	14 U	1 U	4 U	**48**	**7.2**	1 U
MW-33		10/7/2003	4 U	14 U	1 U	4 U	**19**	**8.5**	1 U
MW-33		4/5/2004	2 U	14 U	1 U	**3**	**15**	**8.3**	1 U
MW-33		7/18/2005	2 U	14 U	1 U	**3**	**19**	**12.0**	10 U
MW-33		1/31/2006	4 U	14 U	1 U	**2.7**	**18**	**8.0**	10 U
MW-33		7/10/2006	4 U	14 U	1 U	**3**	**11**	**6.6**	2 U
MW-33		1/12/2007	4 U	14 U	b	**6**	**33**	**7.2**	2 U
MW-33		7/20/2007	4 U	14 U	1	**4** U	**70**	**6.2**	2 U
MW-33		1/30/2008	2 U	14 U	1 U	**4** U	**68**	**5.3**	10 U
MW-33		6/19/2008	0.6 U	30 U	2 U	**3.2** U	**29**	**5.1**	2 U
MW-35	BG	7/5/2001	6 U	14 U	**109**	**5** U	**8** U	**46.3**	1 U
MW-35		10/2/2001	6 U	14 U	**19**	**2.3**	**48.85**	**47.1**	1 U
MW-35		1/17/2002	6 U	14 U	**6**	**2.97**	8 U	**43.1**	4 U
MW-35		4/9/2002	6 U	**47**	**2**	4 U	8 U	42.5	4 U
MW-35		7/8/2002	4 U	14 U	1 U	4 U	8 U	42.5	4 U
MW-35		10/8/2002	4 U	14 U	1 U	4 U	8 U	43.8	4 U
MW-35		1/14/2003	4 U	14 U	1 U	4 U	8 U	48.6	1 U
MW-35		4/22/2003	4 U	14 U	1 U	4 U	8 U	44.2	1 U
MW-35		10/7/2003	4 U	**25**	1 U	4 U	8 U	45.0	1 U
MW-35		4/5/2004	2 U	14 U	1 U	2 U	8 U	45.0	1 U
MW-35		7/18/2005	2 U	14 U	1 U	2 U	8 U	44.0	10 U
MW-35		2/1/2006	4 U	14 U	1 U	2 U	8 U	42.0	10 U
MW-36	POC	7/6/2001	**14.7**	**12552**	**728**	5 U	8 U	**69.3**	1 U
MW-36		10/8/2001	**9**	**12067**	**543**	2 U	8 U	**59.1**	1 U
MW-36		1/22/2002	**8.46**	**15896**	**648**	2.85	8 U	**41.6**	4 U
MW-36		4/10/2002	6 U	**24681**	**663**	4 U	8 U	**96.5**	4 U
MW-36		7/11/2002	**10**	**15300**	**670**	4 U	8 U	**44.5**	4 U
MW-36		10/9/2002	**9**	**16500**	**687**	4 U	8 U	**44.0**	4 U
MW-36		1/15/2003	**8**	**17300**	**705**	4 U	8 U	**40.4**	1 U
MW-36		4/23/2003	**6**	**14700**	**693**	4 U	8 U	**41.0**	1 U
MW-36		10/9/2003	**7**	**16400**	**728**	4 U	8 U	**36.8**	2.9 B
MW-36		4/6/2004	**9**	**17100**	**778**	2 U	8 U	**52.5**	1 U
MW-36		7/15/2005	**8**	**18000**	**852**	2 U	8 U	**38.9**	10 U
MW-36		2/1/2006	4 U	**255**	**26.1**	2 U	**43**	**2.2**	10 U
MW-36		7/13/2006	**14**	**18200**	**850**	**2**	**9**	**35.5**	2 U
MW-36		1/12/2007	**9**	**17600**	**850**	4 U	8 U	**29.1**	2 U
MW-36		7/20/2007	**9**	**18300**	**870**	4 U	8 U	**34.4**	2 U
MW-36		1/25/2008	**6**	**11600**	**890**	4 U	**26**	**28.3**	10 U
MW-36		6/19/2008	**5**	**15000**	**690**	1.1 U	9 U	**28.6**	2 U
MW-36		1/22/2009	1.7 U	**1000**	**390**	**2.7**	**29**	**8.8**	2 U
MW-36D		1/22/2009	0.9 U	**420**	**300**	**2.4**	**28**	**12.0**	2 U
MW-36		7/9/2009	**3.1**	**18100**	**742**	1 U	10 U	**29.8**	2 U

Table 1
Performance Monitoring
Ground Water Analytical Results
Everett Landfill

			Dissolved Metals					Conventional	SVOC
	Chemical Name		Arsenic	Iron	Manganese	Nickel	Zinc	Chloride	bis (2-Ethylhexyl) phthalate
		Unit	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)
Sample Location	Sample Type	C.L. Date	25	23687	4040	10	76.6	230	10
MW-36		1/29/2010	**3.8**	**6820**	**759**	**2.3**	36	**23.2**	2 U
MW-36		7/29/2010	**4.1**	**15800**	**685**	0.9 J	5 U	**40.3**	2 U
MW-36		1/20/2011	**4.5**	**16400**	**685**	1 U	10 U	**32.3**	2 U
MW-36		7/19/2011	**4.7**	**16100**	**698**	1.1 J	10 U	**32.6**	2 U
MW-36		1/23/2012	**5.6**	**16000**	**724**	1 U	10 U	**27.5**	2 U
MW-36D		1/23/2012	**5.6**	**16000**	**728**	1 U	10 U	**28.5**	2 U
MW-36		7/18/2012	**4.8**	**14800**	**677**	0.8 J	5 U	**29.4**	2 U
MW-36		1/22/2013	**4.4**	**14200**	**850**	2.5 J	22 J	**25.7**	2 U
MW-36		7/18/2013	**6.3**	**15800**	**745**	0.9 J	6 J	**26.0**	2 U
MW-36		1/31/2014	**5.6**	**14800**	**757**	0.8 J	5 U	**22.4**	2 U
MW-36		7/25/2014	**5.4**	**12300**	**650**	0.9 J	5 U	**33.0**	2 U
MW-36		2/10/2015	**6.6**	**18700**	**765**	1 U	10 U	**27.0**	2 U
MW-36		7/29/2015	1 U	40 U	1 U	1 U	10 U	**210.0**	2 U
MW-36		1/22/2016	**4.6**	**24900**	**1350**	2.7 J	10 U	**253.0**	2 U
MW-36		7/14/2016	**5.1**	**580**	**131**	3.3 J	10 U	**86.4**	2 U
MW-36		2/1/2017	1 U	**240**	**94.2**	2.2 J	10 U	**111**	2 U, H
MW-36		7/20/2017	2.2 J	**680**	**351**	2 J	10 U	**69.8**	2 U
MW-36		2/9/2018	2.2 J	**10500**	**640**	1 U	10 U	**131**	2 U
MW-36		8/1/2018	1.4 J	**3960**	**427**	1.3 J	10.3 U	**91.4**	2 U
MW-36		1/29/2019	1.1 J	**4740**	**277**	1 U	10 U	**81**	2 U
MW-36		7/11/2019	3.6 J	**7450**	**334**	1 U	10 U	**49.7**	2 U
MW-36		2/4/2020	2.1 J	**190**	**170**	2.2 J	10 U	**21.6**	2 U
MW-36		7/23/2020	**7.1**	**4350**	**378**	2 J	10 U	**35.7**	2 U
MW-37	POC	7/6/2001	6 U	**22907**	**700**	5 U	8 U		1 U
MW-37		10/8/2001	6 U	**20327**	**599**	2 U	8 U	**87.0**	1 U
MW-37		1/22/2002	6 U	**22525**	**678**	**2.87**	**8.1**	**92.3**	4 U
MW-37		4/10/2002	**9.4**	**16182**	**665**	4 U	8 U	**48.3**	4 U
MW-37		7/11/2002	4 U	**25400**	**688**	4 U	8 U	**92.3**	4 U
MW-37	not	10/9/2002	4 U	**25500**	**664**	4 U	**11**	**112.0**	4 U
MW-37	sampled	1/15/2003	4 U	**26800**	**694**	4 U	8 U	**114.0**	1 U
MW-37	2006-2015	4/23/2003	4 U	**23100**	**598**	4 U	8 U	**117.0**	1 U
MW-37	due to	10/8/2003	4 U	**22700**	**651**	4 U	8 U	**190.0**	1 U
MW-37	saline river	4/6/2004	**3**	**25100**	**724**	2 U	8 U	**157.0**	1 U
MW-37	water	7/15/2005	2 U	**26500**	**807**	2 U	8 U	**248.0**	10 U
MW-37	biasing	2/1/2006	4 U	**29900**	**956**	2 U	8 U	**461.0**	10 U
MW-37	results	7/13/2006	4 U	**26500**	**840**	2 U	**61**	**257.0**	2 U
MW-37D		7/13/2006	4 U	**26800**	**840**	2 U	8 U	**298.0**	2 U
MW-37		7/29/2015	1.2 J	**2710**	**491**	1.3 J	10 U	**31.0**	2 U
MW-37		1/22/2016	1 U	**33300**	**894**	1.4 J	23 J	**155.0**	2 U
MW-37		7/14/2016	1 U	**28200**	**720**	1 U	10 U	**251.0**	2 U
MW-37		2/1/2017	1 U	**35100**	**1230**	1 U	10 U	**1690**	2 U, H
MW-37D		2/1/2017	1 U	**34400**	**1200**	1 U	10 U	**1680**	2 U, H
MW-37	resample	4/5/2017						**840**	
MW-37		7/20/2017	1 U	**18900**	**830**	1 U	10 U	**1790**	2 U
MW-37		2/9/2018	1 U	**9180**	**494**	1 U	10 U	**1590**	**2.5**
MW-37		8/2/2018	1 U	**11100**	**509**	1 U	10.3 U	**1360**	2 U
MW-37		1/29/2019	1 U	**12800**	**419**	1 U	10 U	**465**	2 U
MW-37		7/11/2019	1 U	**20600**	**873**	1 U	10 U	**884**	2 U
MW-37D		7/11/2019	1 U	**20600**	**870**	1 U	10 U	**880**	2 U
MW-37		2/4/2020	1 U	**15100**	**733**	1 U	10 U	**480**	2 U
MW-37		7/23/2020	1 U	**17900**	**1350**	1 U	10 U	**995**	2 U
MW-38	POC	7/6/2001	6 U	**3022**	**384**	5 U	8 U	**17.1**	1 U
MW-38		10/8/2001	6 U	**4066**	**287**	2 U	8 U	**20.6**	1 U
MW-38		1/23/2002	6 U	**3653**	**272**	2 U	**8.3**	**15.4**	4 U
MW-38		4/12/2002	6 U	**3665**	**263**	4 U	8 U	**15.4**	**5.4**
MW-38		7/11/2002	4 U	**3480**	**262**	4 U	8 U	**19.4**	4 U
MW-38		10/15/2002	4 U	**2290**	**234**	4 U	8 U	**19.2**	4 U
MW-38		1/15/2003	4 U	**4200**	**284**	4 U	8 U	**20.9**	1 U
MW-38		4/23/2003	4 U	**1560**	**219**	4 U	8 U	**16.2**	1 U
MW-38		10/8/2003	4 U	**4070**	**296**	4 U	8 U	**23.8**	1 U
MW-38		4/6/2004	2 U	**3690**	**279**	2 U	8 U	**22.1**	1 U
MW-38		7/15/2005	2 U	**4850**	**331**	2 U	8 U	**27.0**	10 U
MW-38		2/2/2006	4 U	**4130**	**289**	2 U	8 U	**24.0**	10 U
MW-38		7/10/2006	4 U	**4230**	**290**	2 U	8 U	**24.4**	2 U
MW-38		1/10/2007	4 U	**4120**	**300**	4 U	8 U	**26.4**	2 U
MW-38		7/20/2007	4 U	**1680**	**260**	4 U	8 U	**22.5**	2 U
MW-38		1/25/2008	2 U	**2470**	**230**	4 U	**31**	**16.5**	10 U
MW-38		6/19/2008	0.5 U	**6240**	**325**	0.5 U	5 U	**39.2**	2 U
MW-38		1/22/2009	0.5 U	**420**	**39**	1.2 U	**600**	**8.9**	2 U
MW-38		2/26/2009					**36**		
MW-38		7/9/2009	1 U	**3220**	**259**	1 U	**52**	**22.4**	2 U
MW-38		1/29/2010	1 U	**3300**	**267**	1 U	10 U	**16.2**	2 U
MW-38		7/29/2010	0.5 U	**3480**	**253**	0.5 U	5 U	**17.1**	2 U
MW-38		1/20/2011	1 U	**3610**	**265**	1 U	10 U	**13.9**	2 U
MW-38		7/18/2011	1 U	**4020**	**272**	1 U	10 U	**22.4**	2 U
MW-38		1/24/2012	1 U	**4000**	**301**	1 U	10 U	**17.1**	2 U
MW-38		7/18/2012	0.5 U	71 J	**107**	0.5 U	17 J	**16.2**	2 U
MW-38		1/22/2013	1 U	**3530**	**287**	1 U	10 U	**12.8**	2 U
MW-38		7/192013	0.5 U	**4190**	**288**	0.5 U	7 J	**30.4**	**2.1**
MW-38		2/6/2014	0.5 U	**3420**	**264**	0.5 U	5 U	**12.8**	2 U
MW-38		7/28/2014	0.5 U	**550**	**136**	0.5 U	7 J	**15.0**	2 U
MW-38		2/9/2015	1 U	**2720**	**236**	2 J	11 J	**10.5**	2 U
MW-38		7/29/2015	1 U	40 U	**213**	1 U	14 J	**11.1**	2 U
MW-38		1/22/2016	1 U	**3400**	**275**	1 U	10 U	**9.1**	2 U
MW-38		7/14/2016	1 U	**5460**	**502**	1 U	10 U	**86.4**	2 U
MW-38		2/1/2017	1 U	**3490**	**306**	1 U	10 U	**17.0**	**2** H
MW-38		7/20/2017	1 U	**3580**	**300**	1 U	10 U	**17.7**	2 U
MW-38		2/9/2018	1 U	**2810**	**295**	1 U	10 U	**11.0**	2 U
MW-38		8/2/2018	1 U	**1230**	**210**	1 U	10.3 U	**12.8**	2 U
MW-38D		8/2/2018	1 U	**970**	**202**	1 U	10.3 U	**12.9**	2 U
MW-38		1/29/2019	1 U	**2430**	**271**	1 U	10 U	**12.4**	2 U
MW-38D		1/29/2019	1 U	**2400**	**274**	1 U	10 U	**12.2**	2 U
MW-38		7/11/2019	1 U	**800**	**169**	1 U	10 U	**12.1**	2 U
MW-38		2/5/2020	1 U	40 U	**27.5**	1 U	10 U	**10.5**	2 U
MW-38		7/23/2020	1 U	**160**	**257**	1 U	10 U	**6.3**	2 U

Table 1
Performance Monitoring
Ground Water Analytical Results
Everett Landfill

			Dissolved Metals					Conventional	SVOC
	Chemical Name		Arsenic	Iron	Manganese	Nickel	Zinc	Chloride	bis (2-Ethylhexyl) phthalate
		Unit	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)
Sample Location	Sample Type	C.L. Date	25	23687	4040	10	76.6	230	10
MW-39	POC	7/6/2001	6 U	**420**	**206**	5 U	30	**49.8**	1 U
MW-39		10/8/2001	6 U	**916**	**236**	2 U	8 U	**45.7**	1 U
MW-39		1/23/2002	6 U	**1365**	**398**	2 U	8 U	**7.9**	**6.5**
MW-39		4/12/2002	6 U	**1638**	**384**	4 U	8 U	**6.8**	**7.2**
MW-39		7/9/2002	**8**	**2520**	**430**	4 U	**12**	**6.2**	**4.8**
MW-39		10/15/2002	**4**	**2740**	**398**	4 U	8 U	**5.6**	4 U
MW-39		1/15/2003	4 U	**2870**	**353**	4 U	8 U	**6.5**	1 U
MW-39		4/24/2003	4 U	**2080**	**363**	4 U	8 U	**5.1**	**74**
MW-39		10/8/2003	4 U	**3690**	**366**	4 U	8 U	**5.6**	1 U
MW-39		4/6/2004	**4**	**3730**	**323**	2 U	8 U	**5.3**	1 U
MW-39		7/15/2005	2 U	**18.2**	**300**	2 U	**16**	**6.0**	10 U
MW-39		2/2/2006	**6**	**3780**	**269**	2 U	8 U	**5.0**	10 U
MW-39		7/10/2006	4 U	**990**	**220**	2 U	**17**	**4.3**	2 U
MW-39		1/10/2007	4 U	**6980**	**280**	4 U	8 U	**5.4**	2 U
MW-39		7/19/2007	4 U	**5310**	**270**	4 U	8 U	**5.7**	2 U
MW-39D		7/19/2007	4 U	**5490**	**280**	4 U	8 U	**5.9**	2 U
MW-39		1/24/2008	**3**	**5560**	**260**	4 U	8 U	**5.8**	10 U
MW-39		6/18/2008	b	**4320**	**282**	0.5 U	5 U	**5.3**	2 U
MW-39		1/22/2009	1.5 U	**1950**	**252**	0.5 U	9 U	**6.1**	2 U
MW-39		7/9/2009	**1.1**	**1960**	**154**	1 U	10 U	**5.9**	2 U
MW-39		1/29/2010	**2.1**	**4930**	**239**	1 U	10 U	**6.3**	2 U
MW-39D		1/29/2010	**2.2**	**5030**	**240**	1 U	10 U	**6.2**	2 U
MW-39		7/29/2010	1.5 J	**2990**	**224**	0.5 U	5 U	**6.1**	2 U
MW-39		1/20/2011	2.5 J	**5750**	**249**	1 U	10 U	**6.3**	2 U
MW-39		7/18/2011	1.6 J	**3210**	**212**	1 U	10 U	**5.6**	2 U
MW-39		1/24/2012	2.6 J	**6150**	**246**	1 U	10 U	**5.4**	2 U
MW-39		7/18/2012	**2.1**	**5430**	**234**	0.5 U	5 U	**5.9**	2 U
MW-39		1/22/2013	NS	NS	NS	NS	NS	NS	NS
MW-39R		7/29/2015	2 J	130 J	229	2 J	10 U	5.0	8.1
MW-39R		1/19/2016	2.4 J	**650**	**255**	2.1 J	30 J	**5.5**	2 U
MW-39R		7/15/2016	1 U	**4040**	**231**	1 U	10 U	**7.1**	2 U
MW-39R		1/26/2017	1 U	**4270**	**272**	1 U	10 U	**7.6**	2 U
MW-39R		7/20/2017	1 U	40 U	**10.1**	1.4 J	10 U	**1.4**	2 U
MW-39R		2/9/2018	1 U	**4460**	**249**	1 U	10 U	**7.9**	2 U
MW-39R		7/31/2018	1 U	**4600**	**239**	1 U	10.3 U	**7.6**	2 U
MW-39R		1/29/2019	1 U	40 U	**8.2**	1.0 J	10 U	**3.0**	2 U
MW-39R		7/10/2019	1 U	**2700**	**227**	1 U	10 U	**4.5**	2 U
MW-39R		2/3/2020	1 U	**190**	**170**	2.2 J	10 U	**21.6**	2 U
MW-39R		7/22/2020	1 U	40 U	**130**	1 U	10 U	**6.3**	2 U
MW-40		7/10/2006	4 U	**20100**	**450**	2 U	8 U		
MW-40		1/9/2007	4 U	**6060**	**940**	4 U	8 U	**225.0**	2 U
MW-40		7/19/2007	4 U	**4080**	**730**	4 U	8 U	**24.1**	2 U
MW-40		1/30/2008	2 U	**12200**	**1190**	4 U	8 U	**166.0**	10 U
MW-41		7/10/2006	4 U	**5360**	**970**	2 U	8 U		
MW-41		1/9/2007	4 U	**5780**	**1030**	4 U	8 U	**1610.0**	2 U
MW-41		7/19/2007	4 U	**4710**	**990**	4 U	8 U	**1880.0**	2 U
MW-41		1/30/2008	2 U	**1090**	**2710**	4 U	40 U	**6120.0**	10 U
MW-42		7/10/2006	**24**	**7290**	**430**	2 U	8 U	**8.4**	2 U
MW-42D		7/15/2006	**23**	**7280.0**	**420**	0 U	8 U	**4.0**	2 U
MW-42		1/9/2007	**22**	**7300.0**	**410**	4 U	8 U	**3.8**	2 U
MW-42		7/19/2007	**21**	**7040.0**	**390**	4 U	8 U	**4.5**	2 U
MW-42		1/30/2008	**22**	**7090.0**	**390**	4 U	8 U	**3.9**	10 U

NOTES:

Bold	Analyte detected
Highlighted	Analyte exceeds cleanup level

NET = network well for Performance and Confirmational Monitoring
BG = upgradient background well
POC = deep aquifer point of compliance monitoring well
C.L. = cleanup level
ug/L = micrograms per liter
mg/L = milligrams per liter
U = not detected at reporting limit shown
J = estimated concentration
NS = Not sampled
BKG = background (established after 3 year evaluation monitoring period)
B = likely laboratory contamination, analyte detected in field blank
D = duplicate sample collected
H = Sample analyzed outside of holding time

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-05	S, INT	7/2/2001	13.57	11.71
MW-05		10/1/2001	12.44	12.84
MW-05		1/16/2002	10.75	14.53
MW-05		4/8/2002	10.97	14.31
MW-05		7/3/2002	14.15	11.13
MW-05		10/7/2002	14.63	10.65
MW-05		1/16/2003	13.32	11.96
MW-05		4/21/2003	10.97	14.31
MW-05		10/6/2003	15.12	10.16
MW-05		4/2/2004	14.17	11.11
		Decommissioned 1/05		
MW-08	INT	7/2/2001	19.42	7.59
MW-08		10/1/2001	22.43	4.58
MW-08		1/16/2002	19.57	7.44
MW-08		4/8/2002	19.74	7.27
MW-08		7/3/2002	21.82	5.19
MW-08		10/7/2002	22.99	4.02
MW-08		1/16/2003	17.24	9.77
MW-08		4/21/2003	20.50	6.51
MW-08		10/6/2003	23.88	3.13
MW-08		4/2/2004	21.45	5.56
		Decommissioned 1/05		
MW-11R	NET	1/16/2002	6.25	6.47
MW-11R		4/8/2002	6.60	6.12
MW-11R		4/8/2002	6.60	6.12
MW-11R		7/3/2002	8.68	4.04
MW-11R		10/7/2002	10.56	2.16
MW-11R		1/16/2003	3.12	9.60
MW-11R		4/21/2003	5.77	6.95
MW-11R		10/6/2003	3.61	9.11
MW-11R		4/2/2004	8.62	4.10
MW-11R		7/13/2005	8.10	4.62
MW-11R		2/7/2006	4.34	8.38
MW-11R		7/10/2006	7.84	4.88
MW-11R		1/8/2007	2.89	9.83
MW-11R		7/16/2007	11.76	0.96
MW-11R		1/23/2008	4.48	8.24
MW-11R		6/17/2008	9.45	3.27
MW-11R		1/13/2009	5.53	7.19
MW-11R		7/8/2009	NR	----
MW-11R		1/26/2010	4.88	7.84
MW-11R		7/28/2010	7.05	5.67
MW-11R		1/21/2011	4.73	7.99
MW-11R		7/15/2011	9.27	3.45
MW-11R		1/23/2012	NR	----
MW-11R		7/19/2012	14.65	0.42
MW-11R		1/23/2013	11.52	2.68
MW-11R		7/18/2013	11.00	3.20
MW-11R		1/31/2014	9.08	3.20
MW-11R		7/25/2014	16.82	-2.62
MW-11R		7/28/2015	11.59	2.61
MW-11R		1/19/2016	14.11	0.09
MW-11R		7/18/2016	17.19	-2.99
MW-11R		1/26/2017	12.05	2.15
MW-11R		7/20/2017	16.11	-1.91
MW-11R		2/9/2018	10.87	3.33
MW-11R		7/31/2018	16.12	-1.92
MW-11R		1/15/2019	9.17	5.03
MW-11R		7/10/2019	15.62	-1.42
MW-11R		2/3/2020	7.88	6.32
MW-11R		7/21/2020	17.94	-3.74

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-14	S, INT	7/2/2001	17.85	8.40
MW-14		10/1/2001	20.38	5.87
MW-14		1/16/2002	18.20	8.05
MW-14		4/8/2002	18.45	7.80
MW-14		7/3/2002	20.36	5.89
MW-14		10/7/2002	20.35	5.90
MW-14		1/16/2003	19.52	6.73
MW-14		4/21/2003	18.16	8.09
MW-14		10/6/2003	20.39	5.86
		Decommissioned 1/05		
MW-17	S, INT	7/2/2001	11.32	13.89
MW-17		10/1/2001	2.91	22.30
MW-17		1/16/2002	NR	----
MW-17		4/8/2002	NR	----
MW-17		7/3/2002	NR	----
MW-17		10/7/2002	NR	----
MW-17		1/16/2003	NR	----
MW-17		4/21/2003	13.91	12.44
MW-17		10/6/2003	17.40	7.76
MW-17		4/2/2004	16.95	9.40
		Decommissioned 1/05		
MW-21	NET	7/2/2001	17.19	25.33
MW-21		10/1/2001	17.23	24.96
MW-21		1/16/2002	16.51	25.68
MW-21		4/8/2002	16.39	25.80
MW-21		7/3/2002	16.72	25.47
MW-21		10/7/2002	17.19	25.00
MW-21		1/16/2003	17.10	25.09
MW-21		4/21/2003	16.93	25.26
MW-21		10/6/2003	17.78	24.41
MW-21		4/2/2004	17.52	24.67
MW-21		7/13/2005	17.79	24.40
MW-21		2/7/2006	17.00	25.19
		Abandoned, 2006		
MW-21R	NET	1/13/2009	13.78	25.58
MW-21R		7/8/2009	14.26	25.10
MW-21R		1/26/2010	13.94	25.42
MW-21R		7/28/2010	13.06	26.30
MW-21R		1/21/2011	13.08	26.28
MW-21R		7/15/2011	12.66	26.70
MW-21R		1/23/2012	13.05	26.31
MW-21R		7/19/2012	12.55	26.81
MW-21R		1/23/2013	11.78	27.58
MW-21R		7/18/2013	12.19	27.17
MW-21R		2/1/2014	12.32	27.04
MW-21R		7/25/2014	12.36	27.00
MW-21R		2/10/2015	11.95	27.41
MW-21R		7/30/2015	12.61	26.75
MW-21R		1/19/2016	12.78	26.58
MW-21R		7/18/2016	12.72	26.64
MW-21R		1/26/2017	12.41	26.95
MW-21R		7/20/2017	12.92	26.44
MW-21R		2/9/2018	11.42	27.94
MW-21R		7/31/2018	11.91	27.45
MW-21R		1/15/2019	11.86	27.50
MW-21R		7/10/2019	12.45	26.91
MW-21R		2/3/2020	12.45	26.91
MW-21R		7/21/2020	12.55	26.81

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-22	S, NET	7/2/2001	10.98	16.79
MW-22		10/1/2001	10.93	16.84
MW-22		1/16/2002	11.04	16.73
MW-22		4/8/2002	10.94	16.83
MW-22		7/3/2002	11.01	16.76
MW-22		10/7/2002	11.05	16.72
MW-22		1/16/2003	10.99	16.78
MW-22		4/21/2003	10.94	16.83
MW-22		10/6/2003	11.01	16.76
MW-22		4/2/2004	10.95	16.82
MW-22		7/13/2005	10.99	16.78
MW-22		2/7/2006	10.87	16.90
MW-22		7/10/2006	10.84	16.93
MW-22		1/8/2007	10.79	16.98
MW-22		7/16/2007	8.43	19.34
MW-22		1/23/2008	10.68	17.09
MW-22		6/17/2008	10.78	16.99
MW-22		1/13/2009	10.63	17.14
MW-22		7/8/2009	NR	----
MW-22		1/26/2010	NR	----
MW-22		7/28/2010	NR	----
MW-22		1/21/2011	NR	----
MW-22		7/15/2011	10.50	17.27
MW-22		1/23/2012	13.13	14.64
MW-22		7/19/2012	NR	----
MW-22		1/23/2013	15.56	12.21
MW-22		7/18/2013	15.78	11.99
MW-22		2/1/2014	15.81	11.96
MW-22		7/28/2014	21.65	6.12
MW-22		2/10/2015	15.43	12.34
MW-23	S, INT	7/2/2001	19.44	12.05
MW-23		10/1/2001	19.70	11.79
MW-23		1/16/2002	18.71	12.78
MW-23		4/8/2002	18.69	12.80
MW-23		7/3/2002	19.58	11.91
MW-23		10/7/2002	19.74	11.75
MW-23		1/16/2003	18.90	12.59
MW-23		4/21/2003	18.42	13.07
MW-23		10/6/2003	19.72	11.77
MW-23		4/2/2004	18.93	12.56
		Decommissioned 1/05		
MW-24	S, NET	7/2/2001	8.14	9.76
MW-24		10/1/2001	9.52	8.38
MW-24		1/16/2002	6.66	11.24
MW-24		4/8/2002	7.33	10.57
MW-24		7/3/2002	8.68	9.22
MW-24		10/7/2002	16.73	1.17
MW-24		1/16/2003	7.29	10.61
MW-24		4/21/2003	6.95	10.95
MW-24		10/6/2003	11.14	6.76
MW-24		4/2/2004	7.61	10.29
MW-24		7/13/2005	8.68	9.22
MW-24		2/7/2006	6.97	10.93
MW-24		7/10/2006	8.26	9.64
MW-24		1/8/2007	7.71	10.19
MW-24		7/16/2007	6.66	11.24
MW-24		1/23/2008	7.36	10.54
MW-24		6/17/2008	7.57	10.33
MW-24		1/13/2009	7.04	10.86
MW-24		7/8/2009	8.65	9.25
MW-24		1/26/2010	6.90	11.00
MW-24		7/28/2010	8.26	9.64
MW-24		1/21/2011	5.90	12.00
MW-24		7/15/2011	7.82	10.08
MW-24		1/24/2012	7.50	10.40
MW-24		7/19/2012	7.66	10.24
MW-24		1/23/2013	7.35	10.55
MW-24		7/18/2013	4.12	New TOC
MW-24		1/31/2014	2.58	New TOC
MW-24		7/28/2014	3.15	New TOC
MW-24		2/9/2015	2.55	New TOC
MW-24		7/22/2020	4.21	New TOC

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-25	S, NET	7/2/2001	8.46	7.92
MW-25		10/1/2001	8.65	7.73
MW-25		1/16/2002	6.76	9.62
MW-25		4/8/2002	7.57	8.81
MW-25		7/3/2002	8.22	8.16
MW-25		10/7/2002	9.05	7.33
MW-25		1/16/2003	6.98	9.40
MW-25		4/21/2003	7.00	9.38
MW-25		10/6/2003	9.17	7.21
MW-25		4/2/2004	7.94	8.44
MW-25		7/13/2005	8.19	8.19
MW-25		2/7/2006	6.78	9.60
MW-25		7/10/2006	8.13	8.25
MW-25		1/8/2007	5.78	10.60
MW-25		7/16/2007	7.02	9.36
MW-25		1/23/2008	6.30	10.08
MW-25		6/17/2008	6.66	9.72
MW-25		1/13/2009	6.27	10.11
MW-25		7/8/2009	8.06	8.32
MW-25		1/26/2010	5.86	10.52
MW-25		7/28/2010	7.99	8.39
MW-25		1/21/2011	4.90	11.48
MW-25		7/15/2011	7.54	8.84
MW-25		1/24/2012	5.33	11.05
MW-25		7/19/2012	6.90	9.48
MW-25		1/23/2013	6.20	10.18
MW-25		7/18/2013	3.70	NEW TOC
MW-25		1/31/2014	1.32	NEW TOC
MW-25		7/28/2014	3.54	NEW TOC
MW-25		2/9/2015	2.02	NEW TOC
MW-25		7/22/2020	4.12	NEW TOC
MW-26	S, NET	7/2/2001	10.31	6.13
MW-26		10/1/2001	10.20	6.24
MW-26		1/16/2002	6.11	10.33
MW-26		4/8/2002	6.35	10.09
MW-26		7/3/2002	10.29	6.15
MW-26		10/7/2002	10.43	6.01
MW-26		1/16/2003	6.55	9.89
MW-26		4/21/2003	6.42	10.02
MW-26		10/6/2003	10.47	5.97
MW-26		4/2/2004	9.81	6.63
MW-26		7/13/2005	10.07	6.37
MW-26		2/7/2006	9.27	7.17
MW-26		7/10/2006	11.02	5.42
MW-26		1/8/2007	7.94	8.50
MW-26		7/16/2007	9.16	7.28
MW-26		1/23/2008	9.60	6.84
MW-26		6/17/2008	9.85	6.59
MW-26		1/13/2009	8.43	8.01
MW-26		7/8/2009	9.64	6.80
MW-26		1/26/2010	8.85	7.59
MW-26		7/28/2010	9.05	7.39
MW-26		1/21/2011	4.10	12.34
MW-26		7/15/2011	8.08	8.36
MW-26		1/23/2012	5.52	10.92
MW-26		1/23/2013	4.90	11.54
MW-26		7/18/2013	4.17	NEW TOC
MW-27	S, NET	7/2/2001	8.30	8.11
MW-27		10/1/2001	7.77	8.64
MW-27		1/17/2002	9.20	7.21
MW-27		4/8/2002	6.62	9.79
MW-27		7/3/2002	6.81	9.60
MW-27		10/7/2002	6.00	10.41
MW-27		1/16/2003	6.46	9.95
MW-27		4/21/2003	6.75	9.66
MW-27		10/6/2003	7.87	8.54
MW-27		4/2/2004	5.49	10.92
MW-27		7/13/2005	5.94	10.47
MW-27		2/7/2006	6.90	9.51
MW-27		7/10/2006	6.96	9.45
MW-27		1/8/2007	6.09	10.32
MW-27		7/16/2007	6.02	10.39
MW-27		1/23/2008	6.84	9.57
MW-27		6/17/2008	7.03	9.38
MW-27		Decommissioned 11/08		

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-28	NET	7/2/2001	9.98	6.65
MW-28		10/1/2001	10.35	6.28
MW-28		1/17/2002	8.67	7.96
MW-28		4/8/2002	9.01	7.62
MW-28		7/3/2002	10.52	6.11
MW-28		10/7/2002	11.72	4.91
MW-28		1/16/2003	6.46	10.17
MW-28		4/21/2003	9.45	7.18
MW-28		10/6/2003	9.62	7.01
MW-28		4/2/2004	10.15	6.48
MW-28		7/13/2005	10.25	6.38
MW-28		2/7/2006	7.61	9.02
MW-28		7/10/2006	12.71	3.92
MW-28		1/8/2007	6.78	9.85
MW-28		7/16/2007	10.51	6.12
MW-28		1/23/2008	9.12	7.51
MW-28		6/17/2008	10.00	6.63
		Decommissioned 11/08		
MW-29	NET	7/2/2001	8.44	7.52
MW-29		10/1/2001	8.75	7.21
MW-29		1/16/2002	7.36	8.6
MW-29		4/8/2002	7.75	8.21
MW-29		7/3/2002	9.06	6.90
MW-29		10/7/2002	10.21	5.75
MW-29		1/16/2003	5.92	10.04
MW-29		4/21/2003	7.05	8.91
MW-29		10/6/2003	7.60	8.36
MW-29		4/2/2004	8.60	7.36
MW-29		7/13/2005	8.56	7.40
MW-29		2/7/2006	5.94	10.02
MW-29		7/10/2006	11.27	4.69
MW-29		1/8/2007	5.08	10.88
MW-29		7/16/2007	8.54	7.42
MW-29		1/23/2008	7.41	8.55
MW-29		6/17/2008	8.50	7.46
MW-29		1/13/2009	6.03	9.93
MW-29		7/8/2009	9.64	6.32
MW-29		1/26/2010	5.12	10.84
MW-29		7/28/2010	10.05	5.91
MW-29		1/21/2011	3.84	12.12
MW-29		7/15/2011	5.63	10.33
MW-29		1/23/2012	NR	----
		Well damaged		
MW-29R		7/28/2015	7.64	No TOC Survey
MW-29R		1/19/2016	11.50	No TOC Survey
MW-29R		7/14/2016	4.92	No TOC Survey
MW-29R		1/26/2017	3.18	No TOC Survey
MW-29R		7/20/2017	5.65	No TOC Survey
MW-29R		2/8/2018	1.92	No TOC Survey
MW-29R		8/1/2018	3.90	No TOC Survey
MW-29R		1/29/2019	3.61	No TOC Survey
MW-29R		7/10/2019	5.87	No TOC Survey
MW-29R		2/3/2020	3.06	No TOC Survey
MW-29R		7/22/2020	3.15	No TOC Survey
MW-30	NET	7/2/2001	7.95	7.95
MW-30		10/1/2001	13.29	2.61
MW-30		1/16/2002	9.06	6.84
MW-30		4/8/2002	9.09	6.81
MW-30		7/3/2002	11.70	4.20
MW-30		10/7/2002	12.87	3.03
MW-30		1/16/2003	5.92	9.98
MW-30		4/21/2003	11.07	4.83
MW-30		10/6/2003	6.08	9.82
MW-30		4/2/2004	11.38	4.52
MW-30		7/13/2005	11.51	4.39
MW-30		2/7/2006	7.25	8.65
MW-30		7/10/2006	15.37	0.53
MW-30		1/8/2007	6.37	9.53
MW-30		7/16/2007	13.18	2.72
MW-30		1/23/2008	7.21	8.69
MW-30		6/17/2008	13.11	2.79
MW-30		1/13/2009	8.40	7.50
MW-30		7/8/2009	NR	----
MW-30		1/26/2010	8.37	7.53
MW-30		7/28/2010	10.17	5.73
MW-30		1/21/2011	6.12	9.78
MW-30		7/15/2011	11.28	4.62
MW-30		1/24/2012	8.00	7.90
MW-30		7/19/2012	13.90	2.00
MW-30		1/23/2013	8.85	7.05
MW-30		7/18/2013	6.65	NEW TOC
MW-30		1/31/2014	5.22	NEW TOC
MW-30		7/28/2014	11.87	NEW TOC
MW-30		2/9/2015	4.66	NEW TOC

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-30		7/28/2015	13.31	NEW TOC
MW-30		1/19/2016	3.41	NEW TOC
MW-30		7/14/2016	6.79	NEW TOC
MW-30		1/26/2017	6.97	NEW TOC
MW-30		7/20/2017	7.24	NEW TOC
MW-30		2/8/2018	3.63	NEW TOC
MW-30		8/1/2018	5.37	NEW TOC
MW-30		2/8/2018	3.63	NEW TOC
MW-30		8/1/2018	5.37	NEW TOC
MW-30		1/15/2019	2.81	NEW TOC
MW-30		7/10/2019	8.33	NEW TOC
MW-30		2/3/2020	1.50	NEW TOC
MW-30		7/22/2020	8.90	NEW TOC
MW-31	NET	7/2/2001	11.45	6.96
MW-31		10/1/2001	15.77	2.64
MW-31		1/16/2002	12.32	6.09
MW-31		4/8/2002	12.36	6.05
MW-31		7/3/2002	15.00	3.41
MW-31		10/7/2002	16.61	1.80
MW-31		1/16/2003	8.61	9.80
MW-31		4/21/2003	13.16	5.25
MW-31		10/6/2003	9.08	9.33
MW-31		4/2/2004	14.63	3.78
MW-31		7/13/2005	14.20	4.21
MW-31		2/7/2006	10.20	8.21
MW-31		7/10/2006	18.57	-0.16
MW-31		1/8/2007	9.06	9.35
MW-31		7/16/2007	18.76	-0.35
MW-31		1/23/2008	12.58	5.83
MW-31		6/17/2008	16.24	2.17
MW-31		1/13/2009	11.34	7.07
MW-31		7/8/2009	18.93	-0.52
MW-31		1/26/2010	10.97	7.44
MW-31		7/28/2010	13.10	5.31
MW-31		1/21/2011	9.69	8.72
MW-31		7/15/2011	14.31	4.10
MW-31		1/24/2012	11.95	6.46
MW-31		7/19/2012	17.55	0.86
MW-31		1/23/2013	12.05	6.36
MW-31		7/18/2013	14.72	NEW TOC
MW-31		1/31/2014	9.35	NEW TOC
MW-31		7/28/2014	11.86	NEW TOC
MW-31		2/9/2015	7.38	NEW TOC
MW-31		7/28/2015	14.47	NEW TOC
MW-31		1/19/2016	5.29	NEW TOC
MW-31		7/14/2016	10.30	NEW TOC
MW-31		1/26/2017	8.31	NEW TOC
MW-31		7/20/2017	11.80	NEW TOC
MW-31		2/8/2018	5.80	NEW TOC
MW-31		8/1/2018	7.60	NEW TOC
MW-31		1/15/2019	3.96	NEW TOC
MW-31		7/10/2019	11.13	NEW TOC
MW-31		2/3/2020	2.94	NEW TOC
MW-31		7/22/2020	12.35	NEW TOC
MW-32	INT	7/2/2001	4.62	17.55
MW-32		10/1/2001	5.55	16.62
MW-32		1/17/2002	2.69	19.48
MW-32		4/8/2002	2.80	19.37
MW-32		7/3/2002	4.54	17.63
MW-32		10/7/2002	4.85	17.32
MW-32		1/16/2003	3.72	18.45
MW-32		4/21/2003	2.54	19.63
MW-32		10/6/2003	4.52	17.65
MW-32		4/2/2004	5.10	17.07
		Decommissioned 1/05		

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-33	BG	7/2/2001	48.54	25.76
MW-33		10/1/2001	NR	NR
MW-33		1/16/2002	48.34	25.96
MW-33		4/8/2002	48.16	26.14
MW-33		7/3/2002	48.43	25.87
MW-33		10/7/2002	NR	----
MW-33		1/17/2003	49.06	25.24
MW-33		4/21/2003	48.67	25.63
MW-33		10/6/2003	47.20	27.10
MW-33		4/2/2004	49.25	25.05
MW-33		7/13/2005	NR	----
MW-33		2/7/2006	NR	----
MW-33		7/10/2006	NR	----
MW-33		1/8/2007	NR	----
MW-33		7/16/2007	NR	----
MW-33		1/23/2008	47.97	26.33
MW-33		6/17/2008	NR	----
MW-33		1/13/2009	48.15	26.15
MW-33		7/8/2009	NR	----
MW-33		1/26/2010	48.37	25.93
MW-33		7/28/2010	48.02	26.28
MW-33		1/21/2011	NR	----
MW-33		7/15/2011	46.92	27.38
MW-33		1/23/2012	47.56	26.74
MW-33		7/19/2012	46.84	27.46
MW-33		1/23/2013	46.05	28.25
MW-33		7/18/2013	46.50	27.80
MW-33		2/1/2014	NR	----
MW-33		7/25/2014	46.60	27.70
MW-33		2/10/2015	46.33	27.97
MW-34	S, BG	7/2/2001	17.18	57.19
MW-34		10/1/2001	17.59	56.78
MW-34		1/16/2002	16.78	57.59
MW-34		4/8/2002	16.46	57.91
MW-34		7/3/2002	16.74	57.63
MW-34		10/7/2002	17.17	57.20
MW-34		1/16/2003	17.04	57.33
MW-34		4/21/2003	16.92	57.45
MW-34		10/6/2003	17.76	56.61
MW-34		4/2/2004	16.97	57.40
MW-34		7/13/2005	17.31	57.06
MW-34		2/7/2006	17.04	57.33
MW-34		7/10/2006	17.28	57.09
MW-34		1/8/2007	16.84	57.53
MW-34		7/16/2007	16.63	57.74
MW-34		1/23/2008	16.42	57.95
MW-34		6/17/2008	NR	----
MW-34		1/13/2009	16.50	57.87
MW-34		7/8/2009	NR	----
MW-34		1/26/2010	16.82	57.48
MW-34		7/28/2010	16.71	57.59
MW-34		1/21/2011	NR	----
MW-34		7/15/2011	16.15	58.15
MW-34		1/23/2012	16.61	57.69
MW-34		7/19/2012	16.24	58.06
MW-34		1/23/2013	15.85	58.45
MW-34		7/18/2013	16.15	58.15
MW-34		2/1/2014	16.45	57.85
MW-34		7/25/2014	16.60	57.70
MW-34		2/10/2015	16.17	58.13
MW-35	BG	7/2/2001	48.43	24.82
MW-35		10/1/2001	48.89	24.36
MW-35		1/16/2002	48.32	24.93
MW-35		4/8/2002	48.11	25.14
MW-35		7/3/2002	48.46	24.79
MW-35		10/7/2002	48.85	24.40
MW-35		1/16/2003	48.89	24.36
MW-35		4/21/2003	48.77	24.48
MW-35		10/6/2003	49.38	23.87
MW-35		4/2/2004	49.24	24.01
MW-35		7/13/2005	49.53	23.72
MW-35		2/7/2006	49.06	24.19
MW-35		7/10/2006	49.02	24.23
		Abandoned, 2006		

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-36	POC	7/2/2001	9.79	1.13
MW-36		10/1/2001	9.98	0.94
MW-36		1/16/2002	5.10	5.82
MW-36		4/8/2002	4.92	6.00
MW-36		7/3/2002	6.95	3.97
MW-36		10/7/2002	9.11	1.81
MW-36		1/16/2003	1.78	9.14
MW-36		4/21/2003	8.10	2.82
MW-36		10/6/2003	9.97	0.95
MW-36		4/2/2004	7.46	3.46
MW-36		7/13/2005	5.89	5.03
MW-36		2/7/2006	2.68	8.24
MW-36		7/10/2006	12.40	-1.48
MW-36		1/8/2007	1.07	9.85
MW-36		7/16/2007	6.82	4.10
MW-36		1/23/2008	3.53	7.39
MW-36		6/17/2008	7.98	2.94
MW-36		1/13/2009	3.34	7.58
MW-36		7/8/2009	11.44	-0.52
MW-36		1/26/2010	3.14	7.78
MW-36		7/28/2010	5.65	5.27
MW-36		1/21/2011	3.75	7.17
MW-36		7/15/2011	7.86	3.06
MW-36		1/23/2012	4.26	6.66
MW-36		7/19/2012	7.33	3.59
MW-36		1/23/2013	4.62	6.30
MW-36		7/18/2013	3.45	7.47
MW-36		1/31/2014	4.03	6.89
MW-36		7/28/2014	8.00	2.92
MW-36		2/10/2015	0.70	10.22
MW-36		7/29/2015	5.83	5.09
MW-36		1/22/2016	3.01	7.91
MW-36		7/14/2016	10.39	0.53
MW-36		2/1/2017	4.71	6.21
MW-36		7/20/2017	10.05	0.87
MW-36		2/9/2018	3.40	7.52
MW-36		8/1/2018	9.04	1.88
MW-36		1/29/2019	1.70	9.22
MW-36		7/10/2019	9.11	1.81
MW-36		2/4/2020	1.94	8.98
MW-36		7/23/2020	10.01	0.91
MW-37	POC	7/2/2001	12.41	1.87
MW-37		10/1/2001	13.77	0.51
MW-37		1/16/2002	8.30	5.98
MW-37		4/8/2002	7.99	6.29
MW-37		7/3/2002	10.12	4.16
MW-37		10/7/2002	12.55	1.73
MW-37		1/16/2003	5.27	9.01
MW-37		4/21/2003	12.10	2.18
MW-37		10/6/2003	12.89	1.39
MW-37		4/2/2004	10.82	3.46
MW-37		7/13/2005	9.02	5.26
MW-37		2/7/2006	5.79	8.49
MW-37		7/10/2006	16.15	-1.87
MW-37		1/8/2007	4.50	9.78
MW-37		7/16/2007	10.32	3.96
MW-37		1/23/2008	5.90	8.38
MW-37		6/17/2008	12.38	1.90
MW-37		1/13/2009	5.55	8.73
MW-37		7/8/2009	15.27	-0.99
MW-37		1/26/2010	6.77	7.51
MW-37		7/28/2010	8.82	5.46
MW-37		1/21/2011	7.13	7.15
MW-37		7/15/2011	11.94	2.34
MW-37		1/23/2012	NR	----
MW-37		7/29/2015	2.56	11.72
MW-37		1/22/2016	6.08	8.20
MW-37		7/14/2016	14.05	0.23
MW-37		2/1/2017	10.38	3.90
MW-37		7/20/2017	13.13	1.15
MW-37		2/8/2018	7.25	7.03
MW-37		8/2/2018	11.55	2.73
MW-37		1/29/2019	4.50	9.78
MW-37		7/10/2019	11.52	2.76
MW-37		2/4/2020	5.72	8.56
MW-37		7/23/2020	10.44	3.84

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-38	POC	7/2/2001	10.16	3.46
MW-38		10/1/2001	12.49	1.13
MW-38		1/16/2002	7.91	5.71
MW-38		4/8/2002	7.18	6.44
MW-38		7/3/2002	9.71	3.91
MW-38		10/7/2002	9.34	4.28
MW-38		1/16/2003	5.00	8.62
MW-38		4/21/2003	11.25	2.37
MW-38		10/6/2003	5.55	8.07
MW-38		4/2/2004	10.19	3.43
MW-38		7/13/2005	8.47	5.15
MW-38		2/7/2006	5.59	8.03
MW-38		7/10/2006	15.25	-1.63
MW-38		1/8/2007	4.17	9.45
MW-38		7/16/2007	9.12	4.50
MW-38		1/23/2008	6.75	6.87
MW-38		6/17/2008	12.82	0.80
MW-38		1/13/2009	8.06	5.56
MW-38		7/8/2009	14.34	-0.72
MW-38		1/26/2010	6.27	7.35
MW-38		7/28/2010	8.43	5.19
MW-38		1/21/2011	6.53	7.09
MW-38		7/15/2011	10.85	2.77
MW-38		1/24/2012	5.53	8.09
MW-38		7/19/2012	10.58	3.04
MW-38		1/23/2013	6.85	6.77
MW-38		7/18/2013	13.00	0.62
MW-38		1/31/2014	9.33	4.29
MW-38		7/28/2014	13.86	-0.24
MW-38		2/9/2015	2.82	10.80
MW-38		7/28/2015	13.26	0.36
MW-38		1/22/2016	5.78	7.84
MW-38		7/14/2016	12.23	1.39
MW-38		2/1/2017	11.13	2.49
MW-38		7/20/2017	13.02	0.60
MW-38		2/9/2018	5.99	7.63
MW-38		7/20/2017	13.02	0.60
MW-38		2/9/2018	5.99	7.63
MW-38		8/2/2018	12.06	1.56
MW-38		1/29/2019	5.30	8.32
MW-38		7/10/2019	8.33	5.29
MW-38		2/5/2020	5.33	8.29
MW-38		7/23/2020	12.75	0.87
MW-39	POC	7/2/2001	6.91	6.99
MW-39		10/1/2001	9.02	4.88
MW-39		1/16/2002	6.69	7.21
MW-39		4/8/2002	7.48	6.42
MW-39		7/3/2002	8.72	5.18
MW-39		10/7/2002	9.90	4.00
MW-39		1/16/2003	6.31	7.59
MW-39		4/21/2003	7.85	6.05
MW-39		10/6/2003	10.44	3.46
MW-39		4/2/2004	8.34	5.56
MW-39		7/13/2005	8.46	5.44
MW-39		2/7/2006	5.91	7.99
MW-39		7/10/2006	9.67	4.23
MW-39		1/8/2007	5.02	8.88
MW-39		7/16/2007	7.49	6.41
MW-39		1/23/2008	7.47	6.43
MW-39		6/17/2008	8.63	5.27
MW-39		1/13/2009	6.08	7.82
MW-39		7/8/2009	10.35	3.55
MW-39		1/26/2010	5.13	8.77
MW-39		7/28/2010	8.05	5.85
MW-39		1/21/2011	5.00	8.90
MW-39		7/15/2011	7.43	6.47
MW-39		1/24/2012	5.23	8.67
MW-39		7/19/2012	10.28	3.62
MW-39		1/23/2013	6.85	7.05
MW-39		7/18/2013	NR	--
MW-39		1/31/2014	NR	--
MW-39		7/25/2014	NR	--
MW-39R		7/28/2015	12.68	No TOC Survey
MW-39R		1/19/2016	9.23	No TOC Survey
MW-39R		7/15/2016	11.79	No TOC Survey
MW-39R		2/1/2017	8.44	No TOC Survey
MW-39R		7/20/2017	12.41	No TOC Survey
MW-39R		2/8/2018	7.68	No TOC Survey
MW-39R		7/31/2018	10.60	No TOC Survey
MW-39R		1/29/2019	5.90	No TOC Survey
MW-39R		7/10/2019	10.28	No TOC Survey
MW-39R		2/3/2020	3.84	No TOC Survey
MW-39R		7/22/2020	7.53	No TOC Survey

Table 2
Ground Water Elevations
Everett Landfill

Well	Type	Date	Water Depth	Water Elevation
MW-40	BGM	7/19/2005	14.86	-0.65
MW-40		2/7/2006	7.75	6.46
MW-40		7/10/2006	9.84	4.37
MW-40		1/8/2007	6.38	7.83
MW-40		7/16/2007	15.23	-1.02
MW-40		1/23/2008	8.01	6.20
		Decommissioned 2/08		
MW-41	BGM	7/19/2005	16.40	-2.01
MW-41		2/7/2006	7.98	6.42
MW-41		7/10/2006	9.68	4.72
MW-41		1/8/2007	6.83	7.57
MW-41		7/16/2007	14.71	-0.32
		Decommissioned 2/08		
MW-42	BGM	7/19/2005	1.25	16.04
MW-42		2/7/2006	1.84	15.45
MW-42		7/10/2006	3.80	13.49
MW-42		1/8/2007	1.52	15.77
MW-42		7/16/2007	3.24	14.49
MW-42		1/23/2008	1.40	15.89
		Decommissioned 2/08		

NOTES:

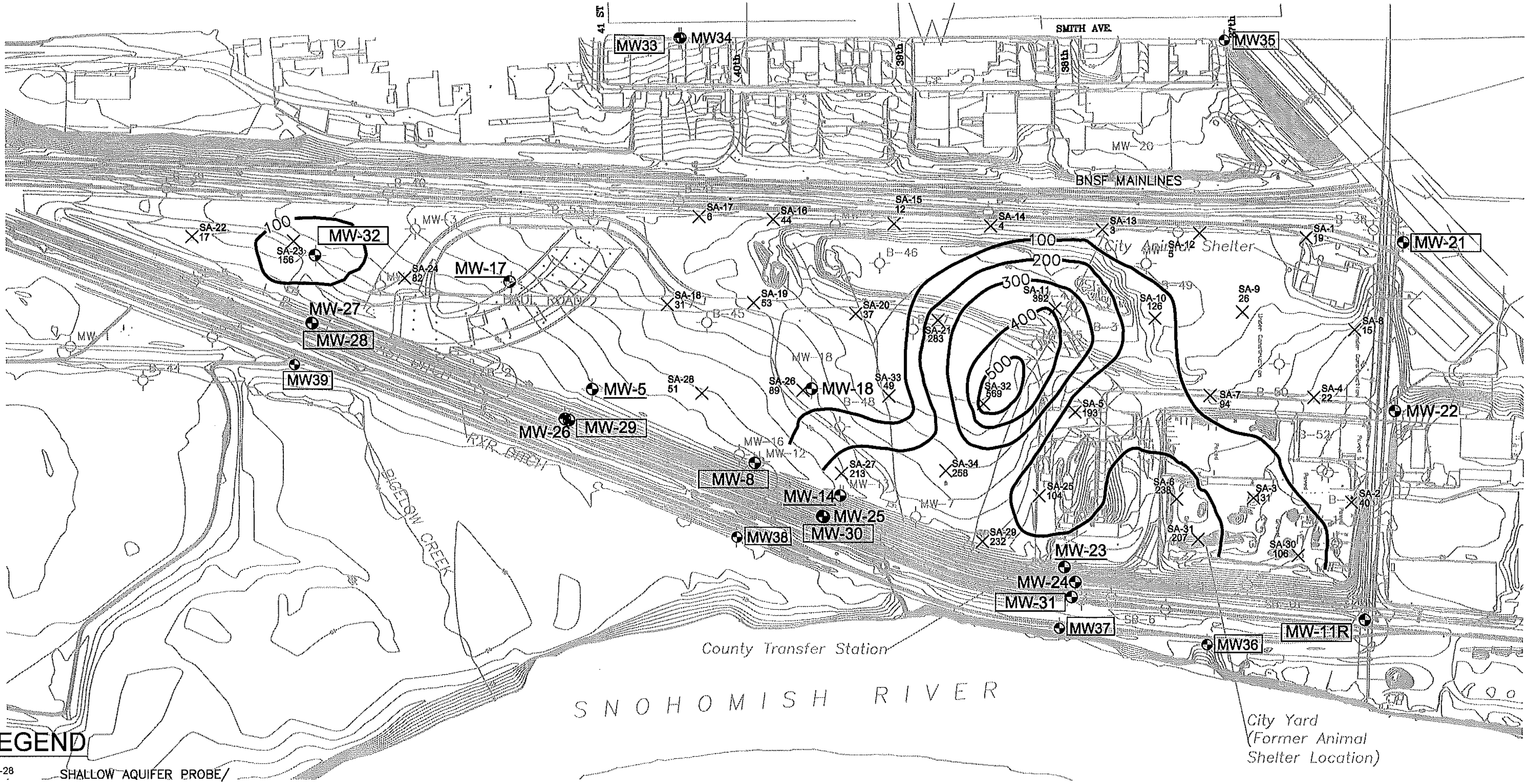
NR = no reading, well decommissioned, damaged, or not located

S = shallow well (all others are in deep aquifer)

INT = Interior, well located in interior of site

BG =Upgradient background well
BGM= background metals well
POC = deep aquifer point of compliance monitoring well

Attachment 5
Excerpts from December 2006 HWA MW-37 Chloride Investigation
Everett Landfill



LEGEND

× SA-28 SHALLOW AQUIFER PROBE/ TEMPORARY WELL

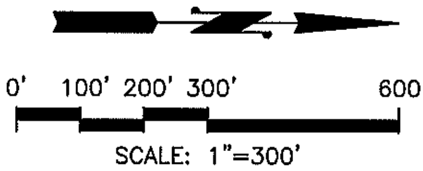
MW-12 ● SHALLOW MONITORING WELLS FOR GROUND WATER QUALITY SAMPLING

MW-16 ● DEEP MONITORING WELLS FOR GROUND WATER QUALITY SAMPLING

MW-5 ● MONITORING WELLS FOR ABANDONMENT AFTER EVALUATION MONITORING

INORGANICS KEY

Ni (48)	NICKEL (48µg/L)
Cl (392)	CHLORIDE (392µg/L)
Pb (18)	LEAD (18µg/L)
Zn (92)	ZINC (92µg/L)



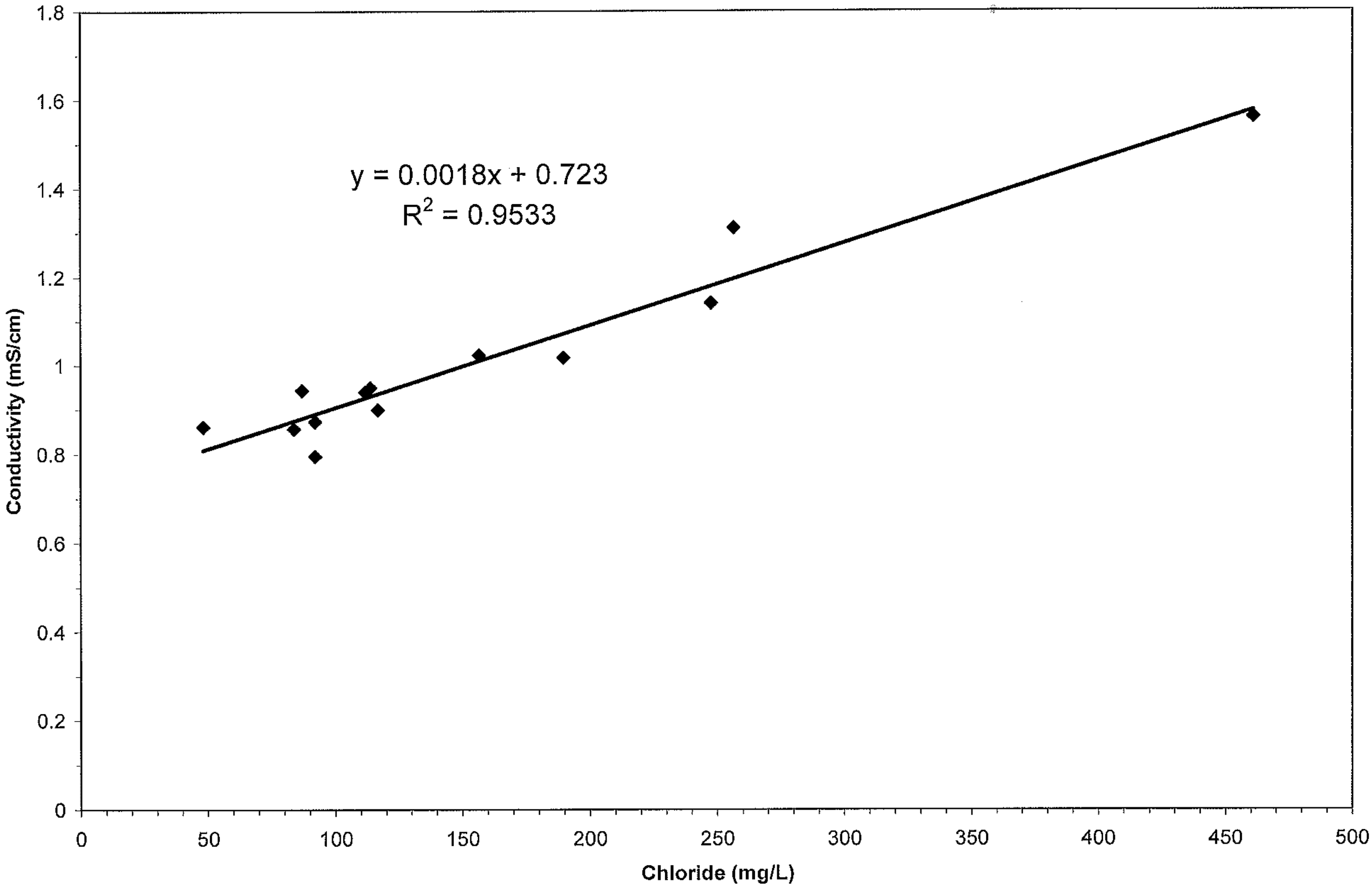
HWA GEOSCIENCES INC.

EVERETT LANDFILL
CHLORIDE (mg/l)
EVERETT, WASHINGTON

SHALLOW AQUIFER
CHARACTERIZATION

DRAWN BY EFK
CHECKED BY AS
DATE FEB 2003
FIGURE NO. 4
PROJECT NO. 1998-165
REV 07 EFK 9/07/06

BASE MAP PROVIDED BY: FLOYD & SNIDER INC.
H:/1PROJECTS/1998 PROJECTS/98165 EVERETT LANDFILL/CAD/98165.DWG



HWA GEOSCIENCES INC.

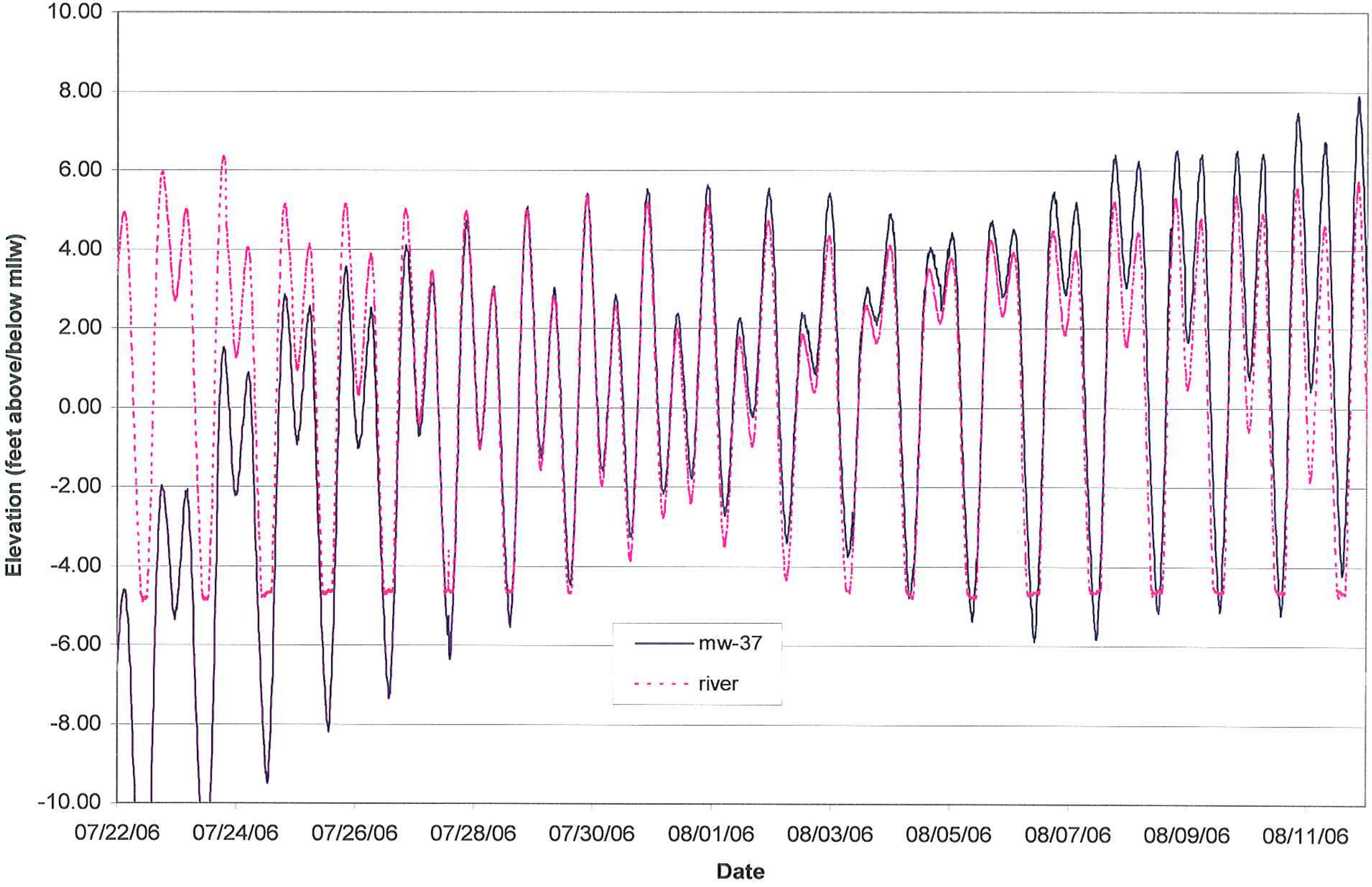
MW-37 CHLORIDE VS CONDUCTIVITY

EVERETT LANDFILL

EVERETT, WASHINGTON

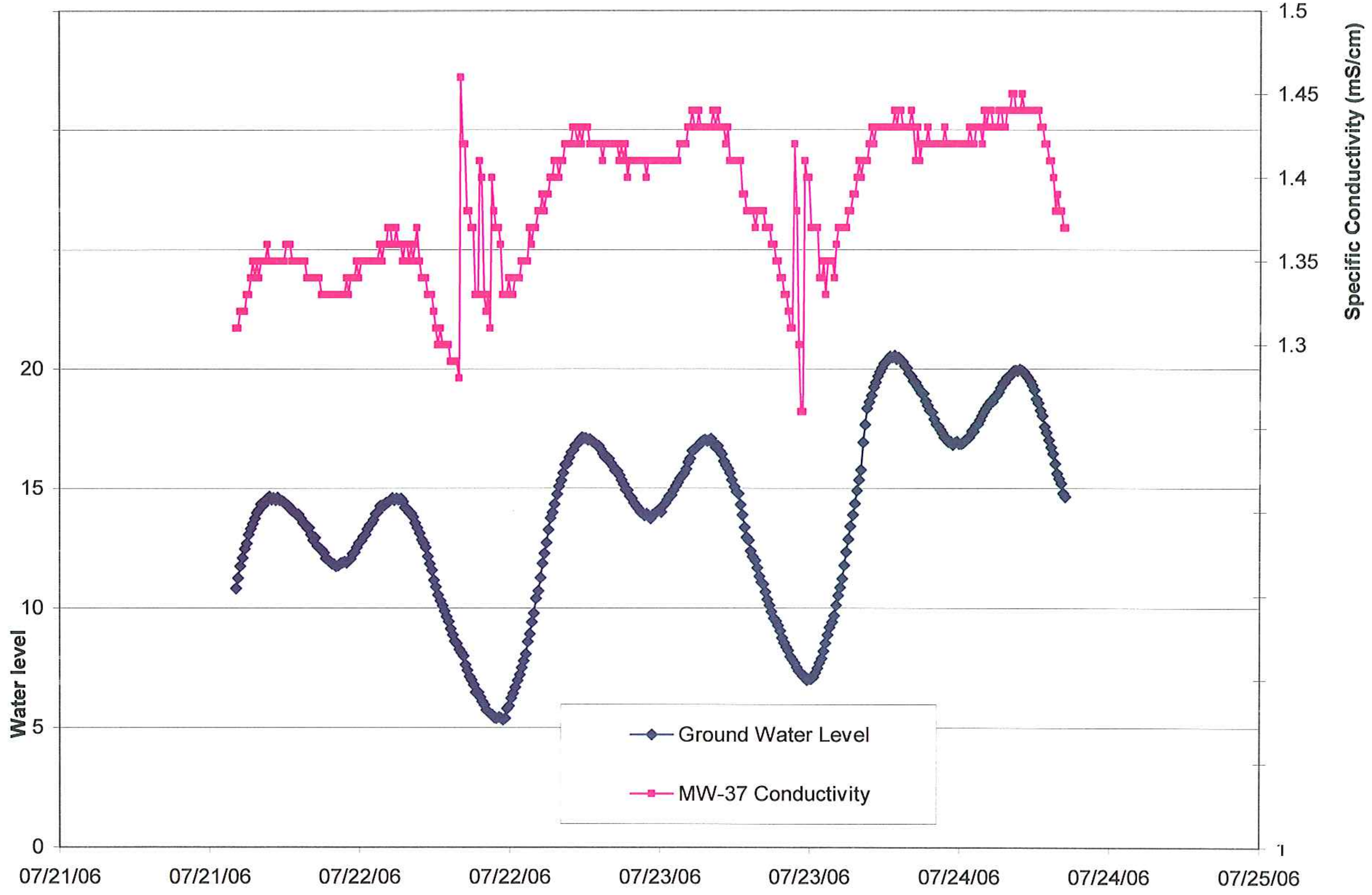
FIGURE NO.
6

PROJECT NO.
98165



HWA GEOSCIENCES INC.

MW-37 GROUNDWATER VS RIVER ELEVATIONS	FIGURE NO. 7
EVERETT LANDFILL EVERETT, WASHINGTON	PROJECT NO. 98165



HWA GEOSCIENCES INC.

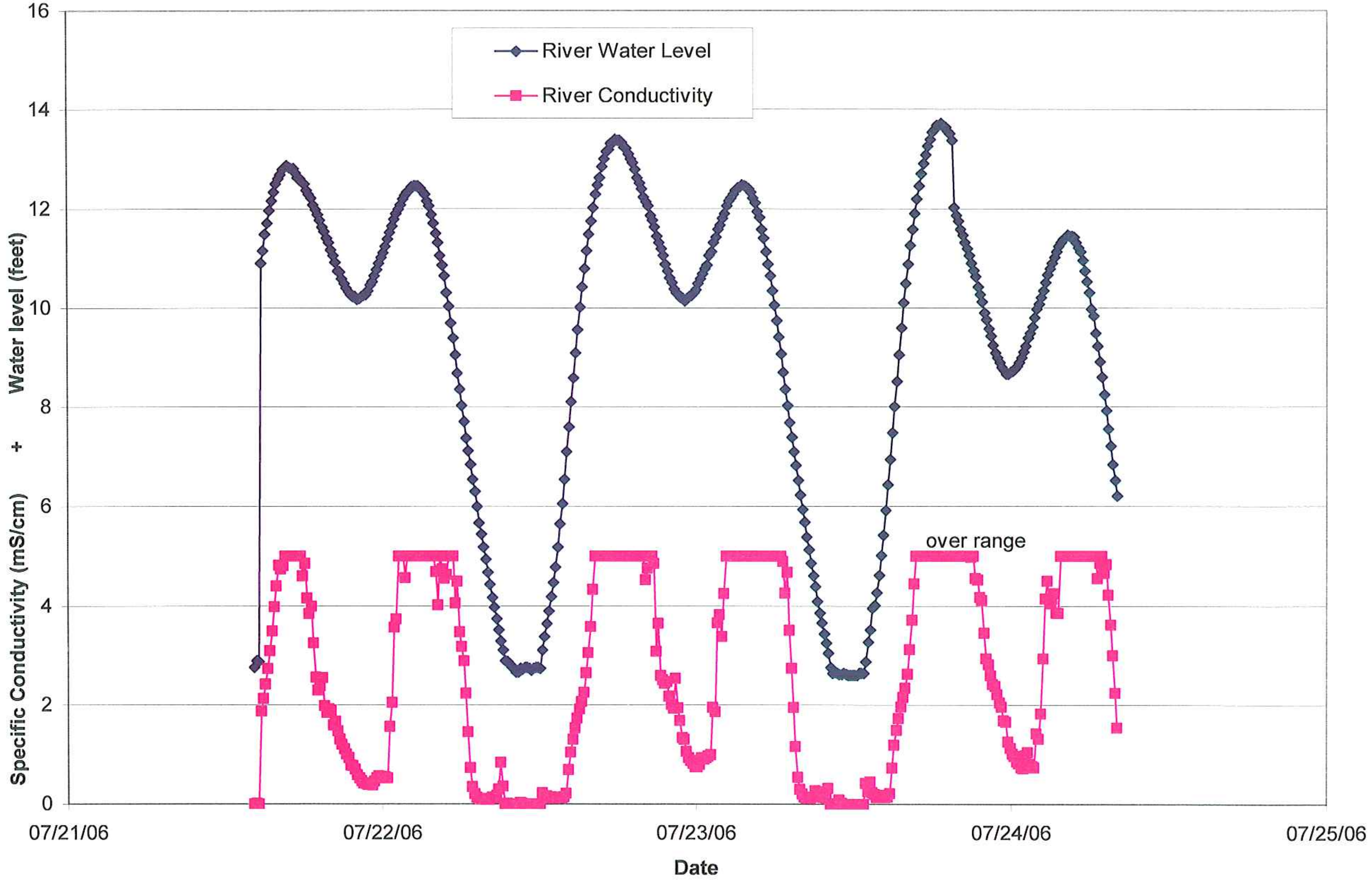
MW-37 GROUND WATER LEVEL VS CONDUCTIVITY

EVERETT LANDFILL

EVERETT, WASHINGTON

FIGURE NO.
8

PROJECT NO.
98165



RIVER WATER LEVEL VS CONDUCTIVITY

EVERETT LANDFILL

EVERETT, WASHINGTON

FIGURE NO.
9

PROJECT NO.
98165

HWA GEOSCIENCES INC.