2021 Annual Report

Hidden Valley Landfill
Puyallup, Washington

Pierce County Recycling, Composting
& Disposal, LLC dba LRI
17925 Meridian Street East
Puyallup, Washington 98375

SCS ENGINEERS

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This 2021 Annual Report for the Hidden Valley Landfill located in Puyallup, Washington, was prepared by Sam Graber, and was reviewed by Daniel Venchiarutti, LHG, and Kevin Lakey, LHG of SCS Engineers.

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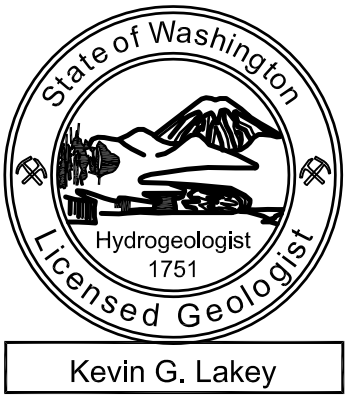

Daniel A. Venchiarutti, LG, LHG
Project Director
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1.0 INTRODUCTION

This document represents the 2021 Annual Monitoring Report for the Hidden Valley Landfill (HVL) prepared on behalf of Pierce County Recycling, Composting and Disposal LLC, dba LRI (LRI). The facility consists of a closed municipal solid waste landfill that stopped accepting waste on December 31, 1998. The Hidden Valley Landfill is located at 17925 Meridian Street East, Puyallup, Washington (Figure 1). Post-closure activities are performed consistent with Consent Decree No. 032146876 between the Washington Department of Ecology (Ecology), Pierce County (County) and LRI. Ecology is the lead agency for post-closure activities. In addition, the Tacoma-Pierce County Health Department (TPCHD) is kept informed of post-closure activities and provided with the opportunity to review and comment upon proposed remedial action plans.

1.1 FACILITY CONTACT INFORMATION

Hidden Valley Landfill
17925 Meridian East
Puyallup, Washington 98375
Facility Contact: George Duvendack (253) 847-7555

1.2 FACILITY DESCRIPTION

The landfill property is approximately 92 acres in size and is situated in the north half of the northwest quarter of Section 34, Township 19N, Range 4E. The landfill includes approximately 56 acres of unlined fill and a 30-acre lined cell. Also present at the site are an office, maintenance shop, leachate pre-treatment facility, transfer station, household hazardous waste collection site, recycling center and composting facility.

The Hidden Valley Landfill began operations in the mid-1960s and accepted waste until December 31, 1998. Waste disposed of at the landfill included municipal solid waste, demolition wastes, commercial waste, industrial wastes, and small quantities of bulk liquids and sludge.

1.3 PROJECT HISTORY

The U.S. Environmental Protection Agency (EPA) conducted an environmental assessment of the Hidden Valley Landfill between 1981 and 1985 and prepared a Preliminary Assessment (PA) and a Hazard Ranking System (HRS) score for the site. As a result of the HRS, the Hidden Valley Landfill was placed on the National Priority List (NPL) in April 1989.

A Remedial Investigation (RI) was conducted under Ecology Consent Order DE 86 S173. The final RI report was submitted to Ecology in March 1992. The RI identified groundwater impacts downgradient of the landfill. Groundwater contaminants have included dissolved iron and manganese, chloride, ammonia, nitrate, sulfate, specific conductance, total dissolved solids, and low levels of volatile organic compounds (VOCs) including benzene, chlorobenzene, tetrachloroethene, 1,1-dichloroethane, and 1,4-dichlorobenzene.

In January 2004, Consent Decree No. 032146876 was finalized and signed. The Consent Decree and associated Cleanup Action Plan address long-term maintenance and monitoring activities at the landfill and establish groundwater cleanup levels.

In April 2014, the Consent Decree was amended (First Amendment) to revise the groundwater monitoring plan. In August 2014, the Groundwater Monitoring Plan (GWMP) was modified to include

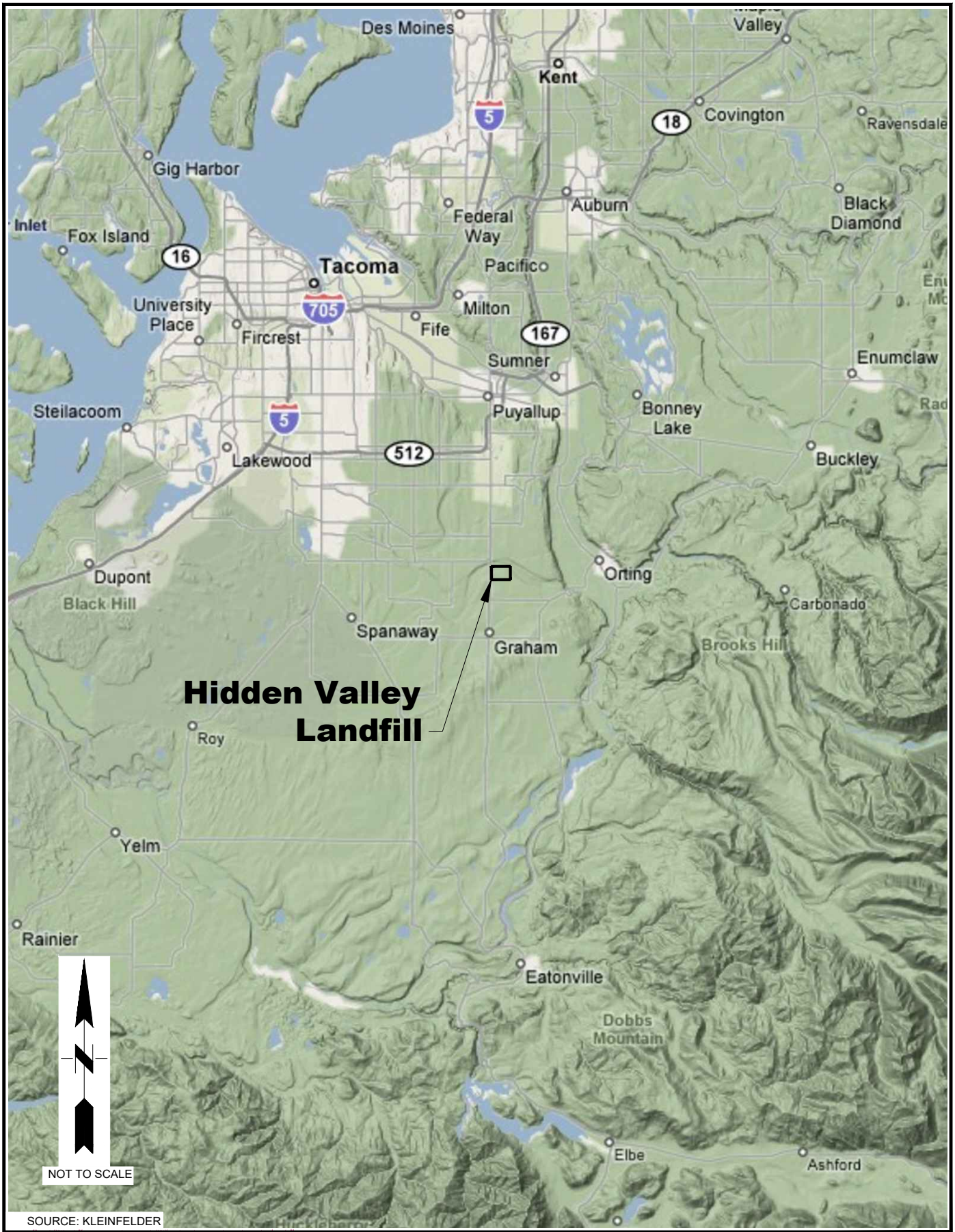
Appendix I WAC 173-351 metals testing. This requirement included eight rounds of total and dissolved metals testing for 15 metals from 23 monitoring wells. Total metals testing began in July 2014 and was completed in April 2016. Following completion of the required monitoring, a Groundwater Monitoring Optimization Report was submitted to Ecology and the TPCHD in December 2016.

Consistent with the Groundwater Monitoring Optimization Report and approval received from Ecology, the groundwater monitoring frequency was changed from quarterly to semi-annual in 2017. The GWMP was revised in October of 2018 to reflect updates to the groundwater monitoring network, groundwater monitoring on a semi-annual schedule, and Appendix I metals testing on a five year schedule beginning in 2021. The October 18, 2018 GWMP is the current, approved, plan for HVL.

1.4 2021 MONITORING ACTIVITIES

Groundwater monitoring was performed in January (first semi-annual monitoring event) and August (second semi-annual monitoring event) during 2021. As stated in the GWMP, Appendix I total metals are to be analyzed at all monitoring wells, leachate and leak detection locations every 5 years beginning in 2021. Therefore, additional samples were collected for Appendix I total metals during the first and second semi-annual monitoring events. Leachate monitoring was conducted in January. Landfill gas (LFG) monitoring was performed monthly.

Monitoring results for the first semi-annual monitoring event of 2021 were previously submitted to Ecology and the TPCHD in a report dated August 27, 2021. Groundwater laboratory reports for the second semi-annual monitoring event of 2021 and an updated groundwater database will be provided to the TPCHD in a separate submittal. Groundwater laboratory reports will also be provided to Ecology as pdf files and groundwater data from 2021 will be uploaded into Ecology's Environmental Information Management (EIM) system database.



SOURCE: KLEINFELDER

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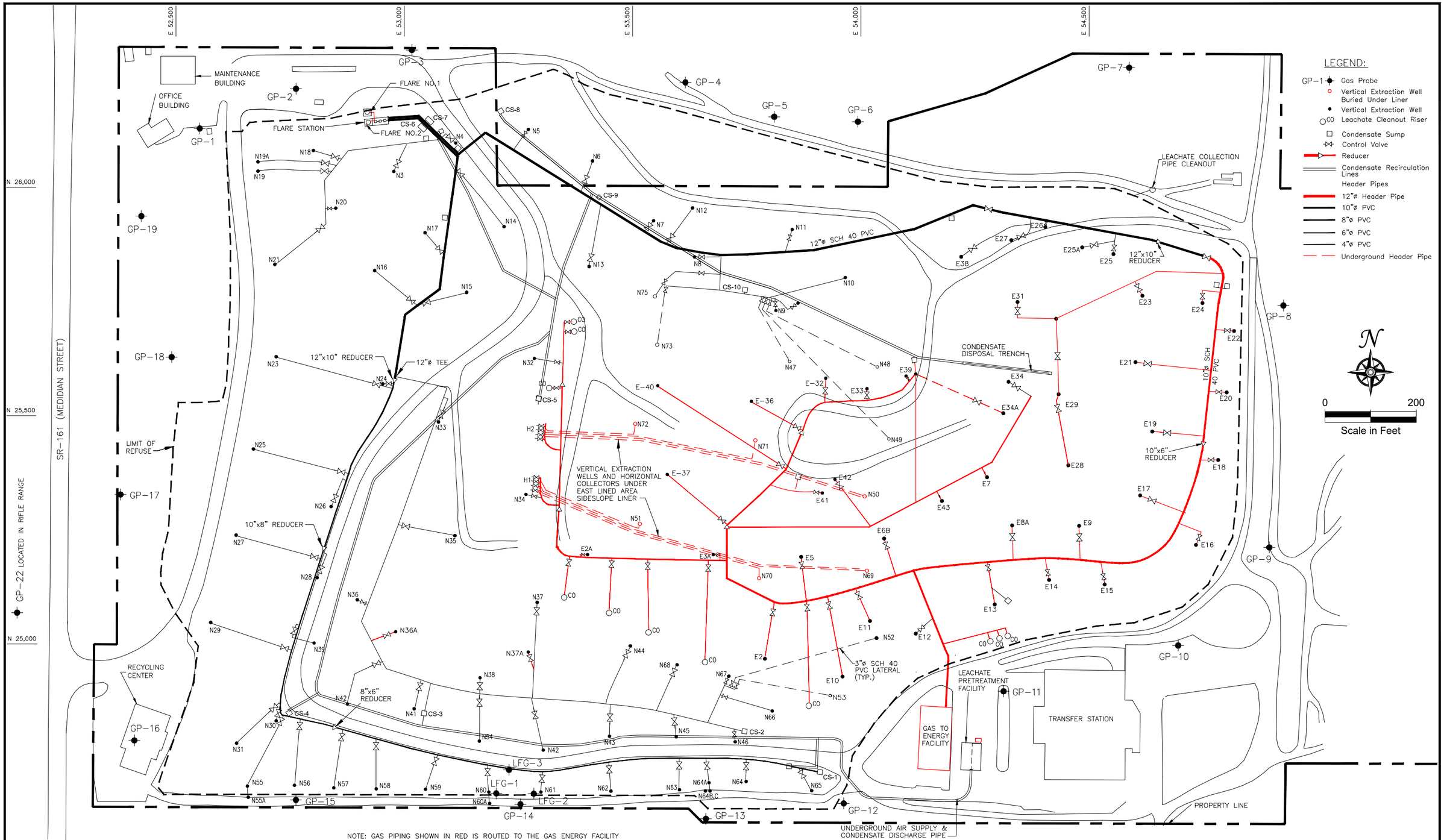
PROJECT NO. 04221002.03	DES BY LEL	SITE LOCATION MAP HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2022
SCALE NOT TO SCALE	CHK BY S.G.		FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		

2.0 LANDFILL GAS MONITORING

Landfill gas probes were monitored monthly during 2021. Gas probe locations are illustrated on Figure 2. Parameters measured at the gas probes included carbon dioxide, oxygen, and combustible gas (measured as methane). Soil gas probe readings were less than five percent methane by volume in all probes each month during 2021 with the exception of GP-2A (6.5%) on May 8, 2021. After obtaining a reading greater than five percent methane by volume, the vacuum on the adjacent well field was adjusted to recapture the landfill gas. Monthly gas probe monitoring results are included in Appendix A.

On-site buildings were monitored for the presence of combustible gas (measured as methane) on March 4, May 7, July 15, and October 14, 2021 using a flame ionization detector (FID). The main office, maintenance building, scale house/pay booth, recycling building, leachate treatment buildings No. 1 and No. 2, gas to energy building, and transfer station were monitored. No significant methane detections were reported above background concentrations in any of the buildings during 2021. It should be noted that on May 7, 2021, the main office was closed and SCS was unable to access the building to perform the monitoring. Copies of the building survey reports are included in Appendix A.

A portion of the LFG extraction system on the south slope of the landfill was shut off in September 2009 in response to a suspected area of subsurface oxidation (affected gas wells include N42, N43, N60, N61, N62, and N54). Although the suspected subsurface oxidation event has ceased and the affected landfill cover was repaired in 2014, this section of the LFG extraction system has remained off-line to allow for methane concentrations to recover. In-situ levels of carbon dioxide, oxygen, and combustible gas will be measured in interior waste probes LFG-1, -2, and -3 in 2022 to determine whether this area of the LFG extraction system should be reactivated.



NOTE: GAS PIPING SHOWN IN RED IS ROUTED TO THE GAS ENERGY FACILITY

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PROJECT NO. 04221002.03	DES BY KGL	GAS SYSTEM HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2022
SCALE AS SHOWN	CHK BY S.G.		FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		

3.0 LEAK DETECTION MONITORING

3.1 LEAK DETECTION SYSTEM

The East Lined Area at the Hidden Valley Landfill includes a leak detection system between the primary geosynthetic liner and the secondary composite liner in the portion of the cell that was constructed over refuse (side slope liner area). Pursuant to Section II C of the Stipulation and Agreed Order of Dismissal (Order), LRI was required to implement the March 1994 Leak Detection Response Action Plan (RAP) once refuse was placed onto the side slope liner. The RAP provides a mechanism for evaluating the performance of the side slope liner. Major components of the plan include routine monitoring of leachate quantities and fluid in the leak detection system, data analysis, record keeping, delineation of acceptable liner performance levels, response actions, and an outline of how groundwater impacts would be evaluated in the event that excessive leakage is observed in the leak detection system.

3.2 LINER PERFORMANCE STANDARD

The RAP defines an acceptable performance standard of 300 gallons per acre per day for the primary side-slope liner in the Cell 2 East Lined Area. The side slope liner covers approximately 13.5 acres of refuse, and therefore, the corresponding liner performance standard is 4,050 gallons per day.

3.3 SUMMARY OF PERFORMANCE DATA

Leachate volumes pumped from the main sump (Cell 1) and side-slope liner sump (Cell 2), as well as volumes pumped from the side-slope leak detection system and rainfall totals from an on-site rain gauge, are recorded on a daily basis by on-site personnel. A summary of monthly leachate volume data is provided in Exhibit 1, and copies of the monthly reports are included in Appendix B. The volume of fluid pumped from the side-slope liner leak detection system in 2021 remained well below the performance standard of 4,050 gallons per day defined in the RAP.

Exhibit 1. 2021 Leachate and Side Slope Liner Volumes Pumped Data

Month	Cell 1 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leakage Volume (gallons)	Monthly Rainfall (inches)
January	8,001	1,201	0	10.10
February	16,223	0	0	7.35
March	3,994	0	0	3.65
April	43,388	0	0	2.25
May	17,368	0	0	3.85
June	0	0	0	3.90
July	4,173	0	0	0.00
August	0	0	0	0.65
September	12,467	0	0	6.05
October	8,048	0	0	10.00
November	812	2,759	1,525	13.35
December	20,334	1,085	0	14.45
Year to date:	**134,808**	**5,045**	**1,525**	**75.60**

3.4 SUMMARY OF LEAK DETECTION MONITORING DATA

A sample of fluids that accumulate in the side-slope liner leak detection system was collected on January 21, 2021. The test results for this sample were similar to previous results and to the January 2020 test results from the side-slope leachate sump (see Appendix D, Table 11 Semi-Annual Monitoring Event No. 1).

3.5 HYDRAULIC GRADIENT CONTROL SYSTEM MONITORING

In addition to the leak detection system, a hydraulic gradient control system is present beneath the main leachate collection sump for the East Lined Area. This system is routinely checked for the presence of liquid. If liquids are removed, the volume pumped is recorded.

The hydraulic gradient control system was not pumped in 2021. However, a sample was collected from the hydraulic gradient control system on January 21, 2021. The results from this sample do not exhibit elevated levels of leachate indicator parameters such as ammonia, chloride, or total dissolved solids (see Appendix D, Table 11 Semi-Annual Monitoring Event No. 1).

4.0 GROUNDWATER LEVELS AND FLOW DIRECTIONS

4.1 LOCAL HYDROGEOLOGY

Hidden Valley Landfill is situated within a Vashon age glacial melt-water channel that trends in an east-west direction and is approximately 50 to 100 feet deep and several hundred feet wide. The northern boundary of the channel lies just north of the landfill. The landfill is underlain by glacial outwash deposits consisting of coarse sand and gravel to a depth of about 55 feet below grade. North of the landfill (and the outwash channel), the outwash deposits are overlain by Vashon till (upper till unit). The outwash deposits are underlain by successive layers of Vashon till (lower till unit), Vashon advance outwash, Salmon Springs till and interglacial deposits, and Salmon Springs advance outwash.

Three aquifers underlie the Hidden Valley Landfill. The aquifers are referred to as the shallow perched aquifer, the upper regional aquifer, and the lower regional aquifer. An intermittent aquitard, referred to as the Vashon till aquitard, is present between the shallow perched aquifer and the upper regional aquifer. A thick section of low permeability deposits referred to as the Salmon Springs aquitard separates the upper regional aquifer and the lower regional aquifer.

The shallow perched aquifer is an unconfined (water table) aquifer that occurs within the Vashon recessional outwash deposit. The shallow perched aquifer represents the uppermost-saturated unit at the site. Depth to groundwater within the lower areas of the glacial melt-water channel ranges from approximately 11 to 15 feet below ground surface (bgs) in winter and spring months to about 25 feet bgs in late fall. Groundwater flow in the shallow perched aquifer beneath the site is towards the northwest with local components to the north and west. The downgradient extent of the shallow perched aquifer appears to be limited. Northwest of the landfill, the recessional outwash is either not saturated, or saturated to only a few feet. In areas where the recessional outwash is unsaturated, the uppermost zone of groundwater saturation occurs within the lower Vashon till unit.

The upper regional aquifer is present within Vashon advance outwash deposits. This aquifer is confined beneath the Vashon till aquitard and appears to be of regional extent. Groundwater flow, water level gradients, and seasonal water level fluctuations in the upper regional aquifer are similar to the shallow perched aquifer.

The lower regional aquifer is present within the Salmon Springs advance outwash deposits. The aquifer is confined and is interpreted to be of regional extent. Monitoring wells BC-4R, MW-14R, and MW-20R are completed at similar depth elevations and display similar water levels. Monitoring well MW-26R is completed approximately 80 feet higher in elevation and may be installed within a water-bearing zone in the Salmon Springs aquitard.

Detailed descriptions of the hydrogeologic units, as well as geologic cross-sections and boring logs/monitoring well details are included in the *Hidden Valley Landfill Remedial Investigation Report* (EMCON, 1991) and *Hidden Valley Landfill Hydrogeologic Report Addendum* (EMCON, 1998).

4.2 WATER LEVEL MEASUREMENTS

Static water levels were measured on January 20 and August 3, 2021. The water level database and water level contour maps are presented in Appendix C.

Groundwater flow within both the shallow perched aquifer and the upper regional aquifer was generally toward the northwest during both of the 2021 monitoring events. Horizontal hydraulic

gradients for both the shallow perched aquifer and the upper regional aquifer were less than 0.005 ft/ft in the central part of the site and approximately 0.025 ft/ft northwest of the landfill. This flow pattern remains consistent with previous data reported for the site. Water level gradients were similar to past measurements, indicating that the previously reported flow rates of 3.2 ft/day to 6.5 ft/day for the shallow perched aquifer and 0.5 to 1.3 ft/day for the upper regional aquifer have not changed significantly. Water level data for wells MW-14R, MW-20R, and BC-4R indicate that the groundwater flow direction in the lower regional aquifer is towards the northeast.

5.0 GROUNDWATER QUALITY

During 2021, groundwater samples were collected on a semi-annual basis from twenty-one monitoring wells; including eleven wells completed within the shallow perched aquifer, seven wells completed within the upper regional aquifer, and three wells completed within the lower regional aquifer. Groundwater sampling locations are shown on Figure 3.

Copies of groundwater quality summary data tables for each semi-annual monitoring event are provided in Appendix D. The summary tables include field parameters, laboratory parameters, and quality control samples. Time series plots for selected water quality parameters are included in Appendix E. Trilinear diagrams for each aquifer and leachate data are included in Appendix F. Statistical calculations performed on groundwater data are presented in Appendix G. The groundwater database was provided to the TPCHD as a Microsoft Excel file in electronic format (on compact disk). In addition, groundwater data generated from the Hidden Valley Landfill during 2021 were validated and input into Ecology's EIM database system.

5.1 WATER SUPPLY WELL DATA

Water quality samples were collected from water supply wells at Corliss Resources, Inc. (Corliss) located immediately south of the landfill, and at the Paul Bunyan Rifle and Sportsman's Club (Paul Bunyan) located west of the landfill across Meridian East (see Figure 4) in January and August of 2021. Water quality results for the two water supply wells in 2021 were generally typical of previous results. However, detections of carbon disulfide were reported in the samples collected from Corliss and Paul Bunyon during the second semi-annual monitoring event at concentrations of 6.3 µg/L and 10.0 µg/L, respectively. Carbon disulfide was also detected in an associated trip blank at a concentration of 4.8 µg/L. Therefore, the reported detections of carbon disulfide appear to be the result of a laboratory artifact, and not representative of groundwater quality. No other VOCs were detected in the water supply well samples collected during 2021. Low concentrations of total metals and inorganic parameters, including chloride and nitrate, indicate the water quality at the Corliss and Paul Bunyan water supply wells is not affected by the Hidden Valley Landfill. A summary of the laboratory test results for the water supply wells is provided in Exhibit 2.

5.2 BACKGROUND WATER QUALITY

Background water quality at the Hidden Valley Landfill is monitored using wells MW-10S (shallow perched aquifer) and MW-10D (upper regional aquifer). These wells have provided background water quality information since 1985.

Appendix I total metals results from the background wells were non-detect with the exception of total zinc at MW-10D (0.031 mg/L) during the second semi-annual monitoring event. Concentrations of Appendix II inorganic parameters and dissolved metals in samples from the background wells remained low or were not detected consistent with previous results (see Appendix D).

5.3 DOWNGRADIENT WATER QUALITY

Phased closure of the unlined portion of the landfill, which began in 1989 and was completed in 1993, included capping the waste with a low permeability composite cover and installing a landfill gas collection and control system (GCCS). These closure activities were designed to minimize the infiltration of precipitation through the refuse and remove landfill gas. These actions have improved the groundwater quality in the shallow perched aquifer and the upper regional aquifer.

Time series plots for specific conductance, ammonia, nitrate, dissolved iron, and dissolved manganese were prepared for wells in the shallow perched and upper regional aquifers that are located close to and downgradient of the landfill (MW-11S, MW-11D(2), MW-12S, MW-12D, MW-13S, MW-13D, MW-14S, MW-14D, and MW-17S, see Appendix E). These plots graphically display consistent trends of decreasing concentrations of these parameters in monitoring wells located downgradient of the landfill when the full data set is evaluated.

A cation-anion balance was prepared based in milliequivalents per liter (meq/L) for each water sample to determine whether it was electro-neutral (balanced cation and anion charges). A threshold of ten percent difference was used if the total sum of cations and anions were less than or equal to 5.0 meq/L, and a threshold of five percent difference was used if the total cation-anion sums was greater than 5.0 meq/L. Calculated cation-anion balances were found to exceed these thresholds during at least one monitoring event during 2021 at MW-11S, MW-12S, MW-14D, MW-15S, MW-17S, FMMW-1, and FMMW-2 (see Appendix D).

Trilinear (Piper) diagrams were prepared for groundwater sample results from each of the three water bearing zones at the landfill; the shallow perched aquifer, upper regional aquifer, and lower regional aquifer (see Appendix F). As shown on the attached trilinear diagrams, the groundwater sample results from all three aquifers and the hydraulic gradient control system plot within a consistent area of the graph, while the leachate results (sampled annually in January) plot in a second, chemically distinct area.

Appendix I total metals results included detections of arsenic, barium, and zinc. All of the reported detections were below their associated WAC 173-200 criteria with the following exceptions: total arsenic at MW-29S during the first semi-annual monitoring event (0.0085 mg/L); total arsenic at MW-29S during the second semi-annual monitoring event (0.0078 mg/L); and total arsenic at MW-14D during the second semi-annual monitoring event (0.0060 mg/L). Summary results of the Appendix I total metals analyses from both of the semi-annual monitoring events are included in table format Appendix D.

Measurements of pH collected in the field exceeded the lower threshold limit of the WAC 173-200 groundwater quality criteria of 6.5 at several monitoring wells on one or more occasion in 2021, including at background wells MW-10S and MW-10D. Therefore, the pH values are interpreted to represent natural shallow and upper regional aquifer chemistry beneath the site.

The Hidden Valley Landfill Consent Decree established site groundwater cleanup levels and the groundwater point of compliance. Exhibit 3 provides a summary of the site-specific groundwater cleanup levels and identifies the monitoring events in 2021 when water quality results were greater than the site-specific cleanup levels.

As shown in Exhibit 3, shallow perched aquifer water quality results exceeded the cleanup level for the following parameters during at least one of the semi-annual monitoring events: nitrate (MW-12S, MW-17S, and FMMW-2) and dissolved manganese (MW-12S, MW-14S, MW-15S, MW-17S, and MW-29S).

As shown in Exhibit 4, upper regional aquifer water quality results exceeded the cleanup level for the following parameters during at least one of the semi-annual monitoring events: dissolved iron (MW-14D) and dissolved manganese (MW-14D) and lower regional aquifer water quality results exceeded the cleanup level for the following parameters during at least one of the semi-annual monitoring events: dissolved iron (MW-26R) and dissolved manganese (MW-14R and MW-26R).

Results for the lower regional aquifer are interpreted to represent background water quality. As discussed in previous reports, the presence of dissolved iron and manganese in the lower regional aquifer does not appear to be related to the Hidden Valley Landfill. This interpretation is based on an overall assessment of the groundwater quality data, which include low concentrations of inorganic parameters and a general absence of VOCs.

Tetrachloroethene (PCE) was reported present in samples from MW-11D(2) during the first and second semi-annual monitoring events at concentrations of 1.2 and 1.1 µg/L, respectively. These detections are slightly greater than the WAC 173-200 groundwater quality criteria of 0.80 µg/L, but are consistent with recent monitoring results and are lower than the primary drinking water standard of 5.0 µg/L. Tetrachloroethene (PCE) was also reported present in sample from MW-15D during the second semi-annual monitoring event at a concentration of 0.50 µg/L. This detection is below the WAC 173-200 groundwater quality criteria of 0.80 µg/L. No other VOC's were reported present in groundwater samples collected at the Hidden Valley Landfill in 2021.

5.4 STATISTICAL ANALYSIS

Groundwater quality data for the five-year period of January 2017 through August 2021 were statistically evaluated and compared to site-specific cleanup levels for all monitoring wells in the groundwater-monitoring network. A compound-specific evaluation was used to determine the data distribution type for each compound as normal, lognormal, or non-parametric. The Consent Decree established a cleanup level for 1,4-dichlorobenzene at 1.82 micrograms per liter (µg/L). No other VOCs have Consent Decree defined cleanup levels for the Hidden Valley Landfill. However, the distribution of data was also determined for tetrachloroethene at well MW-11D(2) for tracking purposes. Chlorobenzene was evaluated in previous reports, but no detections of chlorobenzene were reported in groundwater samples collected over the past five years. Therefore, a statistical evaluation for this compound was discontinued.

If the data distribution was either normal or lognormal, the upper 95 percent confidence limits of the mean (UCL 95) were calculated for each data set using the MTCAStat 97: Site Module, obtained from Ecology. The MTCAStat program was used to evaluate data distributions (i.e., normal, lognormal, or neither) for constituents that were detected in at least 50 percent of the sampling events. One-half the MRL was used when a parameter was not detected at a concentration above the MRL.

If the distribution was neither normal nor lognormal, the UCL 95 was determined using the method of Van der Parren (1970) as described in the Statistical Guidance for Ecology Site Managers (Ecology 1992). For the data evaluated, this procedure defaults to the highest reported value. In addition, the highest reported value was used if either lognormal or normal distributions had the UCL 95 value outside of the data sample range. The UCL 95 was not calculated (NC) when any of the evaluated parameters were either not detected for 50 percent of the sampling events, or had less than five data entries.

As shown in Exhibit 5, shallow perched aquifer UCL 95 values that exceed site-specific cleanup levels include nitrate (MW-12S, MW-17S, MW-18S, and FMMW-2) and dissolved manganese (MW-12S, MW-14S, MW-15S, MW-17S, and FMMW-2).

As shown in Exhibit 6, upper regional aquifer UCL 95 values that exceed site-specific cleanup levels include dissolved iron (MW-14D) and dissolved manganese (MW-14D and MW-15D), and lower regional aquifer UCL 95 values that exceed site-specific cleanup levels include dissolved iron (MW-26R) and dissolved manganese (MW-14R and MW-26R). Statistical calculations are provided in Appendix G. These statistical results are consistent with those reported in previous monitoring years.

Exhibit 2. 2021 Water Supply Well Data Summary

Parameter	MRL	Corliss		Paul Bunyon	
		January-20	August-2	January-20	August-2
Volatile Organics (µg/L)					
Carbon disulfide	0.5	*	6.3B	*	10.0B
Total Metals (mg/L)					
Arsenic	0.005	*	*	*	*
Iron	0.01	0.011	0.007	0.021	*
Manganese	0.001	0.0029	0.0020	0.0022	0.0026
Zinc	0.01	*	*	0.06	*
Inorganic Parameters (mg/L)					
Chloride	0.2	5.2	5.2	6.7	6.5
Ammonia as Nitrogen	0.1	*	*	*	*
Nitrate as Nitrogen	0.2	1.3	0.99	2.0	1.8
Nitrite as Nitrogen	0.5	*	*	*	*
Sulfate	0.5	9.6	8.6	9.9	9.6
Chemical Oxygen Demand	10.0	*	*	*	*
Total Organic Carbon	1.0	*	*	*	*
Color	5.0	5.0	5.0	5.0	5.0
Field Parameters					
pH	—	6.36	7.00	6.83	6.86
Conductance (µS/cm)	—	243	249	289	306
Temperature (^{0}C)	—	8.1	25.0	10.4	15.2

Notes:
^{0}C = Degrees Celsius.
µS/cm = MicroSiemens per centimeter.
* = Not reported at or above the Method Reporting Limit.
B = parameter was detected in a quality control blank sample.

Exhibit 3. 2021 Groundwater Quality Data versus Site-Specific Cleanup Levels, Shallow Perched Aquifer

Parameter	Cleanup Level	MW-10S (BG)	MW-11S	MW-12S	MW-13S	MW-14S	MW-15S	MW-17S	MW-18S	MW-29S	FMMW-1	FMMW-2
Inorganic (mg/L)												
Chloride	250	–	–	–	–	–	–	–	–	–	–	–
Nitrate as Nitrogen	10.0	–	–	**SA 1**	–	–	–	**SA 1**	–	–	–	**SA 1**
Sulfate	250	–	–	–	–	–	–	–	–	–	–	–
Specific Conductance	700	–	–	–	–	–	–	–	–	–	–	–
TDS	500	–	–	–	–	–	–	–	–	–	–	–
Metals (mg/L)												
Iron	0.30	–	–	–	–	–	–	–	–	–	–	–
Manganese	0.05	–	–	**SA 2**	–	**SA 2**	**SA 1, 2**	**SA 1, 2**	–	**SA 1, 2**	–	–
Volatile Organics (µg/L)												
1,4-Dichlorobenzene	1.82	–	–	–	–	–	–	–	–	–	–	–

Notes:
– indicates results were less than cleanup level.
SA indicates results were greater than cleanup level.
1 & 2 indicate the semi-annual monitoring event in which results were greater than the cleanup level.

Exhibit 4. 2021 Groundwater Quality Data versus Site-Specific Cleanup Levels, Upper Regional Aquifer and Lower Regional Aquifer

Parameter	Cleanup Level	Upper Regional Aquifer							Lower Regional Aquifer		
		MW-10D (BG)	MW-11D (2)	MW-12D	MW-13D	MW-14D	MW-15D	MW-18D	MW-14R	MW-20R	MW-26R
Inorganic (mg/L)											
Chloride	250	–	–	–	–	–	–	–	–	–	–
Nitrate as Nitrogen	10.0	–	–	–	–	–	–	–	–	–	–
Sulfate	250	–	–	–	–	–	–	–	–	–	–
Specific Conductance	700	–	–	–	–	–	–	–	–	–	–
TDS	500	–	–	–	–	–	–	–	–	–	–
Metals (mg/L)											
Iron	0.30	–	–	–	–	**SA 1, 2**	–	–	–	–	**SA 1, 2**
Manganese	0.05	–	–	–	–	**SA 1, 2**	–	–	**SA 1, 2**	–	**SA 1, 2**
Volatile Organics (µg/L)											
1,4-Dichlorobenzene	1.82	–	–	–	–	–	–	–	–	–	–

Notes:
– indicates results were less than cleanup level.
SA indicates results were greater than cleanup level.
1 & 2 indicate the semi-annual monitoring event in which results were greater than the cleanup level.

Exhibit 5. Summary of 5-Year Groundwater Statistics,
Shallow Perched Aquifer

Parameter	Cleanup Level	MW-10S (BG)	MW-11S	MW-12S	MW-13S	MW-14S	MW-15S	MW-17S	MW-18S	FMMW-1	FMMW-2
Inorganic (mg/L)											
Chloride	250	8.41	17.27	16.57	13.32	21.0*	15.46	17.97	17.71	21.0*	18.66
Nitrate as Nitrogen	10.0	1.13	7.8*	**40.0***	2.0*	1.6*	9.1*	**24.0***	**11.0***	1.97	**17.0***
Sulfate	250	14.90	12.05	8.70*	17.40	8.74	10.36	5.80	8.90	16.0*	12.91
Specific Conductance	700	295.76	315.8	518.00*	305.11	266.56	334.89	480.25	404.57	382.00*	421.55
TDS	500	169.71	210.0*	380.0*	192.34	127.72	200.0	320.0*	260.0*	190.0*	266.0
Metals (mg/L)											
Iron	0.30	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Manganese	0.05	NC	NC	**0.67**	0.013*	**0.28**	**1.2***	**1.9***	NC	NC	**0.079***
Volatile Organics (µg/L)											
1,4-Dichlorobenzene	1.82	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Tetrachloroethene	—	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
Values shown are the upper confidence limit on the mean (UCL 95). Evaluated data are from January 2017 through August 2021.
Bold indicates greater than Cleanup Level.
(—) = not applicable.
(NC) = not calculated; less than 50 percent detection frequency.
(*) = maximum detected concentration listed because the UCL 95 calculated value was greater than the data range, or the distribution was neither normal nor lognormal.

Exhibit 6. Summary of 5-Year Groundwater Statistics,
Upper Regional Aquifer and Lower Regional Aquifer

Parameter	Cleanup Level	Upper Regional Aquifer							Lower Regional Aquifer		
		MW-10D (BG)	MW-11D (2)	MW-12D	MW-13D	MW-14D	MW-15D	MW-18D	MW-14R	MW-20R	MW-26R
Inorganic (mg/L)											
Chloride	250	8.9*	7.2*	8.73	12.35	10.2	9.4*	7.4*	2.0*	1.7*	4.68
Nitrate as Nitrogen	10.0	1.77	1.82	1.36	0.85	NC	0.98*	1.7*	NC	NC	NC
Sulfate	250	12.52	9.08	7.60*	17.45	10.75	11.00*	7.77	3.80*	3.20*	9.90
Specific Conductance	700	248.26	328.0*	309.65	328.78	260.60	293.45	320.0*	196.0*	228.0*	335.0*
TDS	500	180*	320*	210*	220*	430*	380*	190*	106.6	180*	150*
Metals (mg/L)											
Iron	0.30	NC	NC	NC	NC	**3.53**	NC	NC	NC	NC	**0.753***
Manganese	0.05	NC	NC	NC	NC	**1.40***	**0.082**	NC	**0.42***	NC	**0.44***
Volatile Organics (µg/L)											
1,4-Dichlorobenzene	1.82	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Tetrachloroethene	—	NC	1.10	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
Values shown are the upper confidence limit on the mean (UCL 95). Evaluated data are from January 2017 through August 2021.
Bold indicates greater than Cleanup Level.
(—) = not applicable.
(NC) = not calculated; less than 50 percent detection frequency.
(*) = maximum detected concentration listed because the UCL 95 calculated value was greater than the data range, or the distribution was neither normal nor lognormal.

LEGEND:

MW-12S — Existing Monitoring Well Location

BC-4R
BC-4S

FMMW-2

FMMW-1

MW-18D
MW-18S

MW-11D(2)
MW-11S

MW-15D
MW-15S

MW-26(R)

MW-14D
MW-14R
MW-14S

MW-17S

MW-12D
MW-12S

MW-29S

MW-13D
MW-13S

MW-10D
MW-10S

MW-19D
MW-19S

MW-20R

GP-1 GP-2 GP-3 GP-4 GP-5 GP-6 GP-7 GP-8 GP-9 GP-10 GP-11 GP-12 GP-13 GP-14 GP-15 GP-16 GP-17 GP-18 GP-19 GP-20 GP-21 GP-22

MAINTENANCE BUILDING

OFFICE BUILDING

LIMIT OF REFUSE

GP-22 LOCATED IN RIFLE RANGE

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04221002.03	DES BY SG	GROUNDWATER MONITORING WELL LOCATIONS	DATE MARCH 2022
SCALE AS SHOWN	CHK BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

0 400 800

APPROX SCALE IN FEET

LEGEND

WATER SUPPLY WELL LOCATION

SOURCE: KLEINFELDER

SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO.	DES BY
04221002.03	LEL
SCALE	CHK BY
NOT TO SCALE	S.G.
CAD FILE	APP BY
FIGURE 4	KGL

WATER SUPPLY WELL LOCATION

HIDDEN VALLEY LANDFILL
PIERCE COUNTY, WASHINGTON

DATE
MARCH 2022

FIGURE
4

6.0 LEACHATE QUALITY

Leachate quality is monitored on an annual basis. Samples of untreated leachate were collected from the East Lined Area leachate collection system (main sump [Cell 1]) and the Side Slope Area leachate collection system (Cell 2) on January 21, 2021. The leachate samples were analyzed for the same parameter suite analyzed for the groundwater samples, as specified in the approved GWMP. Leachate quality results for 2021 were generally typical of previous results. The analytical results for the leachate samples are summarized below in Exhibit 7 and are included with the groundwater results in Appendix D.

Exhibit 7. 2021 Leachate Quality Data Summary

Parameters	MRL	Leachate – East Area Cell 1	Leachate – Side Slope Cell 2
Volatile Organics (µg/L)			
1,4-Dichlorobenzene	0.5-0.8	2.3	0.58
Acetone	10.0	17	16
Benzene	0.5-0.8	1.3	3.5
Carbon disulfide	0.5-0.84	0.93	1.6
cis-1,2-Dichloroethene	0.5-0.75	*	1.2
Ethylbenzene	1.0	1.6	2.2
m-Xylene & p-Xylene	0.5-0.77	4.0	2.0
o-Xylene	0.5-0.95	1.9	1.5
Toluene	0.5-0.85	2.3	4.2
Total Metals (mg/L)			
Antimony	0.002	0.0033	0.016
Arsenic	0.005	0.03	0.19
Barium	0.005	0.43	0.39
Calcium	0.2-0.78	71	12
Chromium	0.005	0.099	0.035
Cobalt	0.010	0.01	*
Copper	0.010	*	0.11
Iron	0.01-0.02	3.58	1.16
Lead	0.002	0.0026	0.0081
Magnesium	0.1-0.26	44	23
Manganese	0.005	1.7	0.077
Nickel	0.02	0.28	0.51
Potassium	2-2.4	240	460
Selenium	0.005	*	0.0078
Sodium	1-3.7	2,500	6,100
Vanadium	0.01	0.080	0.084
Zinc	0.01	0.028	0.064
Inorganic Parameters (mg/L)			
Alkalinity	10	3,700	7,500
Ammonia	0.1-2.2	270	440
Chloride	0.2-60	2,000	7,600
Nitrate as N	0.5-0.9	* H	22 H
Sulfate	0.2-5.0	31	500
Total Dissolved Solids	10-470	8,900	21,000
Total Organic Carbon - Quad	1-35	430	930
Total Suspended Solids	4.0	18	*
Field Parameters			
pH (SU)	—	7.36	7.88
Specific Conductivity (µS/cm)	—	11,968	28,786
Temperature (°C)	—	13.7	22.1

Notes:
Analyses performed by TestAmerica, Arvada, CO. H = Sample analyzed beyond specified holding time.
µg/L = micrograms per liter, mg/L = milligrams per liter. * = Not detected above MRL.
VOCs were not listed when not present at concentrations exceeding the MRL.

7.0 POST-CLOSURE MAINTENANCE

7.1 COVER SYSTEM MAINTENANCE

The landfill cover system was inspected on a quarterly basis during 2021. Informal cover inspections were also performed on an ongoing basis by LRI staff, as well as during the monthly LFG monitoring events. The cover system was found to be in good condition during 2021. Copies of the inspection reports are included in Appendix H.

7.2 LANDFILL GAS COLLECTION & CONTROL SYSTEM (GCCS) MAINTENANCE

The LFG extraction wells, piping and blower/flare station were inspected, monitored and maintained on a monthly basis throughout 2021. In addition, the LFG condensate recirculation system was inspected quarterly during 2021 and the condensate sumps were observed to be working as designed, except Sump 5. The latter sump was observed to have a blockage in April, and SCS was unable to measure the depth to bottom. However, the blockage was removed by the following inspection in July. Sumps 5 and 10 did not collect condensate for a number of years, and therefore, the pumps were previously removed. Monthly records of GCCS maintenance activities and quarterly records of condensate sump inspections are included in Appendix I.

A record of the monthly volume of LFG combusted and the average monthly methane concentration at the flare station is provided in Exhibit 8.

Exhibit 8. 2021 Flare Station Data

Month	LFG Volume Combusted (scf)	Methane (% by volume)
January	5,601,664	41.3
February	7,447,756	38.2
March	7,486,522	34.8
April	6,691,558	29.4
May	6,966,940	31.3
June	4,551,672	35.3
July	5,760,996	37.2
August	6,898,370	39.0
September	6,858,890	40.4
October	8,345,128	36.2
November	4,826,862	37.4
December	5,151,186	36.0
Totals	**76,587,544**	**36.1 (Average)**
Note: (scf) indicates standard cubic feet		

7.3 GROUNDWATER WELL MAINTENANCE

No significant well maintenance activities were performed in 2021.

Appendix A

LANDFILL GAS MONITORING DATA

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

January 28, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	28-Jan-21	10:07	0.11	0.0	5.0	8.5	0.1	-	
GP-1B	28-Jan-21	10:10	0.11	0.0	6.5	13.9	-	-	
GP-1C	28-Jan-21	10:13	0.10	0.0	6.1	13.7	-	-	
GP-2A	28-Jan-21	10:19	0.09	3.7	15.9	0.8	3.7	-	*Note 3*
GP-2B	28-Jan-21	10:23	0.18	0.0	0.3	21.1	-	-	
GP-3S	28-Jan-21	10:27	0.13	0.0	4.2	10.2	-	-	
GP-3M	28-Jan-21	10:30	0.15	0.0	3.6	7.3	-	-	
GP-3D	28-Jan-21	10:34	0.15	1.9	11.2	1.6	1.9	-	
GP-4A	28-Jan-21	10:39	0.16	0.0	0.7	19.7	-	-	
GP-4B	28-Jan-21	10:42	0.18	0.0	0.2	21.1	-	-	
GP-5A	28-Jan-21	10:49	0.16	0.0	0.1	21.2	-	-	
GP-5B	28-Jan-21	10:52	0.16	0.0	0.1	21.0	-	-	
GP-6	28-Jan-21	10:57	0.16	0.0	0.2	20.9	-	-	
GP-7S	28-Jan-21	11:03	0.16	0.0	0.7	20.3	-	-	
GP-7D	28-Jan-21	11:06	0.16	0.0	0.3	20.7	-	-	
GP-8A	28-Jan-21	11:14	0.16	0.0	0.6	20.6	-	-	
GP-8B	28-Jan-21	11:17	0.16	0.0	0.2	21.0	-	-	
GP-9	28-Jan-21	11:25	0.15	0.0	2.3	17.1	-	-	
GP-10	28-Jan-21	11:31	0.16	0.0	0.2	21.2	-	-	
GP-11	28-Jan-21	11:36	0.16	0.0	2.8	18.0	-	-	
GP-12	28-Jan-21	11:41	0.16	0.0	3.4	15.8	-	-	
GP-13A	28-Jan-21	11:45	0.16	0.0	0.1	21.2	-	-	
GP-13B	28-Jan-21	11:48	0.24	0.0	0.1	21.3	-	-	
GP-14S	28-Jan-21	11:52	0.16	0.0	4.5	16.9	-	-	
GP-14D	28-Jan-21	11:55	0.15	0.0	7.6	6.6	-	-	
GP-15A	28-Jan-21	11:59	0.15	0.0	6.7	5.6	-	-	
GP-15B	28-Jan-21	12:02	0.15	0.5	11.6	0.4	0.5	-	
GP-16A	28-Jan-21	12:08	0.14	0.0	0.6	20.7	-	-	
GP-16B	28-Jan-21	12:11	0.15	0.0	0.4	21.0	-	-	
GP-17	28-Jan-21	12:18	0.14	0.0	2.3	19.5	-	-	
GP-18	28-Jan-21	12:24	0.16	0.0	0.1	21.2	-	-	
GP-19	28-Jan-21	12:31	0.16	0.0	0.9	20.4	-	-	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

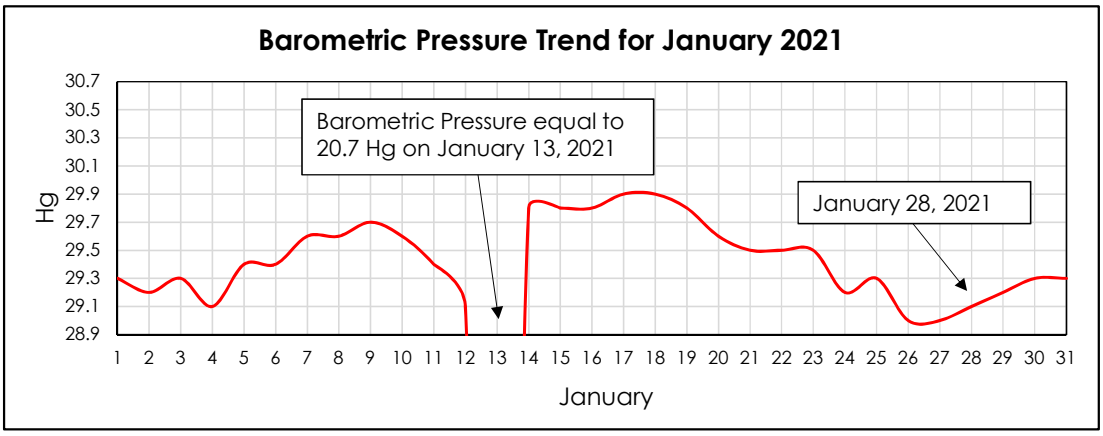
		Weather Conditions	
Monitored by:	A. Lopez	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Light Drizzle
Calibration Date:	28-Jan-21	Temperature (^{o}F):	45

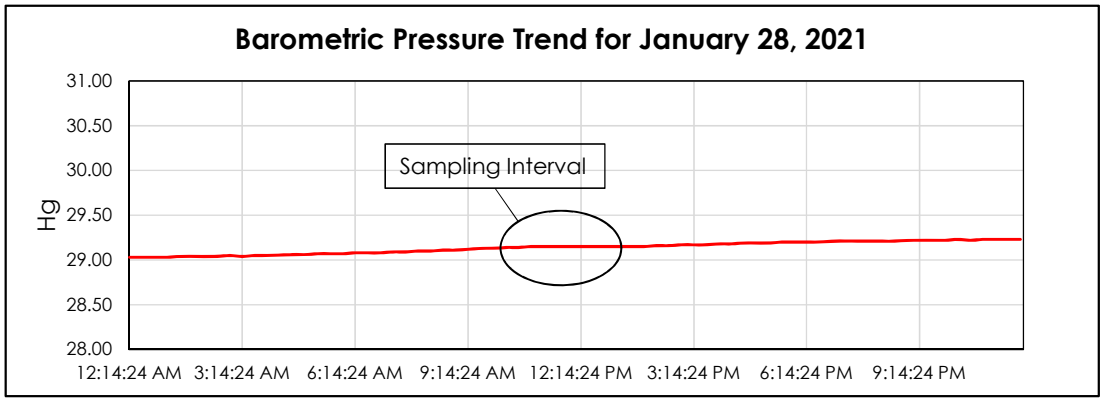
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.
3. Extended stabilization period (240 seconds).

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - January 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-1

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-1-28

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

February 20, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	20-Feb-21	10:42	0.43	0.0	4.4	10.4	-	-	
GP-1B	20-Feb-21	10:45	0.13	0.0	6.4	14.6	-	-	
GP-1C	20-Feb-21	10:48	0.06	0.0	2.8	17.4	-	-	
GP-2A	20-Feb-21	10:52	0.07	0.2	1.1	19.3	0.2	-	
GP-2B	20-Feb-21	10:55	0.16	0.0	0.1	20.9	-	-	
GP-3S	20-Feb-21	10:59	0.13	0.0	4.1	9.9	-	-	
GP-3M	20-Feb-21	11:02	0.13	0.0	3.6	5.3	-	-	
GP-3D	20-Feb-21	11:05	0.12	0.0	10.9	4.6	-	-	
GP-4A	20-Feb-21	11:11	0.13	0.0	0.2	21.2	-	-	
GP-4B	20-Feb-21	11:14	0.19	0.0	0.1	21.3	-	-	
GP-5A	20-Feb-21	11:18	0.14	0.0	0.0	21.3	-	-	
GP-5B	20-Feb-21	11:21	0.14	0.0	0.0	21.3	-	-	
GP-6	20-Feb-21	11:27	0.16	0.0	0.0	21.3	-	-	
GP-7S	20-Feb-21	11:31	0.15	0.0	0.5	20.7	-	-	
GP-7D	20-Feb-21	11:35	0.14	0.0	0.2	21.2	-	-	
GP-8A	20-Feb-21	11:44	0.16	0.0	0.8	20.1	-	-	
GP-8B	20-Feb-21	11:47	0.16	0.0	0.1	21.1	-	-	
GP-9	20-Feb-21	11:53	0.15	0.0	3.8	17.4	-	-	
GP-10	20-Feb-21	11:57	0.16	0.0	0.1	21.2	-	-	
GP-11	20-Feb-21	12:03	0.14	0.0	1.2	20.0	-	-	
GP-12	20-Feb-21	12:07	0.14	0.0	1.6	17.9	-	-	
GP-13A	20-Feb-21	12:11	0.14	0.0	0.5	20.8	-	-	
GP-13B	20-Feb-21	12:14	0.19	0.0	0.1	21.3	-	-	
GP-14S	20-Feb-21	12:18	0.16	0.0	4.4	17.3	-	-	
GP-14D	20-Feb-21	12:21	0.14	0.0	6.8	8.3	-	-	
GP-15A	20-Feb-21	12:25	0.15	0.0	2.3	17.3	-	-	
GP-15B	20-Feb-21	12:28	0.14	0.0	7.7	7.0	-	-	
GP-16A	20-Feb-21	12:33	0.14	0.0	0.7	20.8	-	-	
GP-16B	20-Feb-21	12:36	0.17	0.0	0.6	20.9	-	-	
GP-17	20-Feb-21	12:43	0.14	0.0	1.5	20.2	-	-	
GP-18	20-Feb-21	12:47	0.15	0.0	0.8	20.4	-	-	
GP-19	20-Feb-21	12:54	0.13	0.0	0.1	21.3	-	-	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

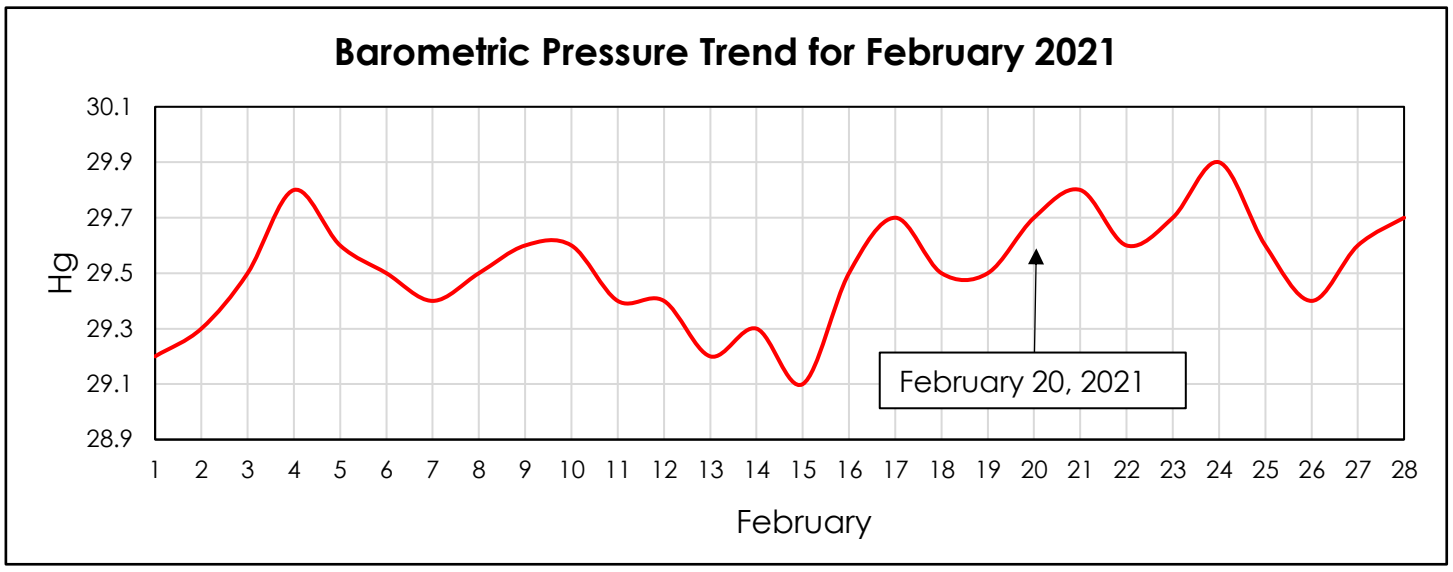
		Weather Conditions	
Monitored by:	A. Lopez	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Gentle-moderate
Calibration Date:	20-Feb-21	Temperature (°F):	47

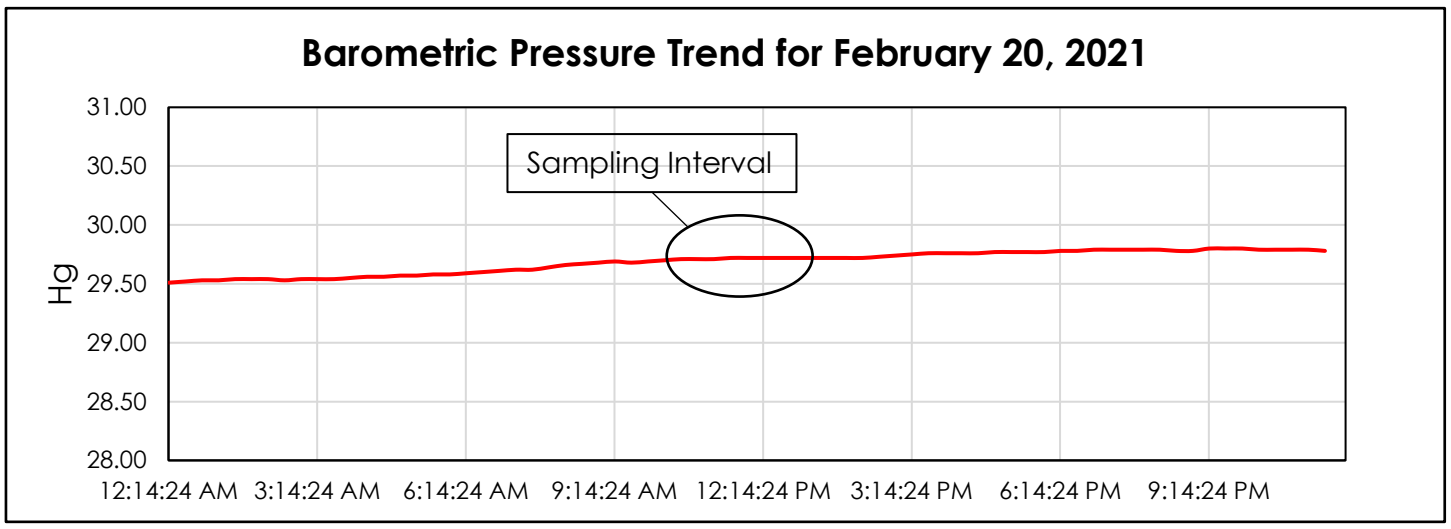
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - Febuary 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-2

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-2-20

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

March 6, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	6-Mar-21	12:36	0.19	0.0	4.5	10.6	-	-	
GP-1B	6-Mar-21	12:39	0.17	0.0	6.7	13.9	-	-	
GP-1C	6-Mar-21	12:42	0.15	0.0	4.1	15.8	-	-	
GP-2A	6-Mar-21	12:49	0.15	2.2	12.5	5.2	2.2	-	
GP-2B	6-Mar-21	12:52	0.12	0.0	0.2	20.5	-	-	
GP-3S	6-Mar-21	12:55	0.11	0.0	4.1	9.3	-	-	
GP-3M	6-Mar-21	12:59	0.13	0.0	3.9	3.5	-	-	
GP-3D	6-Mar-21	13:02	0.13	2.3	10.7	2.6	2.3	-	
GP-4A	6-Mar-21	13:07	0.14	0.0	0.2	20.5	-	-	
GP-4B	6-Mar-21	13:10	0.15	0.0	0.1	20.7	-	-	
GP-5A	6-Mar-21	13:15	0.12	0.0	0.0	20.7	-	-	
GP-5B	6-Mar-21	13:18	0.11	0.0	0.0	20.7	-	-	
GP-6	6-Mar-21	13:25	0.11	0.0	0.1	20.5	-	-	
GP-7S	6-Mar-21	13:29	0.10	0.0	0.8	19.7	-	-	
GP-7D	6-Mar-21	13:32	0.10	0.0	0.3	20.3	-	-	
GP-8A	6-Mar-21	13:38	0.09	0.0	0.5	20.1	-	-	
GP-8B	6-Mar-21	13:41	0.09	0.0	0.1	20.6	-	-	
GP-9	6-Mar-21	13:46	0.09	0.0	3.4	17.7	-	-	
GP-10	6-Mar-21	13:51	0.10	0.0	0.1	20.8	-	-	
GP-11	6-Mar-21	13:59	0.10	0.0	1.3	18.8	-	-	
GP-12	6-Mar-21	14:03	0.09	0.0	2.2	15.9	-	-	
GP-13A	6-Mar-21	14:07	0.10	0.0	0.5	19.2	-	-	
GP-13B	6-Mar-21	14:10	0.12	0.0	0.1	20.5	-	-	
GP-14S	6-Mar-21	14:14	0.08	0.0	3.8	17.0	-	-	
GP-14D	6-Mar-21	14:17	0.10	0.0	7.3	6.5	-	-	
GP-15A	6-Mar-21	14:21	0.07	0.0	3.3	13.9	-	-	
GP-15B	6-Mar-21	14:24	0.07	0.0	9.1	4.4	-	-	
GP-16A	6-Mar-21	14:28	0.07	0.0	0.5	20.6	-	-	
GP-16B	6-Mar-21	14:31	0.28	0.0	0.5	20.6	-	-	
GP-17	6-Mar-21	14:37	0.08	0.0	0.6	20.4	-	-	
GP-18	6-Mar-21	14:42	0.09	0.0	1.4	19.1	-	-	
GP-19	6-Mar-21	14:47	0.09	0.0	0.6	20.4	-	-	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

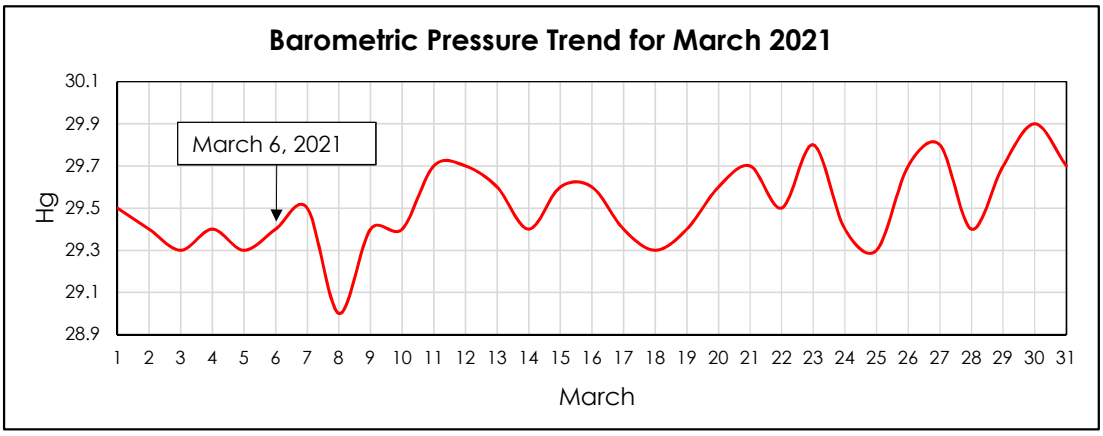
		Weather Conditions	
Monitored by:	A. Lopez	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Gentle-moderate
Calibration Date:	6-Mar-21	Temperature (°F):	49

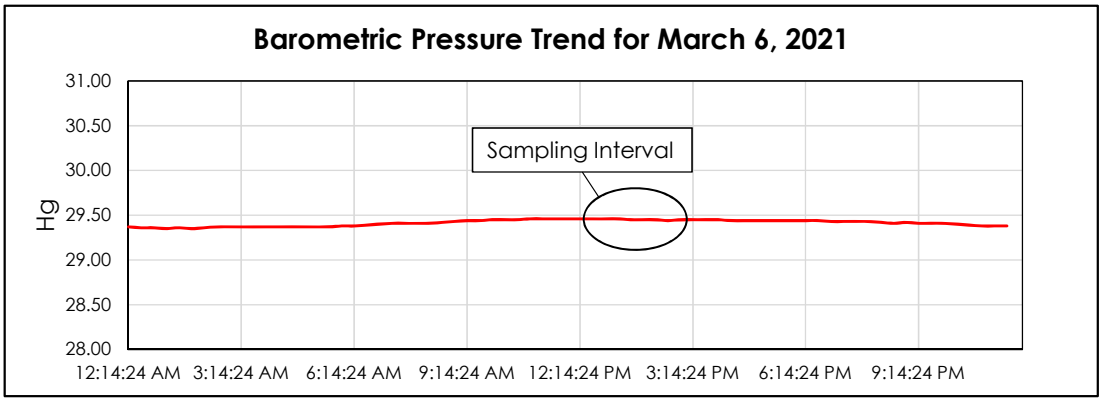
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - March 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: hhttps://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-3

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-3-6

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

April 10, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	10-Apr-21	10:31	-	0.0	4.4	11.7	-	-	
GP-1B	10-Apr-21	10:34	-	0.0	6.5	14.6	-	-	
GP-1C	10-Apr-21	10:37	-	0.0	2.3	18.3	-	-	
GP-2A	10-Apr-21	10:44	-	2.2	10.4	8.3	2.2	-	
GP-2B	10-Apr-21	10:50	-	0.0	0.1	21.1	-	-	
GP-3S	10-Apr-21	10:55	-	0.0	4.0	9.5	-	-	
GP-3M	10-Apr-21	10:58	-	0.0	4.6	1.8	-	-	
GP-3D	10-Apr-21	11:01	-	1.6	11.7	2.2	1.6	-	
GP-4A	10-Apr-21	11:08	-	0.0	0.1	21.2	-	-	
GP-4B	10-Apr-21	11:12	-	0.0	0.1	21.2	-	-	
GP-5A	10-Apr-21	11:19	-	0.0	0.0	21.2	-	-	
GP-5B	10-Apr-21	11:22	-	0.0	0.0	21.4	-	-	
GP-6	10-Apr-21	11:30	-	0.0	0.1	21.2	-	-	
GP-7S	10-Apr-21	11:36	-	0.0	0.6	20.8	-	-	
GP-7D	10-Apr-21	11:40	-	0.0	0.2	21.1	-	-	
GP-8A	10-Apr-21	11:49	-	0.0	0.4	20.3	-	-	
GP-8B	10-Apr-21	11:53	-	0.0	0.2	21.0	-	-	
GP-9	10-Apr-21	12:00	-	0.0	3.2	18.7	-	-	
GP-10	10-Apr-21	12:06	-	0.0	0.1	21.1	-	-	
GP-11	10-Apr-21	12:13	-	0.0	1.3	19.9	-	-	
GP-12	10-Apr-21	12:20	-	0.0	0.7	20.2	-	-	
GP-13A	10-Apr-21	12:24	-	0.0	2.7	16.3	-	-	
GP-13B	10-Apr-21	12:28	-	0.0	0.1	21.1	-	-	
GP-14S	10-Apr-21	12:34	-	0.0	4.0	17.1	-	-	
GP-14D	10-Apr-21	12:38	-	0.0	6.8	8.2	-	-	
GP-15A	10-Apr-21	12:43	-	0.0	2.9	16.6	-	-	
GP-15B	10-Apr-21	12:46	-	0.0	9.3	6.2	-	-	
GP-16A	10-Apr-21	12:52	-	0.0	0.3	21.0	-	-	
GP-16B	10-Apr-21	12:56	-	0.0	0.3	21.1	-	-	
GP-17	10-Apr-21	13:04	-	0.0	0.5	20.9	-	-	
GP-18	10-Apr-21	13:10	-	0.0	1.6	19.7	-	-	
GP-19	10-Apr-21	13:16	-	0.0	0.5	20.9	-	-	
LFG-1									*Note 2*
LFG-2									*Note 2*
LFG-3									*Note 2*

General Data

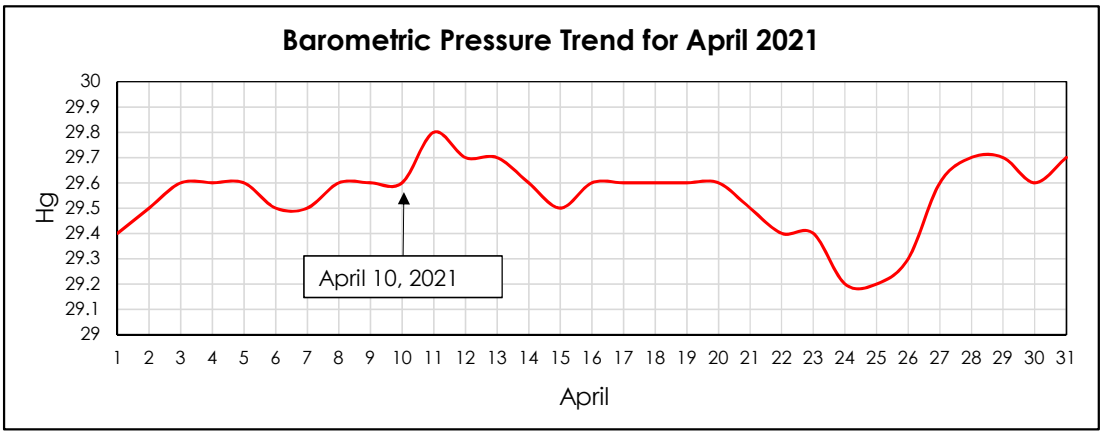
		Weather Conditions	
Monitored by:	A. Lopez	Sky Cover:	Mostly Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Light Wind
Calibration Date:	10-Apr-21	Temperature (°F):	48

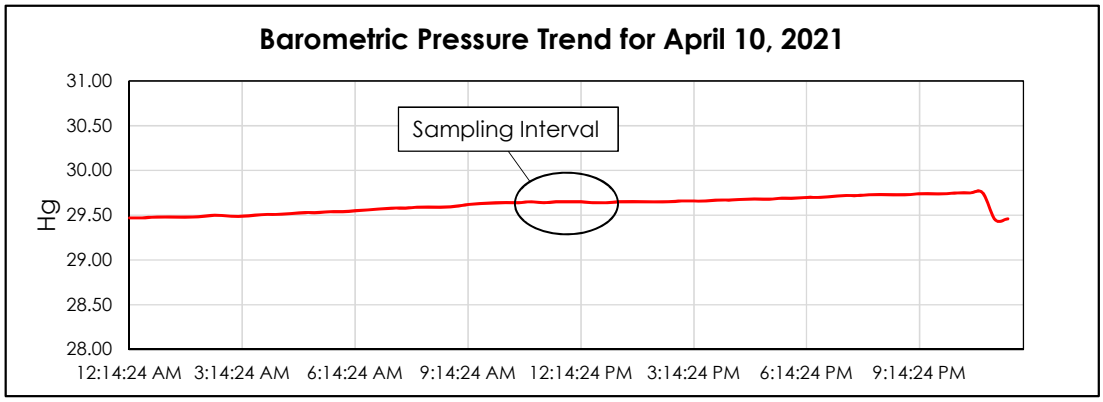
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.
3. Pressure was not recorded this month due to a pressure transducer error.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - April 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: hhttps://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-4

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-4-10

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

May 8, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	8-May-21	10:30	0.97	0.0	3.9	13.0	-	-	
GP-1B	8-May-21	10:33	0.95	0.0	8.8	12.6	-	-	
GP-1C	8-May-21	10:36	0.96	0.0	0.3	20.8	-	-	
GP-2A	8-May-21	10:53	0.94	6.5	16.1	0.8	6.5	-	
GP-2B	8-May-21	10:57	1.00	0.0	0.1	20.8	-	-	
GP-3S	8-May-21	11:04	0.93	0.0	1.1	17.9	-	-	
GP-3M	8-May-21	11:14	0.94	0.0	3.7	5.3	-	-	
GP-3D	8-May-21	11:17	0.93	0.0	7.8	10.6	-	-	
GP-4A	8-May-21	11:21	0.93	0.0	0.1	20.9	-	-	
GP-4B	8-May-21	11:26	0.94	0.0	0.0	20.9	-	-	
GP-5A	8-May-21	11:29	0.91	0.0	0.0	20.9	-	-	
GP-5B	8-May-21	11:34	0.90	0.0	0.0	21.0	-	-	
GP-6	8-May-21	11:36	0.90	0.0	0.1	20.9	-	-	
GP-7S	8-May-21	11:41	0.91	0.0	0.7	20.5	-	-	
GP-7D	8-May-21	11:46	0.90	0.0	0.1	21.2	-	-	
GP-8A	8-May-21	11:49	0.91	0.0	0.8	18.8	-	-	
GP-8B	8-May-21	11:56	0.91	0.0	0.7	20.5	-	-	
GP-9	8-May-21	12:00	0.91	0.0	2.9	18.3	-	-	
GP-10	8-May-21	12:04	0.91	0.0	0.1	21.2	-	-	
GP-11	8-May-21	12:10	0.90	0.0	1.1	20.4	-	-	
GP-12	8-May-21	12:14	0.90	0.0	0.8	20.1	-	-	
GP-13A	8-May-21	12:19	0.93	0.0	1.8	19.5	-	-	
GP-13B	8-May-21	12:23	0.91	0.0	0.1	21.2	-	-	
GP-14S	8-May-21	12:27	0.92	0.0	3.8	17.6	-	-	
GP-14D	8-May-21	12:31	0.90	0.0	6.4	9.1	-	-	
GP-15A	8-May-21	12:34	0.90	0.0	2.3	17.4	-	-	
GP-15B	8-May-21	12:38	0.91	0.0	8.4	9.6	-	-	
GP-16A	8-May-21	12:41	0.88	0.0	0.3	21.1	-	-	
GP-16B	8-May-21	12:46	0.92	0.0	0.3	21.2	-	-	
GP-17	8-May-21	12:49	0.89	0.0	0.6	20.7	-	-	
GP-18	8-May-21	12:55	0.90	0.0	3.1	18.9	-	-	
GP-19	8-May-21	12:59	0.91	0.0	0.1	21.4	-	-	
LFG-1									*Note 2*
LFG-2									*Note 2*
LFG-3									*Note 2*

General Data

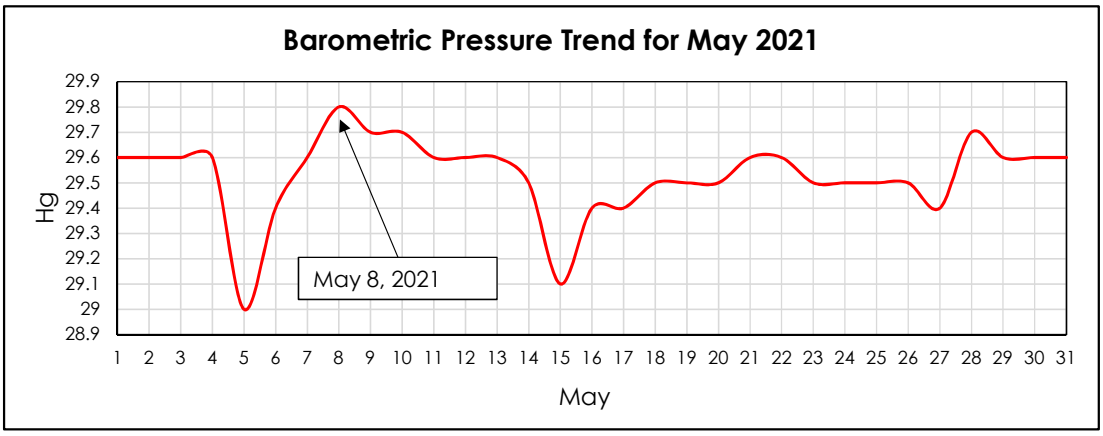
		Weather Conditions	
Monitored by:	R. Martinez	Sky Cover:	Partly Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Light Wind
Calibration Date:	8-May-21	Temperature (°F):	50

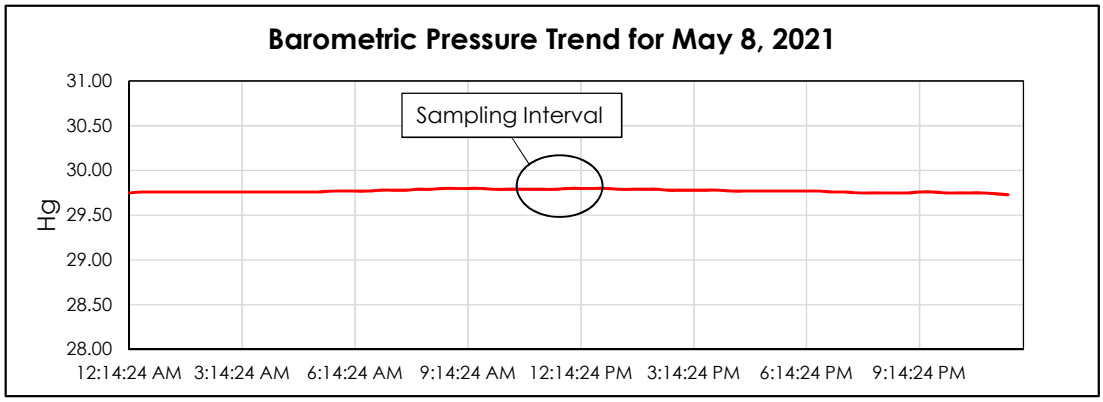
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - May 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-5

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-5-8

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill — 4221002.02

PCRCD dba LRI — June 11, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	11-Jun-21	10:23	-0.03	0.0	0.8	20.9	-	-	
GP-1B	11-Jun-21	10:26	-0.01	0.0	6.0	14.2	-	-	
GP-1C	11-Jun-21	10:30	-0.03	0.0	1.7	19.5	-	-	
GP-2A	11-Jun-21	10:36	-0.02	0.4	1.0	19.6	0.4	-	
GP-2B	11-Jun-21	10:39	-0.02	0.0	0.3	21.1	-	-	
GP-3S	11-Jun-21	10:48	-0.02	0.0	1.1	17.5	-	-	
GP-3M	11-Jun-21	10:51	0.00	0.0	2.6	9.5	-	-	
GP-3D	11-Jun-21	10:54	-1.76	0.0	3.5	15.4	-	-	
GP-4A	11-Jun-21	13:37	0.00	0.0	0.7	20.1	-	-	
GP-4B	11-Jun-21	13:40	-1.97	0.0	0.3	20.9	-	-	
GP-5A	11-Jun-21	13:44	0.00	0.0	0.4	20.8	-	-	
GP-5B	11-Jun-21	13:47	0.00	0.0	0.3	20.3	-	-	
GP-6	11-Jun-21	11:10	-0.01	0.0	0.8	20.7	-	-	
GP-7S	11-Jun-21	11:22	-0.02	0.0	0.8	20.5	-	-	
GP-7D	11-Jun-21	11:27	-0.01	0.0	0.2	21.1	-	-	
GP-8A	11-Jun-21	11:37	-0.01	0.0	1.4	18.4	-	-	
GP-8B	11-Jun-21	11:40	-0.02	0.0	1.6	19.1	-	-	
GP-9	11-Jun-21	13:53	0.00	0.0	1.7	18.5	-	-	
GP-10	11-Jun-21	11:52	-0.01	0.0	0.4	21.0	-	-	
GP-11	11-Jun-21	12:00	0.00	0.0	0.5	20.4	-	-	
GP-12	11-Jun-21	12:14	-0.01	0.0	1.3	17.9	-	-	
GP-13A	11-Jun-21	12:19	-0.01	0.0	0.5	20.6	-	-	
GP-13B	11-Jun-21	12:23	0.00	0.0	0.2	21.1	-	-	
GP-14S	11-Jun-21	12:32	-0.03	0.0	2.6	18.5	-	-	
GP-14D	11-Jun-21	12:35	-0.02	0.0	3.6	13.3	-	-	
GP-15A	11-Jun-21	12:40	-0.02	0.0	3.1	17.1	-	-	
GP-15B	11-Jun-21	12:44	-0.02	0.0	6.4	11.2	-	-	
GP-16A	11-Jun-21	12:54	0.00	0.0	1.8	19.0	-	-	
GP-16B	11-Jun-21	12:57	-0.06	0.0	2.1	18.3	-	-	
GP-17	11-Jun-21	13:08	-0.01	0.0	3.1	18.1	-	-	
GP-18	11-Jun-21	13:14	-0.01	0.0	5.6	14.7	-	-	
GP-19	11-Jun-21	13:22	-0.01	0.0	0.9	20.8	-	-	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

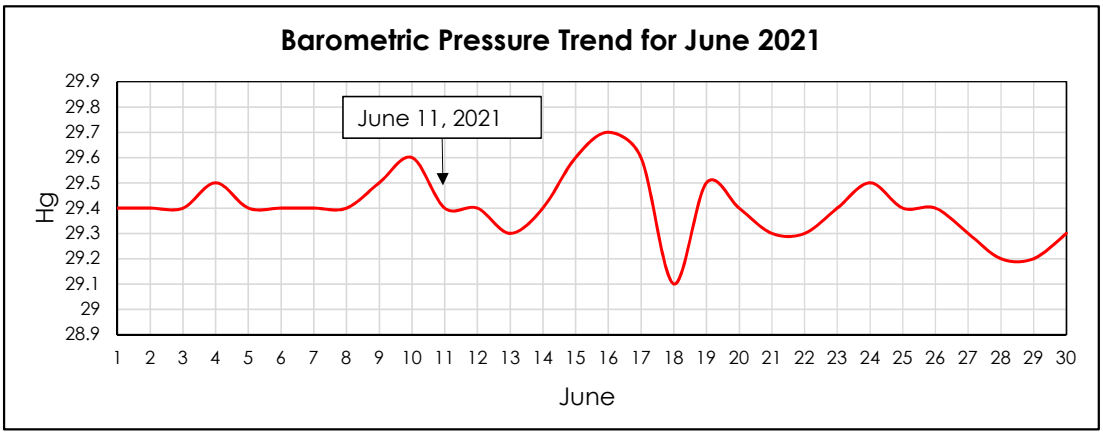
		Weather Conditions	
Monitored by:	R. Martinez	Sky Cover:	Partly Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Light Wind
Calibration Date:	11-Jun-21	Temperature (^{o}F):	55

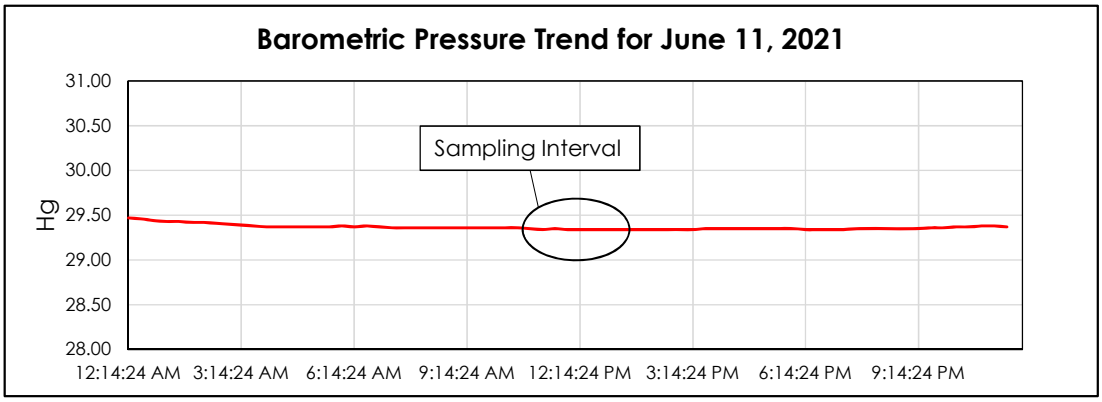
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - June 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-6

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-6-11

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

July 15, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	15-Jul-21	7:25	-0.10	0.0	3.1	12.2	-	-	
GP-1B	15-Jul-21	7:29	-0.04	0.0	4.1	16.9	-	-	
GP-1C	15-Jul-21	7:32	-0.03	0.0	0.6	20.3	-	-	
GP-2A	15-Jul-21	7:38	-0.03	0.0	0.3	20.7	-	-	
GP-2B	15-Jul-21	7:41	-0.01	0.0	0.0	20.8	-	-	
GP-3S	15-Jul-21	7:46	-0.06	0.0	0.7	19.4	-	-	
GP-3M	15-Jul-21	7:50	-0.04	0.0	2.7	15.3	-	-	
GP-3D	15-Jul-21	7:53	-0.02	0.0	3.8	17.7	-	-	
GP-4A	15-Jul-21	8:05	-0.02	0.0	1.2	19.4	-	-	
GP-4B	15-Jul-21	8:09	-0.01	0.0	0.1	20.9	-	-	
GP-5A	15-Jul-21	8:14	-0.02	0.0	0.0	20.9	-	-	
GP-5B	15-Jul-21	8:18	-0.03	0.0	0.0	20.9	-	-	
GP-6	15-Jul-21	8:27	-0.01	0.0	0.3	20.4	-	-	
GP-7S	15-Jul-21	8:34	-0.01	0.0	1.0	19.7	-	-	
GP-7D	15-Jul-21	8:37	-0.01	0.0	0.5	20.3	-	-	
GP-8A	15-Jul-21	8:52	-0.01	0.0	7.8	9.5	-	-	
GP-8B	15-Jul-21	8:57	-0.01	0.0	5.4	16.0	-	-	
GP-9	15-Jul-21	9:02	-0.02	0.0	3.2	16.6	-	-	
GP-10	15-Jul-21	9:09	-0.02	0.0	2.3	12.8	-	-	
GP-11	15-Jul-21	9:39	-0.02	0.0	1.5	19.3	-	-	
GP-12	15-Jul-21	9:46	-0.02	0.0	3.9	14.0	-	-	
GP-13A	15-Jul-21	11:05	0.07	0.0	4.1	15.9	-	-	
GP-13B	15-Jul-21	11:08	0.00	0.0	0.2	20.2	-	-	
GP-14S	15-Jul-21	11:13	-0.05	0.0	3.7	17.1	-	-	
GP-14D	15-Jul-21	11:16	-0.04	0.0	5.9	8.6	-	-	
GP-15A	15-Jul-21	11:20	-0.04	0.0	2.6	17.9	-	-	
GP-15B	15-Jul-21	11:23	-0.06	0.0	6.2	11.9	-	-	
GP-16A	15-Jul-21	11:32	-0.05	0.0	0.4	20.1	-	-	
GP-16B	15-Jul-21	11:35	-0.33	0.0	0.4	20.2	-	-	
GP-17	15-Jul-21	11:44	-0.05	0.0	5.5	11.4	-	-	
GP-18	15-Jul-21	11:50	-0.05	0.0	11.5	5.6	-	-	
GP-19	15-Jul-21	11:59	-0.05	0.0	0.1	20.6	-	-	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

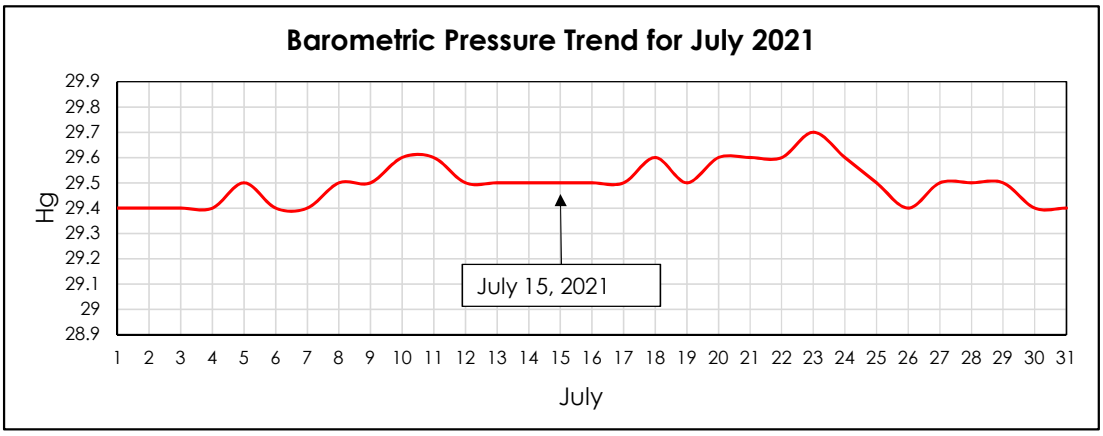
		Weather Conditions	
Monitored by:	R. Martinez	Sky Cover:	Partly Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Light Wind
Calibration Date:	15-Jul-21	Temperature (^{o}F):	56

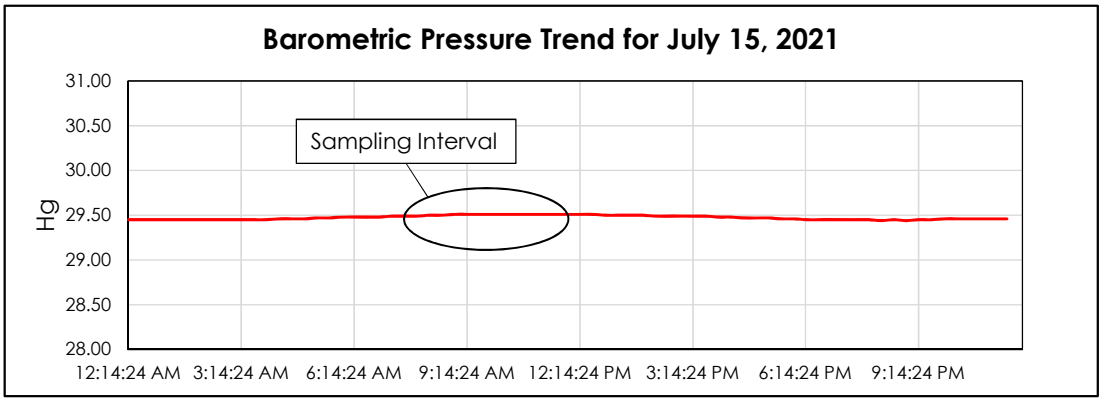
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - July 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-7

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-7-15

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

August 5, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Other
Gas Probes								
GP-1A	5-Aug-21	9:25	-0.05	0.0	0.7	19.3	-	
GP-1B	5-Aug-21	9:28	-0.05	0.0	0.4	19.9	-	
GP-1C	5-Aug-21	9:31	-0.06	0.0	0.4	20.2	-	
GP-2A	5-Aug-21	9:38	-0.07	0.0	0.2	20.3	-	
GP-2B	5-Aug-21	9:41	-0.07	0.0	0.0	20.3	-	
GP-3S	5-Aug-21	9:52	-0.09	0.0	0.1	20.2	-	
GP-3M	5-Aug-21	9:58	-0.09	0.0	0.0	20.3	-	
GP-3D	5-Aug-21	10:01	-0.09	0.0	0.0	20.4	-	
GP-4A	5-Aug-21	10:09	-0.09	0.0	0.1	20.2	-	
GP-4B	5-Aug-21	10:12	-0.09	0.0	0.0	20.4	-	
GP-5A	5-Aug-21	10:17	-0.10	0.0	0.1	20.3	-	
GP-5B	5-Aug-21	10:20	-0.10	0.0	0.1	20.3	-	
GP-6	5-Aug-21	10:26	-0.10	0.0	0.0	20.2	-	
GP-7S	5-Aug-21	10:39	-0.11	0.0	0.0	20.2	-	
GP-7D	5-Aug-21	10:42	-0.11	0.0	0.0	20.4	-	
GP-8A	5-Aug-21	11:01	-0.11	0.0	0.2	19.2	-	
GP-8B	5-Aug-21	11:05	-0.11	0.0	0.4	19.1	-	
GP-9	5-Aug-21	11:12	-0.11	0.0	0.6	19.6	-	
GP-10	5-Aug-21	11:17	-0.11	0.0	0.4	19.8	-	
GP-11	5-Aug-21	11:21	-0.12	0.0	0.2	20.2	-	
GP-12	5-Aug-21	11:26	-0.12	0.0	0.1	20.3	-	
GP-13A	5-Aug-21	11:30	-0.12	0.0	0.1	20.1	-	
GP-13B	5-Aug-21	11:33	-0.12	0.0	0.0	20.4	-	
GP-14S	5-Aug-21	11:38	-0.13	0.0	0.1	19.9	-	
GP-14D	5-Aug-21	11:41	-0.13	0.0	0.1	19.5	-	
GP-15A	5-Aug-21	11:45	-0.13	0.0	0.3	19.9	-	
GP-15B	5-Aug-21	11:49	-0.13	0.0	0.2	20.3	-	
GP-16A	5-Aug-21	11:59	-0.15	0.1	0.2	20.1	0.1	
GP-16B	5-Aug-21	12:02	-0.14	0.1	0.0	20.4	0.1	
GP-17	5-Aug-21	12:09	-0.15	0.1	0.2	19.0	0.1	
GP-18	5-Aug-21	12:18	-0.14	0.1	0.5	18.6	0.1	
GP-19	5-Aug-21	12:25	-0.13	0.1	0.3	20.4	0.1	
LFG-1							-	*Note 2*
LFG-2							-	*Note 2*
LFG-3							-	*Note 2*

General Data

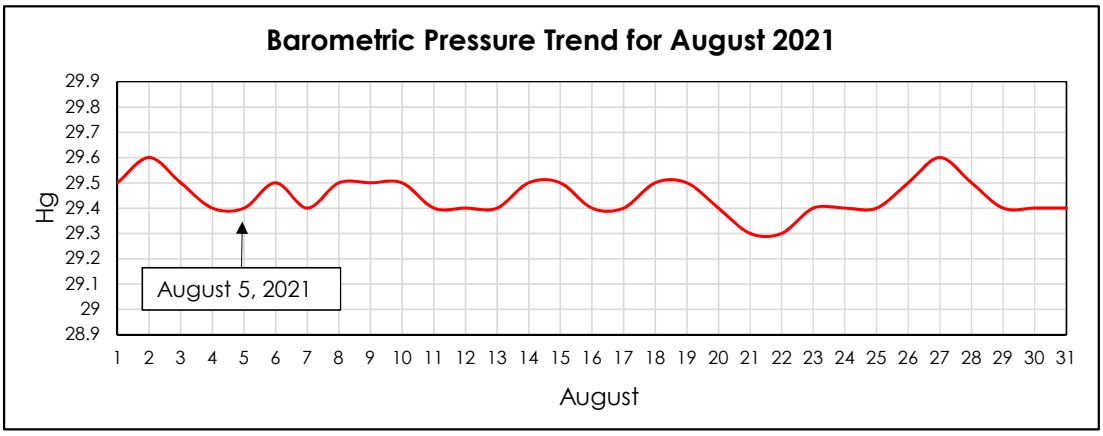
		Weather Conditions	
Monitored by:	A. Lopez	Sky Cover:	
Instruments:	GEM 2000	Wind / Rain / Snow:	
Calibration Date:	5-Aug-21	Temperature (°F):	

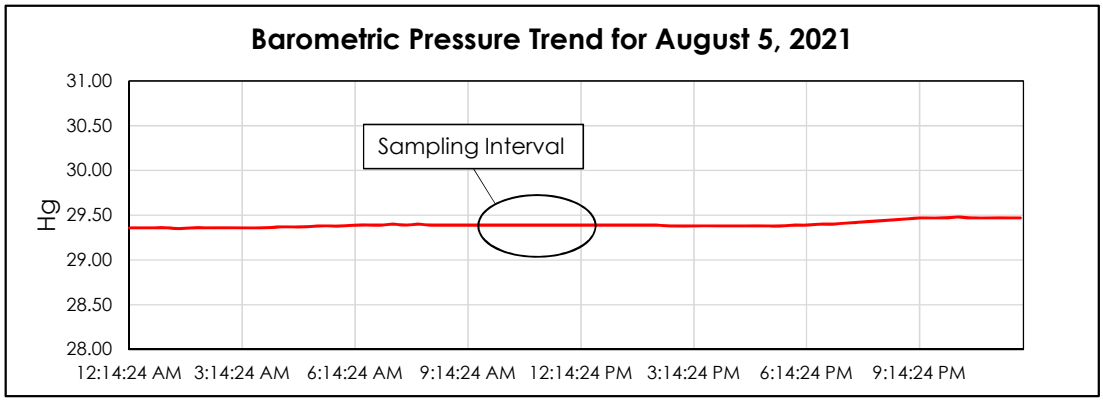
Notes

1. Measurement for spike concentration of CH_4 is recorded if observed during sampling.
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - August 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-8

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-8-5

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

September 16, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Other
Gas Probes								
GP-1A	16-Sep-21	8:47	0.04	1.2	18.9	79.9	-	
GP-1B	16-Sep-21	8:51	0.03	0.1	20.5	79.4	-	
GP-1C	16-Sep-21	8:56	0.02	0.5	20.3	79.2	-	
GP-2A	16-Sep-21	9:01	0.01	0.2	20.2	79.6	-	
GP-2B	16-Sep-21	9:05	0.02	0.0	20.3	79.7	-	
GP-3S	16-Sep-21	9:15	-0.01	0.1	20.4	79.5	-	
GP-3M	16-Sep-21	9:19	-0.01	0.1	20.5	79.4	-	
GP-3D	16-Sep-21	9:22	-0.02	0.0	20.7	79.3	-	
GP-4A	16-Sep-21	9:31	-0.01	0.1	20.8	79.1	-	
GP-4B	16-Sep-21	9:34	-0.01	0.0	20.8	79.2	-	
GP-5A	16-Sep-21	9:40	-0.02	0.1	20.7	79.2	-	
GP-5B	16-Sep-21	9:43	-0.03	0.1	20.7	79.2	-	
GP-6	16-Sep-21	9:59	-0.04	0.0	20.5	79.5	-	
GP-7S	16-Sep-21	10:05	-0.05	0.0	20.5	79.5	-	
GP-7D	16-Sep-21	10:09	-0.05	0.0	20.6	79.4	-	
GP-8A	16-Sep-21	10:41	-0.06	0.1	19.9	80.0	-	
GP-8B	16-Sep-21	10:44	-0.06	0.5	20.3	79.2	-	
GP-9	16-Sep-21	10:50	-0.06	0.4	18.5	81.1	-	
GP-10	16-Sep-21	10:57	-0.06	0.5	20.1	79.4	-	
GP-11	16-Sep-21	11:02	-0.07	0.2	20.6	79.2	-	
GP-12	16-Sep-21	11:12	-0.06	0.2	20.5	79.3	-	
GP-13A	16-Sep-21	11:20	-0.07	0.0	20.6	79.4	-	
GP-13B	16-Sep-21	11:23	-0.11	0.0	20.6	79.4	-	
GP-14S	16-Sep-21	11:35	-0.08	0.0	20.8	79.2	-	
GP-14D	16-Sep-21	11:38	-0.08	0.1	19.2	80.7	-	
GP-15A	16-Sep-21	11:52	-0.07	0.3	20.4	79.3	-	
GP-15B	16-Sep-21	11:55	-0.07	0.3	20.0	79.7	-	
GP-16A	16-Sep-21	12:08	-0.09	0.3	20.5	79.2	-	
GP-16B	16-Sep-21	12:11	-0.10	0.1	20.8	79.1	-	
GP-17	16-Sep-21	12:34	-0.08	0.2	20.4	79.4	-	
GP-18	16-Sep-21	12:41	-0.08	0.2	19.8	80.0	-	
GP-19	16-Sep-21	12:47	-0.06	0.5	20.3	79.2	-	
LFG-1							-	*Note 2*
LFG-2							-	*Note 2*
LFG-3							-	*Note 2*

General Data

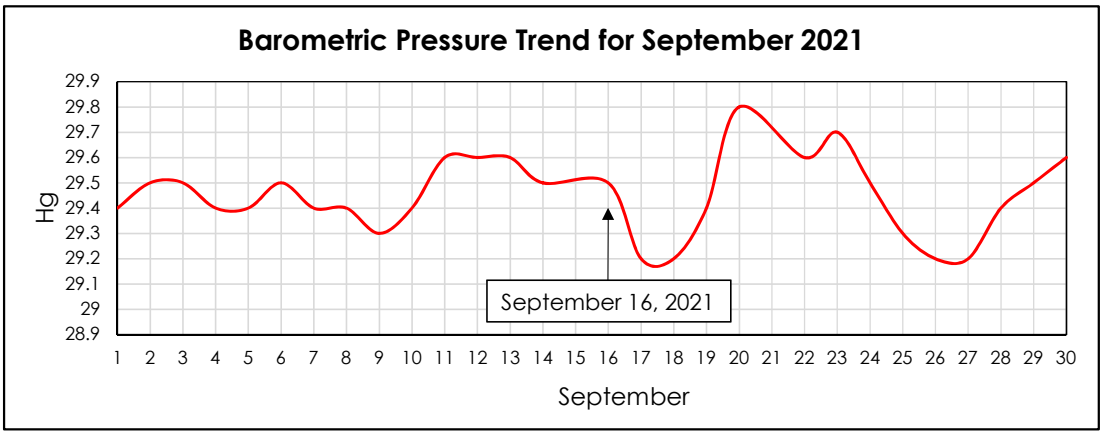
		Weather Conditions	
Monitored by:	R. Martinez	Sky Cover:	
Instruments:	GEM 2000	Wind / Rain / Snow:	
Calibration Date:	16-Sep-21	Temperature (^{o}F):	

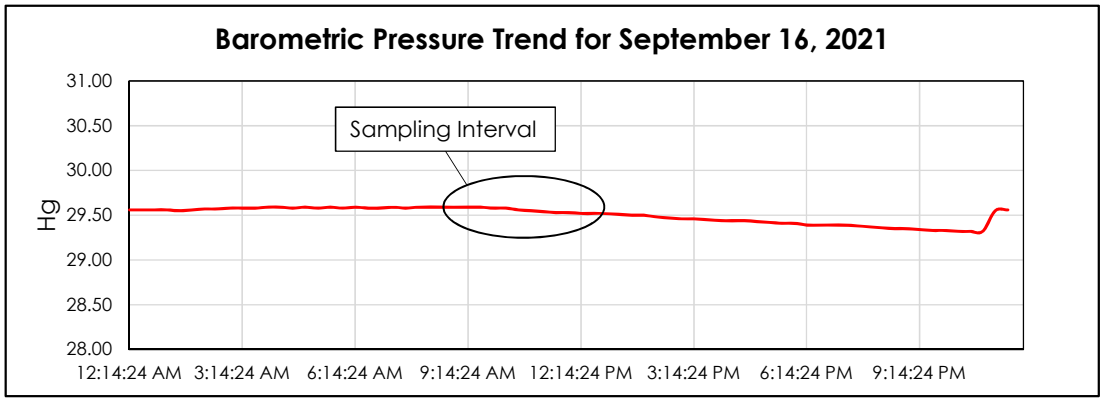
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - September 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-9

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-9-16

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

October 14, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Other
Gas Probes								
GP-1A	14-Oct-21	11:32	-2.62	0.0	5.2	6.1	-	
GP-1B	14-Oct-21	11:35	0.03	0.0	5.7	14.9	-	
GP-1C	14-Oct-21	11:39	0.02	0.0	2.7	17.9	-	
GP-2A	14-Oct-21	11:45	0.01	0.7	2.7	16.0	-	
GP-2B	14-Oct-21	11:48	0.09	0.0	0.5	21.4	-	
GP-3S	14-Oct-21	11:53	0.00	0.0	0.6	20.5	-	
GP-3M	14-Oct-21	12:00	-0.02	0.0	1.8	18.1	-	
GP-3D	14-Oct-21	11:57	0.00	0.0	2.8	16.8	-	
GP-4A	14-Oct-21	12:08	0.03	0.0	0.3	21.4	-	
GP-4B	14-Oct-21	12:11	0.09	0.0	0.1	21.6	-	
GP-5A	14-Oct-21	12:18	0.02	0.0	0.1	21.6	-	
GP-5B	14-Oct-21	12:22	0.02	0.0	0.1	21.7	-	
GP-6	14-Oct-21	12:27	0.04	0.0	0.1	21.5	-	
GP-7S	14-Oct-21	12:34	0.05	0.0	0.5	20.9	-	
GP-7D	14-Oct-21	12:37	0.03	0.0	0.4	21.1	-	
GP-8A	14-Oct-21	13:00	0.04	0.0	4.8	17.5	-	
GP-8B	14-Oct-21	13:07	0.03	0.0	0.3	21.1	-	
GP-9	14-Oct-21	13:14	0.02	0.0	4.5	11.5	-	
GP-10	14-Oct-21	13:20	0.02	0.0	0.7	20.9	-	
GP-11	14-Oct-21	13:27	0.02	0.0	1.2	18.9	-	
GP-12	14-Oct-21	13:40	0.01	0.0	3.4	15.6	-	
GP-13A	14-Oct-21	13:53	0.18	0.0	3.9	13.1	-	
GP-13B	14-Oct-21	13:56	-2.12	0.0	0.3	21.1	-	
GP-14S	14-Oct-21	14:01	0.00	0.0	4.3	16.2	-	
GP-14D	14-Oct-21	14:04	0.00	0.0	5.7	8.1	-	
GP-15A	14-Oct-21	14:09	0.00	0.0	0.5	21.0	-	
GP-15B	14-Oct-21	14:12	-0.02	0.0	6.2	12.2	-	
GP-16A	14-Oct-21	14:17	-0.01	0.0	1.0	20.4	-	
GP-16B	14-Oct-21	14:21	0.04	0.0	0.8	20.5	-	
GP-17	14-Oct-21	14:35	-0.04	0.0	4.3	15.5	-	
GP-18	14-Oct-21	14:42	0.00	0.0	2.8	19.6	-	
GP-19	14-Oct-21	14:48	-0.01	0.0	0.2	21.3	-	
LFG-1							-	*Note 2*
LFG-2							-	*Note 2*
LFG-3							-	*Note 2*

General Data

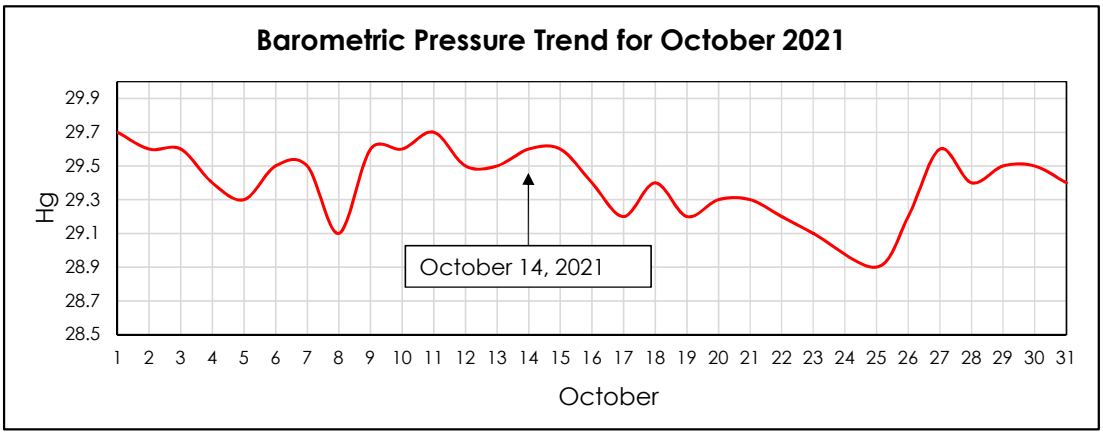
		Weather Conditions	
Monitored by:	R. Martinez	Sky Cover:	
Instruments:	GEM 2000	Wind / Rain / Snow:	
Calibration Date:	14-Oct-21	Temperature (^{o}F):	

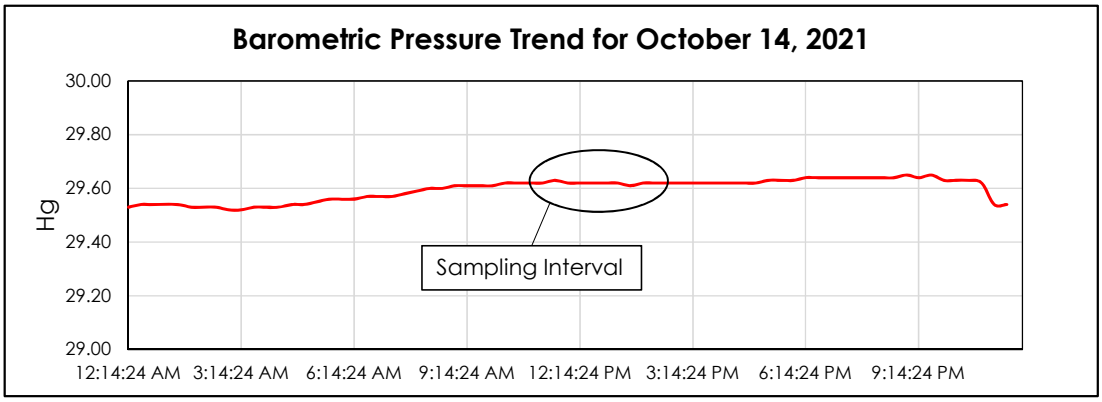
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - October 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-10

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-10-14

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

November 4, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Other
Gas Probes								
GP-1A	4-Nov-21	10:38	0.17	0.0	5.3	7.0	-	
GP-1B	4-Nov-21	10:41	0.16	0.0	6.0	14.4	-	
GP-1C	4-Nov-21	10:45	0.12	0.0	5.1	14.3	-	
GP-2A	4-Nov-21	10:50	0.13	1.6	9.9	7.5	-	
GP-2B	4-Nov-21	10:53	0.09	0.0	0.5	20.9	-	
GP-3S	4-Nov-21	10:59	0.14	0.0	1.8	19.0	-	
GP-3M	4-Nov-21	11:02	0.13	0.0	2.7	14.3	-	
GP-3D	4-Nov-21	11:06	0.42	0.0	3.7	14.2	-	
GP-4A	4-Nov-21	11:24	0.05	0.0	0.4	20.8	-	
GP-4B	4-Nov-21	11:16	0.05	0.0	0.3	21.1	-	
GP-5A	4-Nov-21	11:31	0.06	0.0	0.7	20.0	-	
GP-5B	4-Nov-21	11:34	0.06	0.0	1.1	18.9	-	
GP-6	4-Nov-21	11:39	0.06	0.0	0.5	19.7	-	
GP-7S	4-Nov-21	11:54	0.05	0.0	0.5	20.6	-	
GP-7D	4-Nov-21	11:58	0.05	0.0	0.8	20.2	-	
GP-8A	4-Nov-21	12:35	0.00	0.0	5.0	16.6	-	
GP-8B	4-Nov-21	12:38	-3.41	0.0	2.9	16.4	-	
GP-9	4-Nov-21	12:44	0.00	0.0	4.8	11.6	-	
GP-10	4-Nov-21	12:52	0.02	0.0	0.6	20.7	-	
GP-11	4-Nov-21	12:57	0.02	0.0	3.3	10.8	-	
GP-12	4-Nov-21	13:02	0.03	0.0	0.3	21.0	-	
GP-13A	4-Nov-21	13:08	0.01	0.0	2.4	20.0	-	
GP-13B	4-Nov-21	13:11	0.03	0.0	0.2	21.2	-	
GP-14S	4-Nov-21	13:15	0.41	0.0	4.2	15.9	-	
GP-14D	4-Nov-21	13:18	0.02	0.0	5.7	8.6	-	
GP-15A	4-Nov-21	13:24	0.00	0.0	0.3	21.1	-	
GP-15B	4-Nov-21	13:26	-0.03	0.0	9.2	8.2	-	
GP-16A	4-Nov-21	13:33	0.01	0.0	0.4	21.1	-	
GP-16B	4-Nov-21	13:36	0.02	0.0	0.2	21.2	-	
GP-17	4-Nov-21	13:44	0.23	0.0	4.3	15.8	-	
GP-18	4-Nov-21	13:51	0.03	0.0	0.3	21.0	-	
GP-19	4-Nov-21	13:57	0.00	0.0	0.1	21.1	-	
LFG-1							-	*Note 2*
LFG-2							-	*Note 2*
LFG-3							-	*Note 2*

General Data

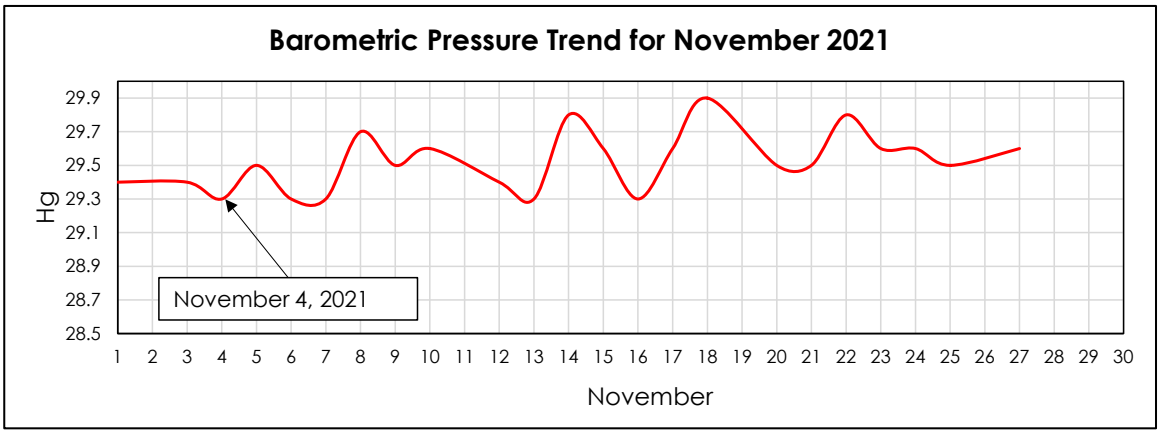
		Weather Conditions	
Monitored by:	R. Martinez	Sky Cover:	
Instruments:	GEM 2000	Wind / Rain / Snow:	
Calibration Date:	4-Nov-21	Temperature (^{o}F):	

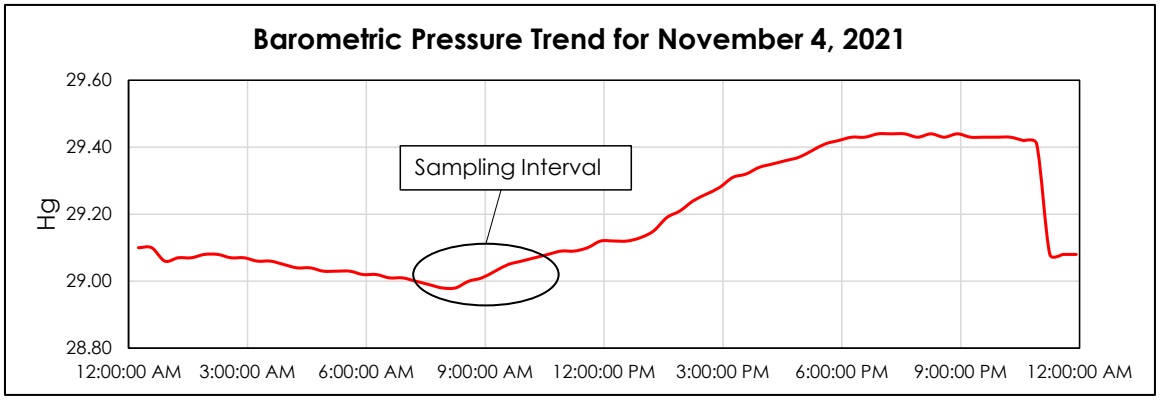
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - November 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-11

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-11-4

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4221002.02

PCRCD dba LRI

December 13, 2021

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Other
Gas Probes								
GP-1A	13-Dec-21	8:40	0.05	0.0	5.1	9.0	-	
GP-1B	13-Dec-21	8:43	0.03	0.0	5.3	14.2	-	
GP-1C	13-Dec-21	8:45	0.02	0.0	8.0	9.9	-	
GP-2A	13-Dec-21	8:48	0.04	2.0	14.8	1.9	-	
GP-2B	13-Dec-21	8:50	0.04	0.0	0.8	20.4	-	
GP-3S	13-Dec-21	8:55	0.06	0.0	2.5	16.4	-	
GP-3M	13-Dec-21	8:57	0.06	0.0	3.3	11.6	-	
GP-3D	13-Dec-21	8:59	0.59	0.0	5.2	11.5	-	
GP-4A	13-Dec-21	9:05	0.04	0.0	1.3	19.2	-	
GP-4B	13-Dec-21	9:07	0.10	0.0	0.6	20.6	-	
GP-5A	13-Dec-21	9:11	0.04	0.0	0.4	19.1	-	
GP-5B	13-Dec-21	9:13	0.05	0.0	0.4	20.0	-	
GP-6	13-Dec-21	9:17	0.05	0.0	0.3	20.6	-	
GP-7S	13-Dec-21	9:22	0.06	0.0	0.3	20.9	-	
GP-7D	13-Dec-21	9:25	0.06	0.0	0.5	20.3	-	
GP-8A	13-Dec-21	9:32	0.08	0.0	1.4	19.4	-	
GP-8B	13-Dec-21	9:34	0.07	0.0	0.7	20.5	-	
GP-9	13-Dec-21	9:39	0.09	0.0	4.4	13.0	-	
GP-10	13-Dec-21	9:44	0.09	0.0	0.4	21.0	-	
GP-11	13-Dec-21	9:48	0.09	0.0	6.0	7.2	-	
GP-12	13-Dec-21	9:53	0.09	0.0	4.6	12.6	-	
GP-13A	13-Dec-21	9:57	0.27	0.0	2.6	17.4	-	
GP-13B	13-Dec-21	9:59	0.17	0.0	1.2	19.5	-	
GP-14S	13-Dec-21	10:03	0.08	0.0	5.1	15.6	-	
GP-14D	13-Dec-21	10:05	0.09	0.0	6.3	8.2	-	
GP-15A	13-Dec-21	10:09	0.10	0.0	3.3	12.5	-	
GP-15B	13-Dec-21	10:11	0.10	0.0	13.0	1.6	-	
GP-16A	13-Dec-21	10:15	0.10	0.0	4.3	15.8	-	
GP-16B	13-Dec-21	10:17	0.24	0.0	4.7	15.7	-	
GP-17	13-Dec-21	10:23	0.14	0.0	3.1	18.1	-	
GP-18	13-Dec-21	10:28	0.11	0.0	2.3	19.1	-	
GP-19	13-Dec-21	10:32	0.10	0.0	0.5	20.8	-	
LFG-1							-	*Note 2*
LFG-2							-	*Note 2*
LFG-3							-	*Note 2*

General Data

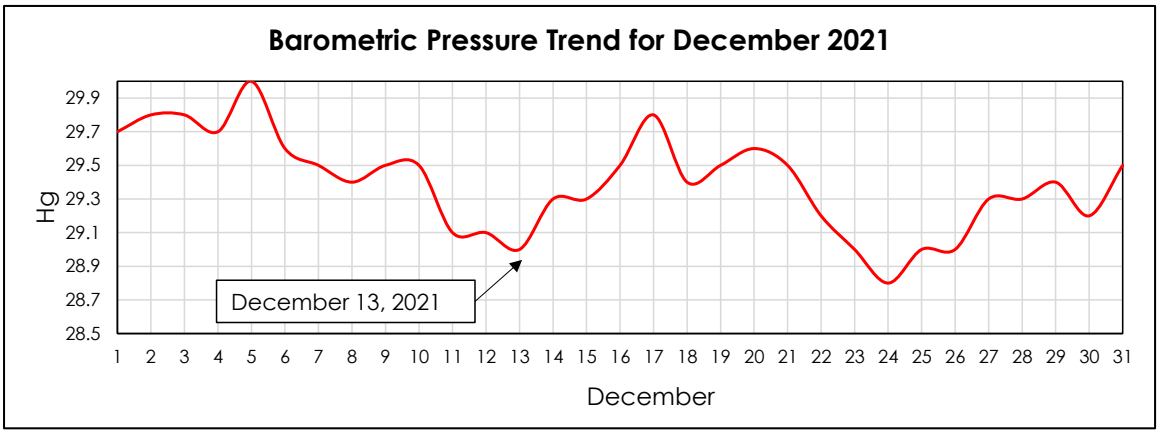
		Weather Conditions	
Monitored by:	T. Berndahl	Sky Cover:	
Instruments:	GEM 2000	Wind / Rain / Snow:	
Calibration Date:	13-Dec-21	Temperature (^{o}F):	

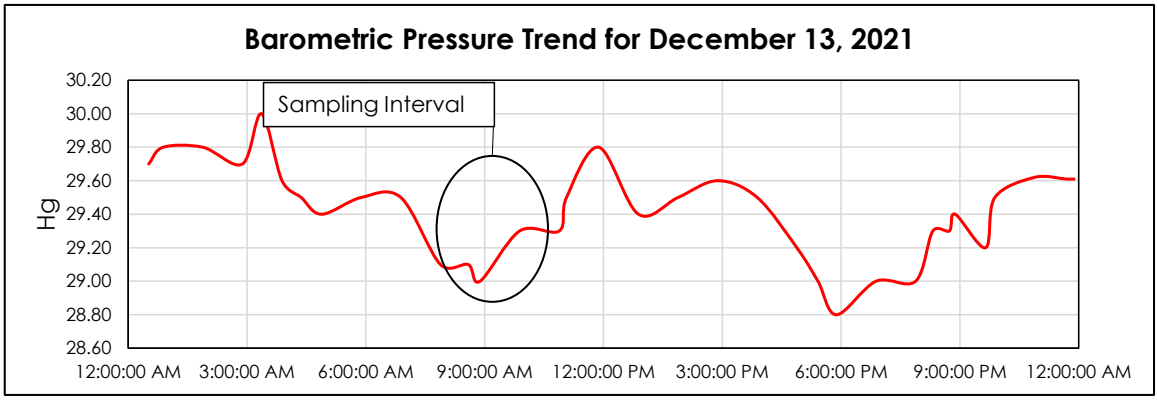
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling
2. Not monitored. Probe casing rusted shut.

GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - December 2021
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/monthly/us/wa/seatac/KSEA/date/2021-12

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.11 Long: 122.29 Elev: 591 ft-AMSL

Data Source: https://www.wunderground.com/history/daily/us/wa/seatac/KSEA/date/2021-12-13

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Date: 3/4/2021
Weather Conditions: Cloudy
Instrument: MicroFID
Measured By: Andres Lopez

The atmosphere inside buildings at the landfill were monitored for possible intrusion of methane gas. Per WAC 173-351, concentrations of methane in on-site structures must not exceed 25% of the lower explosive limit (LEL). If off-site gas migration is suspected, concentrations of methane in off-site structures must not exceed 100 ppm methane.

The areas monitored included:
- The general overall work area
- Floor drains
- Underground conduit protrusions
- Closed areas where landfill gas could collect, such as under cupboards and inside closets

The gas detection instrument must be calibrated using calibration gas containing methane equal to 50 % LEL. Calibration must be performed before and after the survey is completed.

Checked boxes indicate that the survey revealed **no detectable methane**.

- ☑ Main Office - individual office spaces, storage areas and within open crawl-space area.
- ☑ Repair Shop – survey atmosphere conditions throughout (lower height levels).
- ☑ Pay/Scale Booth – interior of building.
- ☑ Recycle Building – throughout facility and water drainage areas.
- ☑ Leachate Treatment Building – all lower level office spaces, restrooms, water drainage system and storage/equipment areas.
- ☑ Gas to Energy Building – central monitoring/control room, engine room and storage cabinets.
- ☑ Transfer Station Building – throughout entire building and lower levels.

Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Date: 5/7/2021
Weather Conditions: Cloudy
Instrument: MicroFID
Measured By: Andres Lopez

The atmosphere inside buildings at the landfill were monitored for possible intrusion of methane gas. Per WAC 173-351, concentrations of methane in on-site structures must not exceed 25% of the lower explosive limit (LEL). If off-site gas migration is suspected, concentrations of methane in off-site structures must not exceed 100 ppm methane.

The areas monitored included:
The general overall work area
Floor drains
Underground conduit protrusions
Closed areas where landfill gas could collect, such as under cupboards and inside closets

The gas detection instrument must be calibrated using calibration gas containing methane equal to 50 % LEL. Calibration must be performed before and after the survey is completed.

Checked boxes indicate that the survey revealed **no detectable methane**.

- ☒ * Main Office - individual office spaces, storage areas and within open crawl-space area.
- ☑ Repair Shop – survey atmosphere conditions throughout (lower height levels).
- ☑ Pay/Scale Booth – interior of building.
- ☑ Recycle Building – throughout facility and water drainage areas.
- ☑ Leachate Treatment Building – all lower level office spaces, restrooms, water drainage system and storage/equipment areas.
- ☑ Gas to Energy Building – central monitoring/control room, engine room and storage cabinets.
- ☑ Transfer Station Building – throughout entire building and lower levels.

* Main Office was closed during monitoring event.

Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Date: 7/15/2021
Weather Conditions: Cloudy
Instrument: MicroFID
Measured By: Andres Lopez

The atmosphere inside buildings at the landfill were monitored for possible intrusion of methane gas. Per WAC 173-351, concentrations of methane in on-site structures must not exceed 25% of the lower explosive limit (LEL). If off-site gas migration is suspected, concentrations of methane in off-site structures must not exceed 100 ppm methane.

The areas monitored included:
The general overall work area
Floor drains
Underground conduit protrusions
Closed areas where landfill gas could collect, such as under cupboards and inside closets

The gas detection instrument must be calibrated using calibration gas containing methane equal to 50 % LEL. Calibration must be performed before and after the survey is completed.

Checked boxes indicate that the survey revealed **no detectable methane**.

- ☑ Main Office - individual office spaces, storage areas and within open crawl-space area.
- ☑ Repair Shop – survey atmosphere conditions throughout (lower height levels).
- ☑ Pay/Scale Booth – interior of building.
- ☑ Recycle Building – throughout facility and water drainage areas.
- ☑ Leachate Treatment Building – all lower level office spaces, restrooms, water drainage system and storage/equipment areas.
- ☑ Gas to Energy Building – central monitoring/control room, engine room and storage cabinets.
- ☑ Transfer Station Building – throughout entire building and lower levels.

Signature

Hidden Valley Landfill
Quaterly Interior Monitoring of On-site Buildings for Methane

Date: 10/14/21
Weather Conditions: Cloudy
Instrument: Micro FID
Measured By: R. Martinez

The atmosphere inside buildings at the landfill were monitored for possible intrusion of methane gas. Per WAC 173-351, concentrations of methane in on-site structures must not exceed 25% of the lower explosive limit (LEL) (625 ppm methane or 1.25% of methane per volume). If off-site gas migration is suspected, concentrations of methane in off-site structures must not exceed 100 ppm methane.

The areas monitored included:

- Cabinetry
- Electrical outlets
- Floor drains
- General work area
- Sink drains

The gas detection instrument must be calibrated using calibration gas containing methane equal to 50 % LEL. Calibration must be performed before and after the survey is completed.

Checked boxes indicate that the survey revealed **no detectable methane**.

- [x] Main Office
- [x] Repair Shop
- [x] Pay/Scale Booth
- [x] Recycle Building
- [x] Leachate Treatment Building
- [x] Gas to Energy Building
- [x] Transfer Station Building

Signature

Appendix B

LEACHATE TREATMENT &

SIDE-SLOPE LINER SYSTEM DATA

Table 1. 2021 Main Sump and Side-Slope Liner Area Performance Data
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Month	Main Sump Monthly Leachate Volume - Cell 1 (gallons)	Side-Slope Sump Monthly Leachate Volume - Cell 2 (gallons)	Side-Slope Sump Monthly Leakage Flow[a] - Cell 2 (gallons/month)	Monthly Rainfall (inches)
January	8,001	1,201	0	10.10
February	16,223	0	0	7.35
March	3,994	0	0	3.65
April	43,388	0	0	2.25
May	17,368	0	0	3.85
June	0	0	0	3.90
July	4,173	0	0	0.00
August	0	0	0	0.65
September	12,467	0	0	6.05
October	8,048	0	0	10.00
November	812	2,759	1,525	13.35
December	20,334	1,085	0	14.45
Year to date:	134,808	5,045	1,525	75.60

Notes:

a = Leakage is fluid pumped from the leak detection sump as recorded by LRI staff.

LEACHATE DAILY LOG #2

Month: JANUARY 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC-HRS	D-AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN-P	BLW A/B	E-PH	DAILY EFFLUENT
1	12	2441385	1977075	71319	71	.50	2184	4920	143792	927584	313210	1628	36039	723	32584
2	12	2473028	2009659	71343	71	1.65	2164	4922	11	11	314818	1585	36061	720	32584
3	12	2506632	2042244	71367	71	.5	2174	4924	11	11	320041	1589	36084	720	32584
4	12	2539090	2074828	71391	71	0.6	2188	4927	11	11	322352	1671	36106	717	32584
5	12	2572144	2107411	71411	71.5	0.4	2201	4935	143792	927584	324922	1579	36122	7.08	32584
6	12	2605085	2139995	71435	71.5	0.4	2214	4944	143792	927584	324922	1570	36156	7.17	32584
7	12	2638582	2172242	71459	71.5	.75		4949	143792	927584	326592	1580	36179	7.17	32584
8	12	2672784	2205165	71487	72	.35	2235	4953	11	11	328928	1605	36196	713	32584
9	12	2704531	2237748	71511	72	0	2265	4956	11	11	329580	1595	36219	711	32584
10	12	2737445	2270333	71535	72	.2	2275	4961	11	11	11	1579	36241	709	32580
11	12	2770410	2302914	71559	72	1.4	2279	4963	11	11	11	1626	36264	711	32584
12	12	2804044	2335496	71583	193	0.8	23.00	4969	143792	927584	329580	1627	36279	7.13	32584
13	12	2837341	2368095	71607	195	04	2312	4971	143792	927584	329580	1456	36309	7.15	32584
14	12	2871350	2400677	71631	193.1	.25	22.38	4976	143792	927584	329580	1596	36314	7.19	32584
15	12	2904044	2433249	71655	69	.25	2248	4984	144461	934092	11	1586	36354	716	32584
16	12	2936327	2465832	71679	69	.05	2245	4986	11	11	11	1586	36376	712	32584
17	12	2968318	2498416	71703	69	.15	2294	4992	11	11	11	1588	36399	716	32584
18	12	3001368	2530999	71727	69	.0	2279	4994	11	11	11	1606	36421	716	32584
19	12	3036296	2563585	71759	69.7	.0	2250	4999	144461	934092	329580	1616	38006	716	32584
20	12	3070006	2596183	71783	69.5	.05	2257	5003	144461	934092	329580	1605	36473	716	32584
21	12	3103690	2628753	71799	68	.05	2258	5007	144993	11	11	1596	36476	720	32584
22	12	3135769	2661336	71823	68	.3	2269	5012	11	935585	11	1548	38399	716	32584
23	12	3170032	2693922	71847	68	0	2277	5014	11	11	11	1556	38421	720	32584
24	12	3204035	2726505	71871	68	.25	2283	5018	11	11	11	1590	38444	725	32584
25	12	3236591	2759090	71895	69	0	2288	5022	11	11	11	1531	38466	728	32584
26	12	3270040	2791686	71925	69.2	.0	23.00	5024	144993	935585	329580	1531	38496	7.31	32584
27	12	3302498	2824257	71949	70.3	.2	23.12	5030	144993	935585	329580	1515	38506	7.31	32584
28	12	3335102	2856842	71967	71	.25	2330	5032	11	11	11	1547	38534	728	32584
29	12	3367434	2889425	71991	68	0	2310	5039	11	11	11	1546	38556	729	32584
30	12	3400296	2922010	72015	68	.1	2311	5043	11	11	11	1537	38579	723	32584
31	12	3434239	2954593	72039	68	.25	2316	5045	144993	935585	329580	1556	38601	721	32584
						10.1		5050	1,201	8,001					

LEACHATE DAILY LOG #2

Month: FEB 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC-HRS	D-AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN P	BLW A/B	E-PH	DAILY EFFLUENT
1	12	3466137	2987178	72062	69	.2	2310	5050	144993	935585	329580	1576	38624	724	32584
2	12	3506137	3019776	72086	69	.4	2334	5056	144993	935584	329580	1520	38659	7.27	32584
3	12	3532689	3052346	72110	69	.2	2333	5058	144995	935385	329580	1469	38662	7.31	32584
4	12	3565626	3084942	72134	69	.25		5062	144993	935585	329580		38696	7.33	32584
5	12	3599597	3117514	72157	70	.05	2404	5066	"	"	"	1590	38714	730	32584
6	12	3631925	3150096	72181	70	.05	2406	5071	"	"	"	1567	38736	728	32584
7	12	3666290	3182682	72205	70	.05	2411	5075	"	"	"	1542	38758	728	32584
8	12	3698607	3215266	72229	70	.0	2376	5077	"	"	"	1543	38781	723	32584
9	12	3731750	3247863	72253	70.3	.0	2361	5079	144993	935585	329580	1534	38809	7.24	32584
10	12	3765442	3280446	72282	70.2	.0	2369	5084	144993	935585	329580	1538	38810	720	32584
11	12	3800611	3213020	72302	70.2	.1	2277	5088	144993	940988	329580	1566	38854	7.23	32580
12	12	3832681	3345600	72324	70	.2	2309	5092	"	"	"	1537	38871	716	32584
13	12	3867200	3377950	72348	70	.4	2315	5098	"	"	"	1616	38893	720	32584
14	12	3899555	3410465	72372	off	.2	2323	5100	"	"	"	1555	38916	713	32584
15	12	3933746	3443051	72395	70	.6	2295	5102	"	943615	"	1579	38939	715	32584
16	12	3966533	3475647	72419	70.6	.0	2368	5106	144993	943615	329580	1517	38954	7.15	32584
17	12	4001138	3508218	72443	70.9	1.0	2366	5114	144993	943615	329580	1521	38983	7.18	32584
18	12	4033290	3540802	72466	71	.25	2365	5118	"	"	"	1559	39006	696	32584
19	12	4067338	3573386	72490	73	.50	2304	5122	"	"	"	1534	39028	704	32584
20	12	4099945	3605970	72514	72	.25	2310	5128	"	"	"	1538	39051	709	32584
21	12	4134080	3638553	72538	72	.5	2315	5130	"	"	"	1557	39073	699	32584
22	12	4168086	3671139	72562	74	.0	2324	5132	"	"	"	1565	39096	7.10	32584
23	12	4201172	3703721	72591	74.3	.0	2351	5136	144993	943615	329580	1572	39124	699	32584
24	12	4235160	3736315	72617	70.6	1.25	2377	5142	144993	943615	329580	1581	29147	7.12	32584
25	12	4268653	3768889	72633	71	.5	2395	5146	"	947888	"	1592	39163	698	32584
26	12	4301892	3801473	72657	71	.15	2398	5152	"	"	"	1610	39186	696	32584
27	12	4334995	3834059	72681	72	.05	2277	5154	"	"	"	1524	39208	700	32584
28	12	4368369	3866642	72715	72	.2	2203	5160	144993	951808	329581	1550	39231	705	32584
29															
30															
31															
						7.35		5164		0			16,223		

LEACHATE DAILY LOG #2

Month: MARCH 2021
Year: _____

Cell 1: 2128 = 951808

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC-HRS	D-AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN P	BLW A/B	E-PH	DAILY EFFLUENT
1	12	4401772	3899225	72728	73	.2	2197	5164	144993	952070	329581	1579	39253	698	32584
2	12	4435491	3931824	72752	73	.0	2198	5163	144994	952070	329581	1585	39281	7.13	32584
3	12	4468467	3964391	72752	72.3	.0	22.05	5174	144993	952070	329581	1585	39298	7.17	32584
4	12	4502663	3996987	72776	72.3	.125	22.45	5180	144993	952070	329581		39312	7.16	32584
5	12	4537315	4029562	72823	73	.125	2268	5186	11	952070	11	1627	39343	710	32584
6	12	4571343	4062147	72847	73	0	2271	5190	11	11	11	1581	39366	704	32584
7	12	4603536	4094730	72871	73	0	2276	5194	11	11	11	1544	39388	705	32584
8	12	4636331	4127314	72895	73	.0	2276	5199	11	11	11		39411	715	32584
9	12	4670955	4159894	72919	73.2	.0	22.73	5203	144993	952070	329582	1553	39433	7.11	32584
10	12	4702598	4192482	72943	73.2	.0	2272	5209	144993	952070	329582	1553	39448	7.12	32584
11	12	4738086	4225064	72967	73.3	.15	22.84	5213	144993	952070	329583	1554	39465	724	32584
12	12	4769462	4257652	72990	75	0	2299	5217	11	11	11	1539	39501	721	32584
13	12	4804269	4290236	73014	74	0	2306	5219	11	11	11	1557	39523	729	32584
14	12	4835556	4322819	73038	74	.35	2310	5225	11	11	11	1568	39546	726	32584
15	12	4868978	4355404	73061	74	.0	2339	5227	11	11	329982	1534	39567	729	32584
16	12	4902029	4388121	73085	74.5	0	2333	5331	144993	952070	329582	1545	39753	7.32	32584
17	12	4934570	4420790	73109	74.6	.05	2333	5237	144993	952070	329582	1548	39605	7.29	32584
18	12	4967802	4453156	73133	74	.2	2338	5239	11	11	11	1584	39635	726	32584
19	12	5000899	4485739	73157	72	0	2337	5243	11	11	11	1541	39657	727	32584
20	12	5034355	4518325	73181	72	.1	2341	5249	11	11	11	1538	39680	725	32584
21	12	5065357	4550907	73205	72	.2	2346	5251	11	11	11	1555	39702	728	32584
22	12	5100123	4583491	73229	72	.2	2349	5253	11	11	11	1605	39725	729	32584
23	12	5130987	4616075	73253	72.3	.0	off	5257	144993	952080	329582	"	39747	7.32	32584
24	12	5164142	4648660	73277	72.0	1.1	off	5261	144993	954736	329582	"	39769	7.25	32584
25	12	5198281	4681244	73301	74	.3	off	5267	11	955802	11	off	39792	728	32584
26	12	5228979	4713826	73325	73	.05	off	5271	11	11	11	off	39814	722	32584
27	12	5262386	4746410	73349	73	0	11	5277	11	11	11	4	39837	727	32584
28	12	5295366	4778995	73373	73	.5	4	5281	11	11	11	11	39859	722	32584
29	12	5327781	4811579	73397	74	0	11	5287	11	11	11	11	39882	726	32584
30	12	5360860	4844163	73420	74	.0	11	5291	11	11	11	11	39904	728	32584
31	12	5393487	4876745	73444	72.9	0	11	5295	144993	955802	329582	11	39920	7.29	32584
						3.65		5299		0	3,994				

LEACHATE DAILY LOG #2

Month: APRIL 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S SL	CELL1	TS/GL	TRAN P.	BLW A/B	E PH	DAILY EFFLUENT
1	12	5429179	4909385	73468	73.2	0		5299	144995	955802	329982		39949	7.24	32584
2	12	5460384	4941916	73492	74	0		5303	11	956818	11		39972	724	32584
3	12	5493887	4974500	73516	74	0		5305	11		11		39994	726	32584
4	12	5527106	5007084	73539	74	0		5309	11	958958	11		40017	727	32584
5	12	5559445	5039667	73563	74	.0		5311	11		11		40039	728	32584
6	12	5592464	5072251	73587	75.3	.0		5313	144993	961043	329982		40045	7.32	24228
7	12	5617424	5096491	73611	75.4	.4		5317	144993		329982		40076	7.37	32584
8		5652038	5129062	73635	75.7	0		5319	144993		329982		40112	7.39	32584
9	12	5683507	5161647	73658	75	.25	23.7	5323	11	963221	11	1560	40129	735	32584
10	12	5717398	5194232	73682	75	0	23.6	5325	11	965133	11	1559	40152	730	32584
11	12	5750270	5226816	73705	72	.2	23.0	5327	11	969284	329982	1544	40174	723	32584
12		5782657	5259412	73729	65.7	.0	22.5	5329	144993	973004	329982	15.51	40180	7.27	32584
13		5818187	5291982	73753	66.9	.0	22.5	5335	144993	973004	329982	15.51	40212	7.27	32584
14		5850687	5324558	73777	66.8	0	21.6	5339	144993	975304	329982	15.53	40247	7.28	32584
15	12	5884557	5357152	73801	65	0	21.4	5342	11	980241	11	1545	40264	723	32584
16	12	5916873	5389736	73824	66	0	20.5	5351	11	985205	11	1528	40287	727	32584
17	12	5950980	5423321	73848	66	0	20.6	5355	11	11	11	1539	40309	720	32588
18	12	5983174	5454906	73872	70	0	20.7	5359	11	11	11	1550	40331	729	32584
19	12	6018088	5487493	73896	69	0	20.7	5361	11	11	11	1528	40354	732	32584
20	12	6051021	5520074	73920	69.	.7	20.5	5367	144993	985205	329982	1524	40382	736	32584
21	12	6083701	5552662	73944	69.	0	20.0	5371	144993	989300	329982	15.37	40404	7.33	32584
22	12	6117142	5585245	73968	71	0	20.1	5375	11	11	11	1517	40421	730	32584
23	12	6150459	5617829	73992	71	0	19.4	5380	11	993041	11	1535	40444	736	32584
24	12	6183903	5650413	74016	71	.5	19.5	5382	11	11	11	1553	40466	733	32584
25	12	6214913	5682996	74040	70	.5	19.6	5386	11	11	11	1551	40489	735	32584
26	12	6248073	5715581	74064	71	.2	19.6	5390	11	11	11	1533	40511	734	32584
27	12	6280467	5748163	74088	71.5	.0	19.6	5392	144993	993041	329982	1533	40529	730	32584
28	12	6315855	5780750	74104	71.5	.0	19.1	5394	144993	995682	329982	1541	40564	730	32584
29		6348969	5813335	74128	71.5	.0	19.2	5399	144993	995682	329982	1543	40584	7.21	32584
30	12	6380557	5845915	74152	71	.2	18.6	5401	144993	999190	329982	1540	40601	731	32584
31								5405							

2.25 0 43,388

LEACHATE DAILY LOG #2

Month: MAY 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM S11	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN P.	BLW A/B	E PH	DAILY EFFLUENT
1	12	6415200	5878500	74184	71	0	19.0	5405	144993	999190	329982	15.47	40624	729	32584
2	12	6448241	5911086	74208	67	0	18.7	5407	〃	〃	〃	15.37	40646	731	32584
3	12	6479488	5943669	74232	67	.2	18.8	5409	〃	〃	〃	15.44	40669	726	32584
4	12	6514030	5985626 4	74256	79.0	.0	18.8	5411	144993	999190	329982	15.27	40669	7.29	32584
5	12	6546272	6008852	74280	69.5	.0	18.8	5416	144993	1003550	329982	15.27	40779	7.25	32584
6	12	6586079	6041426	74304	71.1	.25	17.2	5418	144993	1003550	329982	15.30	40779	7.27	32584
7	12	6612879	6074004	74328	72	.30	16.8	5420	〃	1008476	〃	1540	40759	729	32584
8	12	6645754	6106589	74352	73	0	16	5424	〃	1011582	〃	1539	40781	729	32584
9	12	6679452	6139174	74376	75	0	16.1	5427	〃	〃	〃	1567	40804	731	32584
10	12	6713197	6171757	74400	74	.0	16.6	5436	〃	〃	〃	1555	40826	733	32584
11	12	6745412	6204341	74424	75.1	.0	15.6	5432	144993	1011582	329982	1555	40834	7.35	32584
12	12	6778128	6236946	74448	75.0	0	15.3	5434	144993	1015132	330313	15.55	40876	7.37	32584
13	12	6812217	6269509	74472	75	0	15.4	5438	〃	〃	〃	1542	40894	736	32584
14	12	6845092	6302094	74496	74	0	15.5	5440	〃	〃	〃	1551	40916	738	32584
15	12	6877445	6334678	74520	78	0	15.1	5443	〃	1016558	〃	1546	40939	737	32584
16	12	6911894	6367262	74544	78	0	15.2	5445	〃	〃	〃	1556	40961	736	32584
17	12	6944925	6399847	74568	78	.4	15.3	5447	〃	〃	〃	1540	40977	733	32584
18	12	6976791	6432432	74592	79.9	.8	15.3	5451	144993	1016558	330313	15.70	40989	7.37	32584
19	12	7010581	6465014	74616	79.9	.45	15.5		144993	1016558	330313	1577	41021	7.37	32584
20	12	7043865	6497598	74640	71	0	15.6	5457	〃	〃	〃	1555	41051	735	32584
21	12	7076204	6530182	74664	72	0	15.7	5462	〃	〃	〃	1562	41073	733	32584
22	12	7109530	6562766	74687	72	0	16	5472	〃	〃	〃	1550	41096	730	32584
23	12	7143109	6595351	74711	73	0	15.8	5474	〃	〃	〃	1545	41118	731	32584
24	12	7174645	6627933	74735	73	.0	15.9	5478	〃	〃	〃	1553	41141	731	32584
25	12	7208444	6660520	74759	73	.2	16.0	5480	144993	1016558	330333	15.42	41141	7.30	32584
26	12	7241469	6693103	74783	73	.4	16.0	5482	144993	1016558	330333	15.42	41161	7.30	32584
27	12	7274409	6725686	74825	73.0	.80	16.1	5484	144993	1016558	330333	1545	41202	730	32584
28	12	7307378	6758270	74831	73	.05	16.2	5488	〃	〃	〃	1522	41231	732	32584
29	12	7340785	6790855	74855	75	0	16.3	5490	〃	〃	〃	1564	41253	732	32584
30	12	7372214	6823438	74879	74	0	16.4	5494	〃	〃	〃	1540	41276	728	32584
31	12	7404964	6856021	74903	73	0	16.4	5497	144993	1016558	330333	1555	41294	733	32584
						3,85		5501	0	17,368					

LEACHATE DAILY LOG #2

Month: June
Year: 2021

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN PT	BLW A/B	E-PH	DAILY EFFLUENT
1	12	7437679	6888606	74932	73.9	.0	16.4	5501	144993	1016558	330333	1555	41326	7.34	32584
2	12	7482513	6921252	74956	73.9	.0	16.4	5505	144993	1016558	330333	1555	41348	7.40	32584
3	12	7504096	6954057	74980	73.9	.0	16.6	5505	144993	1016558	330333	1555	41371	7.35	32584
4	12	7536463	6986347	75004	78.8	.2	16.8	5510	144993	1016558	330333	1544	41382	7.40	32584
5	12	7569468	7018956	75028	79.9	.2	16.8	5517	144993	1016558	330333	1529	41416	7.39	32584
6	12	7602803	7051545	75052	79.9	.0	16.8	5521	144993	1016558	330333	15.29	41427	7.37	32584
7	12	7636634	7087112	75076	80.2	.0	16.9	5523	144993	1016558	330333	15.30	41461	7.31	32584
8	12	7669086	7116690	75100	77.4	.0	16.9	5525	144993	1016558	330333	15.30	41483	7.42	32584
9	12	7702299	7149237	75124	77.6	.0	17.1	5527	144993	1016558	330333	15.43	41506	7.43	32584
10	12	7735030	7181865	75148	68.0	.0	17.1	5529	144993	1016558	330333	1543	41515	7.33	32584
11	12	7769013	7214440	75172	69.4	.6	17.2	5535	144993	1016558	330333	15.64	41551	7.37	32584
12	12	7800551	7247031	75196	68.9	1.0	17.3	5538	144993	1016558	330333	15.65	41574	7.24	32584
13	12	7833844	7279735	75220	69.3	.6	17.4	5540	144993	1016558	330333	15.65	41574	7.29	32584
14	12	7865732	7312200	75244	69.9	.0	17.4	5543	144993	1016558	330333	1539	41618	7.30	32584
15	12	7899290	7302312	75268	68.0	.0	17.4	5548	144993	1016558	330333	15.39	41576	7.30	32584
16	12	7931833	7379364	75292	69.0	.5	17.5	5552	144993	1016558	330333	1540	41664	7.33	32584
17	12	7964590	7409950	75311	69	0	17.7	5554	〃	〃	〃	1564	41681	730	24640
18	12	7987624	7434585	75335	69	0	17.8	5558	〃	〃	〃	1552	41703	739	32584
19	12	8020510	7467171	75359	69	0	17.8	5562	〃	〃	〃	1547	41725	723	32584
20	12	8052936	7499757	75383	69	0	17.9	5564	〃	〃	〃	1540	41748	728	32584
21	12	8085972	7532339	75407	69	.0	17.9	5566	〃	〃	〃	1558	41771	720	32584
22	12	8117595	7564923	75431	69.0	.0	17.9	5570	144993	1016558	330333	1558	41798	7.31	32584
23	12	8151686	7597502	75455	69.0	.0	18.0	5575	144993	1016558	330333	1540	41798	7.35	32584
24	12	8182065	7630107	7547		0	18.0	5578	144993	1016558	330333	1540	41821	7.29	32584
25	12	8214313	7662676	75502	58	0	18.1	5580	〃	〃	330800	1546	41860	726	32584
26	12	8245842	7695260	75526	58	0	18.1	5584	〃	〃	〃	1552	41883	730	32584
27	12	8278516	7727844	75550	59	0	18.1	5586	〃	〃	〃	1556	41905	730	32584
28	12	8310683	7760440	75570	63	.0	18.1	5588	〃	〃	〃	1550	41921	730	26616
29	12	8337567	7786682	75594	65.4	.0	18.1	5590	144993	1016558	330800	1550	41946	7.30	32584
30	12	8371520	8249640	75618	65.2	0	18.1	5594	144993	1016558	330800	1554	41978	7.30	32584
31								5603							

3.9 0 0

LEACHATE DAILY LOG #2

Month: July 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	WS-SL	SCELL1	TS/GL	TRAN P	BLW A/B	E-PH	DAILY EFFLUENT
1		8406170	7851074	75640	65.2	.6	18.5	5603	144993	1016558	330800	15.41	42003	7.29	32584
2	12	8438460	7884796	75658	68	0	18.6	5605	"	"	"	1548	42018	730	32584
3	12	8471610	7917379	75682	68	0	18.6	5616	"	"	"	1552	42040	730	32584
4	12	8502806	7949963	75706	68	0	18.7	5635	"	"	"	1546	42063	730	32584
5	12	8534974	7982547	75730	69	.0	18.7	5639	"	"	"	1551	42085	730	32584
6	12	8568804	8015153	75736	65.7	.0	18.9	5641	144993	1016558	330800	15.58	42107	7.30	32584
7	12	8601494	8048879	75760	66.2	.0	18.9	5648	144993	1016558	330800	15.39	42124	7.30	32584
8	12	8632860	8080366	75779	66.2	.0	18.9	5651	144993	1016558	330800	15.39	42158	7.30	32584
9	12	8666558	8113191	75803	66.2	.0	18.9	5654	144993	1016558	330800	15.39	42179	7.30	32584
10	12	8700702	8145587	75827	66.2	.0	18.9	5658	144993	1016558	330800	15.34	42182	7.30	32584
11	12	8735132	8178054	75851	67.5	.0	19.0	5663	144993	1016558	330800	15.34	42204	7.30	32584
12	12	8767878	8210630	75875	67.5	.0	19.2	5665	144993	1016558	330800	15.34	42228	7.30	32584
13	12	8801712	8243338	75899	67.5	.0	19.2	5670	144993	1016558	330800	15.34	42270	7.30	32584
14	12	8835120	8275812	75923	67.5	0	19.2	5677	144993	1016558	330850	15.35		7.30	32584
15	12	8867106	8308388	75942	71	0	19.4	5681	"	"	331464	1537	42310	730	32584
16	12	8900472	8340973	75966	71	0	19.4	5684	"	"	"	1545	42333	730	32584
17	12	8933886	8373557	75989	71	0	19.5	5686	"	"	"	1555	36488	730	32584
18	12	8969650	8406142	76013	70	0	19.5	5688	"	"	"	1539	36511	730	32584
19	12	9001352	8438726	76037	71	.0	19.5	5693	"	"	"	1543	36533	730	32584
20	12	9035174	8471300	76061	71	.0	19.5	5697	144993	1020731	331466	15.43	36561	7.30	32584
21	12	9068092	8503911	76085	71.5	.0	19.6	5699	144993	1020731	331466	15.45	36561	7.30	32584
22	12	9102722	8536544	76109	71.6	0	18.6	5703	144993	1020731	331466	15.45	36608	7.30	32584
23	12	9134560	8569062	76133	73	0	18.8	5705	"	"	331563	1535	36623	730	32584
24	12	9169676	8601648	76157	73	0	18.8	5707	"	"	"	1558	36646	730	32584
25	12	9202724	8634230	76181	73	0	18.9	5710	"	"	"	1553	36668	730	32584
26	12	9235148	8666814	76205	72	.0	18.9	5715	"	"	"	1547	36691	730	32584
27	12	9267171	8699402	76229	72	.0	18.9	5718	144993	1020731	331563	1547	36721	730	32584
28	12	9300344	8731987	76253	72	.0	18.9	5721	144993	1020731	331563	1547	36743	730	32584
29	12	9334690	8764592	76277	72	0	19.0	5726	144993	1020731	331563		36763	730	32584
30	12	9364218	8797150	76301	69	0	19.1	5729	"	"	331589	1554	36781	730	32584
31	12	9396426	8829734	76325	69	0	19.1	5732	144993	1020731	331589	1551	36803	730	32584
						0		5736		0					4,173

LEACHATE DAILY LOG #2

Month: Aug 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	LB LVL	GP HRS	S SL	CELL	TS/GL	TRAN P	BLW A/B	E PH	DAILY EFFLUENT
1	12	9429446	8862318	76349	69	0	19.2	5736	144993	1020731	331589	1542	36826	730	32584
2	12	9461688	8894902	76373	69	.0	19.3	5738	"	"	"	1535	36848	730	32584
3	12	9492582	8927606	76397	70.0	.0	19.3	5743	144993	1020731	331589	15.35	36878	7.30	32584
4	12	9524896	8960090	76421	70.0	.0	19.5	5745	144993	1020731	331589	1550	36893	7.30	32584
5	12	9557680	8992682	76445	70.0	.0	19.5	5755	144993	1020731	331589	15.50	36878	7.30	32584
6	12	9591264	9025260	76469	[illegible]	.0	19.5	5757	[illegible]	[illegible]	[illegible]	15.50	36921	7.30	32584
7	12	9622634	9058640	76493	70.2	.2	19.5	5761	144993	1020731	331589	15.50	36966	7.30	32584
8	12	9657154	9090418	76517	70.2	.0	19.2	5765	144993	1020731	331589	15.50	36946	7.30	32584
9	12	9689318	9123004	76541	70.2	.0	19.2	5767	144993	1020731	331589	15.50	36941	7.30	32584
10		9721702	9157060	76565	70.2	.0	19.2	5771	144993	1020731	332483	15.50	37033	7.30	32584
11		9753588	9188156	76589	70.2	0	19.7		144993	1020731	332483	1552		7.30	32584
12	12	9785614	9220742	76606	69	0	19.8	5777	"	"	"	1557	37073	730	32584
13	12	9818474	9253326	76629	70	0	19.8	5781	"	"	"	1544	37095	733	32584
14	12	9851004	9285950	76653	70	0	19.8	5783	"	"	"	1534	37118	733	32584
15	12	9884412	9318496	76677	70	0	19.9	5786	"	"	"	1556	37141	729	32584
16	12	9916934	9351078	76701	69	.0	20.1	5788	"	"	"	1567	37163	729	32584
17	12	9947876	9383664	76725	69	.0	20.1	5793	144993	1020731	332483	1567	37175	735	32584
18	12	9980930	9417258	76749	70.4	.0	20.1	5791	144993	1020731	332489	1567	37191	7.31	32584
19	12	14037	9448828	76763	70.0	.0	20.1	5798	144993	1020731	332489	1567	37216	7.31	32584
20	12	47423	9481220	76787	69.3	.0	20.3	5802	144993	1020731	332489	1561	37214	7.29	32584
21	12	80624	9513496	76811	69.7	.0	20.3	5804	144993	1020731	333221	15.53	37201	7.29	32584
22	12	113595	9546584	76835	69.8	.0	20.3	5806	144993	1020731	333221	15.53	37281	7.28	32584
23	12	146747	9579174	76859	69.9	.0	20.3	5811	144993	1020731	333221	15.53	37281	7.29	32584
24	12	178651	9611748	76883	70.7	.0	20.3	5816	144993	1020731	333594	15.53	37329	7.22	32584
25	12	211552	9643964	76907	70.4	.4	20.5	5818	144993	1020731	333594	15.45	37351	7.25	32584
26	12	244111	9676940	76931	71.2	.05	20.5	5823	144993	1020731	333594		37393	7.22	32584
27	12	276037	9709500	76964	71.8	0	20.6	5825	"	"	333799	1551	37410	722	30656
28	12	3069940	9740156	76988	71	0	20.7	5827	"	"	333835	1561	37433	722	32584
29	12	339678	9772738	77012	71	0	20.7	5830	"	"	333938	1564	37455	722	32584
30	12	372059	9805326	77036	70	.0	20.8	5836	"	"	334294	1554	37478	722	32584
31	12	404701	9837908	77060	71.5	.0	20.7	5838	144993	1020731	334294	1554	37506	7.22	32584
								5843							
						0.65									

LEACHATE DAILY LOG #2

337

Month: SEPT 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	LR LVL	GP HRS	S SL	CELL1	TS/GL	TRAN P	BLW A/B	E PH	DAILY EFFLUENT
1	12	436231	9870498	77084	71.2	0	20.9	5843	144993	1026731	334284	15.53	37509	7.22	32584
2	12	466716	9903078	77108	71	0	20.9	5845	"	"	"	1544	37545	721	32584
3	12	500103	9935660	77132	71	0	21.0	5850	"	"	"	1552	37568	722	32584
4	12	532851	9968244	77156	71	0	21	5853	"	"	"	1567	37590	722	32584
5	12	564270	825.535	77180	71	0	21	5856	"	"	"	1557	37613	723	32584
6	12	596976	33408.8	77204	72	.0	21	5859	"	"	"	1548	37635	722	32584
7		627396	66228	77228	72	.0	21.1	5862	144993	1026731	334284	15.55	37657	722	32584
8		660754	9857.7	77252	72	0	20.4	5867	144993	1023915	334294	15.35	37657	7.22	32584
9	12	691416	131159	77276	70	0	19.7	5873	"	1028025	"	1576	37703	722	32584
10	12	724455	163744	77300	70	0	19.7	5876	"	"	"	15,45	37726	722	32584
11	12	756797	196328	77324	70	0	19.8	5878	"	"	"	1537	37748	722	32584
12	12	788019	228912	77348	70	.05	19.9	5883	"	"	"	1563	37770	722	32584
13	12	820692	261495	77372	70	.0	19.9	5886	"	"	"	1556	37793	722	32584
14	12	853181	294082	77396	70	.0	19.9	5889	144993	1028085	334294	15.56	37782	7.22	32584
15	12	886451	326665	77420	70.0	.0	20.1	5893	144993	1028085	334294	15.56	37838	7.23	32584
16	12	919829	359265	77452	70.2	0	20.1	5895	144993	1028085	334294	15.52	37865	7.22	32584
17	12	951668	391833	77468	70	.65	20.2	5897	"	"	"	1577	37883	723	32584
18	12	985640	424417	77492	70	.75	20.2	5902	"	"	"	1464	37905	722	32584
19	12	1017803	457001	77516	70	.8	20.3	5907	"	"	"	1548	37927	722	32584
20	12	1049569	489584	77540	70	.4	20.3	5909	"	"	"	1528	37950	722	32584
21		1083471	522168	77564	70.2	.0	20.4	5914	144993	1028085	334295	1528	37973	7.22	32584
22		1116559	554810	77584	70.0	.8	20.4	5919	144993	1028085	334295	15.14	37911	7.22	32584
23		1149523	587336	77612	70.0	.0	20.4	5924	144993	1028085	334295	15.14	38018	7.22	32584
24		1183081	632436	77633	70.0	.0	20.4	5928	144993	1028085	334295	15.14	38032	7.22	32584
25		1215182	653535	77660	61.2	.0	20.4	5933	144993	1028085	334295	15.14	38056	7.22	32584
26		1248871	685115	77692	63.0	.6	20.6	5939	144993	1028085	334295	15.61	38070	7.22	32584
27		1282710	717673	77713	61.5	.8	20.6	5939	144993	1028085	334295	15.61	38101	7.22	32584
28		1314408	750256	77736	61.2	.4	20.7	5945	144993	1028085	334295	15.43	38135	7.22	32584
29		1347710	782838		60.3	.1		5952	144993	1028085	334295		38154	7.22	32584
30		1379268	815424	77780	62	.6	19.7	5959	144993	1033198	334947	1567	38175	722	32584
31								5964							

6.05 0 12,467 6.5

LEACHATE DAILY LOG #2

Month: OCT 2021
Year:

9/30/21 = 1033198

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN P.	BLW A/B	E-PH	DAILY EFFLUENT
1	12	1412829	848009	77804	62	0	18.8	5964	144993	1037430	336381	15.43	38197	722	32584
2	12	1447308	880593	778 28	62	0	18.9	5968	"	"	336506	1557	38220	722	32584
3	12	1480364	913179	778 52	62	0	19	5974	"	"	336719	1558	38242	722	32584
4	12	1513 194	945760	778 75	08	.0	19	5976	"	1037700	336912	1575	38264	722	25640
5	12	1538938	971399	77896	70.3	.8	18.2	5981	144993	1041246	336981	1534	38287	7.22	32584
6	12	1570340	1003991	77920	70.3	.6	18.2	5985	144993	1041246	337481	15.34	38317	7.22	32584
7	12	1601499	1036568	77948	70	0	18.4	5987	"	"	337346	1552	38332	722	32584
8	12	1633555	1069154	77972	70	0	18.5	5993	"	"	337410	1572	38355	723	32584
9	12	1666590	1101736	77996	70	.25	18.5	5998	"	"	337811	1535	38377	722	32584
10	12	1699646	1134324	78020	70	.35	18.6	6002	"	"	338365	1590	38400	722	32584
11	12	1733363	1166904	780 44	69	.40	18.6	6006	"	"	339080	1561	38422	723	32584
12	12	1767298	1199491	78065	69.9	.68	18.6	6010	144993	1041246	339255	15.61	38452	7.22	31344
13	12	1801748	1230926	78087	69.9	.20	18.6	6014	144993	1041246	339255	15.61	38452	7.22	32584
14		1835197	1263417	78115	69.9	.0	18.8	6021	144993	1041246	339780	15.41	38490	7.21	32584
15		1870995	1296002	78148	70	.0	18.8	6025	144993	1041246	339780	15.41	38562	7.22	32584
16		1903517	1328584	78176	75.6	.0	18.8	6030	144993	1041246	339780	15.41	38542	7.21	32584
17		1933388	1361283	78195	76.2	.4	18.8	6032	144993	1041246	339780	15.41	38550	7.22	32584
18		1965104	1393760	78215	76.5	.0	18.8	6036	144993	1041246	339780	15.42	38587	7.22	32584
19		1999551	1426342	78243	75.8	.4	18.8	6041	144993	1041246	340931	15.42	38587	7.22	32584
20		2032904	1458929	78267	76.4	.2	19.1	6047	144993	1041246	340731	15.05	38610	7.22	32584
21		2664693	1491508	78291	75.9	1.1	19.1	6052	144993	1041246	340731	15.05	38655	7.23	32586
22	12	2096172	1524089	78307	76	.35	19.2	6054	"	"	343121	1574	38670	722	32590
23	12	2127291	1556678	78331	76	.25	19.4	6058	"	"	344110	1587	38692	723	32584
24	12	2158482	1589266	78355	76	.40	19.5	6064	"	"	344751	1626	38715	722	32584
25	12	2191747	1621844	78379	75	.4	19.5	60	"	"	344889	1539	38737	709	32584
26	12	2225430	1654436	78392	75.9	.2	19.5	6074	144993	1041246	344889	1539	38752	7.13	32584
27	12	2258164	1687020	78435	77.7	1.0	19.5	6079	144993	1041246	344889	1539	38790	7.17	32584
28	12	2291098	1719612	78451	76	1.2	19.7	6082	"	"	345381	1622	38804	716	32584
29	12	2322979	1752182	78475	76	.85	19.8	6087	"	"	345643	1561	38827	716	32584
30	12	2357426	1784771	784 98	76	.05	19.9	6091	"	"	345806	1558	38849	715	32584
31	12	2391773	1817350	78522	76	0	20.0	6095	144993	1041246	345846	1566	38872	712	32584

6100 0 3,048

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LEAK DET 1,525 GAL 11/23/21

LEACHATE DAILY LOG #2

Month: NOVEMBER 2021
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S SL	CELL 1	TS/GL	TRAN P	BLW A/B	E PH	DAILY EFFLUENT
1	12	2423554	1849939	78546	77.7	.4	20.2	6100	144993	1041246	345892	1580	38894	709	32584
2	12	2456034	1882522	78584	78.2	.4	20.2	6107	144993	1041246	345892	1573	38790	715	32589
3		2488116	1915107	78602	78.0	1.2	20.2	6108	144993	1041246	345892	1573	38947	713	32584
4	12	2522746	1947687	78618	77	.75	20.4	6115	"	"	346226	1615	38962	711	32584
5	12	2554566	1980273	78642	76	.05	20.5	6118	"	"	346357	1586	38984	711	32584
6	12	2588357	2012853	78665	77	.5	20.6	6120	"	"	346479	1558	39007	713	32584
7	12	2619441	2045442	78689	77	.75	20.7	6125	"	"	346774	1553	39029	711	32584
8	12	2649839	2078020	78714	77	.4	20.8	6131	"	"	346910	1560	39053	708	32584
9	12	2685259	2110604	78746	57.3	.00	20.8	6135	144993	1041246	346910	1560	39053	7.11	32584
10	12	2717148	2143189	78758	79.6	.4	21.0	6141	144993	1041246	346954	15.43	39105	7.06	32584
11	12	2746811	2175765	78774	67.8	2.2	21.0	1,144	144993	1041246	346954	15.43	39106	7.04	32584
12	12	2779498	2208350	78810	72	1.25	21.2	6146	"	"	347371	1581	39143	706	32584
13	12	2813616	2240939	78834	69	.5	21.4	6149	"	"	347749	1530	39165	704	32584
14	12	2843158	2273518	78858	73	.2	21.6	6154	"	"	347836	1544	39188	706	32584
15	12	2875872	2306105	78882	67	.2	21.8	6159	"	"	347929	1573	39210	701	32584
16	12	2907969	2338697	78914	67.6	.00	21.8	6164	144993	1041246	347929	1573	39135	6.97	32584
17	12	2941309	2371276	78938	67.5	.00	21.8	6169	144993	1041246	347929	1573	39249	7.01	32584
18	12	2973779	2403857	78954	62.7	.85	21.8	6174	144993	1041246	348261	1573	39285	6.91	32584
19	12	3006890	2436442	78978	69	.5	22.2	6178	"	"	348665	1555	39300	690	32584
20	12	3038834	2469021	79002	72	.05	22.4	6182	"	"	348804	1551	39323	6.9	32584
21	12	3073280	2501612	79026	63	0	22.5	6184	"	"	"	1569	39345	688	32584
22	12	3104009	2534190	79050	46	.4	22.6	6188	"	"	348896	1592	39368	685	32584
23	12	3135374	2566762	79082	89.1	.2	22.4	6193	144995	1041246	348978	1592	39398	6.81	32584
24	12	3169990	2599345		70.1	.45	22.6	6197	147752	1041269	349011	1592	39420	6.89	32584
25	12	3201497	2631946	79122	75	.8	22.7	6199	"	1042058	349145	16.04	39435	693	32584
26	12	3235075	2664527	79146	77	.05	22.7	6202	"	"	349232	1574	39457	693	32584
27	12	3266914	2697114	79170	83	.60	22.9	6205	"	"	"	1567	39480	691	32584
28	12	3299617	2729694	79194	84	.25	22.9	6209	"	"	349397	1536	39502	692	32584
29	12	3332628	2762283	79218	69	.00	23	6213	"	"	349478	1555	39525	692	32584
30	12	3365418	2794861	79250	65.0	.10	23.2	6220	147752	1042058	349613	15744	39555	7.04	32584
31								6224							

13.35 2,759 812

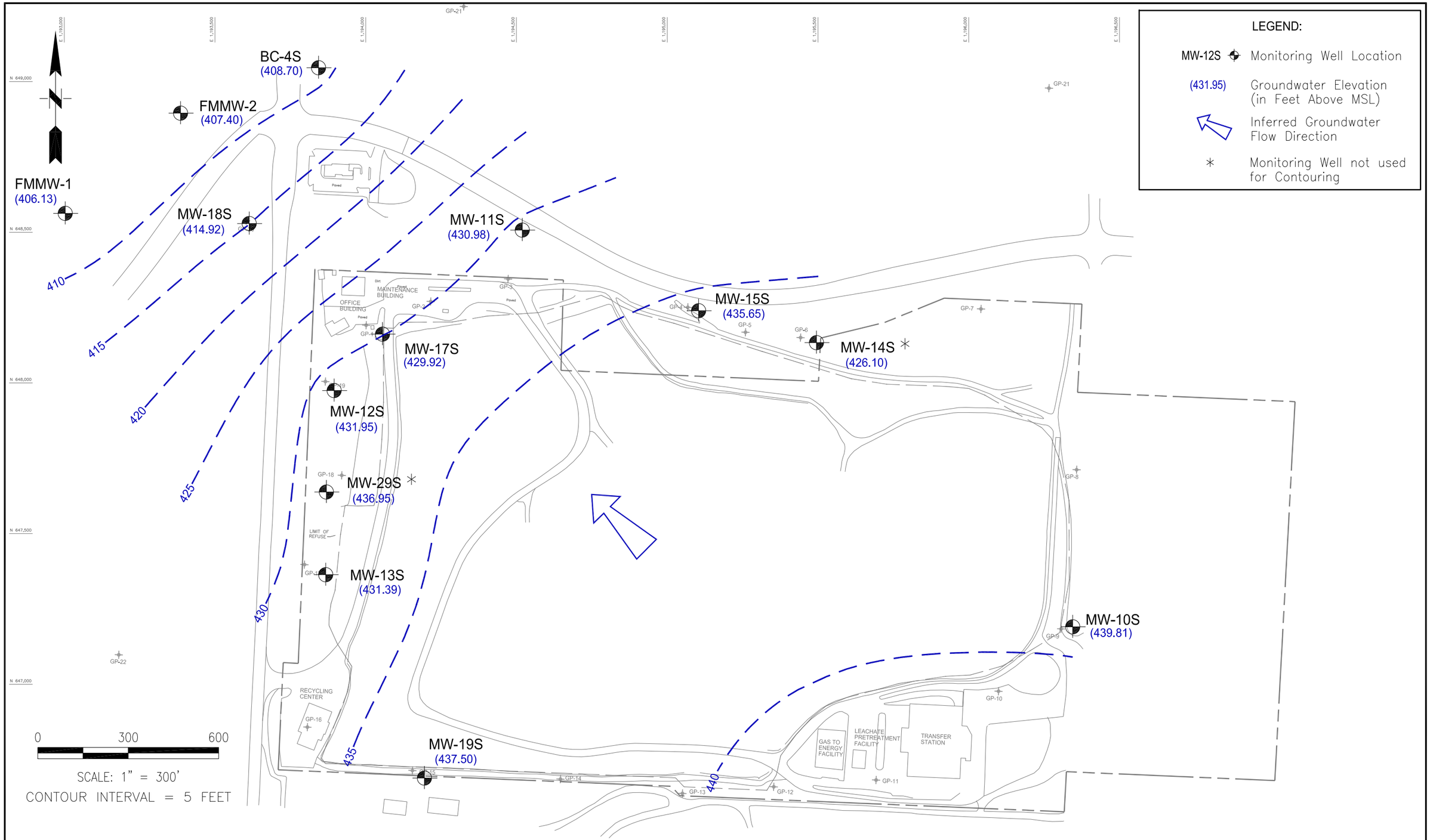
LEACHATE DAILY LOG #2

Month: December
Year: 2021

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S SL	CELL1	TS/GL	TRAN P/	BLW A/B	E PH	DAILY EFFLUENT
1	12	3397933	2827417	79283	65.1	.20	23.2	6224	147752	1042058	349613	1574	39578	6.98	32584
2	12	3431783	2860030	79290	69	0	23.2	6229	"	"	349751	1552	39592	696	32584
3	12	3465638	2892618	79314	68	0	23	6233	"	1044154	349845	1571	39615	699	32584
4	12	3497290	2925198	79336	72	.95	23.1	6237	"	"	349928	1603	39637	7	32584
5	12	3531159	2957787	79362	73	.05	23.2	6240	"	"	350151	1516	39660	699	32584
6	12	3563910	2990367	79385	74	.5	23.2	6243	"	"	350194	1598	39682	699	32584
7	12	3596675	3022963	79410	72.9	.5	23.2	6249	148837	1042058	350463	1598	39712	6.96	32584
8	12	3634921	3059325	79440	72.9	.5	22.9	6252	148837	1047029	350445	15.43	39728	6.99	32584
9	12	3665005	3088129	79475	72.0	.2	22.1	6257	148837	1049282	350571	15.77	39757	6.97	32584
10	12	3698382	3120689	79493	73.8	.5	22.1	6258	148837	1051431	350614	15.77	39780	7.00	32584
11		3729423	3152688	79515	72.0	1.2	22.1	6260	148837	1051436	350706	15.77	39802	6.94	32584
12		3762291	3200906	79536	73.0	1.0	22.1	6266	148837	1051436	350706	15.77	39810	6.96	32584
13		3796772	3218461	79560	72.5	.4	22.1	6270	148837	1051436	350706	15.77	39833	6.94	32584
14		3830410	3252965	79584	71.9	.4	22.2	6273	148837	1051436	350706	15.27	39848	7.01	29816
15		3858960	3280861	79605	73.9	.4	22.2	6277	148837	1054627	351257	15.27	39885	6.94	32584
16		3891115	3313442	79629	71.6	2.1	22.0	6282	148837	1057431	351346		39901	6.94	32584
17		3924951	3346022	79648	73	.25	21.9	6284	"	"	351489	1523	39930	693	32584
18		3956885	3378610	79672	62	.50	21.5	6288	"	1060343	351624	1606	39952	696	32584
19		3990845	3411192	79696	60	.50	21.6	6290	"	"	351841	1552	39975	699	32584
20		4020347	3443779	79719	43	.4	21.7	6294	"	"	"	1569	39997	702	32584
21		4052691	3476358	79742	71	.8	21.7	6297	148837	1060343	352031	1569	40015	7.02	32584
22		4086266	3508947	79767	70	0	21.7	6299	148837	1060343	352079		40042	6.98	32584
23	12	4118265	3541526	79790	70	1.0	21.6	6303	"	1062392	352231	1600	40065	697	32584
24	12	4154232	3574114	79814	69	1.2	21.8	6305	"	"	352283	1627	40087	690	32584
25	12	4185543	3606694	79838	70	.2	22	6308	"	"	352330	1532	40110	690	32584
26	12	4219548	3639283	79862	70	0	22.2	6310	"	"	"	1586	40132	689	32584
27	12	4253333	3671864	79886	0	0	22.4	6312	"	"	"	1528	40155	692	2176
28	12	4253331	3674050	79908	0	0	22.4	6313	148837	1062392	352330	1529	40168	6.91	24200
29	12	4277466	3698238	79940	71.5	.50	22.5	6313	148837	1062392	352330	1546	40199	6.95	32584
30	12	4311705	3730827	79957	73	.2	22.6	6318	"	"	"	1625	40222	675	32584
31	12	4343405	3763405	79981	73	0	22.6	6321	148837	1062392	352716	1545	40244	676	32584
								6324							
						14.45				1,085					20,334

Appendix C

WATER LEVEL DATABASE



SCS ENGINEERS
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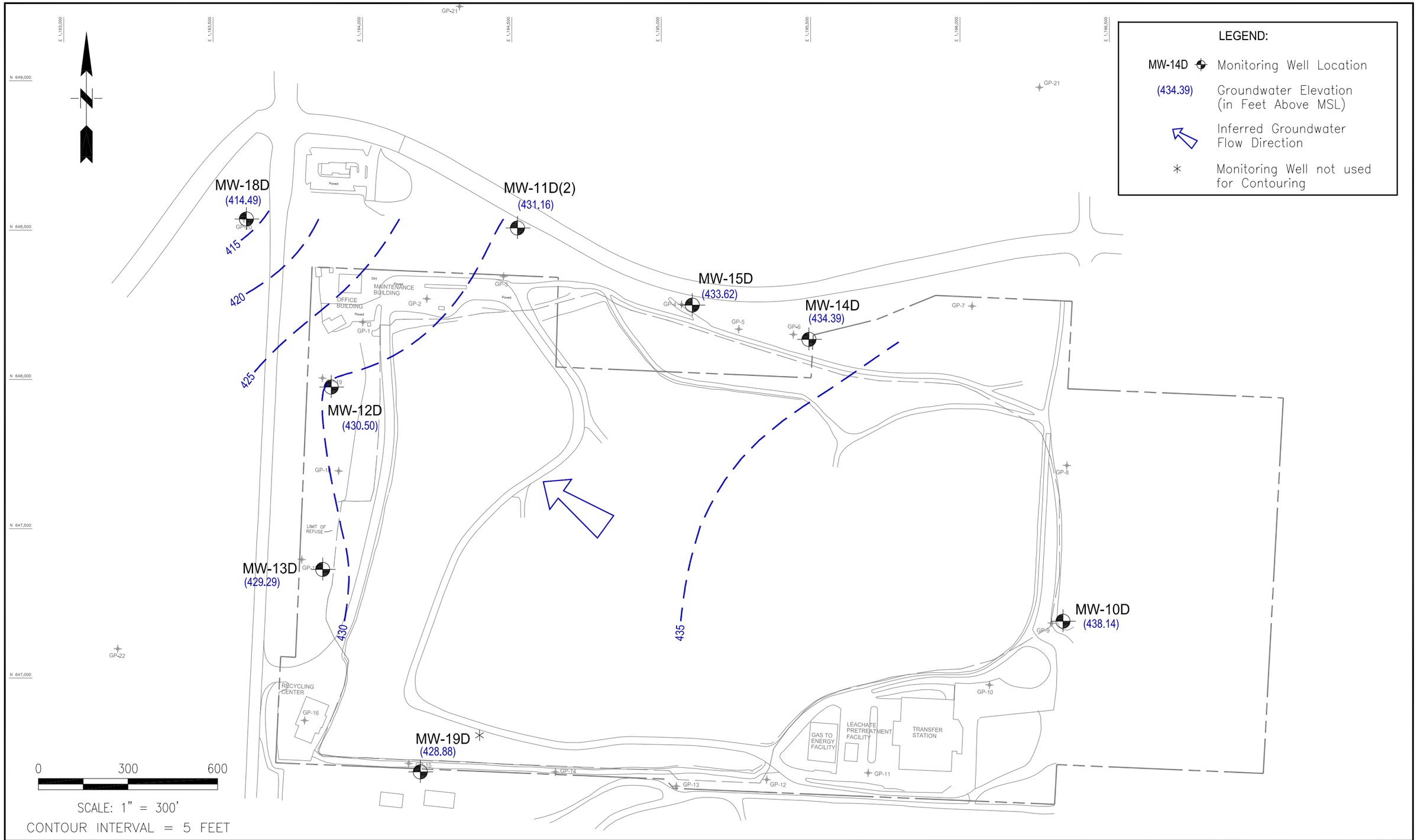
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04221002.03	DES BY SG	SHALLOW PERCHED AQUIFER WATER LEVEL MAP JANUARY 20, 2021	DATE AUGUST 2021
SCALE AS SHOWN	CHK BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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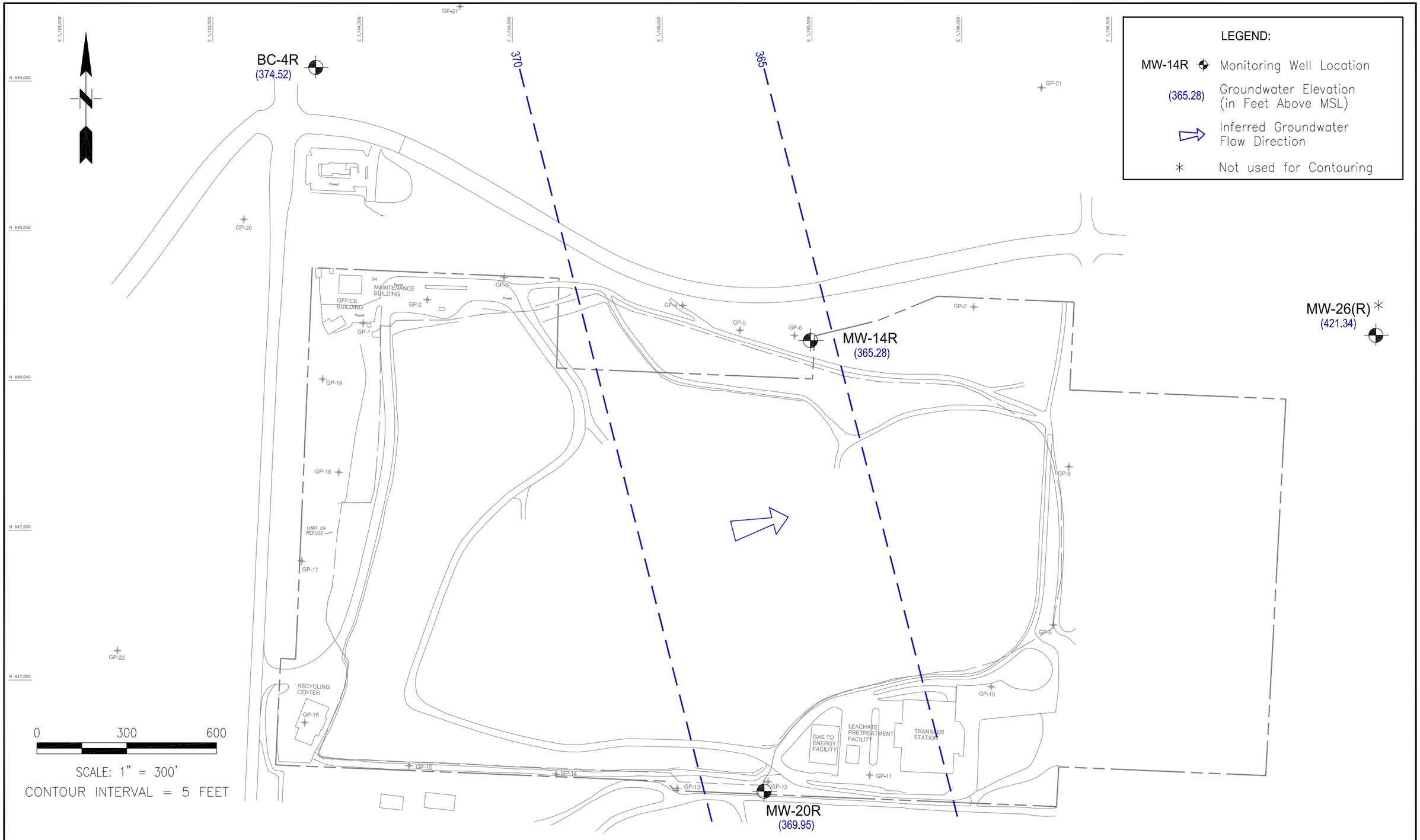
PROJECT NO. 04221002.03	DES BY SG	UPPER REGIONAL AQUIFER WATER LEVEL MAP JANUARY 20, 2021	DATE AUGUST 2021
SCALE AS SHOWN	CHK BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		



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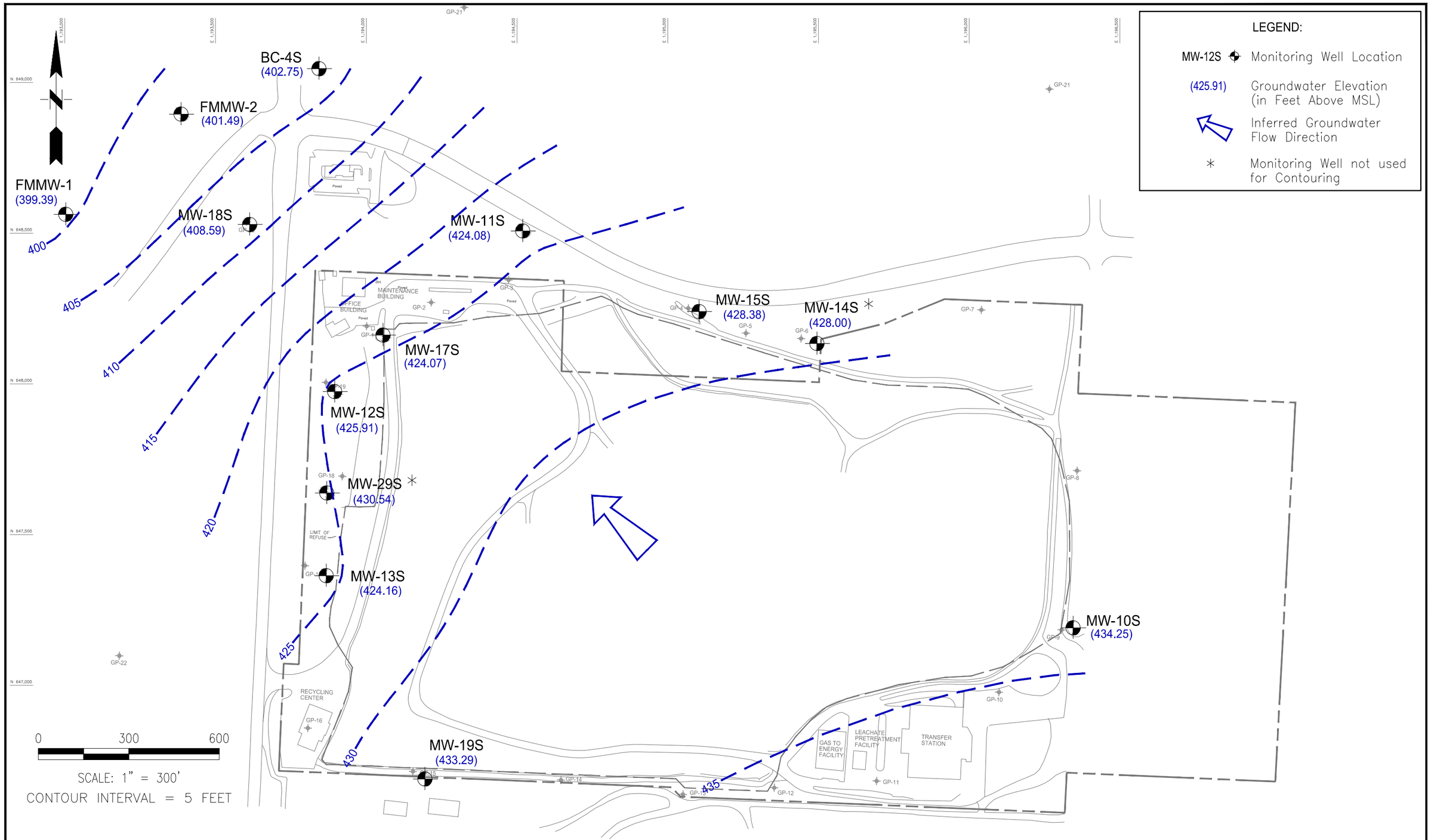
PROJECT NO.	04221002.03
DES BY	SG
SCALE	AS SHOWN
CHK BY	KGL
CAD FILE	FIGURE 3
APP BY	KGL

LOWER REGIONAL AQUIFER
WATER LEVEL MAP
JANUARY 20, 2021

HIDDEN VALLEY LANDFILL
PIERCE COUNTY, WASHINGTON

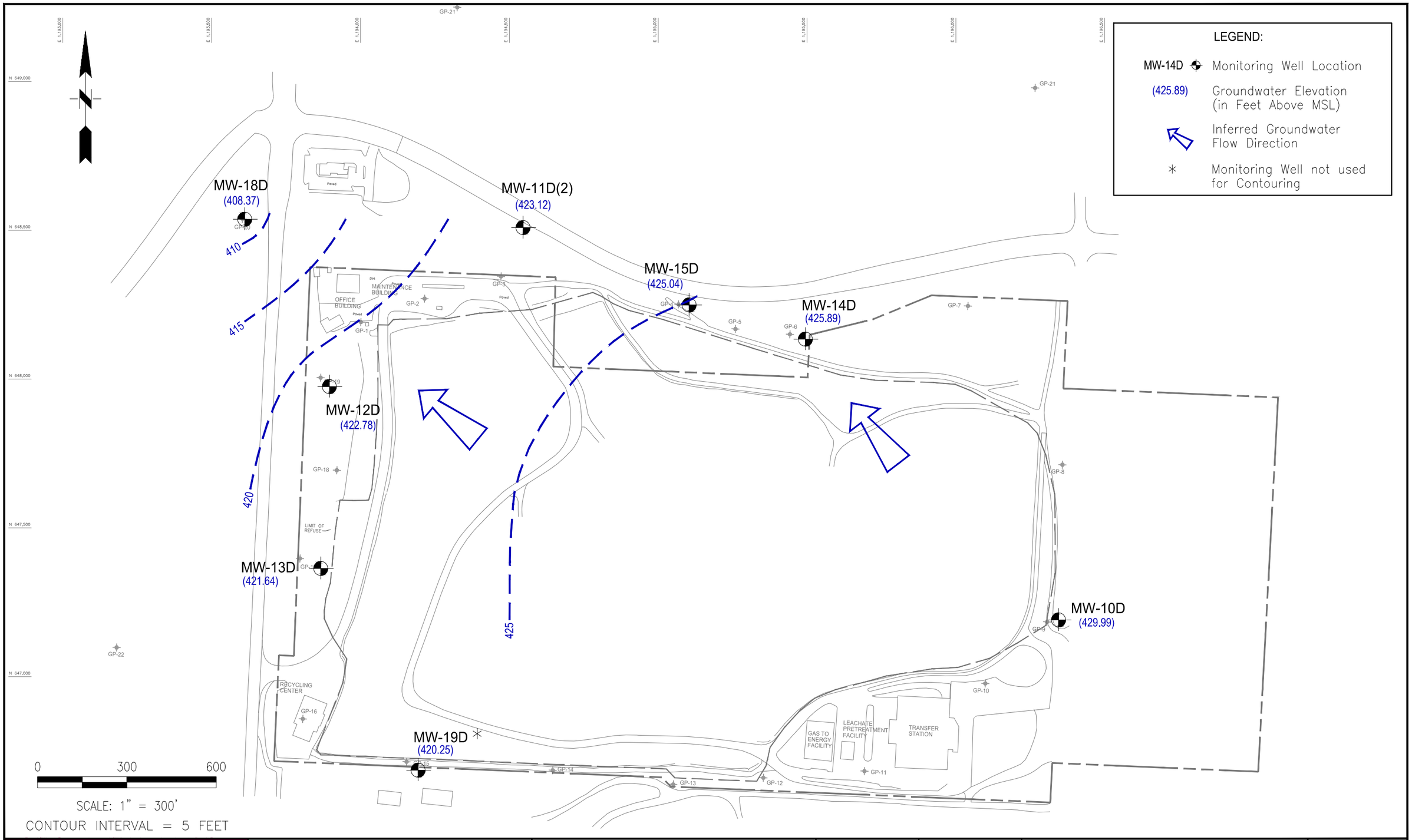
DATE: AUGUST 2021

FIGURE: 3



SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04221002.03	DES BY SG	SHALLOW PERCHED AQUIFER WATER LEVEL MAP AUGUST 3, 2021	DATE FEBRUARY 2022
SCALE AS SHOWN	CHK BY KGL		FIGURE 1
CAD FILE FIGURE 1	APP BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	



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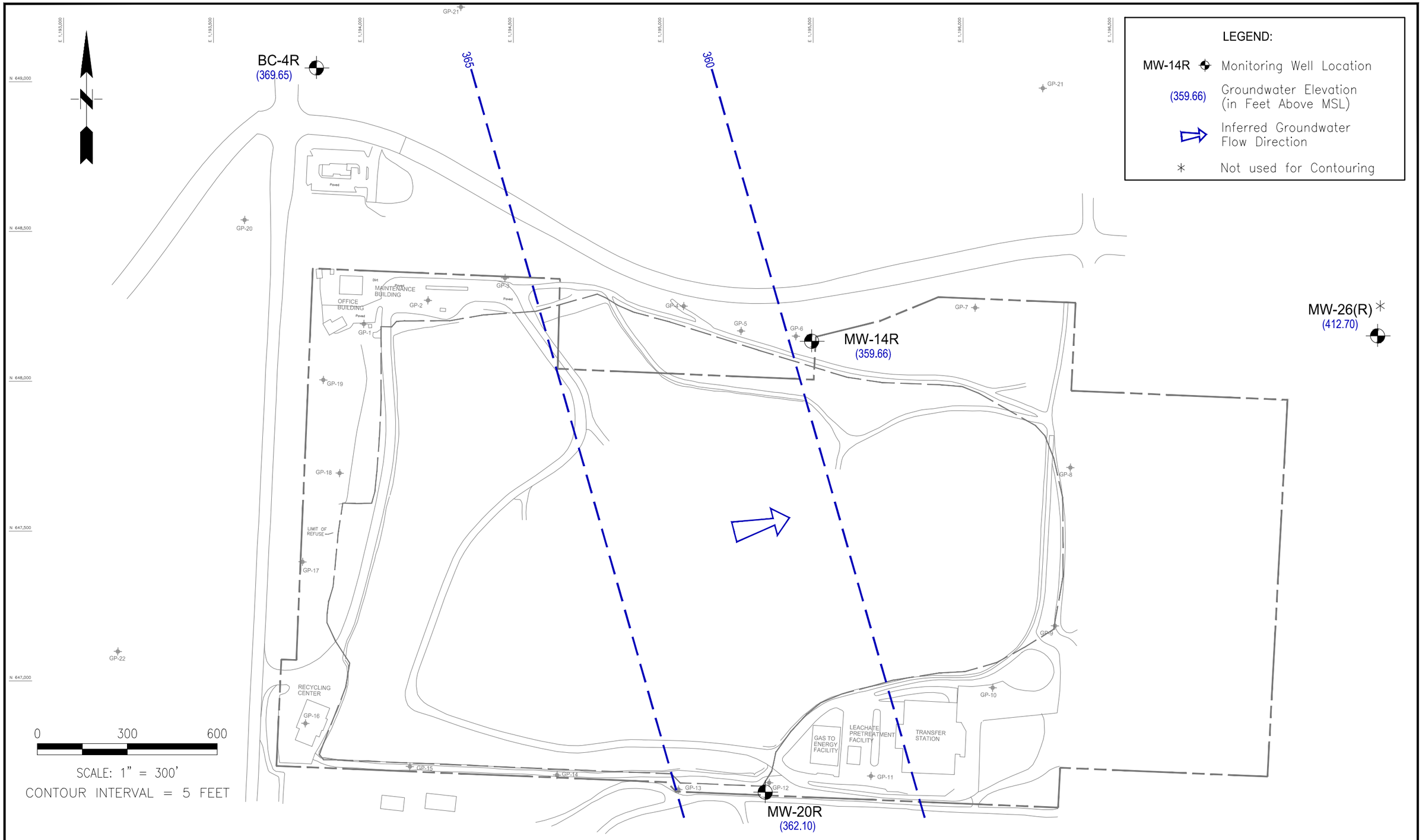
PROJECT NO. 04221002.03	DES BY SG	UPPER REGIONAL AQUIFER WATER LEVEL MAP AUGUST 3, 2021	DATE FEBRUARY 2022
SCALE AS SHOWN	CHK BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		



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PROJECT NO. 04221002.03	DES BY SG	LOWER REGIONAL AQUIFER WATER LEVEL MAP AUGUST 3, 2021	DATE FEBRUARY 2022
SCALE AS SHOWN	CHK BY KGL		FIGURE 3
CAD FILE FIGURE 3	APP BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	TOC ELEV	01/15/88	02/23/88	02/24/88	04/26/88	05/24/88	06/24/88	07/18/88	07/19/88	07/20/88	07/21/88	08/30/88	08/31/88	09/15/88	09/16/88	10/25/88	12/01/88	12/02/88
MW-10S	463.65	427.99	427.49	--	435.51	436.45	436.11	--	435.06	--	--	432.25	--	430.78	--	428.08	433.69	--
MW-10D	464.09	--	425.36	--	431.46	431.95	392.59	--	367.17	--	--	376.81	--	426.94	--	402.14	355.13	--
MW-11S	520.03	--	--	DRY	425.79	426.18	425.77	--	--	--	424.54	--	--	--	--	DRY	--	424.29
MW-11D	520.10	--	--	421.19	425.61	425.97	--	--	--	--	424.33	--	421.72	420.74	--	419.81	--	--
MW-11D(2)	519.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12S	493.41	--	DRY	--	430.70	DRY	--	--	--	426.74	--	--	--	--	--	DRY	--	--
MW-12D	493.49	419.44	420.09	--	423.68	424.91	425.17	--	--	423.32	--	--	421.11	420.34	--	419.18	--	422.21
MW-13S	452.26	--	--	425.74	428.20	428.68	428.16	--	--	426.35	--	--	424.31	--	423.78	422.97	425.86	--
MW-13D	450.19	420.14	--	419.37	423.79	424.16	--	--	--	422.53	--	--	--	--	--	418.84	--	--
MW-14S	481.30	--	DRY	--	430.41	430.68	430.30	428.90	--	--	--	--	426.40	425.74	--	DRY	428.70	--
MW-14D	481.39	421.74	422.74	--	427.75	427.06	427.31	426.19	--	--	--	--	423.86	423.24	--	421.71	424.80	--
MW-14R	480.26	--	--	--	366.46	366.73	--	365.84	--	--	--	--	--	--	--	363.73	--	--
MW-15S	506.78	--	--	--	434.88	--	--	433.45	--	--	--	--	--	--	--	429.85	--	--
MW-15D	509.09	--	--	--	433.89	--	--	432.30	--	--	--	--	--	--	--	427.97	--	--
MW-16S^	480.27	--	--	--	427.52	--	--	--	425.92	--	--	--	--	--	--	421.67	--	--
MW-16D^	480.73	--	--	--	425.67	--	--	--	423.45	--	--	--	--	--	--	419.52	--	--
MW-17S	555.97	--	--	--	425.63	--	--	--	--	424.67	--	--	--	--	--	419.84	--	--
MW-18S	541.43	--	--	--	408.30	--	--	--	--	--	407.39	405.64	--	--	405.06	404.71	--	406.31
MW-18D	541.79	--	--	--	409.22	--	--	--	--	--	408.40	--	--	--	--	405.70	--	--
MW-19S	489.23	--	--	--	433.87	--	--	--	432.93	--	--	--	--	--	--	430.71	--	--
MW-19D	489.35	--	--	--	426.18	--	--	--	423.41	--	--	--	--	--	--	419.75	--	--
MW-20R	472.90	--	--	--	364.52	--	--	--	375.01	--	--	--	--	--	--	372.19	--	--
MW-22U	549.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-22L	548.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23S	448.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23D	448.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25S	527.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25D	527.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-26R	485.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27S	531.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27D	531.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-28S	466.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29S	450.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	530.25	--	--	402.57	404.81	--	--	--	--	--	--	--	402.65	--	--	401.39	--	--
BC-4R	530.31	--	--	369.76	372.49	--	--	--	--	--	--	370.56	--	--	--	369.53	--	--
FMMW-1	546.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FMMW-2	539.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes: Water level elevations have been recalculated based on the most recent TOC survey data from 5/23/2018
Before June 1996 well elevations were: MW-11s 501.48; MW-11d 501.45; MW-15s 490.53; MW-15d 490.61
Between June 1996 and March 2001 well elevations were: MW-11s 512.13; MW-11d 512.06
Before October 30, 1999 well elevations were: MW-27s 531.81; MW-27d 531.92
Before January 21, 2000 well elevations were: MW-10s 455.45; MW-10d 456.19
Before May 18, 2001 well elevations were: MW-23s 449.92; MW-23d 449.96
Before September 2000, well elevations were: BC-4S 524.35; BC-4R 524.46
Before November 19, 2004 well elevations were: MW-25S 526.54; MW-25D 526.66
Before August 2005 well elevations were: MW-18S 546.88; MW-18D 546.01, new elevations are field measurements, not survey results
MW-23S, MW-23D, MW-25S, MW-25D, MW-27S, MW-27D and MW-28S were abandoned in 2017. Subsequent data cells marked with "N/A".
-- = Water level not measured/not available
* = The well casing was blocked and SCS was unable to measure DTW at this location.
^ = Water level measurements are no longer taken at MW-16S and MW-16D
Dry = Well dry and therefore no WLE was calculated

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	12/22/88	01/24/89	03/02/89	03/04/89	03/15/89	03/16/89	04/25/89	05/25/89	06/29/89	06/30/89	07/17/89	07/18/89	07/19/89	09/05/89	10/04/89	10/25/89	10/26/89	10/27/89
MW-10S	433.08	436.08	437.65	--	--	439.78	444.69	442.91	439.43	--	437.98	--	--	434.41	431.97	430.18	--	--
MW-10D	402.27	411.63	433.30	--	--	435.47	439.85	437.76	378.37	--	433.58	--	--	429.64	427.73	426.55	--	--
MW-11S	--	426.22	--	427.72	429.47	--	433.99	432.61	429.97	--	--	428.69	--	424.26	DRY	--	DRY	--
MW-11D	423.94	426.01	--	--	--	--	432.89	--	--	--	--	428.44	--	--	422.09	--	420.66	--
MW-11D(2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12S	--	429.12	--	--	432.40	--	435.70	--	--	426.49	--	--	430.70	DRY	DRY	--	DRY	--
MW-12D	422.64	424.81	426.19	--	428.15	--	432.31	430.73	--	--	--	--	426.59	422.79	421.18	--	420.19	--
MW-13S	425.31	426.79	427.60	--	429.80	--	433.86	432.25	--	429.86	--	428.93	--	425.85	424.80	--	423.97	--
MW-13D	--	424.01	--	--	--	--	431.35	--	--	--	--	425.74	--	--	--	--	--	419.47
MW-14S	428.52	430.77	--	432.55	--	435.12	440.67	438.50	427.68	--	433.31	--	--	428.31	426.46	DRY	--	--
MW-14D	425.37	427.88	--	428.99	--	431.50	435.81	434.01	--	--	429.72	--	--	--	--	422.88	--	--
MW-14R	--	366.28	--	--	--	--	372.16	--	--	--	--	364.64	--	--	--	364.72	--	--
MW-15S	--	435.45	--	--	439.55	--	444.45	--	--	438.70	433.20	--	--	432.70	430.99	--	429.87	--
MW-15D	--	434.02	--	--	--	--	442.04	--	--	--	440.28	--	--	--	--	--	429.04	--
MW-16S^	--	427.90	--	--	--	--	439.37	--	--	--	--	431.22	--	--	--	422.35	--	--
MW-16D^	--	425.63	--	--	--	--	433.43	--	--	--	--	427.26	--	--	--	420.66	--	--
MW-17S	--	426.57	--	--	430.41	--	434.25	--	--	430.41	--	428.32	--	424.52	422.55	--	421.10	--
MW-18S	407.54	409.61	410.66	--	411.67	--	415.44	414.91	--	412.76	--	--	411.65	409.71	407.44	--	--	406.72
MW-18D	--	409.45	--	--	--	--	415.40	--	--	--	--	--	411.27	--	--	--	--	406.52
MW-19S	--	436.49	--	--	--	--	440.89	--	--	--	--	435.90	--	--	--	--	--	430.30
MW-19D	--	425.40	--	--	--	--	432.12	--	--	--	--	427.43	--	--	--	--	--	421.47
MW-20R	--	374.97	--	--	--	--	381.08	--	--	--	--	--	368.86	--	--	--	372.97	--
MW-22U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-22L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-26R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-28S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	--	405.40	--	--	--	--	410.52	--	--	--	--	--	406.99	--	--	--	--	402.69
BC-4R	--	372.43	--	--	--	--	378.09	--	--	--	--	--	373.42	--	--	--	--	370.77
FMMW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FMMW-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	11/15/89	12/18/89	01/03/90	01/15/90	01/24/90	01/29/90	02/12/90	02/27/90	03/12/90	03/26/90	04/09/90	04/25/90	05/07/90	05/21/90	06/04/90	06/18/90	07/02/90	07/24/90
MW-10S	431.26	433.16	432.26	438.75	--	441.97	445.00	446.08	446.31	445.70	444.75	443.92	443.16	441.82	441.60	428.93	440.13	438.59
MW-10D	--	--	--	--	--	437.98	--	--	--	440.70	--	438.94	--	437.09	--	436.54	--	434.42
MW-11S	DRY	424.47	423.74	429.85	--	431.41	434.50	435.19	434.84	434.48	433.69	432.93	432.37	431.41	430.86	431.12	430.41	429.03
MW-11D	--	--	--	--	--	431.12	--	--	--	--	--	432.74	--	--	--	--	--	428.71
MW-11D(2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12S	DRY	DRY	DRY	432.03	432.47	434.06	436.63	436.56	436.49	436.21	435.43	434.69	434.37	433.42	433.16	433.26	432.36	429.79
MW-12D	--	--	--	--	--	430.27	--	--	--	--	--	431.76	--	--	--	--	--	427.49
MW-13S	424.84	425.82	425.20	431.30	431.35	432.74	435.61	436.05	435.88	435.26	434.52	433.96	433.13	432.79	432.66	432.52	431.72	430.31
MW-13D	--	--	--	--	--	429.55	--	--	--	--	--	431.67	--	--	--	--	--	426.69
MW-14S	426.60	428.64	428.30	435.36	437.46	438.16	441.65	442.87	442.85	442.05	440.82	439.77	438.86	437.36	436.35	436.89	435.77	434.06
MW-14D	--	--	--	--	--	434.36	--	--	--	--	--	435.09	--	--	--	--	--	430.58
MW-14R	--	--	--	--	--	369.69	--	--	--	--	--	370.84	--	--	--	--	--	359.37
MW-15S	430.87	433.52	432.92	439.33	--	441.55	444.99	446.09	445.75	445.29	444.27	443.34	440.67	441.40	440.78	441.07	440.06	438.31
MW-15D	--	--	--	--	--	439.68	--	--	--	--	--	441.13	--	--	--	--	--	436.56
MW-16S^	--	--	--	--	--	436.38	--	--	--	--	--	433.05	--	--	--	--	--	427.06
MW-16D^	--	--	--	--	--	431.37	--	--	--	--	--	432.43	--	--	--	--	--	428.09
MW-17S	420.88	423.72	424.11	435.97	430.63	431.91	434.87	435.24	435.00	434.62	433.92	433.20	432.87	431.99	431.43	431.68	430.95	429.57
MW-18S	406.20	408.28	408.21	410.13	411.08	413.05	415.35	--	417.08	415.99	415.40	414.93	414.76	415.23	413.51	DRY	412.89	411.58
MW-18D	406.58	408.06	407.80	411.82	--	413.51	415.87	417.18	416.45	416.64	416.10	415.27	414.92	414.15	413.38	413.49	413.00	411.60
MW-19S	--	--	--	--	--	440.26	--	--	--	--	--	440.23	--	--	--	--	--	436.63
MW-19D	--	--	--	--	--	431.91	--	--	--	--	--	432.10	--	--	--	--	--	428.23
MW-20R	--	--	--	--	--	378.07	--	--	--	--	--	378.69	--	--	--	--	--	363.88
MW-22U	DRY	DRY	DRY	DRY	--	DRY	412.95	413.80	413.48	413.64	413.29	412.72	412.22	412.00	411.97	DRY	411.97	411.72
MW-22L	403.71	405.26	415.09	408.07	408.95	410.00	412.41	413.72	413.53	413.48	412.86	412.13	411.63	410.89	410.09	--	409.83	408.31
MW-23S	--	--	--	--	--	432.63	--	--	--	--	--	432.47	--	--	--	--	--	429.61
MW-23D	--	--	--	--	--	427.92	--	--	--	--	--	428.61	--	--	--	--	--	424.96
MW-25S	--	--	--	--	--	404.32	--	--	--	--	--	407.69	--	--	--	--	--	402.12
MW-25D	--	--	--	--	--	407.37	--	--	--	--	--	410.27	--	--	--	--	--	405.81
MW-26R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-28S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	--	--	--	--	--	408.09	--	--	--	--	--	410.27	--	--	--	--	--	407.19
BC-4R	--	--	--	--	--	375.40	--	--	--	--	--	378.36	--	--	--	--	--	372.06
FMMW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FMMW-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	09/04/90	10/01/90	10/22/90	11/26/90	12/17/90	01/29/91	02/25/91	03/26/91	04/29/91	06/28/91	07/29/91	01/20/92	04/14/92	07/14/92	10/19/92	03/22/93	06/02/93	09/07/93
MW-10S	436.17	428.80	433.53	--	439.17	440.15	444.80	436.70	447.78	446.84	438.68	432.83	436.97	433.79	DRY	430.85	436.53	433.09
MW-10D	431.39	435.02	--	--	--	437.29	--	--	442.81	437.36	434.56	427.69	432.27	428.65	424.38	427.04	432.03	429.14
MW-11S	426.00	424.17	422.26	431.14	430.37	430.17	433.68	434.81	435.71	431.78	429.42	422.87	426.32	423.19	DRY	423.72	420.86	416.65
MW-11D	--	423.92	--	--	--	431.15	--	--	435.59	--	429.14	422.51	426.17	423.14	418.40	423.64	420.67	416.54
MW-11D(2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12S	--	--	--	429.56	432.71	432.50	434.23	436.28	433.82	433.55	431.51	DRY	428.20	DRY	420.20	DRY	428.81	--
MW-12D	424.53	--	421.83	--	--	430.54	--	--	435.37	--	427.75	420.98	424.69	421.69	417.89	420.99	424.36	421.85
MW-13S	428.13	427.11	426.90	432.48	431.58	433.78	435.88	427.04	437.99	434.28	432.08	422.68	425.92	422.65	419.36	421.21	425.53	423.10
MW-13D	--	422.38	--	--	--	427.89	--	--	434.54	--	427.32	420.04	423.65	420.40	417.03	418.81	423.27	420.83
MW-14S	430.42	428.38	427.82	--	435.80	423.70	450.65	442.30	443.74	437.77	434.36	427.40	431.92	427.62	DRY	426.78	431.72	427.51
MW-14D	--	425.55	--	--	--	436.69	--	--	439.25	433.66	430.74	423.86	428.14	424.30	420.96	423.18	427.96	425.05
MW-14R	--	363.08	--	--	--	370.91	--	--	373.66	--	361.62	364.60	364.86	358.84	360.16	362.71	362.30	358.60
MW-15S	434.98	--	--	--	--	441.09	--	--	446.38	--	438.90	431.90	435.92	432.28	428.17	431.18	435.83	--
MW-15D	--	--	--	--	--	439.86	--	--	445.39	--	436.94	429.68	434.16	430.27	427.00	429.23	433.97	431.16
MW-16S^	--	--	--	--	--	434.89	--	--	--	--	--	--	--	--	--	--	--	--
MW-16D^	--	--	--	405.49	--	431.36	--	--	--	--	--	--	--	--	--	--	--	--
MW-17S	426.39	424.45	--	--	--	431.78	--	--	435.41	--	430.09	422.87	426.60	414.25	418.39	422.29	426.97	423.71
MW-18S	409.74	408.54	407.49	--	412.41	--	414.91	406.79	416.45	414.35	412.49	DRY	DRY	DRY	405.65	407.73	410.17	407.86
MW-18D	409.50	408.20	--	--	--	--	--	--	418.17	414.57	412.38	407.40	409.40	--	405.10	406.55	409.25	407.36
MW-19S	--	--	--	--	--	--	--	--	441.19	--	439.72	430.81	433.21	429.48	426.94	430.33	433.11	429.57
MW-19D	--	--	--	--	--	--	--	--	435.06	--	427.93	419.81	424.24	420.27	417.06	419.08	422.80	424.91
MW-20R	--	369.09	--	--	--	379.40	--	--	380.21	--	365.60	375.48	370.85	362.62	366.69	368.84	369.37	365.39
MW-22U	406.57	--	--	--	--	--	--	--	405.03	--	412.08	411.93	411.91	411.93	411.88	411.84	411.83	412.14
MW-22L	406.35	--	--	--	--	DRY	--	--	414.00	--	409.21	404.77	406.38	404.59	402.60	403.90	406.22	404.37
MW-23S	--	426.73	--	--	--	431.73	--	--	429.94	--	430.28	426.11	427.38	425.59	422.09	426.54	427.46	425.22
MW-23D	--	--	--	--	--	428.00	--	--	431.86	--	425.43	419.36	422.39	419.50	416.24	419.16	422.21	419.55
MW-25S	--	399.24	--	--	--	404.54	--	--	412.34	--	403.25	399.17	399.99	398.66	397.72	398.29	400.04	398.53
MW-25D	--	--	--	--	--	406.91	--	--	414.08	--	406.76	401.69	403.37	401.33	399.65	400.76	403.36	401.38
MW-26R	--	--	--	--	--	--	--	--	--	--	--	422.00	425.83	422.23	418.86	420.86	422.78	421.87
MW-27S	--	--	--	--	--	--	--	--	--	--	--	418.61	423.23	418.89	416.24	417.80	423.19	418.84
MW-27D	--	--	--	--	--	--	--	--	--	--	--	419.12	423.47	419.53	416.07	418.44	423.34	419.84
MW-28S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	--	--	--	--	--	--	--	--	412.92	--	--	404.26	405.62	--	401.42	403.22	405.48	403.55
BC-4R	--	--	--	--	--	--	--	--	369.92	--	--	371.19	372.58	--	367.63	369.43	370.85	367.88
FMMW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FMMW-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	12/07/93	03/14/94	06/07/94	09/19/94	12/05/94	03/18/95	06/19/95	09/19/95	12/13/95	03/19/96	06/12/96	09/03/96	12/10/96	12/11/96	03/25/97	06/09/97	09/08/97	12/15/97
MW-10S	428.36	431.34	431.20	DRY	429.46	441.64	438.30	431.80	436.63	447.59	444.28	437.45	--	439.64	449.09	442.97	436.79	435.67
MW-10D	425.87	428.13	427.47	423.19	425.96	439.10	434.93	427.99	434.00	443.71	440.91	433.94	--	437.40	445.78	439.58	433.06	430.81
MW-11S	413.86	418.23	415.97	410.81	418.15	425.46	422.10	416.95	423.30	425.09	433.07	418.00	421.34	--	426.98	422.22	415.98	416.46
MW-11D	413.73	418.04	415.82	410.72	417.88	425.31	421.97	416.80	423.04	424.99	432.96	417.86	420.13	--	426.88	422.05	416.82	416.32
MW-11D(2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12S	--	--	--	--	--	433.68	--	--	--	--	434.71	429.84	--	--	437.34	--	--	--
MW-12D	419.07	421.66	420.32	416.75	420.01	431.55	--	--	--	--	433.34	426.50	--	--	437.39	--	--	--
MW-13S	--	422.94	421.57	417.93	421.36	432.58	428.50	422.16	428.51	436.95	434.49	427.68	431.04	--	438.43	432.99	427.01	425.97
MW-13D	418.06	420.63	419.29	415.67	419.11	430.31	426.23	419.83	426.15	434.60	432.21	425.37	428.74	--	436.15	430.68	424.67	423.64
MW-14S	426.08	428.35	427.13	DRY	427.58	438.29	434.01	427.21	433.13	443.69	440.55	432.84	436.27	--	444.90	439.06	431.67	430.40
MW-14D	422.15	424.83	423.61	419.92	422.81	435.55	431.09	424.20	430.69	440.23	437.81	430.29	433.90	--	442.24	436.05	429.20	427.72
MW-14R	361.51	362.38	361.06	357.66	360.04	369.03	--	--	--	373.23	--	--	--	--	375.79	372.77	--	--
MW-15S	429.53	432.99	431.53	427.68	431.88	441.83	--	--	--	--	435.80	437.13	--	--	443.20	--	--	--
MW-15D	428.24	430.93	429.70	425.96	429.06	441.57	--	--	--	--	435.82	436.07	--	--	437.95	--	--	--
MW-16S^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16D^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17S	419.98	424.98	422.77	417.32	423.64	432.07	429.51	424.07	429.79	435.17	433.27	428.57	431.06	--	435.77	432.27	427.54	443.32
MW-18S	406.42	409.63	408.23	406.13	408.77	414.75	--	--	--	--	DRY	411.34	--	--	417.05	--	Dry	Dry
MW-18D	405.61	407.57	406.75	404.65	406.57	414.93	411.50	407.06	411.03	418.79	416.81	411.26	--	413.20	420.04	415.78	410.33	419.67
MW-19S	427.31	430.70	429.14	425.62	430.65	438.17	--	--	--	--	439.08	433.57	--	--	442.25	--	--	--
MW-19D	421.33	421.95	427.06	415.64	419.40	433.82	--	--	--	--	434.31	425.87	--	--	438.09	--	--	--
MW-20R	368.45	368.69	367.69	362.64	367.32	377.03	--	--	--	380.52	--	--	--	--	378.13	--	--	--
MW-22U	411.88	411.89	411.88	411.82	411.79	412.33	--	--	--	--	413.54	408.28	--	--	414.90	--	--	--
MW-22L	402.97	404.85	404.08	402.33	403.97	411.50	--	--	--	--	412.76	411.66	--	--	416.49	--	407.10	--
MW-23S	423.01	426.11	424.79	420.91	426.02	430.94	427.78	424.75	429.37	433.76	431.80	427.50	--	427.10	434.60	431.35	427.15	427.01
MW-23D	417.14	419.74	418.50	414.73	418.86	427.76	--	--	--	--	429.71	423.78	--	--	433.41	--	423.11	422.29
MW-25S	397.87	399.47	397.06	397.58	399.71	407.39	--	--	401.96	--	410.74	402.43	--	--	415.13	--	401.39	--
MW-25D	399.88	401.89	400.91	399.23	401.32	409.70	405.91	401.29	405.30	--	412.72	404.96	--	--	416.69	411.61	404.92	403.70
MW-26R	419.26	422.32	420.88	417.12	420.20	432.36	--	--	--	437.94	--	--	--	--	440.28	--	--	--
MW-27S	416.44	419.39	417.93	415.62	417.69	430.84	--	--	--	--	433.34	426.05	--	--	436.35	--	--	--
MW-27D	416.84	419.92	418.69	415.20	417.89	430.78	--	--	--	--	433.07	425.86	--	--	437.98	--	--	--
MW-28S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	401.78	404.02	403.19	401.20	403.03	409.91	--	--	--	--	411.41	406.50	--	--	414.11	--	--	--
BC-4R	363.21	369.45	368.53	366.36	367.47	376.58	--	--	--	--	379.59	371.70	--	--	383.77	--	--	--
FMMW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FMMW-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	03/16/98	06/24/98	09/16/98	12/21/98	04/09/99	06/07/99	09/13/99	12/13/99	03/15/00	06/09/00	09/12/00	01/18/01	03/22/01	04/19/01	07/12/01	10/23/01	01/18/02	04/25/02
MW-10S	440.78	437.25	431.48	437.27	445.95	440.31	435.19	434.31	--	440.42	435.67	432.45	431.01	425.45	431.63	423.52	439.17	442.23
MW-10D	437.93	433.36	427.15	435.30	442.33	437.10	430.29	434.84	440.17	436.95	430.43	427.59	427.74	428.48	427.12	423.01	436.72	439.20
MW-11S	421.38	417.61	412.58	419.42	424.49	420.04	415.65	419.32	426.93	430.10	425.18	423.31	422.18	423.76	421.93	417.39	430.10	432.17
MW-11D	421.15	417.45	412.44	419.28	424.37	419.89	414.90	418.47	426.93	429.89	425.04	--	422.04	423.61	421.81	417.27	430.09	431.83
MW-11D(2)	--	--	--	--	--	--	--	--	--	429.56	423.62	420.78	420.74	421.20	419.95	416.88	429.34	431.79
MW-12S	--	429.29	--	--	435.33	431.44	--	430.79	434.01	431.25	426.60	425.03	422.96	425.45	423.41	420.29	431.59	433.23
MW-12D	--	425.59	--	--	434.42	429.79	422.90	427.02	431.88	429.10	422.96	421.40	420.59	420.86	419.64	416.44	429.00	431.22
MW-13S	431.71	427.02	421.48	429.57	435.58	430.64	424.91	428.75	433.31	430.57	424.79	424.61	422.47	422.62	421.31	418.10	430.75	433.31
MW-13D	429.34	424.95	419.15	427.22	433.26	428.29	422.33	426.31	431.85	428.27	422.28	420.49	419.90	420.14	418.87	415.61	428.24	430.53
MW-14S	437.04	432.10	426.30	433.69	441.91	435.91	429.07	434.18	439.91	435.75	429.25	427.50	426.42	427.71	426.08	421.59	434.95	438.12
MW-14D	434.40	429.59	423.29	432.17	438.94	434.07	425.40	431.11	436.38	433.32	426.41	423.89	423.79	424.29	422.99	419.77	432.94	435.47
MW-14R	372.26	369.06	--	367.76	377.41	370.78	360.18	366.72	373.26	369.79	363.33	363.66	355.02	354.67	347.91	349.36	356.05	360.45
MW-15S	--	432.05	--	--	440.66	--	429.24	--	438.60	435.06	429.30	427.51	426.67	427.73	426.51	422.67	434.67	437.38
MW-15D	--	525.26	--	--	434.75	--	422.30	--	432.11	--	--	--	--	--	--	--	--	--
MW-16S^	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--
MW-16D^	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--
MW-17S	431.32	428.09	422.98	429.24	433.80	430.05	425.35	429.33	431.15	429.69	425.37	423.40	422.04	423.42	422.02	416.65	430.07	431.67
MW-18S	413.60	410.54	--	411.66	415.75	Dry	Dry	411.57	414.46	412.01	408.68	407.31	406.81	407.32	406.76	405.96	412.66	415.75
MW-18D	413.87	410.23	406.46	411.19	417.79	413.48	408.16	410.66	414.97	412.70	402.50	406.50	406.15	406.54	405.88	404.23	412.10	413.09
MW-19S	--	433.09	--	--	439.81	--	430.75	--	438.94	435.83	430.90	430.18	428.56	430.05	429.11	425.58	436.50	437.98
MW-19D	--	424.16	--	--	434.11	--	422.40	--	432.29	429.88	422.20	--	422.66	420.01	421.57	415.96	431.30	430.96
MW-20R	378.75	372.68	--	--	381.44	--	--	--	381.10	375.78	370.29	369.65	362.53	361.24	352.45	356.57	364.32	366.91
MW-22U	--	411.85	--	411.80	413.46	411.87	411.99	411.77	412.12	411.74	411.90	--	418.36	--	411.77	411.76	411.83	411.96
MW-22L	--	407.00	--	407.54	414.42	410.03	405.15	407.23	411.50	409.30	405.12	--	403.23	405.73	403.00	401.82	408.55	411.22
MW-23S	430.92	427.28	424.07	428.77	432.50	427.83	426.17	429.15	431.62	428.74	426.10	425.11	424.28	424.38	424.02	420.01	429.36	430.66
MW-23D	427.46	423.22	--	425.09	--	425.35	--	--	428.71	426.04	420.98	--	418.31	418.24	417.24	414.80	425.84	428.05
MW-25S	--	401.46	--	403.13	412.72	406.26	399.65	402.07	408.62	405.62	399.66	399.04	398.49	399.12	398.45	397.69	403.93	408.25
MW-25D	408.83	404.80	401.02	405.80	414.14	408.78	402.74	405.09	410.31	408.06	402.82	--	399.04	401.61	400.66	399.30	406.84	410.29
MW-26R	432.28	--	--	429.90	437.08	--	--	--	434.06	431.10	424.12	421.55	421.99	422.69	420.95	417.75	429.98	432.67
MW-27S	--	425.22	--	--	435.18	--	--	--	431.83	429.31	421.77	--	417.86	418.95	417.81	415.59	427.92	431.41
MW-27D	--	425.02	--	--	434.74	--	--	--	431.95	428.99	422.76	--	418.61	419.53	418.49	415.18	428.07	431.16
MW-28S	--	--	--	--	--	--	--	--	--	427.07	423.74	--	--	--	--	--	427.42	428.56
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	--	405.49	--	406.29	--	--	--	--	--	--	403.69	--	401.45	401.93	401.47	400.20	407.13	409.31
BC-4R	--	374.77	--	373.33	--	--	--	--	--	--	371.04	--	367.95	368.07	364.84	363.38	370.31	374.56
FMMW-1	--	--	--	--	--	--	--	--	407.92	405.10	400.56	398.73	398.55	398.58	398.47	397.64	403.73	407.47
FMMW-2	--	--	--	--	--	--	--	--	408.76	406.32	402.23	400.31	399.91	400.06	401.36	398.86	404.44	408.36

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	07/25/02	10/24/02	01/30/03	04/24/03	07/24/03	10/30/03	01/22/04	04/15/04	06/29/04	10/21/04	01/27/05	02/23/05	04/21/05	07/22/05	10/17/05	01/18/06	04/14/06	08/08/06
MW-10S	436.36	428.62	434.14	437.02	432.12	430.00	436.15	436.45	427.28	429.79	435.10	--	436.46	434.32	429.41	444.27	441.85	435.00
MW-10D	432.24	426.28	430.90	434.22	427.80	426.68	432.72	433.60	425.35	426.94	431.09	--	432.97	429.89	426.03	440.71	439.08	430.14
MW-11S	426.78	420.53	428.84	428.03	422.55	421.79	427.33	427.08	420.71	421.04	425.46	--	426.52	424.67	420.06	433.68	436.78	424.48
MW-11D	426.64	420.42	428.52	427.87	422.42	421.65	427.21	426.96	--	--	425.30	--	426.39	424.52	419.94	433.49	431.63	424.31
MW-11D(2)	425.18	418.99	424.21	426.49	420.52	419.89	425.73	426.53	418.92	419.64	423.73	--	425.50	423.03	418.94	432.78	431.98	423.00
MW-12S	428.31	421.60	427.04	429.03	423.70	422.20	428.57	430.59	421.86	422.26	--	--	--	426.10	--	--	432.97	425.79
MW-12D	424.74	419.39	423.79	426.11	420.21	419.65	425.21	426.18	418.64	419.23	423.64	--	425.18	422.61	418.71	432.21	431.33	422.49
MW-13S	427.32	421.47	425.91	427.95	422.13	421.67	427.09	427.90	420.05	421.03	425.31	--	426.81	424.09	420.26	433.60	432.49	423.56
MW-13D	424.31	418.43	424.83	426.44	419.37	419.06	424.52	425.45	417.54	418.56	422.89	--	424.45	421.74	417.90	431.29	430.22	421.17
MW-14S	430.93	424.61	430.26	432.49	426.20	426.05	431.21	431.37	424.80	426.11	429.13	--	430.61	428.35	424.54	440.16	438.40	428.34
MW-14D	428.36	422.06	426.69	429.99	423.64	423.07	429.00	426.58	421.87	423.18	427.02	--	428.78	426.05	422.06	436.34	435.52	426.06
MW-14R	351.96	353.91	355.58	359.54	350.75	355.08	358.99	361.73	351.70	356.38	359.06	--	363.06	357.84	357.48	363.43	368.93	354.35
MW-15S	431.04	424.71	429.65	432.01	426.45	426.06	431.16	431.42	424.61	425.36	429.20	--	430.68	428.55	424.52	438.93	437.03	428.45
MW-15D	--	--	--	--	--	421.96	427.82	435.91	427.84	429.30	425.98	--	427.70	424.99	428.06	435.20	434.37	424.99
MW-16S^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16D^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17S	426.99	420.72	425.82	427.66	422.66	421.41	427.12	427.16	420.54	420.09	425.40	--	426.31	424.73	419.85	433.02	431.26	424.50
MW-18S	409.91	406.09	408.46	410.59	406.96	406.48	410.32	410.37	406.55	406.30	--	408.71	409.30	408.77	--	406.65	413.69	408.66
MW-18D	409.59	405.40	407.86	410.22	406.37	405.75	409.47	410.12	405.59	405.65	--	407.66	408.89	407.74	--	408.59	415.38	408.36
MW-19S	432.27	426.67	432.01	433.63	428.20	428.66	433.43	433.46	426.37	427.51	--	--	433.20	430.65	426.66	440.41	437.51	430.22
MW-19D	424.14	421.14	426.65	426.35	420.05	419.38	425.40	429.24	420.90	420.51	427.08	--	428.40	423.04	419.84	434.97	432.75	421.86
MW-20R	356.37	359.61	360.63	365.21	354.47	360.08	365.13	367.55	355.13	362.77	364.70	--	370.57	368.57	363.35	368.45	375.02	356.82
MW-22U	411.88	411.85	411.83	411.83	411.83	411.79	411.80	411.80	411.76	411.78	--	--	411.73	411.70	411.67	412.56	411.93	411.91
MW-22L	406.28	402.64	404.48	406.85	403.30	402.91	406.07	401.68	402.77	402.72	--	--	405.32	404.56	402.55	411.24	411.55	404.83
MW-23S	426.72	421.88	426.86	427.36	423.52	423.38	427.33	426.98	421.90	423.12	426.42	--	427.22	426.81	--	434.54	431.58	426.99
MW-23D	422.13	417.02	421.05	423.50	418.02	417.75	422.92	423.21	416.77	417.47	420.82	--	422.38	421.50	--	431.53	429.77	421.75
MW-25S	401.21	397.96	400.43	401.87	398.56	398.62	401.25	401.40	--	--	400.23	--	400.86	398.32	396.69	407.84	407.33	398.24
MW-25D	404.55	400.28	402.89	405.11	401.15	400.71	404.54	404.80	--	--	401.62	--	402.57	400.62	398.08	408.45	408.77	400.76
MW-26R	425.45	419.58	424.06	427.10	420.61	419.98	425.63	426.18	418.09	419.08	423.19	--	424.52	421.75	417.85	431.23	430.74	421.10
MW-27S	424.01	416.90	421.45	425.44	418.43	417.81	424.31	424.72	416.86	417.50	421.54	--	423.09	421.01	416.89	431.74	431.41	421.17
MW-27D	424.05	417.41	421.92	425.55	419.02	418.27	424.47	425.08	417.15	418.02	422.11	--	423.70	421.51	417.15	431.58	431.22	421.57
MW-28S	424.95	422.18	--	425.82	422.21	--	424.25	425.50	--	--	421.63	--	423.30	--	--	430.34	428.30	423.12
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	404.61	400.65	402.68	405.28	401.47	401.10	404.44	403.99	400.77	400.63	402.62	--	403.22	403.20	400.60	409.55	409.78	403.19
BC-4R	368.66	366.63	367.72	371.20	365.66	366.17	369.82	372.04	365.20	365.88	368.95	--	370.99	369.51	366.70	373.71	377.99	368.21
FMMW-1	401.78	398.13	398.73	402.24	398.64	397.93	400.72	402.36	398.28	398.71	402.32	--	399.21	399.73	397.98	406.40	408.16	399.81
FMMW-2	403.02	399.45	400.31	403.76	400.21	399.26	402.38	403.85	399.63	399.17	400.25	--	401.03	401.85	399.35	407.58	408.85	401.85

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	10/26/06	01/18/07	04/26/07	07/19/07	10/11/07	01/24/08	04/17/08	07/10/08	10/23/08	01/12/09	04/16/09	07/09/09	10/29/09	01/28/10	04/08/10	07/15/10	10/14/10	01/06/11
MW-10S	430.65	445.84	441.84	436.42	434.09	438.52	439.06	435.30	427.47	439.23	439.29	436.11	431.99	439.51	440.01	438.29	*	*
MW-10D	426.93	442.71	440.22	432.35	429.07	435.33	436.09	430.75	425.34	435.82	436.77	432.37	427.71	436.80	438.48	435.20	435.20	436.53
MW-11S	420.35	434.55	432.19	426.15	422.82	428.96	429.15	424.76	419.60	430.66	429.49	426.04	422.29	425.43	429.99	428.23	423.92	429.58
MW-11D	420.26	434.82	432.17	426.01	422.69	429.12	428.99	424.64	419.47	430.50	429.37	425.91	422.17	429.43	429.83	428.52	423.78	429.11
MW-11D(2)	419.75	435.30	433.01	425.14	421.51	428.15	428.91	423.73	418.67	428.94	429.62	425.34	420.91	429.12	429.91	427.95	422.26	429.12
MW-12S	420.98	435.58	433.23	427.50	--	429.92	430.25	425.31	--	431.79	430.56	--	--	429.59	431.04	451.41	--	430.30
MW-12D	419.45	434.39	432.19	424.62	420.97	427.20	428.04	422.89	418.35	428.33	428.91	424.88	420.51	428.57	429.75	427.29	421.86	428.50
MW-13S	420.94	435.56	433.30	425.89	422.45	428.39	429.25	423.95	419.79	429.85	430.20	426.04	422.13	430.37	430.58	428.51	423.45	429.52
MW-13D	418.60	433.27	431.02	423.52	420.18	426.21	426.83	421.64	417.44	427.49	427.83	423.72	419.75	427.98	428.17	426.13	420.98	427.46
MW-14S	424.75	441.87	438.87	430.27	427.83	433.49	434.33	428.61	--	434.77	434.64	430.10	426.97	434.69	435.61	433.28	427.99	434.64
MW-14D	422.76	438.82	436.67	428.35	424.53	431.30	432.18	426.51	421.62	431.64	432.86	428.37	423.72	432.61	433.26	431.32	425.92	432.11
MW-14R	357.85	369.11	367.45	355.73	359.17	363.20	366.05	359.64	357.00	362.03	367.99	359.40	357.76	363.32	366.15	360.15	361.90	363.18
MW-15S	424.76	440.45	437.94	430.25	426.86	433.22	433.94	428.71	423.98	434.51	434.18	430.13	426.53	434.26	434.93	432.81	428.07	434.10
MW-15D	421.67	437.59	435.47	427.28	423.34	430.20	430.59	425.36	420.50	430.68	431.77	427.37	422.64	431.48	432.07	430.04	424.85	431.28
MW-16S^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16D^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17S	418.19	433.88	431.56	425.98	421.39	428.05	428.67	424.72	--	430.02	428.83	425.86	421.78	428.94	429.17	427.67	423.81	428.68
MW-18S	406.66	407.83	405.69	401.26	398.83	411.62	412.01	408.80	406.19	412.64	412.16	409.66	406.78	412.45	412.56	411.17	408.03	412.11
MW-18D	406.02	410.91	409.21	402.82	400.04	411.68	412.48	408.41	405.56	412.15	412.72	409.78	406.62	412.66	413.29	411.92	407.67	412.41
MW-19S	426.73	440.99	437.84	431.44	429.21	434.92	434.86	430.35	426.01	438.07	435.64	431.65	429.13	435.98	436.05	433.72	430.19	435.62
MW-19D	419.91	435.18	434.36	424.07	422.16	429.12	426.49	422.98	420.36	430.23	431.24	427.82	423.51	434.04	435.20	428.82	417.93	429.56
MW-20R	363.82	375.66	373.17	358.22	363.32	366.81	370.42	363.76	360.73	367.37	375.67	364.27	362.02	367.50	370.52	363.31	368.98	368.50
MW-22U	411.92	414.00	412.37	406.46	411.91	411.88	411.93	411.89	411.90	411.88	411.86	411.88	411.87	411.74	411.71	411.80	411.72	411.77
MW-22L	402.81	414.01	412.41	411.72	403.58	407.72	408.72	404.94	402.54	408.27	408.85	406.15	403.30	408.76	409.44	408.07	404.21	408.59
MW-23S	423.52	434.74	432.07	428.03	426.22	428.13	427.94	425.67	421.36	432.59	430.26	427.99	424.66	430.57	427.64	429.01	426.85	428.60
MW-23D	418.56	432.41	430.17	423.10	420.33	424.12	425.12	419.94	415.95	427.22	427.34	423.39	418.20	427.19	430.65	425.72	421.05	425.28
MW-25S	396.69	410.92	408.72	399.75	397.52	402.59	404.10	399.63	397.85	403.98	402.73	399.34	398.60	402.62	403.99	402.02	398.86	403.64
MW-25D	398.27	411.43	409.96	402.42	399.38	404.63	406.01	401.67	398.85	405.31	405.16	402.10	399.77	404.93	406.04	404.43	399.05	400.66
MW-26R	419.62	435.55	432.87	423.86	423.86	426.24	427.52	421.36	416.46	425.40	427.56	422.47	417.58	426.06	426.79	--	420.03	424.74
MW-27S	417.03	434.62	432.82	423.82	419.02	426.60	428.13	421.57	416.64	426.62	427.87	423.46	418.19	427.68	428.89	426.90	420.24	427.77
MW-27D	417.67	434.38	432.58	424.02	419.79	426.33	427.98	422.01	416.76	426.75	428.09	423.75	418.77	427.73	428.97	426.83	420.75	427.81
MW-28S	--	430.59	428.57	423.37	422.21	426.60	426.59	422.20	--	428.75	426.91	423.73	--	427.12	427.21	426.05	422.12	426.83
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	400.99	412.43	409.27	404.68	401.77	406.16	407.06	403.08	400.54	406.51	406.51	404.51	401.07	407.25	407.78	406.54	402.76	406.84
BC-4R	367.40	378.61	378.85	369.47	368.79	372.50	374.21	369.50	366.23	370.58	374.48	370.17	367.12	--	--	371.53	--	--
FMMW-1	398.21	410.93	410.47	402.08	398.60	402.94	404.47	399.89	398.07	401.39	404.20	402.00	398.45	411.88	404.93	403.71	398.97	403.89
FMMW-2	399.52	411.56	409.80	403.38	400.15	404.58	405.94	401.95	399.41	403.08	405.81	403.27	399.92	398.05	406.45	405.32	400.93	405.54

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	04/21/11	07/07/11	10/27/11	01/26/12	04/27/12	07/19/12	10/11/12	01/17/13	04/23/13	07/25/13	10/10/13	01/06/14	04/09/14	07/07/14	10/29/14	01/15/15	04/20/15	07/28/15
MW-10S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-10D	441.99	438.29	430.48	433.04	438.69	435.288	428.738	436.36	438.09	432.23	433.33	431.84	441.79	435.56	430.11	435.54	436.08	428.64
MW-11S	443.53	430.58	424.03	427.67	430.80	427.895	422.825	429.61	430.48	426.04	427.12	425.22	433.16	428.73	424.18	428.02	428.93	422.84
MW-11D	--	430.41	423.90	427.46	430.60	427.702	422.702	429.39	431.15	425.90	426.54	425.00	429.95	424.84	419.19	422.65	428.70	422.74
MW-11D(2)	434.73	431.83	423.03	426.03	431.27	427.771	421.641	429.38	430.58	425.10	426.28	423.92	433.89	428.78	422.93	426.58	428.94	421.78
MW-12S	434.21	431.52	--	428.74	431.74	429.336	427.856	430.61	431.20	--	433.19	--	434.91	--	--	428.91	430.18	423.89
MW-12D	434.49	430.32	423.03	425.72	430.71	427.566	420.876	428.54	429.68	424.40	426.15	424.48	434.52	428.31	422.59	426.02	428.22	421.19
MW-13S	434.56	431.36	424.72	427.35	431.83	429.185	422.225	429.65	430.71	425.51	427.26	426.06	434.71	428.74	424.39	429.81	429.99	422.56
MW-13D	432.17	428.90	422.32	424.94	430.04	426.69	419.84	427.23	428.44	423.15	424.94	423.59	432.40	426.59	421.99	427.09	427.46	420.19
MW-14S	440.84	436.68	428.10	432.29	436.60	432.818	426.558	434.75	436.19	430.41	431.40	429.25	440.20	434.01	428.64	433.52	434.06	426.59
MW-14D	438.44	434.77	426.13	429.13	434.84	431.59	424.39	432.76	434.39	428.22	429.09	427.49	437.99	432.14	425.94	431.39	432.57	424.64
MW-14R	366.10	366.13	359.81	360.76	366.15	358.954	354.814	362.35	365.14	353.64	359.94	364.62	369.01	358.48	357.45	363.58	367.26	353.71
MW-15S	439.58	436.01	428.26	431.88	435.90	432.59	426.79	434.35	435.67	430.51	432.28	429.28	439.47	433.68	428.35	433.24	433.73	426.76
MW-15D	437.2	434	--	427.69	433.74	430.59	423.13	431.65	432.69	427.17	428.09	426.83	436.69	431.09	424.84	430.74	431.22	423.52
MW-16S^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	480.27	--
MW-16D^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	480.73	--
MW-17S	432.474	429.724	423.924	426.83	429.94	427.524	422.974	428.97	429.62	425.87	426.76	424.97	432.14	428.19	423.27	428.32	428.32	422.89
MW-18S	415.396	412.986	408.116	409.86	413.18	410.896	407.716	412.46	412.44	407.58	411.58	409.12	416.43	411.60	407.83	414.83	411.79	407.61
MW-18D	417.46	414.90	407.94	410.13	414.13	411.755	407.375	412.92	413.47	407.74	411.68	409.08	417.47	413.02	407.87	411.39	412.91	407.55
MW-19S	439.15	436.16	430.48	434.77	437.11	432.652	428.832	435.92	436.36	431.90	434.01	431.93	440.32	436.91	430.03	436.81	435.88	428.73
MW-19D	437.87	427.50	428.50	429.82	436.00	432.35	416.63	430.69	435.35	--	421.32	426.40	439.32	437.32	417.39	434.97	424.45	417.12
MW-20R	367.73	369.97	363.65	363.94	368.94	363.629	356.649	367.05	368.59	354.75	361.65	371.65	372.63	360.95	362.79	368.15	370.70	357.13
MW-22U	--	411.84	411.83	411.80	411.78	411.838	413.968	411.92	410.77	405.65	418.81	407.67	414.82	410.16	403.62	411.81	411.84	411.84
MW-22L	--	411.18	404.57	406.30	410.28	408.076	404.056	409.10	409.45	404.32	408.86	404.73	413.40	408.95	402.35	410.29	409.16	404.13
MW-23S	433.36	430.65	427.04	428.54	429.91	427.39	424.23	448.34	--	426.52	427.77	426.28	427.29	427.45	--	--	428.10	424.24
MW-23D	431.53	431.51	421.34	423.14	426.84	423.84	419.35	426.05	426.45	421.45	423.18	422.05	430.98	424.81	420.99	427.52	425.60	419.15
MW-25S	410.32	406.94	397.98	401.60	406.43	403.1	398.56	404.35	405.68	400.97	401.44	399.76	408.85	405.19	399.10	403.28	404.56	398.59
MW-25D	411.06	408.46	400.34	403.42	407.77	405.22	400.45	406.21	407.27	403.32	403.66	402.27	410.54	408.36	401.15	405.15	406.34	400.50
MW-26R	--	426.90	417.95	419.88	425.70	422	415.4	425.20	--	418.82	419.09	418.39	427.32	357.75	--	360.40	361.98	352.63
MW-27S	434.21	430.81	420.43	424.02	430.11	426.56	418.93	428.23	429.31	423.86	422.84	424.21	433.28	429.46	421.79	429.16	428.21	419.19
MW-27D	433.82	430.84	421.07	424.15	430.02	426.79	419.64	428.23	429.02	423.92	424.08	424.12	433.00	428.92	421.85	428.93	428.07	419.91
MW-28S	429.44	427.4	422.19	424.67	427.77	NM	422.07	421.75	--	--	424.77	--	--	--	--	--	426.37	422.17
MW-29S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BC-4S	411.756	409.246	402.646	404.19	408.30	406.246	402.26	407.28	407.45	404.75	406.19	402.82	411.49	408.37	397.25	409.48	407.25	402.05
BC-4R	--	--	--	370.41	375.16	386.882	385.60	372.66	374.31	--	--	--	377.96	389.91	--	372.61	375.23	390.99
FMMW-1	410.683	407.633	399.073	408.23	406.28	403.673	399.033	404.37	405.73	402.38	400.13	400.41	409.73	405.28	398.81	403.45	404.67	398.88
FMMW-2	411.75	408.31	401.01	394.17	407.21	405.287	400.867	406.027	406.087	403.59	402.14	402.26	410.36	406.46	400.49	405.11	406.14	400.64

Water Level Measurements
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	10/15/15	01/14/16	04/21/16	07/07/16	10/13/16	01/19/17	07/14/17	01/12/18	08/29/18	01/16/19	08/22/19	01/22/20	08/25/20	01/20/21	08/03/21
MW-10S	*	*	*	*	*	438.60	438.38	439.69	*	*	*	*	*	439.81	434.25
MW-10D	425.87	440.99	441.21	434.09	428.38	435.82	436.39	437.27	429.63	430.33	425.65	431.54	426.29	438.14	429.99
MW-11S	--	432.63	432.38	426.81	421.95	428.59	429.09	430.00	423.74	424.78	421.08	425.83	421.58	430.98	424.08
MW-11D	419.50	432.49	432.23	426.68	421.85	423.87	424.41	429.74	423.39	424.65	419.95	425.72	421.47	430.88	424.00
MW-11D(2)	419.43	434.08	434.53	426.99	421.38	428.64	429.71	430.21	422.99	423.28	419.56	424.68	420.46	431.16	423.12
MW-12S	420.36	433.47	433.09	428.11	422.61	429.88	429.69	430.80	425.06	426.01	420.79	427.16	422.47	431.95	425.91
MW-12D	419.06	433.27	433.08	426.27	421.18	428.03	429.09	429.47	422.28	423.07	418.90	424.27	420.22	430.50	422.78
MW-13S	420.69	433.86	434.01	427.72	422.19	429.61	429.87	430.92	423.72	424.47	420.54	425.81	420.55	431.39	424.16
MW-13D	418.51	431.52	431.67	425.14	419.94	427.24	427.51	428.49	421.02	423.99	417.99	423.27	417.88	429.29	421.64
MW-14S	--	439.78	439.07	431.41	428.95	435.92	434.23	436.78	427.61	428.50	Dry	426.63	Dry	426.10	428.00
MW-14D	422.29	437.49	437.96	429.98	424.56	432.11	433.02	433.71	425.62	426.44	422.27	427.67	423.68	434.39	425.89
MW-14R	356.41	367.43	370.08	361.66	357.41	363.07	361.57	364.23	356.24	359.47	352.16	358.24	356.07	365.28	359.66
MW-15S	424.13	438.50	438.08	431.26	425.81	432.17	433.77	435.26	427.85	428.58	424.39	429.54	425.66	430.65	428.38
MW-15D	421.22	436.22	436.74	429.26	423.32	430.06	431.88	432.47	424.48	425.25	421.06	426.44	422.49	433.62	425.04
MW-16S^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16D^	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17S	419.36	431.47	431.13	426.26	421.39	427.17	428.07	428.79	423.68	424.51	419.87	425.26	421.57	429.92	424.07
MW-18S	406.26	414.98	414.43	410.10	407.05	410.91	411.52	412.35	408.14	408.71	406.40	409.63	406.93	414.92	408.59
MW-18D	405.85	416.58	417.24	411.20	406.88	411.58	413.46	412.99	408.07	408.39	405.77	409.10	406.68	414.49	408.37
MW-19S	426.51	439.11	437.80	432.26	428.69	434.19	433.55	435.23	432.43	431.23	426.79	433.78	427.82	437.50	433.29
MW-19D	423.85	429.35	431.52	430.22	425.80	424.01	430.65	433.13	418.74	421.33	421.43	422.69	415.99	428.88	420.25
MW-20R	360.70	372.00	375.97	364.95	360.42	367.14	364.08	368.60	358.40	362.56	355.04	362.16	358.74	369.95	362.10
MW-22U	411.85	412.67	412.59	411.88	411.83	411.81	411.85	411.83	411.89	411.81	411.80	411.83	411.83	417.31	412.01
MW-22L	402.75	412.50	413.46	407.69	403.53	407.67	409.97	409.47	404.66	404.94	402.76	405.61	403.48	411.04	404.95
MW-23S	--	431.34	430.21	426.61	423.47	428.87	427.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-23D	416.35	429.00	433.87	423.03	417.92	426.80	426.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-25S	397.52	409.97	411.10	402.60	397.97	402.46	406.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-25D	398.73	410.44	411.85	404.79	399.68	404.88	407.47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-26R	354.20	368.00	372.30	398.40	357.60	364.89	362.69	422.28	414.02	414.51	409.60	414.75	410.71	421.34	412.70
MW-27S	416.61	433.21	433.70	425.59	418.07	427.13	429.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-27D	416.92	433.20	433.70	425.65	419.19	427.19	428.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-28S	422.17	428.97	428.38	423.79	421.70	426.51	426.21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-29S	--	--	--	--	--	--	--	436.75	430.03	430.85	427.30	431.98	428.07	436.95	430.54
BC-4S	400.65	410.54	416.06	405.55	401.20	405.84	407.63	407.29	402.56	402.88	400.63	403.73	401.24	408.70	402.75
BC-4R	389.65	376.57	--	372.19	368.11	--	373.76	373.86	367.83	369.35	*	368.44	*	374.52	369.65
FMMW-1	398.01	409.03	409.90	402.92	398.38	402.88	405.85	403.93	399.19	399.06	398.19	399.46	398.42	406.13	399.39
FMMW-2	399.30	409.77	410.57	404.42	399.83	404.40	406.67	405.66	401.22	400.92	399.52	401.50	399.89	407.40	401.49

Appendix D

GROUNDWATER MONITORING DATA

Table 2. Water Level Elevations - August 3, 2021
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation	Depth to Water (FT)	Water Level Elevation
Shallow Perched Aquifer			
MW-10S	463.65	29.40	434.25
MW-11S	520.03	95.95	424.08
MW-12S	493.41	67.50	425.91
MW-13S	452.26	28.10	424.16
MW-14S	481.30	53.30	428.00
MW-15S	506.78	78.40	428.38
MW-17S	555.97	131.90	424.07
MW-18S	541.43	132.84	408.59
MW-19S	489.23	55.94	433.29
MW-29S	450.65	20.11	430.54
FMMW-1	546.03	146.64	399.39
FMMW-2	539.96	138.47	401.49
BC-4S	530.25	127.50	402.75
Upper Regional Aquifer			
MW-10D	464.09	34.10	429.99
MW-11D	520.10	96.10	424.00
MW-11D(2)	519.53	96.41	423.12
MW-12D	493.49	70.71	422.78
MW-13D	450.19	28.55	421.64
MW-14D	481.39	55.50	425.89
MW-15D	509.09	84.05	425.04
MW-18D	541.79	133.42	408.37
MW-19D	489.35	69.10	420.25
MW-22U	549.17	137.16	412.01
Lower Regional Aquifer			
MW-14R	480.26	120.60	359.66
MW-20R	472.90	110.80	362.10
MW-22L	548.95	144.00	404.95
MW-26R	485.40	72.70	412.70
BC-4R	530.31	160.66	369.65

Well casing elevation from survey performed on 5/23/2018

Table 3. Field Parameters
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Sample Number	Date	Method	pH	Specific Conductivity	Temperature
Units				(SU)	(µS/cm)	(°C)
HVL Cleanup Level				—	700	—
WAC 173-200				6.5-8.5	700[b]	—
Shallow Perched Aquifer						
(BG) MW-10S	HVL-080221-14	8/2/21	DP	**6.48**	282	14.4
MW-11S	HVL-080321-24	8/3/21	DP	**6.07**	296	15.4
MW-12S	HVL-080221-02	8/2/21	DB	**6.10**	381	19.2
MW-13S	HVL-080321-23	8/3/21	DP	**6.19**	263	14.9
MW-14S	HVL-080321-15	8/3/21	DP	**6.24**	319	14.2
MW-15S	HVL-080221-03	8/2/21	DP	**6.29**	315	16.2
MW-17S	HVL-080221-13	8/2/21	DP	**6.26**	401	19.9
MW-18S	HVL-080321-22	8/3/21	DP	**6.19**	334	16.3
MW-29S	HVL-080221-06	8/2/21	DP	**6.30**	321	16.0
FMMW-1	HVL-080321-18	8/3/21	DP	**6.45**	282	15.8
FMMW-2	HVL-080321-16	8/3/21	DP	**5.91**	364	17.3
Upper Regional Aquifer						
(BG) MW-10D	HVL-080321-19	8/3/21	DP	6.64	282	13.4
MW-11D(2)	HVL-080321-25	8/3/21	DP	6.86	209	15.8
MW-12D	HVL-080221-04	8/2/21	DP	6.59	305	16.6
MW-13D	HVL-080321-21	8/3/21	DP	**6.40**	299	14.8
MW-14D	HVL-080321-17	8/3/21	DP	**6.45**	274	13.1
MW-15D	HVL-080221-07	8/2/21	DP	6.92	277	15.5
MW-18D	HVL-080321-20	8/3/21	DP	6.87	251	16.1
Lower Regional Aquifer						
MW-14R	HVL-080221-01	8/2/21	DP	7.66	104	12.5
MW-20R	HVL-080221-11	8/2/21	DP	7.35	98	11.8
MW-26R	HVL-080221-09	8/2/21	DP	7.46	212	12.5

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**

b = Secondary Drinking Water Standard
BG = Background
°C = degrees Celsius
DP = dedicated bladder-pump
DB = disposable bailer
SU = standard units
µS/cm = microsiemens per centimeter
— = not analyzed or not applicable

Table 4. Inorganic Parameters
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Location		Alkalinity, Total	Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL		10.0	0.1	0.2	0.2	0.5	10	1.0	4.0
HVL Cleanup Level		—	—	250	10	250	500	—	—
WAC 173-200 Criteria		—	—	250[b]	10[a]	250[b]	500[b]	—	—
Shallow Perched Aquifer									
(BG)	MW-10S	120	*	7.0	0.66	11	150	1.1	*
	MW-11S	120	0.12	16	0.55	8.5[H]	160	1.1	*
	MW-12S	180	1.6	12	0.67	1.0	180	1.9	*
	MW-13S	110	*	6.0	0.40	16[H]	99	*	*
	MW-14S	130	0.76	18	*	5.4[H]	71	2.4	*
	MW-15S	140	3.4	15	*	4.8	220	1.7	*
	MW-17S	180	4.0	14	0.35	3.5	220	1.6	*
	MW-18S	150	*	12	0.41	6.4[H]	200	1.1	*
	MW-29S	140	*	10	*[H]	13	190	*	6.0
	FMMW-1	120	*	10	0.89	13[H]	61	*	*
	FMMW-2	150	*	15	2.3	8.1[H]	240	1.2	*
Upper Regional Aquifer									
(BG)	MW-10D	130	*	6.5	0.58	13[H]	140	1.1	*
	MW-11D(2)	89	*	5.0	1.7	7.8[H]	320	*	*
	MW-12D	140	*	7.8	1.1	5.8	170	*	*
	MW-13D	130	*	7.4	0.40	16[H]	180	*	*
	MW-14D	120	3.6	8.5	*	9.5[H]	430	1.6	*
	MW-15D	120	*	8.3	0.70	8.9	160	*	*
	MW-18D	110	*	6.2	1.4	7.3[H]	160	*	*
Lower Regional Aquifer									
	MW-14R	51	0.11	1.5	*	2.9	95	*	*
	MW-20R	50	*	1.5	*	2.4	180	*	*
	MW-26R	100	*	4.6	*	8.1	130	*	*

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

H = Parameter analyzed outside specified holding time

— = not analyzed or not applicable

* = not reported at or above the MRL (Method Reporting Limit)

a = Primary Drinking Water Standard

b = Secondary Drinking Water Standard

BG = Background/upgradient wells

mg/L = milligrams per liter

Table 5. Dissolved Metals
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Iron	Manganese	Calcium	Magnesium	Potassium	Sodium
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.01	0.001	0.2	0.1	2.0	1.0
HVL Cleanup Level	0.30	0.05	—	—	—	—
WAC 173-200 Criteria	0.30[b]	0.05[b]	—	—	—	—
Shallow Perched Aquifer						
(BG) MW-10S	*	0.0028	32	10	2.2	8.0
MW-11S	*	*	24	7.5	6.4	18
MW-12S	*	**0.34**	32	9.3	13	20
MW-13S	*	*	25	7.4	3.5	13
MW-14S	0.221	**0.43**	29	8.8	4.9	16
MW-15S	0.055	**1.1**	25	7.9	9.5	15
MW-17S	*	**0.88**	30	10	14	23
MW-18S	0.013	*	29	8.9	8.6	20
MW-29S	0.23	**1.4**	27	8.1	3.0	24
FMMW-1	*	0.0011	23	6.5	3.2	20
FMMW-2	*	0.0150	29	9.2	10	21
Upper Regional Aquifer						
(BG) MW-10D	*	*	32	10	*	7.8
MW-11D(2)	*	*	19	8.4	2.0	7.0
MW-12D	*	*	27	11	3.2	17
MW-13D	*	*	28	9.8	3.3	14
MW-14D	**4.79**	**1.3**	20	6.4	6.9	11
MW-15D	*	0.0068	23	10	2.9	17
MW-18D	*	*	23	9.4	2.9	11
Lower Regional Aquifer						
MW-14R	0.055	**0.18**	7.1	4.3	2.1	4.7
MW-20R	*	*	7.6	4.1	2.2	5.2
MW-26R	**0.742**	**0.44**	21	9.5	2.4	6.1

Notes:

Parameter concentrations that are greater than site cleanup levels or WAC 173-200 criteria are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

b = Secondary Drinking Water Standard

BG = Background

mg/L = milligrams per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Table 6. Appendix I Total Metals
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.002	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.002	0.02	0.005	0.01	0.005	0.01	0.01
WAC 173-200 Criteria	—	0.00005	1.0	—	0.01	0.05	—	1.0	0.05	—	0.01	0.05	—	—	5.0
Shallow Perched Aquifer															
(BG) MW-10S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11S	*	*	0.010	*	*	*	*	*	*	*	*	*	*	*	*
MW-12S	*	*	0.018	*	*	*	*	*	*	*	*	*	*	*	0.022
MW-13S	*	*	0.0074	*	*	*	*	*	*	*	*	*	*	*	*
MW-14S	*	*	0.0093	*	*	*	*	*	*	*	*	*	*	*	*
MW-15S	*	*	0.014	*	*	*	*	*	*	*	*	*	*	*	*
MW-17S	*	*	0.019	*	*	*	*	*	*	*	*	*	*	*	*
MW-18S	*	*	0.013	*	*	*	*	*	*	*	*	*	*	*	*
MW-29S	*	**0.0078**	0.010	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-1	*	*	0.0067	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-2	*	*	0.016	*	*	*	*	*	*	*	*	*	*	*	*
Upper Regional Aquifer															
(BG) MW-10D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.031
MW-11D(2)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-12D	*	*	0.0050	*	*	*	*	*	*	*	*	*	*	*	0.33
MW-13D	*	*	0.0058	*	*	*	*	*	*	*	*	*	*	*	*
MW-14D	*	**0.0060**	0.015	*	*	*	*	*	*	*	*	*	*	*	*
MW-15D	*	*	0.0080	*	*	*	*	*	*	*	*	*	*	*	*
MW-18D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lower Regional Aquifer															
MW-14R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-20R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-26R	*	*	0.0080	*	*	*	*	*	*	*	*	*	*	*	*

Notes:

Parameter concentrations that are greater than site cleanup levels or WAC 173-200 criteria are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

BG = Background

mg/L = milligrams per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Table 7. Volatile Organic Compounds
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Location		Tetrachloroethene
Units		µg/L
MRL		0.5
HVL Cleanup Level		—
WAC 173-200 Criteria		0.80
Shallow Perched Aquifer		
(BG)	MW-10S	*
	MW-11S	*
	MW-12S	*
	MW-13S	*
	MW-14S	*
	MW-15S	*
	MW-17S	*
	MW-18S	*
	MW-29S	*
	FMMW-1	*
	FMMW-2	*
Upper Regional Aquifer		
(BG)	MW-10D	*
	MW-11D(2)	**1.1**
	MW-12D	*
	MW-13D	*
	MW-14D	*
	MW-15D	0.50
	MW-18D	*
Lower Regional Aquifer		
	MW-14R	*
	MW-20R	*
	MW-26R	*
Quality Control Samples		
	Field Blank	*
	Trip Blank	*

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

Volatile organic compounds not listed were not present at concentrations exeeding the MRL

BG = Background

µg/L = micrograms per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Table 8. Duplicate Sample Evaluation
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Parameter	MRL	MW-15S	MW-15S (Duplicate)	RPD (%)
Dissolved Metals (mg/L)				
Calcium	0.2	25	25	0.0
Iron	0.01	0.055	0.054	1.8
Magnesium	0.1	7.9	7.7	2.6
Manganese	0.001	1.1	1.1	0.0
Potassium	2.0	9.5	9.3	2.1
Sodium	1.0	15	15	0.0
Total Metals (mg/L)				
Barium	0.005	0.014	0.014	0.0
Inorganic Parameters (mg/L)				
Alkalinity	10	140	130	7.4
Ammonia	0.1	3.4	3.4	0.0
Chloride	0.2	15	15	0.0
Sulfate	0.5	4.8	4.8	0.0
Total Dissolved Solids	10	220	160	31.6
Total Organic Carbon	1.0	1.7	1.7	0.0

Notes:

Analysis performed by Eurofins TestAmerica in Denver, Colorado

Analytes not listed were not present at concentrations exceeding the MRL

RPD = relative percent difference

µg/L = micrograms per liter

mg/L = milligrams per liter

Table 9. Water Supply Wells
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Parameter	Units	MRL	Corliss	Paul Bunyan	Trip Blank
Field Parameters					
pH	SU	—	7.00	6.86	—
Specific Conductivity	µS/cm	—	249	306	—
Temperature	°C	—	25.0	15.2	—
Volatile Organic Compounds					
Carbon Disulfide	µg/L	0.5	6.3	10	4.8
Metals (total)					
Arsenic	mg/L	0.005	*	*	—
Iron	mg/L	0.005	0.007	*	—
Manganese	mg/L	0.001	0.0020	0.0026	—
Zinc	mg/L	0.01	*	*	—
Inorganic Parameters					
Ammonia	mg/L	0.1	*	*	—
Chemical Oxygen Demand	mg/L	10	*	*	—
Chloride	mg/L	0.2	5.2	6.5	—
Nitrate	mg/L	0.2	0.99	1.8	—
Nitrite	mg/L	0.5	*	*	—
Sulfate	mg/L	0.5	8.6	9.6	—
Total Organic Carbon	mg/L	1.0	*	*	—
Other					
Color	PCU	5.0	5.0	5.0	—

Notes:

Analyses performed by Eurofins TestAmerica in Denver, Colorado.

Analytes not listed are VOCs that were not detected above the reporting limit.

Color reported in color units

°C = degrees Celsius

mg/L = milligrams per liter

PCU = platinum-cobalt units

SU = Standard Units

µS/cm = microsiemens per centimeter

µg/L = micrograms per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = Not Applicable

Table 10. Cation-Anion Balance
Semi - Annual Monitoring Event No. 2 - August 2021
Hidden Valley Landfill, Pierce County, Washington

Cations	mg/L					meq/L					% of Total		
	Ca	Mg	K	Na	Total	Ca	Mg	K	Na	Total	Na+K	Ca	Mg
MW-10S	32	10	2.2	8.0	52.20	1.60	0.82	0.06	0.35	2.82	14	57	29
MW-11S	24	7.5	6.4	18	55.90	1.20	0.62	0.16	0.78	2.76	34	43	22
MW-12S	32	9.3	13	20	74.30	1.60	0.77	0.33	0.87	3.56	34	45	21
MW-13S	25	7.4	3.5	13	48.90	1.25	0.61	0.09	0.57	2.51	26	50	24
MW-14S	29	8.8	4.9	16	58.70	1.45	0.72	0.13	0.70	2.99	27	48	24
MW-15S	25	7.9	9.5	15	57.40	1.25	0.65	0.24	0.65	2.79	32	45	23
MW-17S	30	10	14	23	77.00	1.50	0.82	0.36	1.00	3.68	37	41	22
MW-18S	29	8.9	8.6	20	66.50	1.45	0.73	0.22	0.87	3.27	33	44	22
MW-29S	27	8.1	3.0	24	62.10	1.35	0.67	0.08	1.04	3.13	36	43	21
FMMW-1	23	6.5	3.2	20	52.70	1.15	0.53	0.08	0.87	2.63	36	44	20
FMMW-2	29	9.2	10	21	69.20	1.45	0.76	0.26	0.91	3.37	35	43	22
MW-10D	32	10	2.0	7.8	51.80	1.60	0.82	0.05	0.34	2.81	14	57	29
MW-11D(2)	19	8.4	2.0	7.0	36.40	0.95	0.69	0.05	0.30	2.00	18	48	35
MW-12D	27	11	3.2	17	58.20	1.35	0.91	0.08	0.74	3.07	27	44	29
MW-13D	28	9.8	3.3	14	55.10	1.40	0.81	0.08	0.61	2.90	24	48	28
MW-14D	20	6.4	6.9	11	44.30	1.00	0.53	0.18	0.48	2.18	30	46	24
MW-15D	23	10	2.9	17	52.90	1.15	0.82	0.07	0.74	2.78	29	41	30
MW-18D	23	9.4	2.9	11	46.30	1.15	0.77	0.07	0.48	2.47	22	46	31
MW-14R	7.1	4.3	2.1	4.7	18.20	0.35	0.35	0.05	0.20	0.97	27	37	37
MW-20R	7.6	4.1	2.2	5.2	19.10	0.38	0.34	0.06	0.23	1.00	28	38	34
MW-26R	21	9.5	2.4	6.1	39.00	1.05	0.78	0.06	0.27	2.16	15	49	36

Anions	mg/L					meq/L					% of Total			Total Ions (meq/L)	Cation - Anion Balance	Applicable Ratio (%)	Ratio Exceedance
	Alk	Cl	NO_3	SO_4	Total	Alk	Cl	NO_3	SO_4	Total	Cl	Alk	SO_4				
MW-10S	144	7.0	0.66	11	162.66	2.36	0.20	0.01	0.23	2.80	7	84	8	5.62	0.46	5	-
MW-11S	144	16	0.55	8.5	169.05	2.36	0.45	0.01	0.18	3.00	15	79	6	5.76	4.11	5	-
MW-12S	216	12	0.67	0.98	229.65	3.54	0.34	0.01	0.02	3.91	9	91	1	7.48	4.64	5	-
MW-13S	132	6.0	0.40	16	154.40	2.16	0.17	0.01	0.33	2.67	6	81	12	5.18	3.12	5	-
MW-14S	156	18	0.20	5.4	179.60	2.56	0.51	0.00	0.11	3.18	16	80	4	6.17	3.06	5	-
MW-15S	168	15	0.20	4.8	188.00	2.76	0.42	0.00	0.10	3.28	13	84	3	6.07	8.03	5	Exceeds
MW-17S	216	14	0.35	3.5	233.85	3.54	0.39	0.01	0.07	4.02	10	88	2	7.69	4.38	5	-
MW-18S	180	12	0.41	6.4	198.81	2.95	0.34	0.01	0.13	3.43	10	86	4	6.70	2.39	5	-
MW-29S	168	10	0.20	13	191.20	2.76	0.28	0.00	0.27	3.31	9	83	8	6.45	2.73	5	-
FMMW-1	144	10	0.89	13	167.89	2.36	0.28	0.01	0.27	2.93	10	81	9	5.56	5.28	5	Exceeds
FMMW-2	180	15	2.3	8.1	205.40	2.95	0.42	0.04	0.17	3.58	12	82	5	6.95	2.97	5	-
MW-10D	156	6.5	0.58	13	176.08	2.56	0.18	0.01	0.27	3.02	6	85	9	5.83	3.62	5	-
MW-11D(2)	106.8	5.0	1.7	7.8	121.30	1.75	0.14	0.03	0.16	2.08	7	84	8	4.08	2.13	10	-
MW-12D	168	7.8	1.1	5.8	182.70	2.76	0.22	0.02	0.12	3.11	7	88	4	6.19	0.64	5	-
MW-13D	156	7.4	0.40	16	179.80	2.56	0.21	0.01	0.33	3.11	7	82	11	6.00	3.48	5	-
MW-14D	144	8.5	0.20	9.5	162.20	2.36	0.24	0.00	0.20	2.80	9	84	7	4.98	12.49	10	Exceeds
MW-15D	144	8.3	0.70	8.9	161.90	2.36	0.23	0.01	0.19	2.79	8	85	7	5.58	0.14	5	-
MW-18D	132	6.2	1.4	7.3	146.90	2.16	0.17	0.02	0.15	2.51	7	86	6	4.99	0.80	10	-
MW-14R	61.2	1.5	0.20	2.9	65.80	1.00	0.04	0.00	0.06	1.11	4	90	5	2.08	6.89	10	-
MW-20R	60	1.5	0.20	2.4	64.10	0.98	0.04	0.00	0.05	1.08	4	91	5	2.08	3.86	10	-
MW-26R	120	4.6	0.20	8.1	132.90	1.97	0.13	0.00	0.17	2.27	6	87	7	4.43	2.55	10	-

Notes:
mg/L = milligrams per liter
meq/L = milliequivalents per liter
Total alkalinity concentration, reported as calcium carbonate (CaCO3), is converted to the bicarbonate (HCO3-) ion by multiplying by a factor of 1.2.
Cation / anion balance equation is the equivalent percent difference in cations minus anions divided by the sum of cations and anions [(cations-anions)/(anions+cations)*100].
The MRL was used for analytes that were non-detect
A 10% difference threshold is used if the total cation-anion sums are < 5.0 meq/liter.
A 5% difference threshold is used if the total cation-anion sums are > or = to 5.0 meq/liter.
— = Not Applicable

Table 2. Water Level Elevations - January 20, 2021
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation	Depth to Water (FT)	Water Level Elevation
Shallow Perched Aquifer			
MW-10S	463.65	23.84	439.81
MW-11S	520.03	89.05	430.98
MW-12S	493.41	61.46	431.95
MW-13S	452.26	20.87	431.39
MW-14S	481.30	55.20	426.10
MW-15S	506.78	71.13	435.65
MW-17S	555.97	126.05	429.92
MW-18S	541.43	126.51	414.92
MW-19S	489.23	51.73	437.50
MW-29S	450.65	13.70	436.95
FMMW-1	546.03	139.90	406.13
FMMW-2	539.96	132.56	407.40
BC-4S	530.25	121.55	408.70
Upper Regional Aquifer			
MW-10D	464.09	25.95	438.14
MW-11D	520.10	89.22	430.88
MW-11D(2)	519.53	88.37	431.16
MW-12D	493.49	62.99	430.50
MW-13D	450.19	20.90	429.29
MW-14D	481.39	47.00	434.39
MW-15D	509.09	75.47	433.62
MW-18D	541.79	127.30	414.49
MW-19D	489.35	60.47	428.88
MW-22U	549.17	131.86	417.31
Lower Regional Aquifer			
MW-14R	480.26	114.98	365.28
MW-20R	472.90	102.95	369.95
MW-22L	548.95	137.91	411.04
MW-26R	485.40	64.06	421.34
BC-4R	530.31	155.79	374.52

Updated well casing elevation with survey data from 5/23/2018

Table 3. Field Parameters
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Sample Number	Date	Method	pH	Specific Conductivity	Temperature
Units				(SU)	(µS/cm)	(°C)
HVL Cleanup Level				—	700	—
WAC 173-200				6.5-8.5	700[b]	—
Shallow Perched Aquifer						
(BG) MW-10S	HVL-012021-22	1/20/21	DP	**6.32**	332	13.1
MW-11S	HVL-011921-09	1/19/21	DP	**5.86**	333	12.8
MW-12S	HVL-012021-17	1/20/21	DB	**5.87**	332	14.2
MW-13S	HVL-012021-23	1/20/21	DP	**6.18**	198	10.9
MW-14S	HVL-011921-10	1/19/21	DP	**6.00**	98	11.1
MW-15S	HVL-011921-02	1/19/21	DP	**5.98**	313	14.3
MW-17S	HVL-012021-16	1/20/21	DP	**5.90**	571	18.1
MW-18S	HVL-011921-07	1/19/21	DP	**6.32**	472	14.2
MW-29S	HVL-012021-19	1/20/21	DP	**6.38**	293	11.9
FMMW-1	HVL-011921-01	1/19/21	DP	**6.42**	271	13.8
FMMW-2	HVL-011921-03	1/19/21	DP	**6.16**	481	14.8
Upper Regional Aquifer						
(BG) MW-10D	HVL-012021-20	1/20/21	DP	**6.43**	194	12.7
MW-11D(2)	HVL-012021-13	1/20/21	DP	6.78	197	12.3
MW-12D	HVL-012021-15	1/20/21	DP	6.86	286	14.9
MW-13D	HVL-012021-21	1/20/21	DP	6.56	287	12.2
MW-14D	HVL-011921-08	1/19/21	DP	**6.29**	219	11.7
MW-15D	HVL-011921-04	1/19/21	DP	6.66	280	13.5
MW-18D	HVL-011921-05	1/19/21	DP	6.77	254	13.6
Lower Regional Aquifer						
MW-14R	HVL-011921-06	1/19/21	DP	7.54	104	10.9
MW-20R	HVL-012121-29	1/21/21	DP	6.90	99	10.5
MW-26R	HVL-012021-18	1/20/21	DP	7.22	215	11.1

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**

b = Secondary Drinking Water Standard

BG = Background

°C = degrees Celsius

DP = dedicated bladder-pump

DB = disposable bailer

µS/cm = microsiemens per centimeter

— = not analyzed or not applicable

Table 4. Inorganic Parameters
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Location		Alkalinity, Total	Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL		10.0	0.1	0.2-1.2	0.2	0.2-1.0	10	1.0	4.0
HVL Cleanup Level		—	—	250	10	250	500	—	—
WAC 173-200 Criteria		—	—	250[b]	10[a]	250[b]	500[b]	—	—
Shallow Perched Aquifer									
(BG)	MW-10S	150	*	8.9	1.9	15	180	1.3	*
	MW-11S	90	*	16	7.8[H]	15	210	1.1	*
	MW-12S	49	*	18	**15[H]**	8.0	230	1.5	5.6
	MW-13S	75	*	5.0	2.0[H]	5.6	140	*	*
	MW-14S	39	*	2.4	0.58[H]	3.4	56	1.8	*
	MW-15S	120	3.2	15	2.7[H]	8.6	170	2.0	*
	MW-17S	160	5.3	16	**24**	5.3	320	1.7	*
	MW-18S	190	*	16	4.7[H]	13	260	1.3	*
	MW-29S	120	*	8.7	0.26[H]	12	190	1.2	6.8
	FMMW-1	99	*	12	1.8[H]	13	170	1.0	*
	FMMW-2	150	*	18	**11[H]**	21	300	1.2	*
Upper Regional Aquifer									
(BG)	MW-10D	82	*	5.4	2.3	8.6	110	*	*
	MW-11D(2)	86	*	5.1	1.9[H]	7.0	150	*	*
	MW-12D	140	*	8.1	1.2[H]	5.8	190	*	*
	MW-13D	130	*	8.9	1.0	11	160	*	*
	MW-14D	89	3.1	7.0	*[H]	7.6	120	1.9	*
	MW-15D	120	*	9.3	0.67[H]	11	160	*	16
	MW-18D	110	*	7.2	1.6[H]	8.1	150	*	*
Lower Regional Aquifer									
	MW-14R	48	*	1.6	*[H]	3.7	80	*	*
	MW-20R	45	*	1.4	*	2.5	110	*	*
	MW-26R	100	*	4.8	*	11	130	*	*

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

H = Parameter analyzed outside specified holding time

— = not analyzed or not applicable

* = not reported at or above the MRL (Method Reporting Limit)

a = Primary Drinking Water Standard

b = Secondary Drinking Water Standard

BG = Background/upgradient wells

mg/L = milligrams per liter

Table 5. Dissolved Metals
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Iron	Manganese	Calcium	Magnesium	Potassium	Sodium
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.01	0.001	0.2	0.1	2.0	1.0
HVL Cleanup Level	0.30	0.05	—	—	—	—
WAC 173-200 Criteria	0.30[b]	0.05[b]	—	—	—	—
Shallow Perched Aquifer						
(BG) MW-10S	*	*	41[B]	13	2.1	9.5
MW-11S	*	*	28	8.3	6.3	19
MW-12S	*	0.0034	24[B]	6.8	11	20
MW-13S	*	*	19[B]	5.4	3.4	13
MW-14S	*	0.04	8.9	2.7	2.4	5.0
MW-15S	*	**1.1**	23	7.0	9.4	17
MW-17S	*	**1.9**	41[B]	14	19	30
MW-18S	*	*	46	14	10	23
MW-29S	0.175	**0.73**	26[B]	7.4	3.0	23
FMMW-1	*	*	22	5.9	3.9	22
FMMW-2	*	*	42	13	12	25
Upper Regional Aquifer						
(BG) MW-10D	0.006	*	21[B]	7.3	*	6.9
MW-11D(2)	*	*	21[B]	8.7	2.2	7.7
MW-12D	*	*	29[B]	11	3.3	19
MW-13D	*	*	29[B]	11	3.4	16
MW-14D	**3.04**	**1.0**	16	4.8	6.5	11
MW-15D	*	0.031	23	9.7	2.8	19
MW-18D	*	*	23	9.2	3.2	12
Lower Regional Aquifer						
MW-14R	0.054	**0.20**	7.8	4.5	2.1	5.3
MW-20R	*	*	8.5[B]	4.3	2.1	5.8
MW-26R	**0.753**	**0.43**	22[B]	9.9	2.5	6.6

Notes:

Parameter concentrations that are greater than site cleanup levels or WAC 173-200 criteria are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

B= Compound was found in the blank and sample.

BG = Background

mg/L = milligrams per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Table 6. Appendix I Total Metals
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Location	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.002	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.002	0.02	0.005	0.01	0.005	0.01	0.01
WAC 173-200 Criteria	—	0.00005	1.0	—	0.01	0.05	—	1.0	0.05	—	0.01	0.05	—	—	5.0
Shallow Perched Aquifer															
(BG) MW-10S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11S	*	*	0.010	*	*	*	*	*	*	*	*	*	*	*	*
MW-12S	*	*	0.018	*	*	*	*	*	*	*	*	*	*	*	0.78
MW-13S	*	*	0.0053	*	*	*	*	*	*	*	*	*	*	*	*
MW-14S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-15S	*	*	0.013	*	*	*	*	*	*	*	*	*	*	*	*
MW-17S	*	*	0.028	*	*	*	*	*	*	*	*	*	*	*	*
MW-18S	*	*	0.015	*	*	*	*	*	*	*	*	*	*	*	*
MW-29S	*	**0.0085**	0.0087	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-1	*	*	0.0059	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-2	*	*	0.019	*	*	*	*	*	*	*	*	*	*	*	*
Upper Regional Aquifer															
(BG) MW-10D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11D(2)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-12D	*	*	0.0057	*	*	*	*	*	*	*	*	*	*	*	*
MW-13D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-14D	*	*	0.010	*	*	*	*	*	*	*	*	*	*	*	*
MW-15D	*	*	0.019	*	*	*	*	*	*	*	*	*	*	*	*
MW-18D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lower Regional Aquifer															
MW-14R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-20R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-26R	*	*	0.0079	*	*	*	*	*	*	*	*	*	*	*	*

Notes:

Parameter concentrations that are greater than site cleanup levels or WAC 173-200 criteria are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

BG = Background

mg/L = milligrams per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Table 7. Volatile Organic Compounds
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Location		Tetrachloroethene
Units		µg/L
MRL		0.5
HVL Cleanup Level		—
WAC 173-200 Criteria		0.80
Shallow Perched Aquifer		
(BG)	MW-10S	*
	MW-11S	*
	MW-12S	*
	MW-13S	*
	MW-14S	*
	MW-15S	*
	MW-17S	*
	MW-18S	*
	MW-29S	*
	FMMW-1	*
	FMMW-2	*
Upper Regional Aquifer		
(BG)	MW-10D	*
	MW-11D(2)	**1.2**
	MW-12D	*
	MW-13D	*
	MW-14D	*
	MW-15D	*
	MW-18D	*
Lower Regional Aquifer		
	MW-14R	*
	MW-20R	*
	MW-26R	*
Quality Control Samples		
	Field Blank	*
	Trip Blank	*

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**

Analyses performed by Eurofins TestAmerica in Denver, Colorado

Volatile organic compounds not listed were not present at concentrations exeeding the MRL

BG = Background

µg/L = micrograms per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Table 8. Duplicate Sample Evaluation
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Parameter	MRL	MW-11S	MW-11S (Duplicate)	RPD (%)
Dissolved Metals (mg/L)				
Calcium	0.2	28	27	3.6
Magnesium	0.1	8.3	8.1	2.4
Potassium	2.0	6.3	6.1	3.2
Sodium	1.0	19	19	0.0
Total Metals (mg/L)				
Barium	0.005	0.01	0.01	0.0
Inorganic Parameters (mg/L)				
Alkalinity	10.0	90	90	0.0
Chloride	0.6	16	16	0.0
Nitrate	0.2	7.8[H]	7.9[H]	1.3
Sulfate	0.5	15	15	0.0
Total Dissolved Solids	10	210	190	10.0
Total Organic Carbon	1.0	1.1	1.2	8.7

Notes:

Analysis performed by Eurofins TestAmerica in Denver, Colorado

Analytes not listed were not present at concentrations exceeding the MRL

H = Parameter analyzed outside specified holding time

RPD = relative percent difference

µg/L = micrograms per liter

mg/L = milligrams per liter

Table 9. Water Supply Wells
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Parameter	Units	MRL	Corliss	Paul Bunyan
Field Parameters				
pH	SU	—	6.36	6.83
Specific Conductivity	µS/cm	—	243	289
Temperature	°C	—	8.1	10.4
Volatile Organic Compounds				
No Detections	µg/L	0.5	*	*
Metals (total)				
Arsenic	mg/L	0.005	*	*
Iron	mg/L	0.01	0.011	0.021
Manganese	mg/L	0.001	0.0029	0.0022
Zinc	mg/L	0.01	*	0.06
Inorganic Parameters				
Ammonia	mg/L	0.1	*	*
Chemical Oxygen Demand	mg/L	10	*	*
Chloride	mg/L	1.2	5.2	6.7
Nitrate	mg/L	0.2	1.3	2.0
Nitrite	mg/L	0.5	*	*
Sulfate	mg/L	0.2	9.6	9.9
Total Organic Carbon	mg/L	1.0	*	*
Other				
Color	PCU	5.0	5.0	5.0

Notes:

Analyses performed by Eurofins TestAmerica in Denver, Colorado.

Analytes not listed are VOCs that were not detected above the reporting limit.

Color reported in color units

°C = degrees Celsius

mg/L = milligrams per liter

PCU = platinum-cobalt units

SU = Standard Units

µS/cm = microsiemens per centimeter

µg/L = micrograms per liter

* = not reported at or above the MRL (Method Reporting Limit)

— = Not Applicable

Table 10. Cation-Anion Balance
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Cations	mg/L					meq/L					% of Total		
	Ca	Mg	K	Na	Total	Ca	Mg	K	Na	Total	Na+K	Ca	Mg
MW-10S	41	13	2.1	9.5	65.60	2.05	1.07	0.05	0.41	3.58	13	57	30
MW-11S	28	8.3	6.3	19	61.60	1.40	0.68	0.16	0.83	3.07	32	46	22
MW-12S	24	6.8	11	20	61.80	1.20	0.56	0.28	0.87	2.91	40	41	19
MW-13S	19	5.4	3.4	13	40.80	0.95	0.44	0.09	0.57	2.05	32	46	22
MW-14S	8.9	2.7	2.4	5.0	19.00	0.44	0.22	0.06	0.22	0.95	30	47	24
MW-15S	23	7.0	9.4	17	56.40	1.15	0.58	0.24	0.74	2.70	36	42	21
MW-17S	41	14	19	30	104.00	2.05	1.15	0.49	1.31	4.99	36	41	23
MW-18S	46	14	10	23	93.00	2.30	1.15	0.26	1.00	4.70	27	49	24
MW-29S	26	7.4	3.0	23	59.40	1.30	0.61	0.08	1.00	2.98	36	43	20
FMMW-1	22	5.9	3.9	22	53.80	1.10	0.49	0.10	0.96	2.64	40	42	18
FMMW-2	42	13	12	25	92.00	2.10	1.07	0.31	1.09	4.56	31	46	23
MW-10D	21	7.3	2.0	6.9	37.20	1.05	0.60	0.05	0.30	2.00	18	52	30
MW-11D(2)	21	8.7	2.2	7.7	39.60	1.05	0.72	0.06	0.33	2.16	18	49	33
MW-12D	29	11	3.3	19	62.30	1.45	0.91	0.08	0.83	3.26	28	44	28
MW-13D	29	11	3.4	16	59.40	1.45	0.91	0.09	0.70	3.14	25	46	29
MW-14D	16	4.8	6.5	11	38.30	0.80	0.40	0.17	0.48	1.84	35	43	21
MW-15D	23	9.7	2.8	19	54.50	1.15	0.80	0.07	0.83	2.84	32	40	28
MW-18D	23	9.2	3.2	12	47.40	1.15	0.76	0.08	0.52	2.51	24	46	30
MW-14R	7.8	4.5	2.1	5.3	19.70	0.39	0.37	0.05	0.23	1.04	27	37	35
MW-20R	8.5	4.3	2.1	5.8	20.70	0.42	0.35	0.05	0.25	1.08	28	39	33
MW-26R	22	9.9	2.5	6.6	41.00	1.10	0.81	0.06	0.29	2.26	16	48	36

Anions	mg/L					meq/L					% of Total			Total Ions (meq/L)	Cation - Anion Balance	Applicable Ratio (%)	Ratio Exceedance
	Alk	Cl	NO_3	SO_4	Total	Alk	Cl	NO_3	SO_4	Total	Cl	Alk	SO_4				
MW-10S	180	8.9	1.9	15	205.80	2.95	0.25	0.03	0.31	3.55	7	83	9	7.13	0.52	5	-
MW-11S	108	16	7.8	15	146.80	1.77	0.45	0.13	0.31	2.66	17	67	12	5.73	7.12	5	Exceeds
MW-12S	58.8	18	15	8.0	99.80	0.96	0.51	0.24	0.17	1.88	27	51	9	4.79	21.49	10	Exceeds
MW-13S	90	5.0	2.0	5.6	102.60	1.48	0.14	0.03	0.12	1.77	8	84	7	3.81	7.33	10	-
MW-14S	46.8	2.4	0.58	3.4	53.18	0.77	0.07	0.01	0.07	0.92	7	84	8	1.86	1.61	10	-
MW-15S	144	15	2.7	8.6	170.30	2.36	0.42	0.04	0.18	3.01	14	79	6	5.71	5.31	5	Exceeds
MW-17S	192	16	24	5.3	237.30	3.15	0.45	0.39	0.11	4.10	11	77	3	9.09	9.83	5	Exceeds
MW-18S	228	16	4.7	13	261.70	3.74	0.45	0.08	0.27	4.54	10	82	6	9.24	1.81	5	-
MW-29S	144	8.7	0.26	12	164.96	2.36	0.25	0.00	0.25	2.86	9	83	9	5.84	2.10	5	-
FMMW-1	118.8	12	1.8	13	145.60	1.95	0.34	0.03	0.27	2.59	13	75	10	5.23	1.04	5	-
FMMW-2	180	18	11	21	230.00	2.95	0.51	0.18	0.44	4.07	12	72	11	8.63	5.64	5	Exceeds
MW-10D	98.4	5.4	2.3	8.6	114.70	1.61	0.15	0.04	0.18	1.98	8	81	9	3.98	0.45	10	-
MW-11D(2)	103.2	5.1	1.9	7.0	117.20	1.69	0.14	0.03	0.15	2.01	7	84	7	4.17	3.42	10	-
MW-12D	168	8.1	1.2	5.8	183.10	2.76	0.23	0.02	0.12	3.12	7	88	4	6.39	2.19	5	-
MW-13D	156	8.9	1.0	11	176.90	2.56	0.25	0.02	0.23	3.05	8	84	7	6.19	1.31	5	-
MW-14D	106.8	7.0	0.20	7.6	121.60	1.75	0.20	0.00	0.16	2.11	9	83	7	3.95	6.89	10	-
MW-15D	144	9.3	0.67	11	164.97	2.36	0.26	0.01	0.23	2.86	9	82	8	5.71	0.34	5	-
MW-18D	132	7.2	1.6	8.1	148.90	2.16	0.20	0.03	0.17	2.56	8	84	7	5.07	1.05	5	-
MW-14R	57.6	1.6	0.20	3.7	63.10	0.94	0.05	0.00	0.08	1.07	4	88	7	2.11	1.23	10	-
MW-20R	54	1.4	0.20	2.5	58.10	0.89	0.04	0.00	0.05	0.98	4	90	5	2.06	5.03	10	-
MW-26R	120	4.8	0.20	11	136.00	1.97	0.14	0.00	0.23	2.34	6	84	10	4.60	1.56	10	-

Notes:
mg/L = milligrams per liter
meq/L = milliequivalents per liter
Total alkalinity concentration, reported as calcium carbonate (CaCO3), is converted to the bicarbonate (HCO3-) ion by multiplying by a factor of 1.2.
Cation / anion balance equation is the equivalent percent difference in cations minus anions divided by the sum of cations and anions [(cations-anions)/(anions+cations)*100].
The MRL was used for analytes that were non-detect
A 10% difference threshold is used if the total cation-anion sums are < 5.0 meq/liter.
A 5% difference threshold is used if the total cation-anion sums are > or = to 5.0 meq/liter.
— = Not Applicable

Table 11. Leachate Monitoring Results
Semi - Annual Monitoring Event No. 1 - January 2021
Hidden Valley Landfill, Pierce County, Washington

Parameters	MRL	Leachate-East Area	Leachate-Side Slope	Leak Detection-Side Slope	Hydraulic Gradient Control System
Volatile Organics (µg/L)					
1,4-Dichlorobenzene	0.5-0.8	2.3	0.58	*	*
Acetone	10.0	17	16	14	*
Benzene	0.5-0.8	1.3	3.5	1.6	*
Carbon disulfide	0.5-0.84	0.93	1.6	*	*
cis-1,2-Dichloroethene	0.5-0.75	*	1.2	3.1	*
Ethylbenzene	1.0	1.6	2.2	*	*
m-Xylene & p-Xylene	0.5-0.77	4.0	2.0	0.62	*
o-Xylene	0.5-0.95	1.9	1.5	*	*
Toluene	0.5-0.85	2.3	4.2	1.5	*
Total Metals (mg/L)					
Antimony	0.002	0.0033	0.016	*	*
Arsenic	0.005	0.03	0.19	*	*
Barium	0.005	0.43	0.39	0.033	0.029
Calcium	0.2-0.78	71	12	31	100
Chromium	0.005	0.099	0.035	*	*
Cobalt	0.010	0.01	*	0.064	*
Copper	0.010	*	0.11	*	0.6
Iron	0.01-0.02	3.58	1.16	1.96	5.67
Lead	0.002	0.0026	0.0081	*	0.11
Magnesium	0.1-0.26	44	23	25	27
Manganese	0.005	1.7	0.077	1.9	3.9
Nickel	0.02	0.28	0.51	*	*
Potassium	2-2.4	240	460	470	3.7
Selenium	0.005	*	0.0078	0.0075	*
Sodium	1-3.7	2,500	6,100	4,400	18
Vanadium	0.01	0.080	0.084	0.094	*
Zinc	0.01	0.028	0.064	*	0.49
Inorganic Parameters (mg/L)					
Alkalinity	10	3,700	7,500	5,400	410
Ammonia	0.1-2.2	270	440	310	*
Chloride	0.2-60	2,000	7,600	4,900	0.94
Nitrate as N	0.5-0.9	* H	22 H	0.52 H	*
Sulfate	0.2-5.0	31	500	390	3.8
Total Dissolved Solids	10-470	8,900	21,000	19,000	430
Total Organic Carbon - Quad	1-35	430	930	690	1.8
Total Suspended Solids	4.0	18	*	*	*
Field Parameters					
Dissolved Oxygen (mg/L)	—	0.84	0.17	0.80	2.53
Oxidation Reduction Potential (mV)	—	-84.3	-178.0	5.8	-22.8
pH (SU)	—	7.36	7.88	7.60	6.67
Specific Conductivity (µS/cm)	—	11,968	28,786	24,256	736
Temperature (°C)	—	13.7	22.1	25.9	10.8
Turbidity (NTU)	—	34.9	11.2	13.8	1.3

Notes:
Analyses performed by TestAmerica, Arvada, Coloradc
Volatile organic compounds not listed were not present at concentrations exceeding the MRL
°C = degrees celcius
H = Sample was prepped or analyzed beyond specified holding time
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric Turbidity Units
SU = standard units
µg/L = micrograms per liter
µS/cm = microsiemens per centimeter
— = not applicable or not analyzed
* = not reported at or above the MRL (Method Reporting Limit)

Appendix E

TIME SERIES PLOTS

Figure 1

Specific Conductivity

Shallow Perched Aquifer, Hidden Valley Landfill
Wells MW-11S, MW-12S, MW-13S, MW-14S, and MW-17S

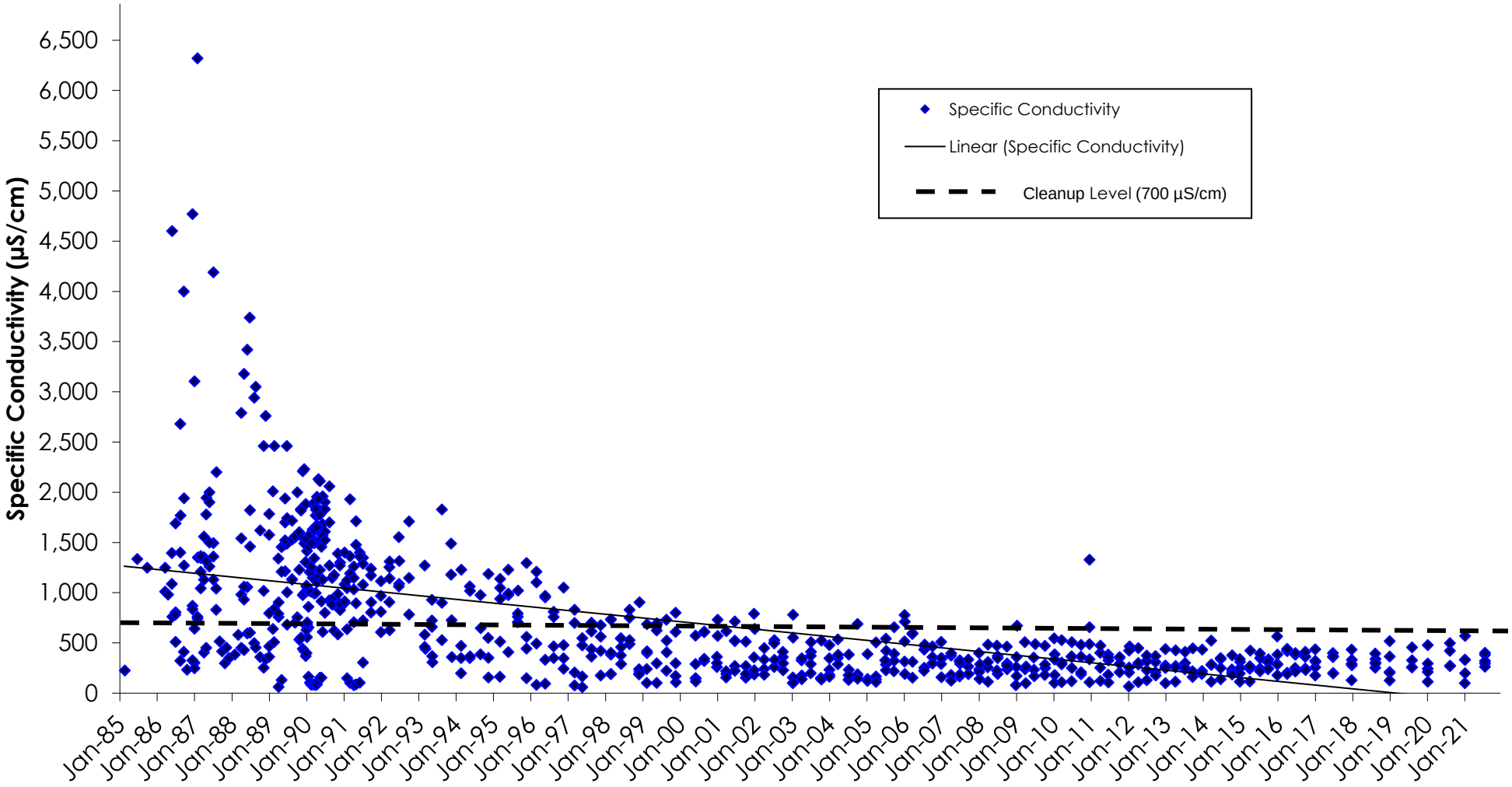


Figure 2

Ammonia

Shallow Perched Aquifer, Hidden Valley Landfill
Wells MW-11S, MW-12S, MW-13S, MW-14S, and MW-17S

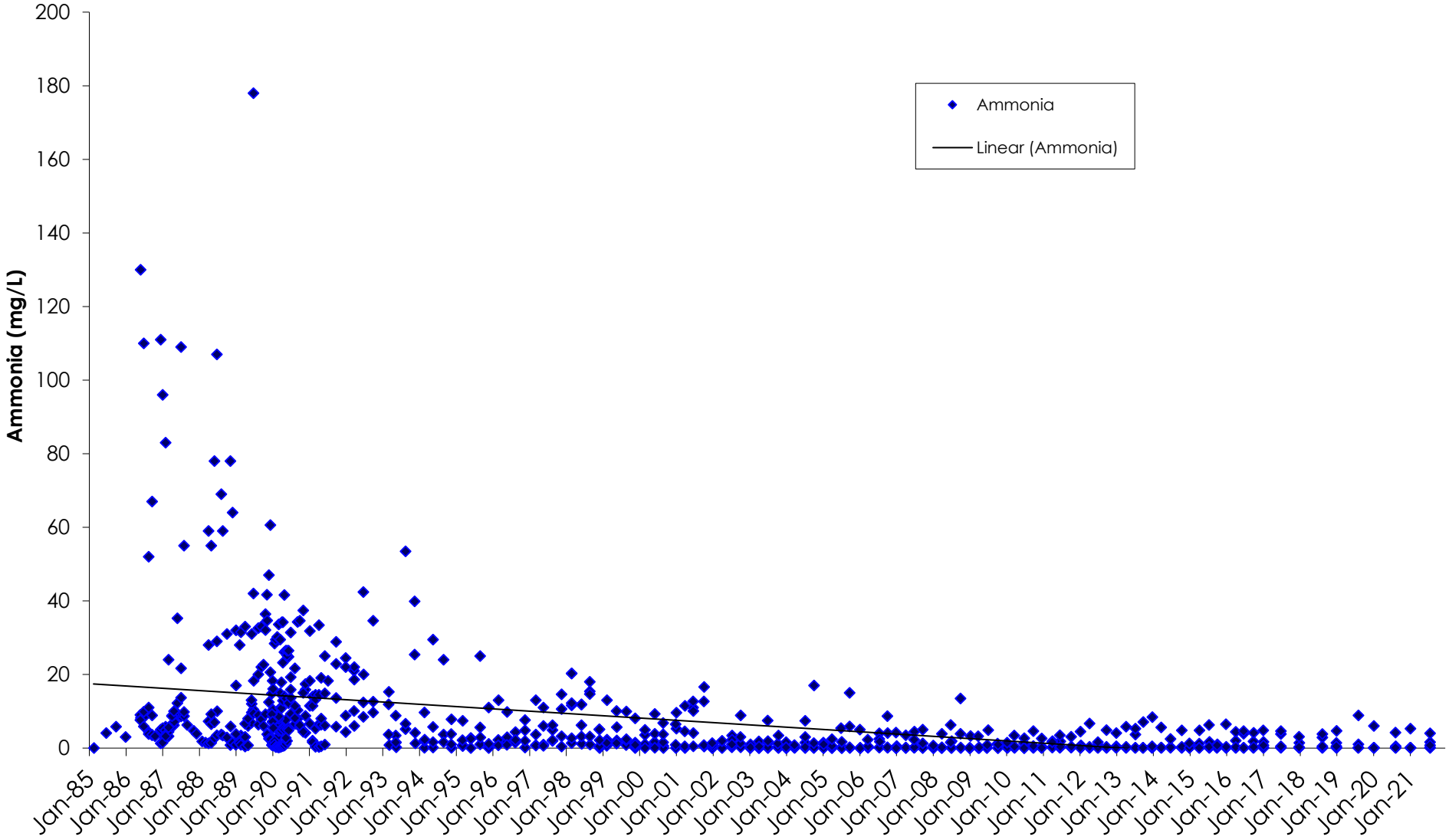


Figure 3

Nitrate

Shallow Perched Aquifer, Hidden Valley Landfill
Wells MW-11S, MW-12S, MW-13S, MW-14S, and MW-17S

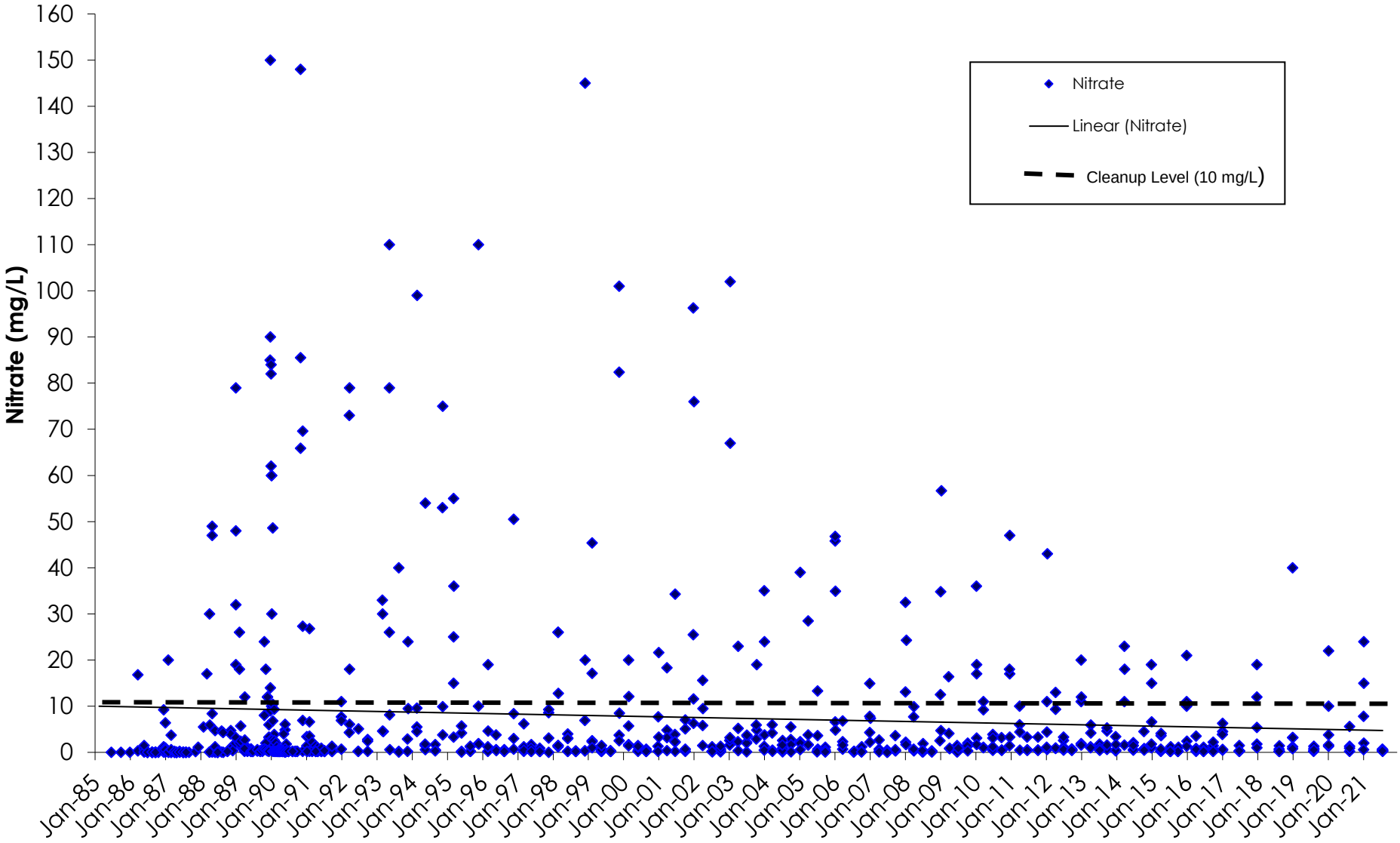


Figure 4

Dissolved Iron

Shallow Perched Aquifer, Hidden Valley Landfill
Wells MW-11S, MW-12S, MW-13S, MW-14S, and MW-17S

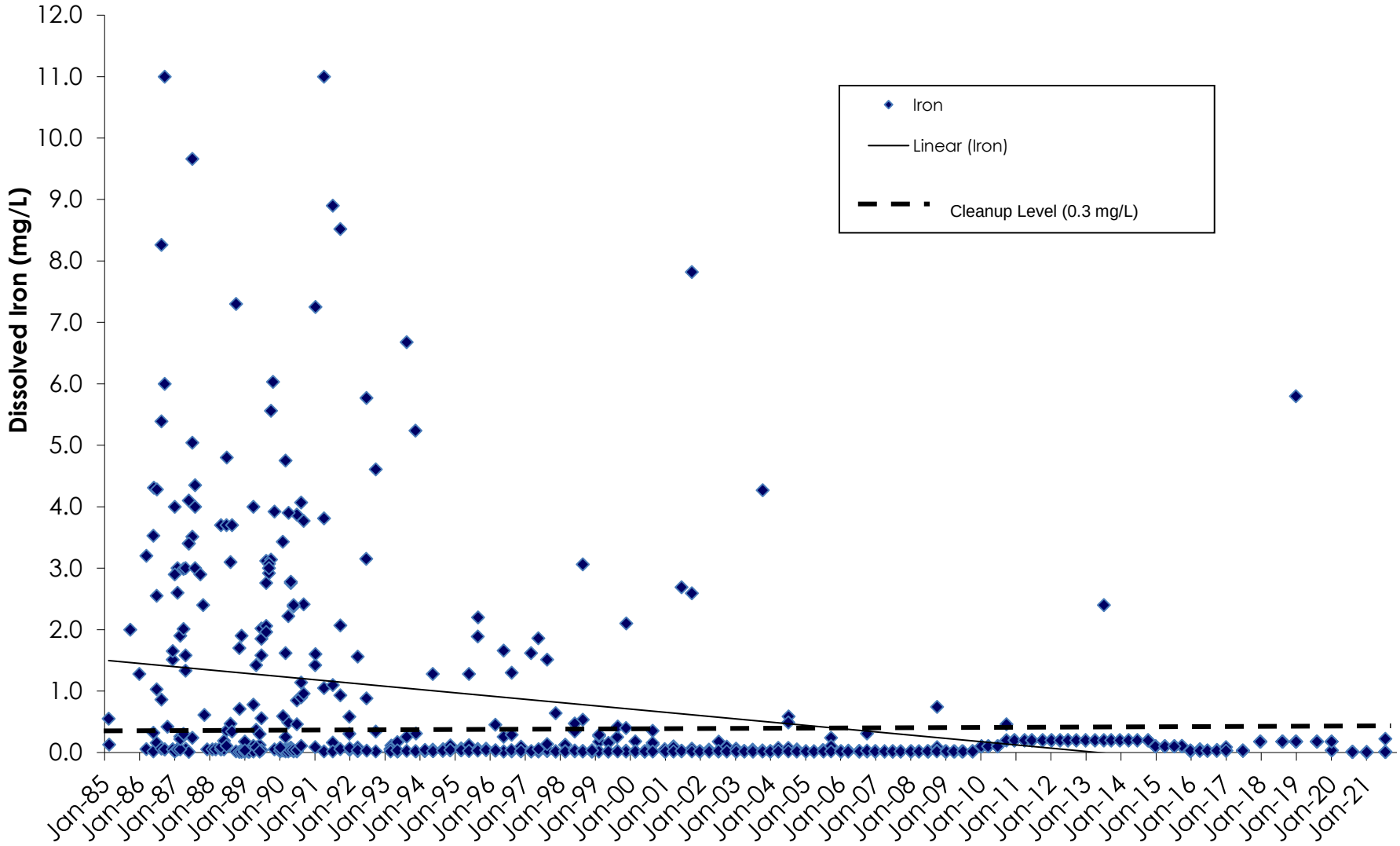


Figure 5

Dissolved Manganese

Shallow Perched Aquifer, Hidden Valley Landfill
Wells MW-11S, MW-12S, MW-13S, MW-14S, and MW-17S

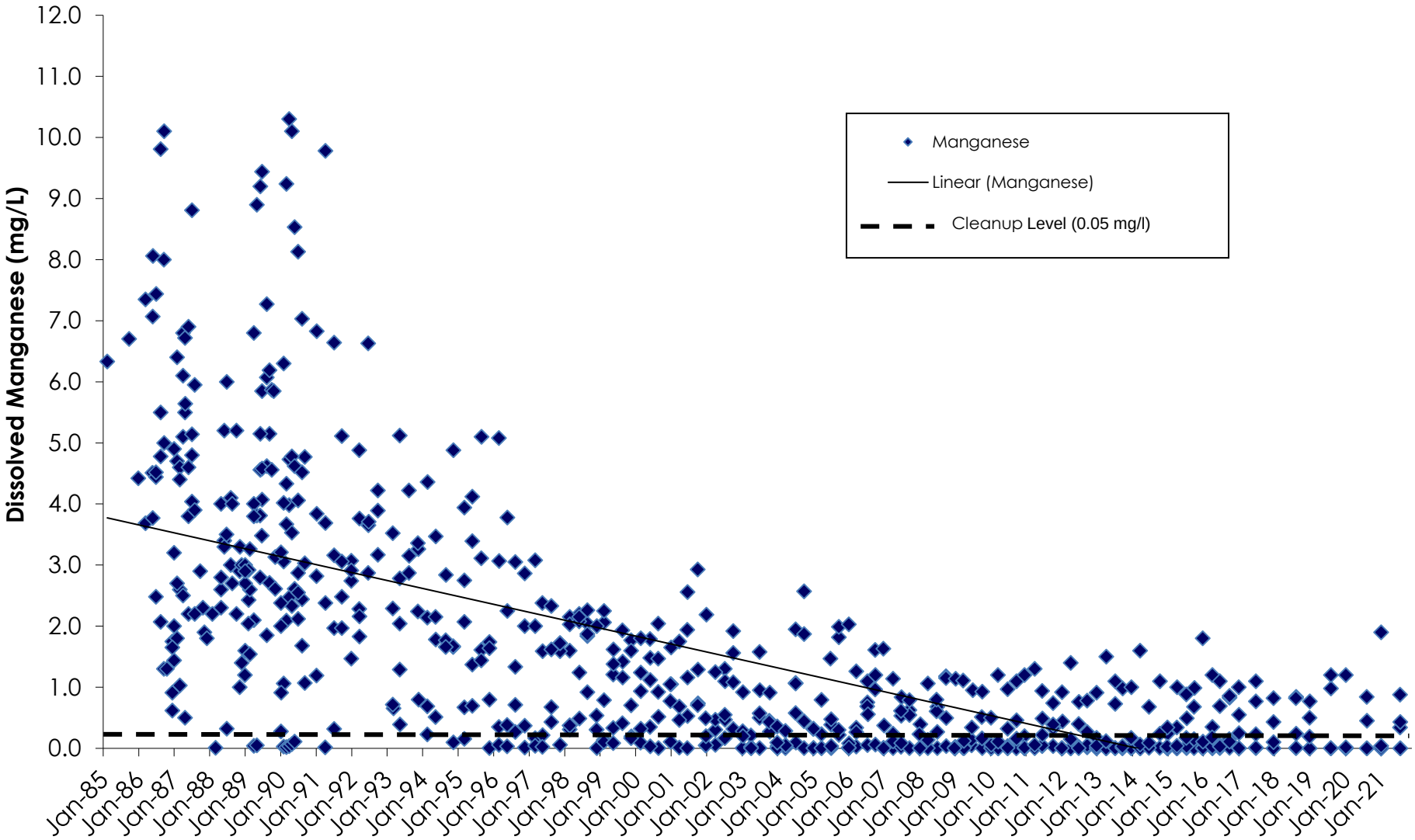


Figure 6

Specific Conductivity

Upper Regional Aquifer, Hidden Valley Landfill
Wells MW-11D(2), MW-12D, MW-13D, and MW-14D

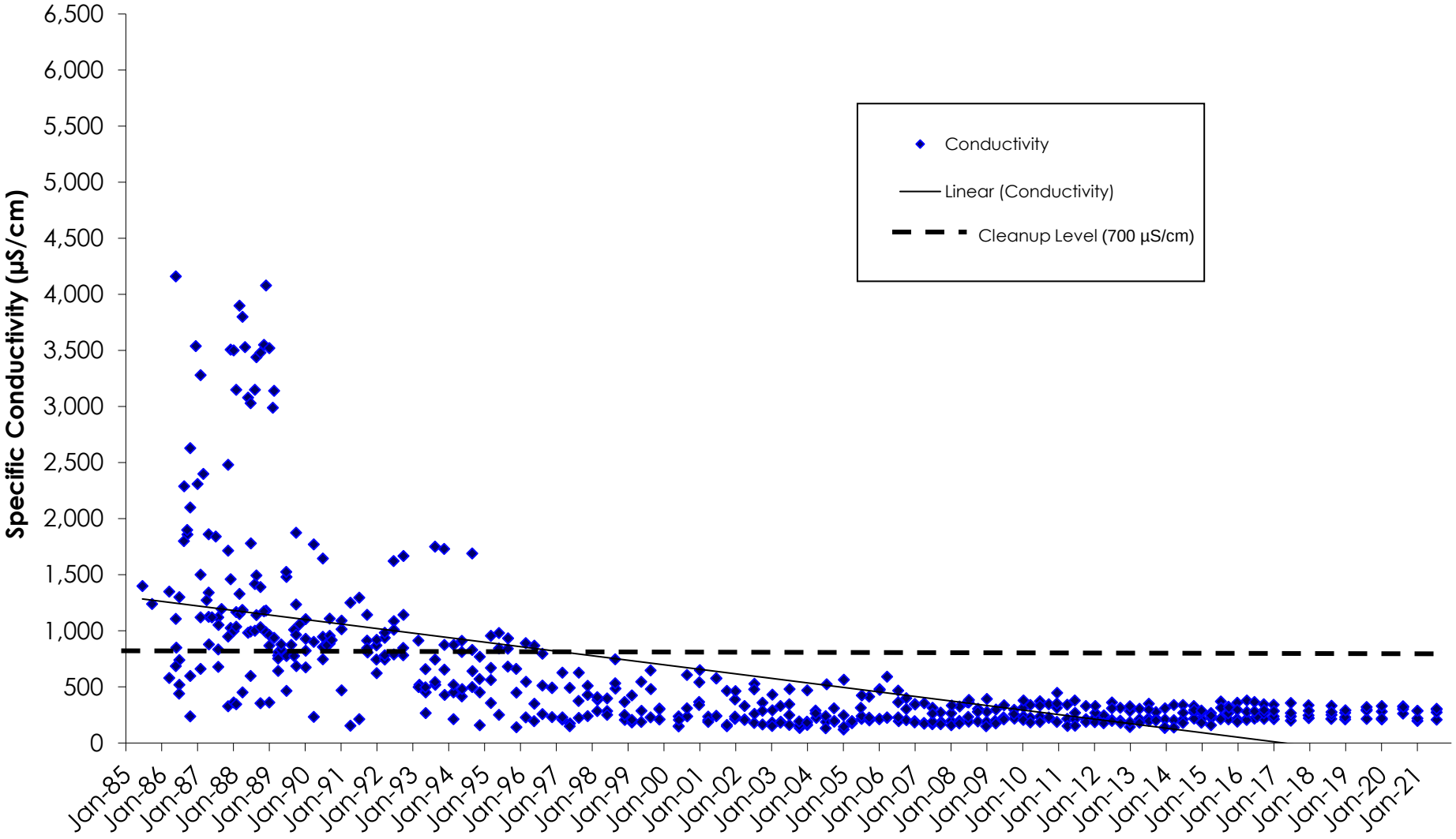


Figure 7

Ammonia

Upper Regional Aquifer, Hidden Valley Landfill
Wells MW-11D(2), MW-12D, MW-13D, and MW-14D

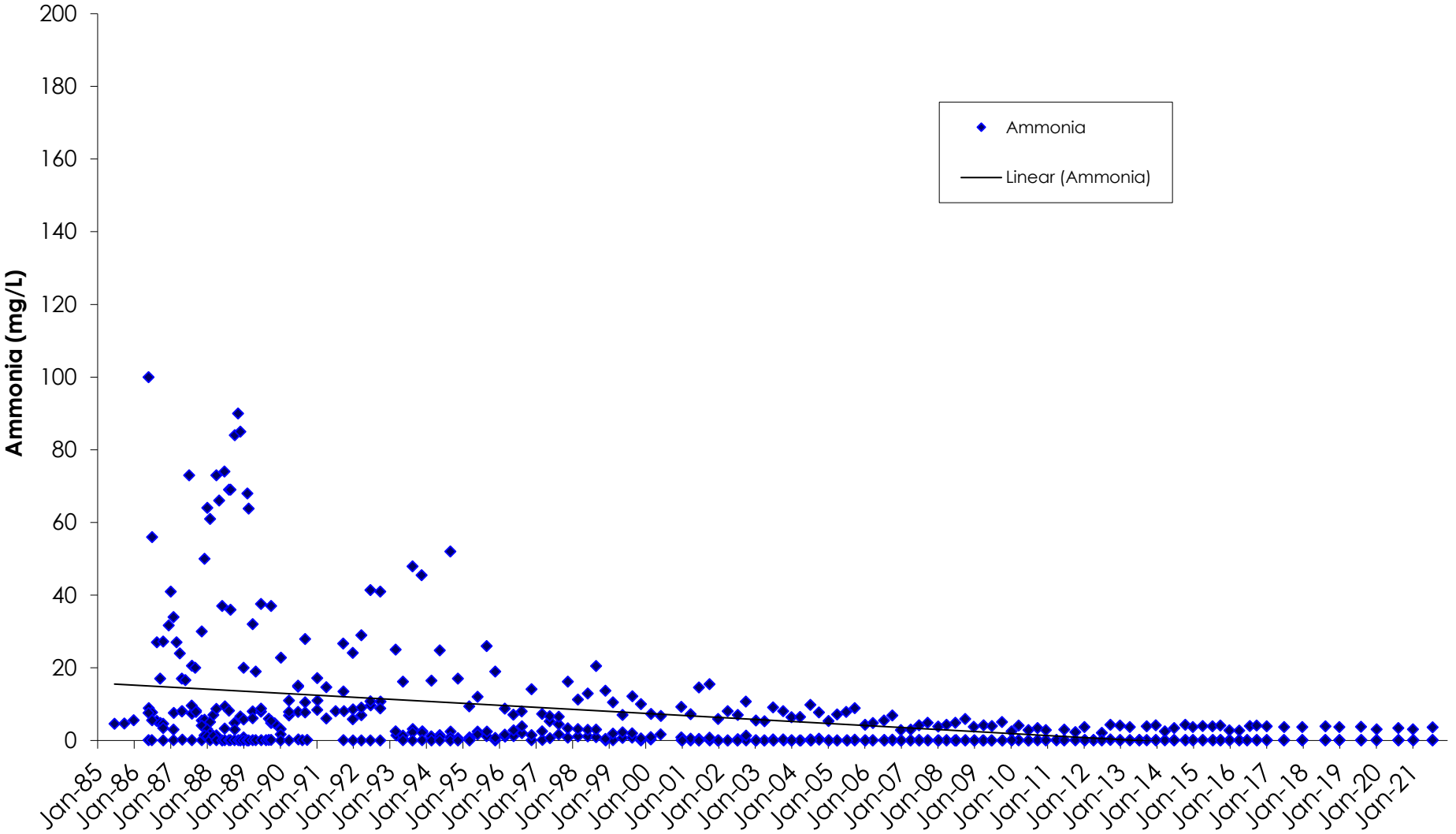


Figure 8

Nitrate

Upper Regional Aquifer, Hidden Valley Landfill
Wells MW-11D(2), MW-12D, MW-13D, and MW-14D

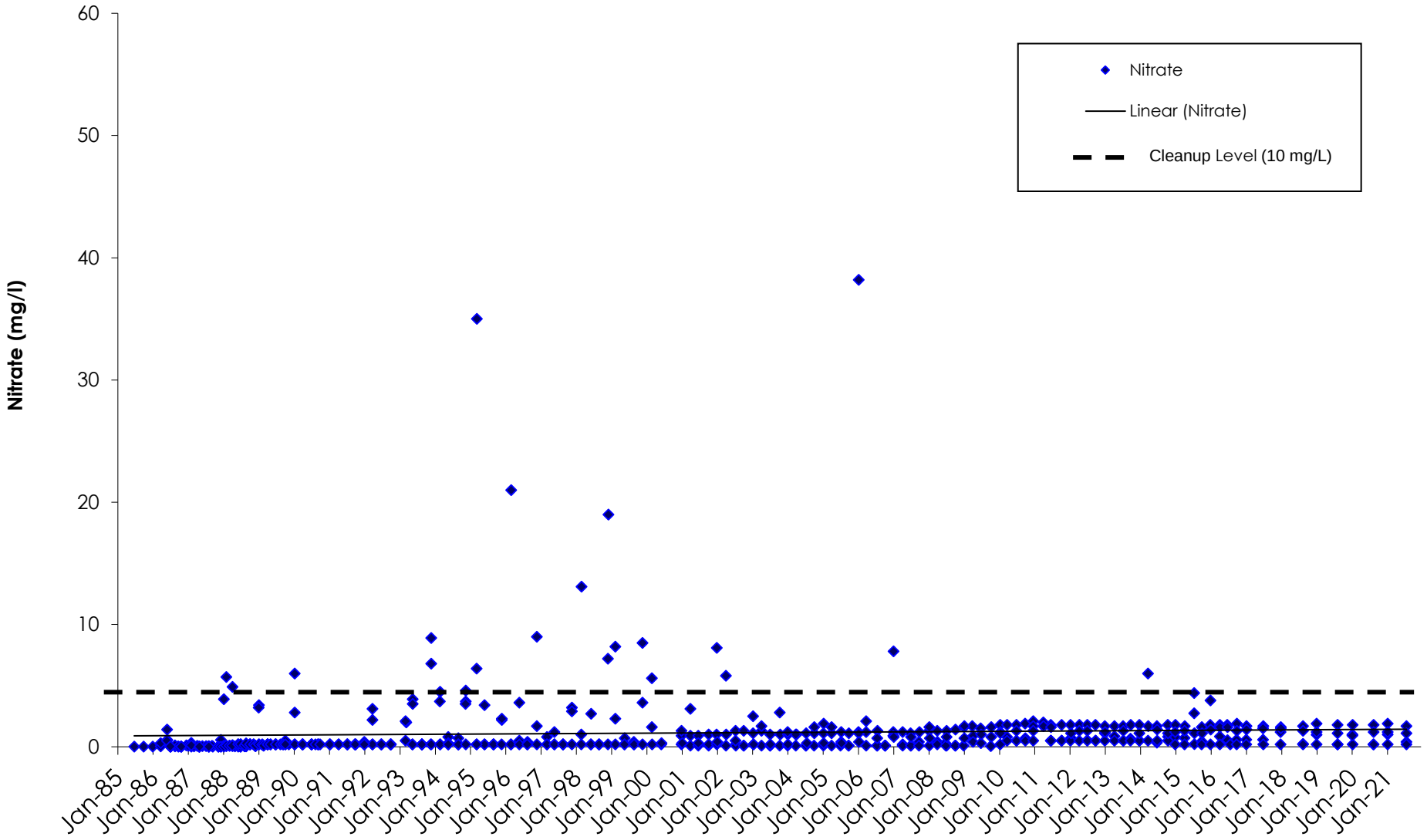


Figure 9

Dissolved Iron

Upper Regional Aquifer, Hidden Valley Landfill
Wells MW-11D(2), MW-12D, MW-13D, and MW-14D

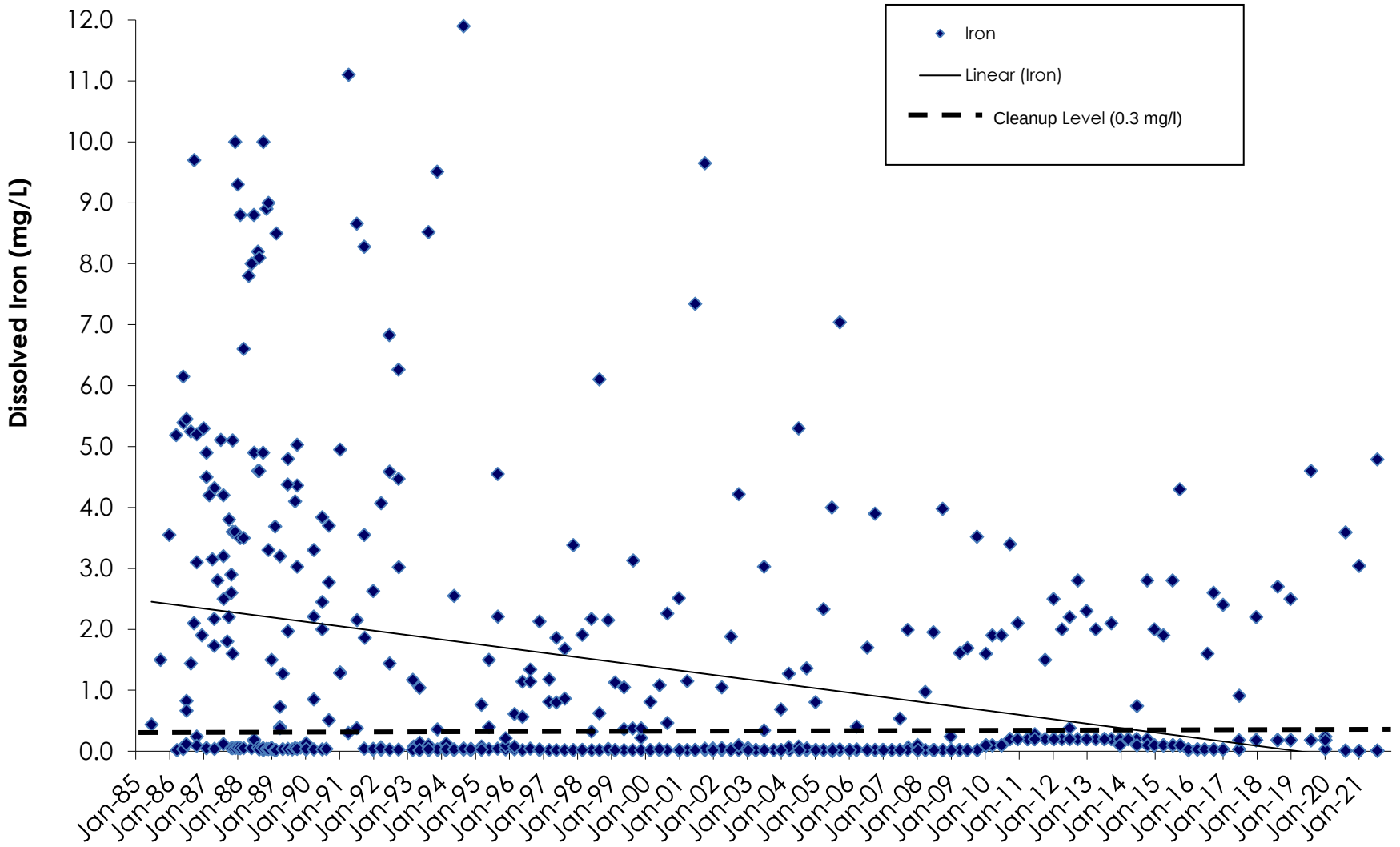
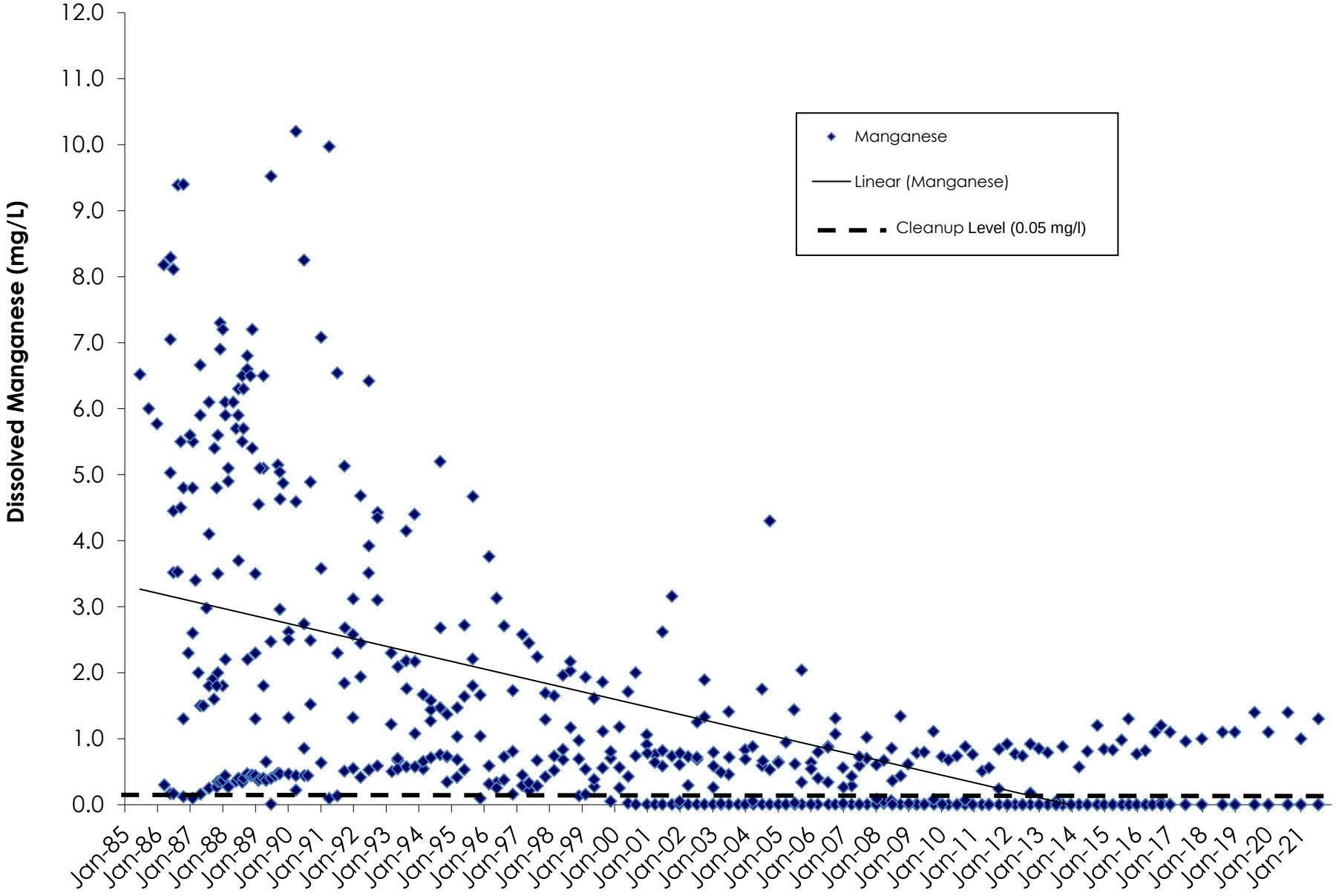


Figure 10

Dissolved Manganese

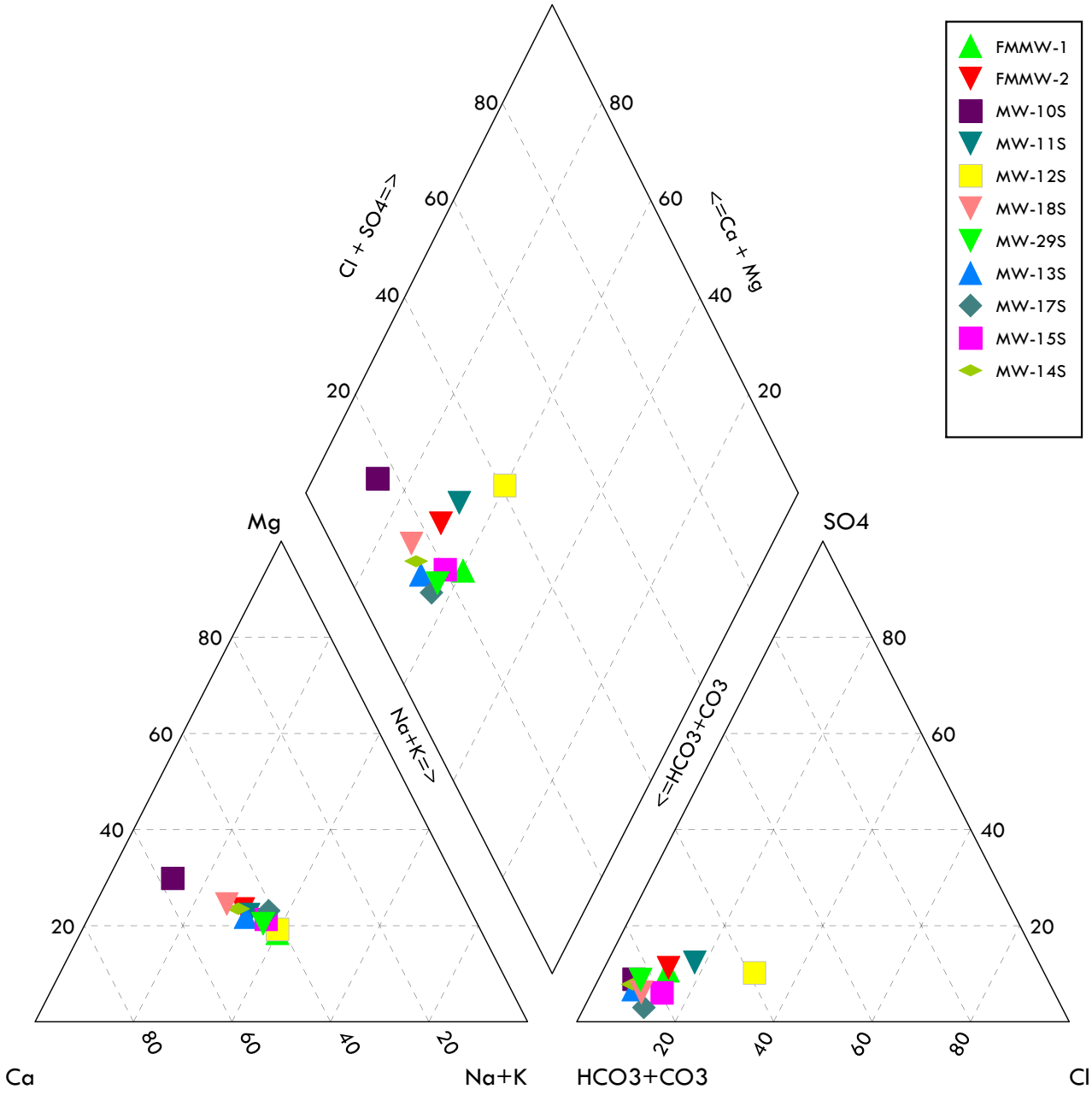
Upper Regional Aquifer, Hidden Valley Landfill
Wells MW-11D(2), MW-12D, MW-13D, and MW-14D



Appendix F

TRILINEAR DIAGRAMS

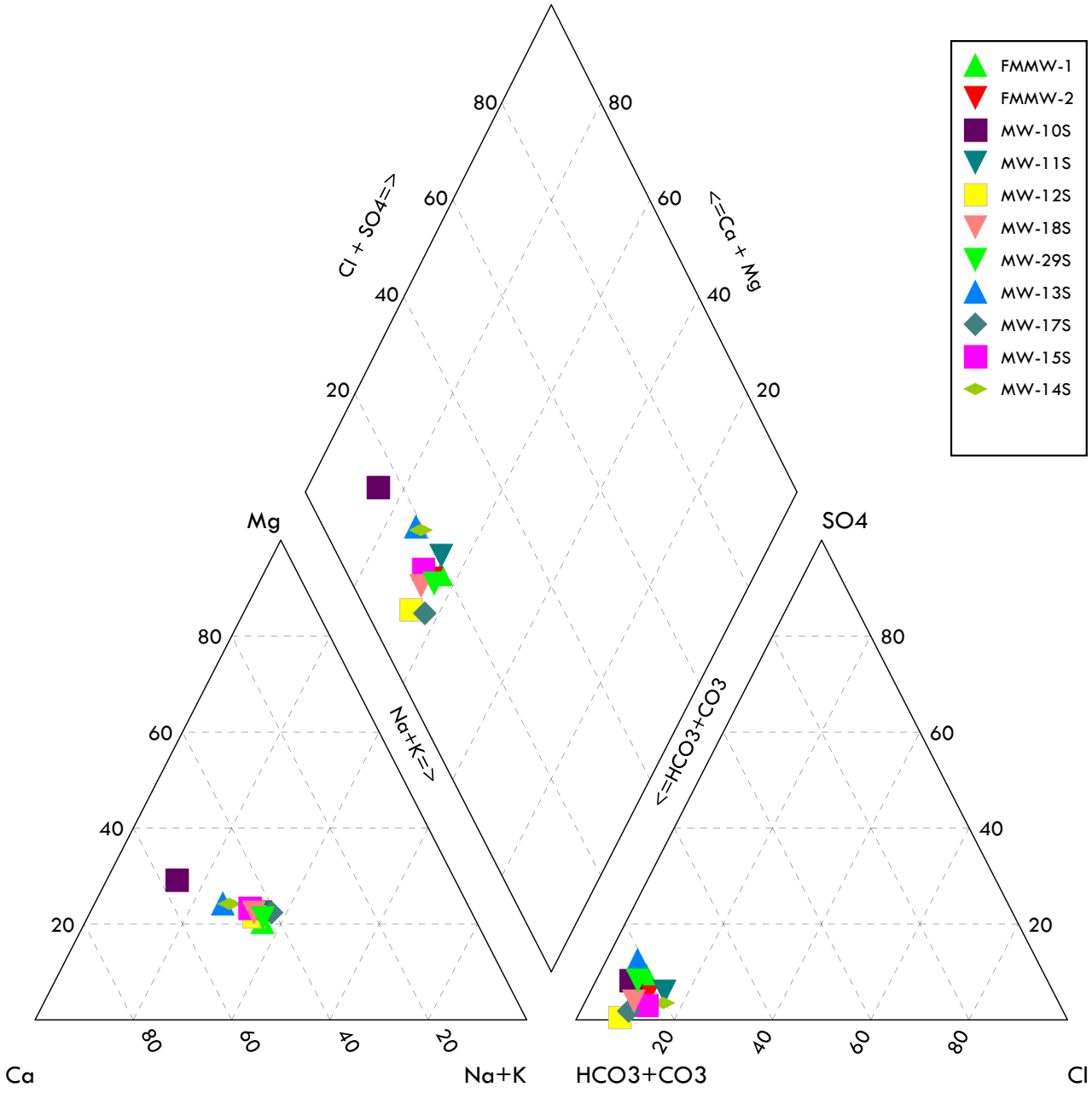
Shallow Aquifer - Semi-Annual Event No. 1, 2021



DESCRIPTION: Trilinear Diagram

	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: August 2021

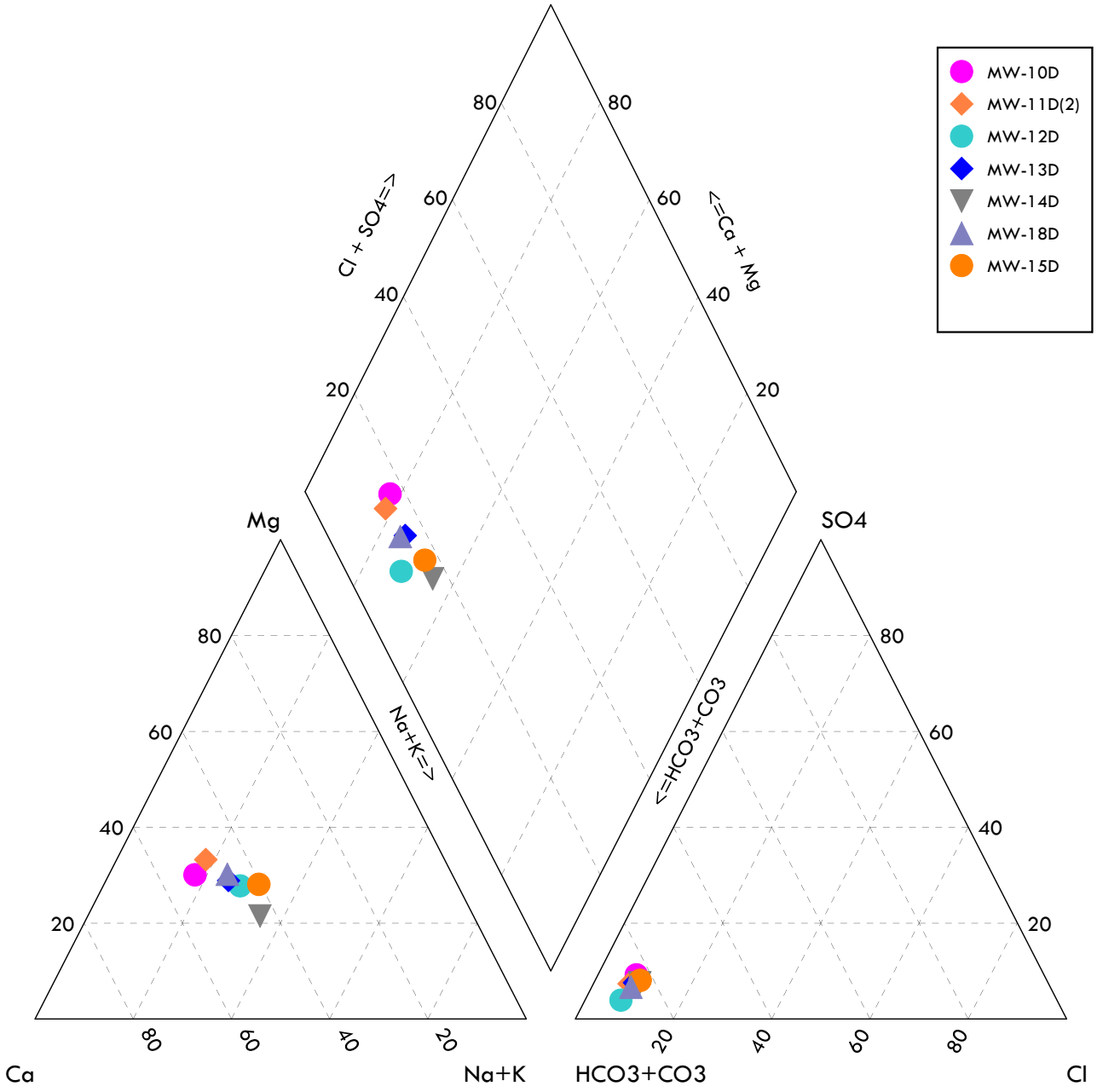
Shallow Aquifer - Semi-Annual Event No. 2, 2021



DESCRIPTION: Trilinear Diagram

	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: February 2022

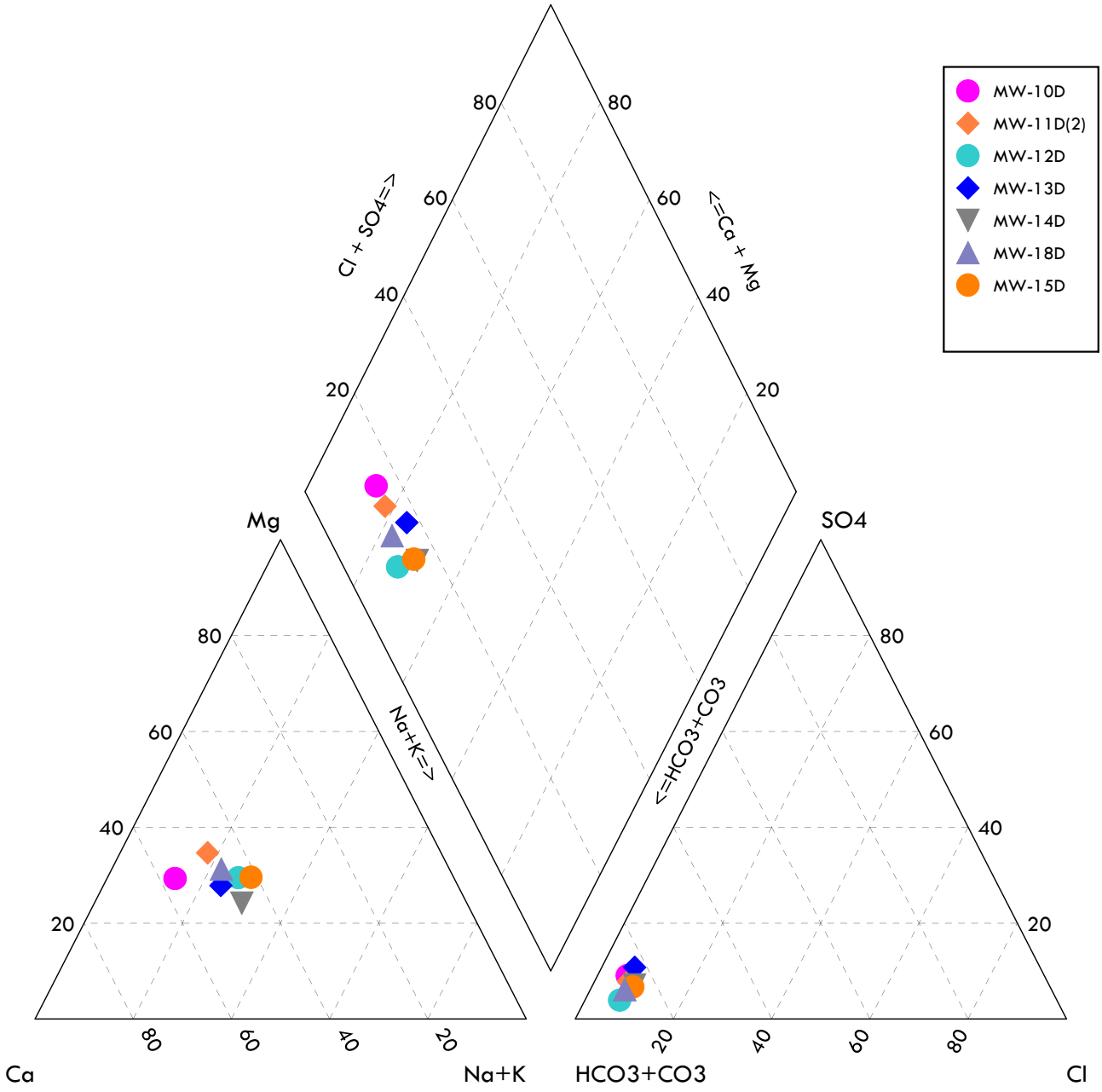
Upper Regional Aquifer - Semi-annual No. 1, 2021



DESCRIPTION: Trilinear Diagram

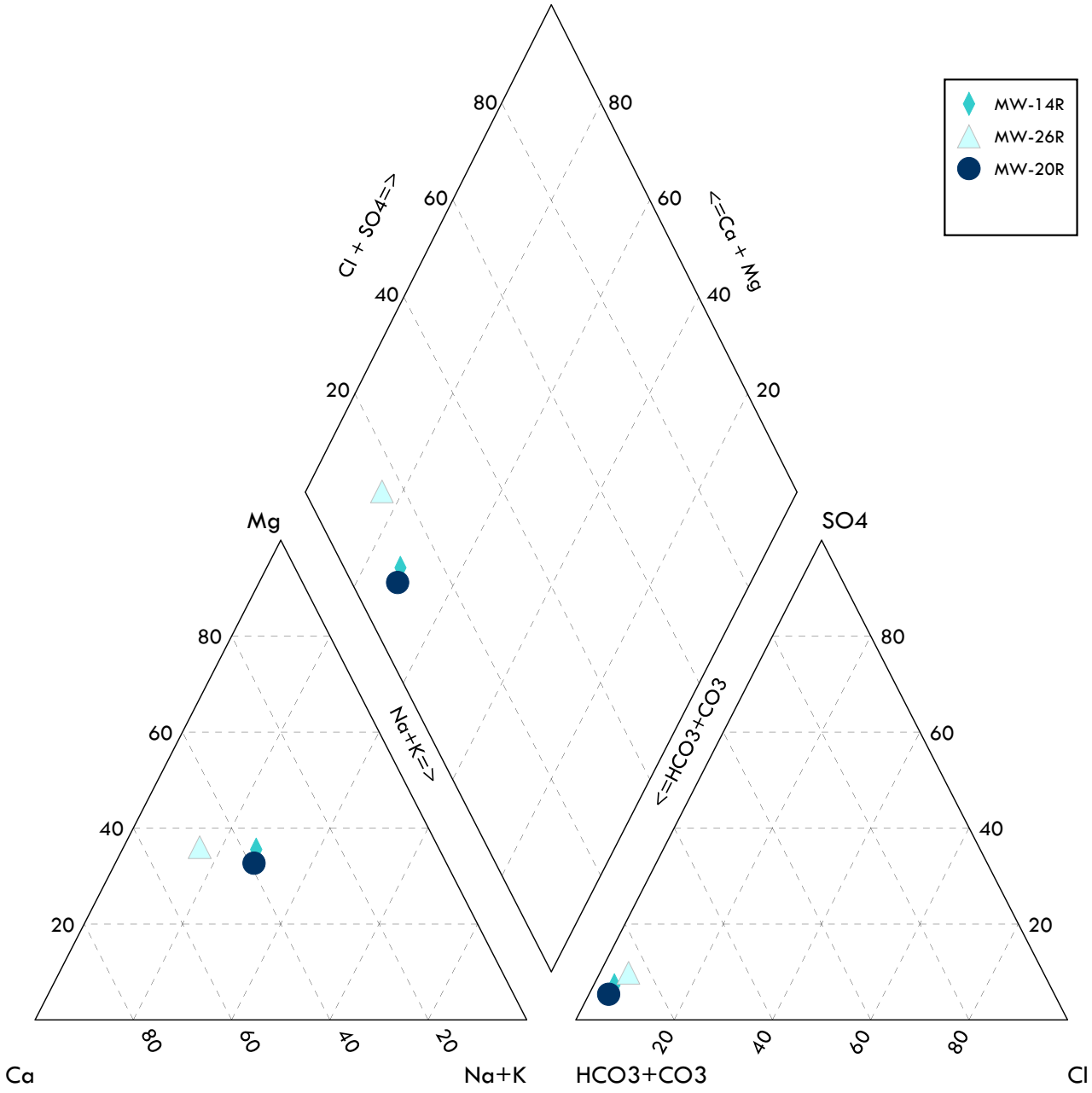
	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: August 2021

Upper Regional Aquifer - Semi-Annual No. 2, 2021



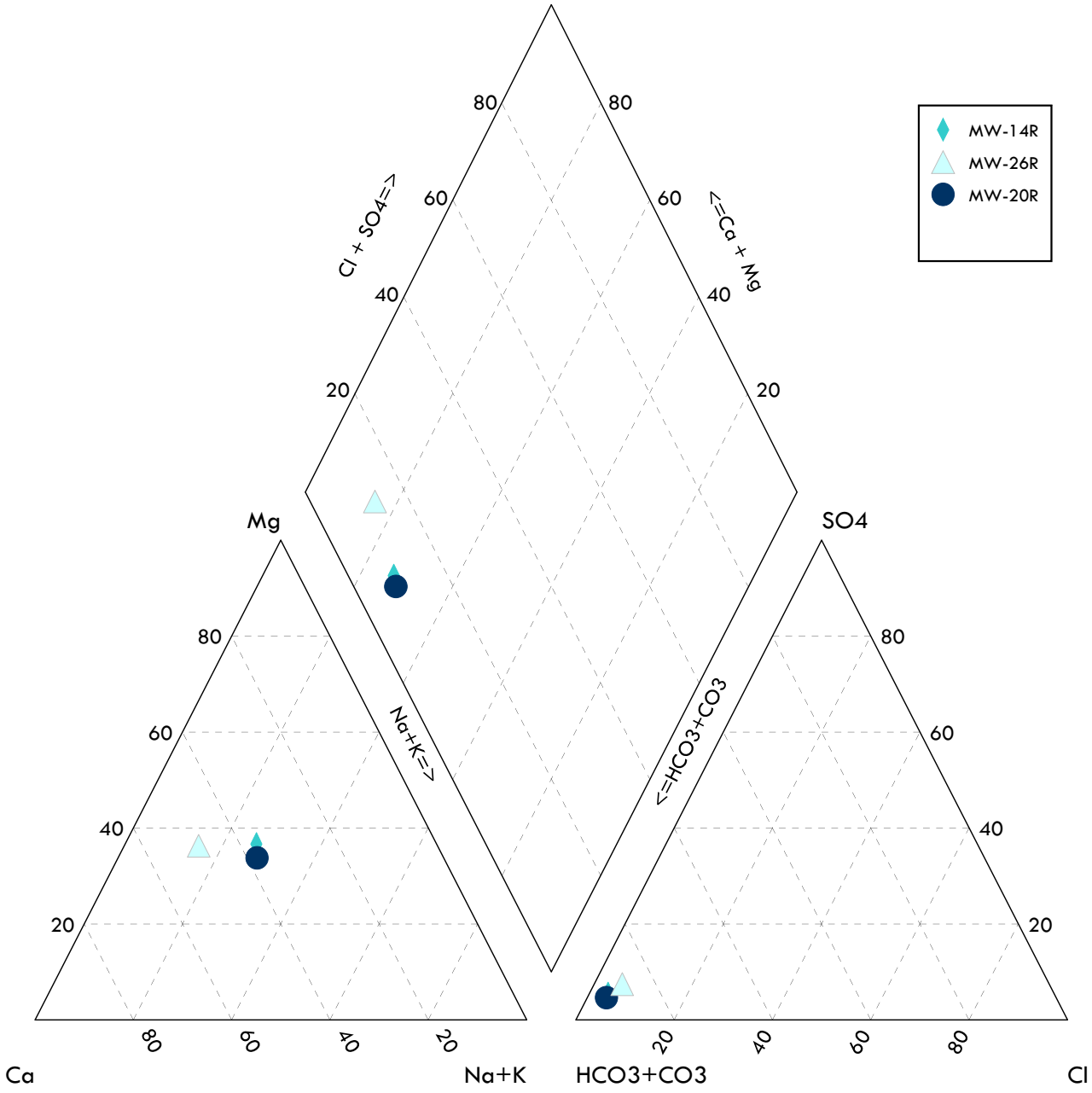
DESCRIPTION: Trilinear Diagram		
	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: February 2022

Lower Regional Aquifer - Semi-annual Event No. 1, 2021



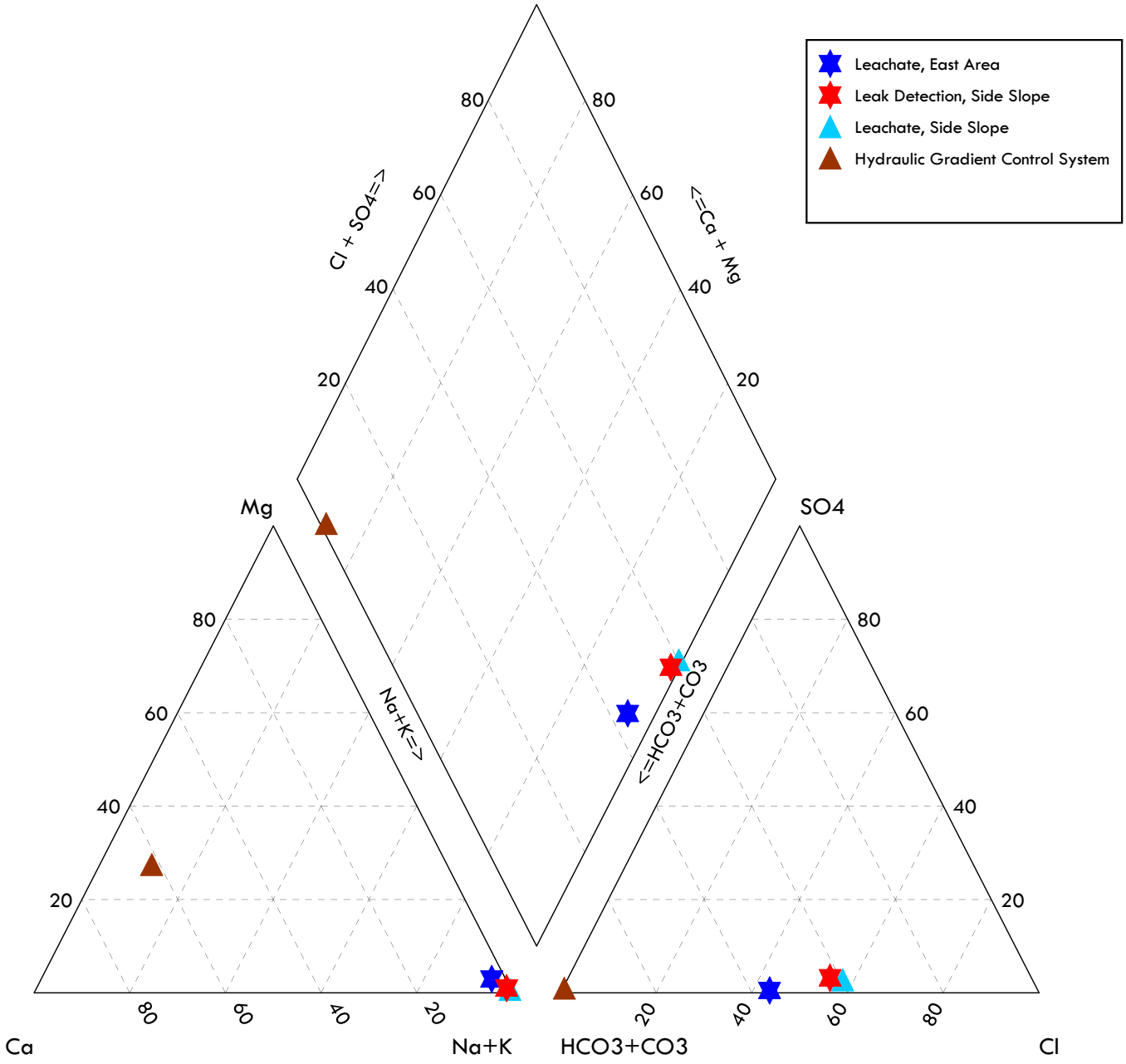
DESCRIPTION: Trilinear Diagram		
	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: August 2021

Lower Regional Aquifer - Semi-Annual Event No. 2, 2021



DESCRIPTION: Trilinear Diagram		
	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: February 2022

Leachate and Leak Detection Locations - Semi-annual Event No. 1, 2021



DESCRIPTION: Trilinear Diagram		
	PROJECT: Hidden Valley Landfill	PROJECT NO: 04221002.03
	CLIENT: LRI Hidden Valley	DATE: August 2021

Appendix G

STATISTICAL CALCULATIONS

Statistical Summary of Groundwater Data - Inorganics
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-10D																	
MW-10D	1/18/2017	217	217	84	84	5.6	5.6	0.1 L	0.05	1.7	1.7	11	11	140	140	1.0 L	0.5
MW-10D	7/13/2017	214	214	76	76	5.2	5.2	0.1 L	0.05	1.3	1.3	12	12	140	140	1.0 L	0.5
MW-10D	1/8/2018	222	222	79	79	4.9	4.9	0.1 L	0.05	2.3	2.3	8.6	8.6	140	140	1.0 L	0.5
MW-10D	8/28/2018	242	242	96	96	5.9	5.9	0.1 L	0.05	0.56	0.56	13	13	160	160	1.1	1.1
MW-10D	1/14/2019	258	258	110	110	5.7	5.7	0.1 L	0.05	0.85	0.85	9.2	9.2	180	180	1.0	1.0
MW-10D	8/20/2019	193	193	72	72	5.1	5.1	0.1 L	0.05	2.1	2.1	8.8	8.8	140	140	1.0 L	0.5
MW-10D	1/22/2020	265	265	110	110	8.9	8.9	0.1 L	0.05	1.3	1.3	11	11	160	160	1.0	1.0
MW-10D	8/25/2020	258	258	120	120	7.1	7.1	0.1 L	0.05	0.56	0.56	15	15	180	180	1.2	1.2
MW-10D	1/20/2021	193.9	193.9	82	82	5.4	5.4	0.1 L	0.05	2.3	2.3	8.6	8.6	110	110	1 L	0.5
MW-10D	8/3/2021	282	282	130	130	6.5	6.5	0.1 L	0.05	0.58	0.58	13	13	140	140	1.1	1.1
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		5	
Minimum conc.			193		72		4.9		0.050		0.56		8.6		110		0.5
Maximum conc.			282		130		8.9		0.05		2.3		15		180		1.2
Average conc.			234		96		6.0		0.050		1.4		11.0		149		0.8
Distribution			Lognormal		Lognormal		Neither		NC		Normal		Lognormal		Neither		Neither
UCL 95			248.26		109.6		8.9*		NC		1.77		12.52		180*		1.2*

Statistical Summary of Groundwater Data - Inorganics
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-10S																	
MW-10S	1/18/2017	245	245	92	92	7.9	7.9	0.1 L	0.05	1.1	1.1	15	15	150	150	1.2	1.2
MW-10S	7/13/2017	225	225	83	83	5.7	5.7	0.1 L	0.05	0.46	0.46	14	14	140	140	1.4	1.4
MW-10S	1/8/2018	291	291	120	120	6.6	6.6	0.1 L	0.05	0.76	0.76	8.9	8.9	160	160	1.1	1.1
MW-10S	8/28/2018	247	247	99	99	6.0	6.0	0.1 L	0.05	0.48	0.48	13	13	140	140	1.1	1.1
MW-10S	1/14/2019	254	254	110	110	6.1	6.1	0.19	0.19	0.81	0.81	9.6	9.6	160	160	1.1	1.1
MW-10S	8/20/2019	306	306	130	130	7.7	7.7	0.1 L	0.05	0.2 L	0.1	17	17	180	180	1.6	1.6
MW-10S	1/21/2020	269	269	100	100	11.0	11	0.1 L	0.05	1.3	1.3	11	11	160	160	1.1	1.1
MW-10S	8/25/2020	298	298	110	110	7.2	7.2	0.1 L	0.05	0.87	0.87	15	15	180	180	1.4	1.4
MW-10S	1/20/2021	332	332	150	150	8.9	8.9	0.1 L	0.05	1.9	1.9	15	15	180	180	1.3	1.3
MW-10S	8/2/2021	282	282	120	120	7.0	7.0	0.1 L	0.05	0.66	0.66	11	11	150	150	1.1	1.1
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		1		9		10		10		10	
Minimum conc.			225		83		5.7		0.05		0.10		8.9		140		1.1
Maximum conc.			332		150		11.0		0.19		1.9		17		180		1.6
Average conc.			275		111		7.4		0.06		0.8		13		160		1.2
Distribution			Lognormal		Lognormal		Lognormal		NC		Normal		Lognormal		Lognormal		Neither
UCL 95			295.76		124.22		8.41		NC		1.13		14.90		169.71		1.6*

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-11D(2)																	
MW-11D(2)	1/19/2017	213	213	85	85	6.1	6.1	0.1 L	0.05	1.7	1.7	8.2	8.2	130	130	1 L	0.5
MW-11D(2)	7/11/2017	199	199	82	82	7.2	7.2	0.1 L	0.05	1.7	1.7	8.3	8.3	140	140	1 L	0.5
MW-11D(2)	1/10/2018	221	221	78	78	5.8	5.8	0.1 L	0.05	1.6	1.6	8.7	8.7	140	140	1 L	0.5
MW-11D(2)	8/27/2018	215	215	80	80	5.8	5.8	0.1 L	0.05	1.7	1.7	9.6	9.6	130	130	1 L	0.5
MW-11D(2)	1/15/2019	211	211	82	82	5.6	5.6	0.1 L	0.05	1.9	1.9	9.4	9.4	140	140	1 L	0.5
MW-11D(2)	8/21/2019	215	215	83	83	5.5	5.5	0.1 L	0.05	1.8	1.8	9.3	9.3	150	150	1 L	0.5
MW-11D(2)	1/22/2020	210	210	83	83	5.8	5.8	0.1 L	0.05	1.8	1.8	9.0	9.0	140	140	1 L	0.5
MW-11D(2)	8/26/2020	328	328	86	86	5.4	5.4	0.1 L	0.05	1.8	1.8	8.3	8.3	150	150	1 L	0.5
MW-11D(2)	1/20/2021	197	197	86	86	5.1	5.1	0.1 L	0.05	1.9	1.9	7.0	7.0	150	150	1 L	0.5
MW-11D(2)	8/3/2021	209	209	89	89	5.0	5.0	0.1 L	0.05	1.7	1.7	7.8	7.8	320	320	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		0	
Minimum conc.			197		78		5.0		0.05		1.6		7.0		130		0.5
Maximum conc.			328		89		7.2		0.05		1.9		9.6		320		0.5
Average conc.			222		83		5.7		0.05		1.8		8.6		159		0.5
Distribution			Neither		Lognormal		Neither		NC		Lognormal		Lognormal		Neither		NC
UCL 95			328*		85.3		7.2*		NC		1.82		9.08		320*		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-11S																	
MW-11S	1/18/2017	257	257	70	70	16.0	16	0.1 L	0.05	4.5	4.5	12	12	160	160	1.1	1.1
MW-11S	7/11/2017	201	201	65	65	13.0	13	0.17	0.17	1.5	1.5	13	13	160	160	1	1.0
MW-11S	1/9/2018	277	277	74	74	16.0	16	0.1 L	0.05	5.4 H	5.4	11	11	170	170	1.2	1.2
MW-11S	8/27/2018	254	254	85	85	14.0	14	0.1 L	0.05	0.67	0.67	11	11	170	170	1.3	1.3
MW-11S	1/15/2019	211	211	54	54	17.0	17	0.1 L	0.05	3.2	3.2	7.4	7.4	140	140	1 L	0.5
MW-11S	8/21/2019	257	257	100	100	11.0	11	0.1 L	0.05	0.86	0.86	8.2	8.2	170	170	1 L	0.5
MW-11S	1/22/2020	244	244	62	62	19.0	19	0.1 L	0.05	3.8	3.8	9.1	9.1	170	170	1 L	0.5
MW-11S	8/26/2020	422	422	100	100	18.0	18	0.1 L	0.05	1.3	1.3	9.0	9.0	200	200	1 L	0.5
MW-11S	1/19/2021	333	333	90	90	16.0	16	0.1 L	0.05	7.8	7.8	15	15	210	210	1.1	1.1
MW-11S	8/3/2021	296	296	120	120	16.0	16	0.12	0.12	0.55	0.55	8.5	8.5	160	160	1.1	1.1
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		2		10		10		10		6	
Minimum conc.			201		54		11.0		0.05		0.55		7.4		140		0.5
Maximum conc.			422		120		19.0		0.17		7.8		15.0		210		1.3
Average conc.			275		82		15.6		0.07		3.0		10.4		171		0.9
Distribution			Lognormal		Lognormal		Lognormal		NC		Lognormal		Lognormal		Neither		Neither
UCL 95			315.8		96.69		17.27		NC		7.8*		12.05		210*		1.3*

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-12S																	
MW-12S	1/19/2017	313	313	100	100	14.0	14	1.7	1.7	6.3	6.3	3.7	3.7	210	210	2.3	2.3
MW-12S	7/10/2017	398	398	160	160	23.0	23	3.8	3.8	0.2 L	0.1	0.63	0.63	230	230	3.8	3.8
MW-12S	1/9/2018	331	331	45	45	14.0	14	1.4	1.4	19 H	19	2.9	2.9	230	230	2.0	2.0
MW-12S	8/28/2018	340	340	140	140	11.0	11	2.9	2.9	1.4 H	1.4	0.81	0.81	210	210	2.2	2.2
MW-12S	1/14/2019	518	518	59	59	9.2	9.2	1.4	1.4	40	40	3.1	3.1	380	380	1.6	1.6
MW-12S	8/21/2019	326	326	160	160	10.0	10	1.0	1	1	1	8.7	8.7	220	220	1.7	1.7
MW-12S	1/21/2020	296	296	22	22	6.5	6.5	0.1 L	0.05	22	22	5.9	5.9	240	240	1.2	1.2
MW-12S	8/27/2020	272	272	110	110	12.0	12	0.5	0.5	5.6	5.6	5.3	5.3	230	230	1.8	1.8
MW-12S	1/20/2021	332	332	49	49	18.0	18	0.1 L	0.05	15	15	8.0	8.0	230	230	1.5	1.5
MW-12S	8/2/2021	381	381	180	180	12.0	12	1.6	1.6	0.67	0.67	0.98	0.98	180	180	1.9	1.9
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		8		9		10		10		10	
Minimum conc.			272		22		6.5		0.05		0.1		0.63		180		1.2
Maximum conc.			518		180		23.0		3.80		40.0		8.7		380		3.8
Average conc.			351		103		13.0		1.44		11.1		4.0		236		2.0
Distribution			Neither		Lognormal		Lognormal		Normal		Lognormal		Lognormal		Neither		Lognormal
UCL 95			518*		180*		16.57		2.13		**40.0***		8.7*		380*		2.45

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-12D																	
MW-12D	1/19/2017	284	284	120	120	8.1	8.1	0.1 L	0.05	1.4	1.4	6.8	6.8	170	170	1 L	0.5
MW-12D	7/10/2017	266	266	110	110	7.7	7.7	0.1 L	0.05	1.5	1.5	6.8	6.8	170	170	1 L	0.5
MW-12D	1/9/2018	287	287	110	110	8.1	8.1	0.1 L	0.05	1.5 H	1.5	6.7	6.7	170	170	1 L	0.5
MW-12D	8/28/2018	275	275	120	120	8.4	8.4	0.1 L	0.05	1.3 H	1.3	7.6	7.6	180	180	1 L	0.5
MW-12D	1/16/2019	291	291	160	160	8.7	8.7	0.1 L	0.05	1.2	1.2	7.1	7.1	200	200	1 L	0.5
MW-12D	8/21/2019	321	321	140	140	9.0	9.0	0.1 L	0.05	1.1	1.1	7.2	7.2	210	210	1 L	0.5
MW-12D	1/21/2020	330	330	160	160	9.4	9.4	0.1 L	0.05	0.9	0.93	6.8	6.8	200	200	1 L	0.5
MW-12D	8/27/2020	321	321	130	130	8.7	8.7	0.1 L	0.05	1.2	1.2	7.1	7.1	210	210	1 L	0.5
MW-12D	1/20/2021	286	286	140	140	8.1	8.1	0.1 L	0.05	1.2	1.2	5.8	5.8	190	190	1 L	0.5
MW-12D	8/2/2021	305	305	140	140	7.8	7.8	0.1 L	0.05	1.1	1.1	5.8	5.8	170	170	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		0	
Minimum conc.			266		110		7.7		0.05		0.9		5.8		170		0.5
Maximum conc.			330		160		9.4		0.05		1.5		7.6		210		0.5
Average conc.			297		133		8.4		0.05		1.2		6.8		187		0.5
Distribution			Lognormal		Lognormal		Lognormal		NC		Lognormal		Neither		Neither		NC
UCL 95			309.65		146.48		8.73		NC		1.36		7.6*		210*		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-13D																	
MW-13D	1/18/2017	341	341	140	140	12.0	12	0.1 L	0.05	0.57	0.57	16	16	200	200	1.1	1.1
MW-13D	7/10/2017	358	358	150	150	15.0	15	0.1 L	0.05	0.57	0.57	10	10	220	220	1.3	1.3
MW-13D	1/8/2018	337	337	120	120	12.0	12	0.1 L	0.05	1.2	1.2	12	12	200	200	1.1	1.1
MW-13D	8/28/2018	333	333	130	130	12.0	12	0.1 L	0.05	0.24	0.24	19	19	98	98	1.1	1.1
MW-13D	1/14/2019	270	270	100	100	8.9	8.9	0.1 L	0.05	0.99	0.99	13	13	180	180	1.0 L	0.5
MW-13D	8/20/2019	298	298	120	120	8.2	8.2	0.1 L	0.05	0.2 L	0.1	19	19	180	180	1.1	1.1
MW-13D	1/21/2020	280	280	100	100	13.0	13	0.1 L	0.05	1.0	1.0	12	12	170	170	1.0 L	0.5
MW-13D	8/25/2020	302	302	110	110	8.1	8.1	0.1 L	0.05	0.20 L	0.1	20	20	190	190	1.0 L	0.5
MW-13D	1/20/2021	287	287	130	130	8.9	8.9	0.1 L	0.05	1.0	1.0	11	11	160	160	1.0 L	0.5
MW-13D	8/3/2021	299	299	130	130	7.4	7.4	0.1 L	0.05	0.4	0.4	16	16	180	180	1.0 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		8		10		10		5	
Minimum conc.			270		100		7.4		0.05		0.10		10		98		0.5
Maximum conc.			358		150		15.0		0.05		1.2		20		220		1.3
Average conc.			311		123		10.6		0.05		0.6		14.8		178		0.8
Distribution			Lognormal		Lognormal		Normal		NC		Normal		Lognormal		Neither		Neither
UCL 95			328.78		133.69		12.35		NC		0.85		17.45		220*		1.3*

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-13S																	
MW-13S	1/18/2017	323	323	130	130	12.0	12	0.1 L	0.05	0.46	0.46	17	17	190	190	1.2	1.2
MW-13S	7/10/2017	359	359	140	140	18.0	18	0.11	0.11	0.2 L	0.1	6.4	6.4	230	230	2.1	2.1
MW-13S	1/8/2018	293	293	100	100	10.0	10	0.1 L	0.05	1.8	1.8	12	12	180	180	1.2	1.2
MW-13S	8/28/2018	304	304	110	110	11.0	11	0.1 L	0.05	0.2 L	0.1	22	22	190	190	1.2	1.2
MW-13S	1/14/2019	204	204	70	70	8.0	8.0	0.1 L	0.05	1.2	1.2	15	15	150	150	1.1	1.1
MW-13S	8/20/2019	257	257	100	100	6.5	6.5	0.1 L	0.05	0.2 L	0.1	19	19	160	160	1.0 L	0.5
MW-13S	1/21/2020	210	210	64	64	15.0	15	0.1 L	0.05	1.3	1.3	10	10	150	150	1.0 L	0.5
MW-13S	8/25/2020	270	270	99	99	6.4	6.4	0.1 L	0.05	0.2 L	0.1	19	19	170	170	1.0 L	0.5
MW-13S	1/20/2021	198	198	75	75	5.0	5.0	0.1 L	0.05	2.0	2.0	5.6	5.6	140	140	1.0 L	0.5
MW-13S	8/3/2021	263	263	110	110	6.0	6.0	0.1 L	0.05	0.4	0.4	16	16	99	99	1.0 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		1		6		10		10		5	
Minimum conc.			198		64		5.0		0.05		0.1		5.6		99		0.5
Maximum conc.			359		140		18.0		0.11		2.0		22.0		230		2.1
Average conc.			268		100		9.8		0.06		0.8		14.2		166		0.9
Distribution			Lognormal		Lognormal		Lognormal		NC		Neither		Normal		Lognormal		Neither
UCL 95			305.11		118.40		13.32		NC		2.0*		17.4		192.34		2.1*

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-14D																	
MW-14D	1/18/2017	238	238	88	88	10.0	10	3.9	3.9	0.2 L	0.10	11	11	140	140	1.8	1.8
MW-14D	7/12/2017	238	238	84	84	8.3	8.3	3.7	3.7	0.2 L	0.10	10	10	130	130	1.7	1.7
MW-14D	1/8/2018	247	247	83	83	11.0	11	3.7	3.7	0.2 L	0.10	11	11	140	140	1.8	1.8
MW-14D	8/28/2018	250	250	90	90	9.0	9.0	3.9	3.9	0.2 H L	0.10	13	13	150	150	1.6	1.6
MW-14D	1/14/2019	230	230	88	88	8.3	8.3	3.7	3.7	0.2 L	0.10	9.3	9.3	160	160	1.9	1.9
MW-14D	8/20/2019	289	289	120	120	12.0	12	3.8	3.8	0.2 L	0.10	7.5	7.5	170	170	1.8	1.8
MW-14D	1/22/2020	219	219	89	89	6.2	6.2	3.1	3.1	0.2 L	0.10	7.9	7.9	130	130	2.0	2.0
MW-14D	8/26/2020	262	262	100	100	9.7	9.7	3.4	3.4	0.2 L	0.10	9.3	9.3	180	180	1.6	1.6
MW-14D	1/19/2021	219	219	89	89	7.0	7.0	3.1	3.1	0.2 L	0.1	7.6	7.6	120	120	1.9	1.9
MW-14D	8/3/2021	274	274	120	120	8.5	8.5	3.6	3.6	0.2 L	0.1	9.5	9.5	430	430	1.6	1.6
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		10		0		10		10		10	
Minimum conc.			219		83		6.2		3.1		0.1		7.5		120		1.6
Maximum conc.			289		120		12		3.9		0.1		13.0		430		2.0
Average conc.			247		95		9		3.6		0.1		10		175		1.8
Distribution			Lognormal		Neither		Lognormal		Neither		NC		Lognormal		Neither		Lognormal
UCL 95			260.60		120*		10.2		3.9*		NC		10.75		430*		1.86

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-14R																	
MW-14R	1/18/2017	105	105	47	47	1.6	1.6	0.1 L	0.05	0.2 L	0.10	3.6	3.6	91	91	1 L	0.5
MW-14R	7/11/2017	99	99	46	46	2.0	2.0	0.1 L	0.05	0.2 L	0.10	3.4	3.4	100	100	1 L	0.5
MW-14R	1/8/2018	104	104	44	44	1.7	1.7	0.1 L	0.05	0.2 L	0.10	3.4	3.4	86	86	1 L	0.5
MW-14R	8/27/2018	107	107	45	45	1.6	1.6	0.1 L	0.05	0.2 L	0.10	3.6	3.6	110	110	1 L	0.5
MW-14R	1/14/2019	105	105	44	44	1.6	1.6	0.1 L	0.05	0.2 L	0.10	3.5	3.5	120	120	1 L	0.5
MW-14R	8/20/2019	113	113	49	49	1.7	1.7	0.1 L	0.05	0.2 L	0.10	3.4	3.4	97	97	1 L	0.5
MW-14R	1/21/2020	104	104	48	48	1.6	1.6	0.1 L	0.05	0.2 L	0.10	3.6	3.6	100	100	1 L	0.5
MW-14R	8/25/2020	196	196	50	50	1.6	1.6	0.1 L	0.05	0.2 L	0.10	3.8	3.8	110	110	1 L	0.5
MW-14R	1/19/2021	104.2	104.2	48	48	1.6	1.6	0.1 L	0.05	0.2 L	0.1	3.7	3.7	80	80	1 L	0.5
MW-14R	8/2/2021	104	104	51	51	1.5	1.5	0.11	0.11	0.2 L	0.1	2.9	2.9	95	95	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		1		0		10		10		0	
Minimum conc.			99		44		1.5		0.05		0.1		2.9		80		0.5
Maximum conc.			196		51		2.0		0.11		0.1		3.8		120		0.5
Average conc.			114		47		1.7		0.06		0.1		3.5		99		0.5
Distribution			Neither		Lognormal		Neither		NC		NC		Neither		Lognormal		NC
UCL 95			196*		48.66		2.0*		NC		NC		3.8*		106.6		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-14S																	
MW-14S	1/18/2017	176	176	62	62	7.7	7.7	0.75	0.75	0.64	0.64	8.9	8.9	110	110	1.6	1.6
MW-14S	7/12/2017	196	196	67	67	6.8	6.8	0.46	0.46	0.34	0.34	11	11	110	110	1.7	1.7
MW-14S	1/8/2018	128	128	42	42	4.4	4.4	0.27	0.27	1.0	1.0	5.4	5.4	83	83	1.8	1.8
MW-14S	8/28/2018	295	295	110	110	21.0	21	0.50	0.50	0.2 L	0.1	7.0	7.0	170	170	2.2	2.2
MW-14S	1/14/2019	127	127	46	46	3.1	3.1	0.48	0.48	0.80	0.80	5.5	5.5	95	95	1.9	1.9
MW-14S	1/22/2020	113	113	41	41	2.7	2.7	0.1 L	0.05	1.6	1.6	5.1	5.1	86	86	1.8	1.8
MW-14S	1/19/2021	98	98	39	39	2.4	2.4	0.1 L	0.05	0.58	0.58	3.4	3.4	56	56	1.8	1.8
MW-14S	8/3/2021	319	319	130	130	18.0	18	0.76	0.76	0.2 L	0.1	5.4	5.4	71	71	2.4	2.4
No. Analyzed		8		8		8.0		8		8		8		8		8	
No. Detect		8		8		8.0		6		6		8		8		8	
Minimum conc.			98		39		2.4		0.05		0.1		3.4		56		1.6
Maximum conc.			319		130		21		0.76		1.6		11.0		170		2.4
Average conc.			182		67		8.3		0.415		0.6		6.5		98		1.9
Distribution			Lognormal		Neither		Lognormal		Normal		Lognormal		Lognormal		Lognormal		Neither
UCL 95			266.56		130*		21*		0.60		1.6*		8.74		127.72		2.4*

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-15D																	
MW-15D	1/17/2017	277	277	120	120	8.7	8.7	0.1 L	0.05	0.83	0.83	10	10	380	380	1 L	0.5
MW-15D	7/11/2017	237	237	110	110	8.4	8.4	0.1 L	0.05	0.98	0.98	9.3	9.3	180	180	1 L	0.5
MW-15D	1/8/2018	262	262	100	100	8.5	8.5	0.1 L	0.05	0.82	0.82	9.6	9.6	170	170	1 L	0.5
MW-15D	8/27/2018	270	270	110	110	8.5	8.5	0.1 L	0.05	0.82	0.82	10	10	170	170	1 L	0.5
MW-15D	1/14/2019	286	286	120	120	9.3	9.3	0.1 L	0.05	0.70	0.70	9.6	9.6	190	190	1 L	0.5
MW-15D	8/20/2019	308	308	130	130	9.3	9.3	0.1 L	0.05	0.66	0.66	11	11	170	170	1 L	0.5
MW-15D	1/21/2020	309	309	130	130	9.4	9.4	0.1 L	0.05	0.66	0.66	11	11	180	180	1 L	0.5
MW-15D	8/26/2020	294	294	110	110	8.8	8.8	0.1 L	0.05	0.65	0.65	11	11	210	210	1 L	0.5
MW-15D	1/19/2021	279.8	279.8	120	120	9.3	9.3	0.1 L	0.05	0.67	0.67	11	11	160	160	1 L	0.5
MW-15D	8/2/2021	277	277	120	120	8.3	8.3	0.1 L	0.05	0.7	0.7	8.9	8.9	160	160	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		0	
Minimum conc.			237		100		8.3		0.05		0.65		8.9		160		0.5
Maximum conc.			309		130		9.4		0.05		0.98		11.0		380		0.5
Average conc.			280		117		8.9		0.05		0.75		10.1		197		0.5
Distribution			Lognormal		Lognormal		Neither		NC		Neither		Neither		Neither		NC
UCL 95			293.45		122.92		9.4*		NC		0.98*		11.0*		380*		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-15S																	
MW-15S	1/17/2017	279	279	100	100	14.0	14	3.5	3.5	0.2 L	0.1	11	11	160	160	1.6	1.6
MW-15S	7/10/2017	264	264	96	96	12.0	12	2.7	2.7	0.2 L	0.1	11	11	160	160	1.6	1.6
MW-15S	1/8/2018	273	273	90	90	17.0	17	2.7	2.7	0.91	0.91	8.4	8.4	150	150	1.9	1.9
MW-15S	8/27/2018	282	282	98	98	16.0	16	3.2	3.2	0.2 L	0.1	10	10	170	170	2.0	2
MW-15S	1/14/2019	316	316	110	110	13.0	13	3.5	3.5	4.1	4.1	5.9	5.9	200	200	1.6	1.6
MW-15S	8/20/2019	376	376	160	160	15.0	15	4.1	4.1	0.29	0.29	3.9	3.9	200	200	1.8	1.8
MW-15S	1/21/2020	362	362	110	110	12.0	12	3.7	3.7	9.1	9.1	5.6	5.6	200	200	1.4	1.4
MW-15S	8/26/2020	333	333	120	120	15.0	15	3.1	3.1	0.37	0.37	10	10	210	210	1.7	1.7
MW-15S	1/19/2021	312.5	312.5	120	120	15.0	15	3.2	3.2	2.7	2.7	8.6	8.6	170	170	2.0	2.0
MW-15S	8/2/2021	315	315	140	140	15.0	15	3.4	3.4	0.2 L	0.1	4.8	4.8	220	220	1.7	1.7
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		10		6		10		10		10	
Minimum conc.			264		90		12.0		2.7		0.1		3.9		150		1.4
Maximum conc.			376		160		17.0		4.1		9.1		11.0		220		2.0
Average conc.			311		114		14.4		3.3		1.8		7.9		184		1.7
Distribution			Lognormal		Lognormal		Lognormal		Lognormal		Neither		Lognormal		Lognormal		Lognormal
UCL 95			334.89		128		15.46		3.59		9.1*		10.36		200		1.85

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-17S																	
MW-17S	1/17/2017	435	435	170	170	17.0	17	4.8	4.8	3.9	3.9	4.4	4.4	230	230	2.0	2.0
MW-17S	7/11/2017	367	367	150	150	24.0	24	4.6	4.6	0.31	0.31	5.2	5.2	220	220	2.0	2.0
MW-17S	1/8/2018	434	434	120	120	20.0	20	3.1	3.1	12	12	4.6	4.6	250	250	1.8	1.8
MW-17S	8/27/2018	393	393	160	160	13.0	13	3.8	3.8	0.2 L	0.1	2.0	2.0	220	220	1.9	1.9
MW-17S	1/16/2019	364	364	160	160	12.0	12	4.7	4.7	3.2	3.2	2.4	2.4	230	230	1.9	1.9
MW-17S	8/22/2019	457	457	210	210	11.0	11	8.9	8.9	0.51	0.51	3.9	3.9	240	240	2.0	2.0
MW-17S	1/21/2020	478	478	170	170	11.0	11	6.0	6.0	10	10	5.4	5.4	270	270	1.7	1.7
MW-17S	8/25/2020	499	499	170	170	14.0	14	4.2	4.2	0.88	0.88	7.1	7.1	250	250	1.7	1.7
MW-17S	1/20/2021	571	571	160	160	16.0	16	5.3	5.3	24	24	5.3	5.3	320	320	1.7	1.7
MW-17S	8/2/2021	401	401	180	180	14.0	14	4.0	4.0	0.35	0.35	3.5	3.5	220	220	1.6	1.6
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		10		9		10		10		10	
Minimum conc.			364		120		11.0		3.1		0.1		2.0		220		1.6
Maximum conc.			571		210		24.0		8.9		24		7.1		320		2.0
Average conc.			440		165		15.2		4.94		5.5		4.4		245		1.8
Distribution			Lognormal		Neither		Lognormal		Lognormal		Lognormal		Lognormal		Neither		Lognormal
UCL 95			480.25		210*		17.97		5.97		**24***		5.80		320*		1.92

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-18D																	
MW-18D	1/17/2017	260	260	110	110	7.2	7.2	0.1 L	0.05	1.7	1.7	6.7	6.7	170	170	1 L	0.5
MW-18D	7/13/2017	273	273	110	110	7.4	7.4	0.1 L	0.05	1.6	1.6	6.5	6.5	170	170	1 L	0.5
MW-18D	1/10/2018	265	265	100	100	7.4	7.4	0.1 L	0.05	1.5	1.5	6.7	6.7	160	160	1 L	0.5
MW-18D	8/29/2018	261	261	100	100	7.4	7.4	0.1 L	0.05	1.6	1.6	7.8	7.8	190	190	1 L	0.5
MW-18D	1/15/2019	251	251	98	98	7.3	7.3	0.1 L	0.05	1.7	1.7	7.4	7.4	150	150	1 L	0.5
MW-18D	8/21/2019	266	266	110	110	7.0	7.0	0.1 L	0.05	1.6	1.6	8.0	8.0	170	170	1 L	0.5
MW-18D	1/22/2020	250	250	100	100	6.7	6.7	0.1 L	0.05	1.6	1.6	7.8	7.8	160	160	1 L	0.5
MW-18D	8/25/2020	320	320	92	92	6.7	6.7	0.1 L	0.05	1.7	1.7	7.9	7.9	160	160	1 L	0.5
MW-18D	1/19/2021	254	254	110	110	7.2	7.2	0.1 L	0.05	1.6	1.6	8.1	8.1	150	150	1 L	0.5
MW-18D	8/3/2021	251	251	110	110	6.2	6.2	0.1 L	0.05	1.4	1.4	7.3	7.3	160	160	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		0	
Minimum conc.			250		92		6.2		0.05		1.4		6.5		150		0.5
Maximum conc.			320		110		7.4		0.05		1.7		8.1		190		0.5
Average conc.			265		104		7.1		0.05		1.6		7.4		164		0.5
Distribution			Neither		Neither		Neither		NC		Neither		Normal		Neither		NC
UCL 95			320*		110*		7.4*		NC		1.7*		7.77		190*		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-18S																	
MW-18S	1/17/2017	395	395	130	130	15.0	15	0.1 L	0.05	11	11	4.9	4.9	230	230	1.4	1.4
MW-18S	7/13/2017	365	365	130	130	24.0	24	0.1 L	0.05	0.49	0.49	3.5	3.5	200	200	1.9	1.9
MW-18S	1/10/2018	421	421	120	120	17.0	17	0.1 L	0.05	10 H	10	4.5	4.5	260	260	1.5	1.5
MW-18S	8/29/2018	326	326	130	130	14.0	14	0.1 L	0.05	0.28	0.28	4.0	4.0	210	210	1.5	1.5
MW-18S	1/15/2019	337	337	130	130	14.0	14	0.1 L	0.05	3.1	3.1	4.7	4.7	200	200	1.3	1.3
MW-18S	8/21/2019	346	346	140	140	12.0	12	0.1 L	0.05	3.2	3.2	7.5	7.5	220	220	1.2	1.2
MW-18S	1/22/2020	383	383	140	140	18.0	18	0.1 L	0.05	4.9	4.9	9.7	9.7	230	230	1.2	1.2
MW-18S	8/25/2020	389	389	120	120	12.0	12	0.1 L	0.05	1.6	1.6	7.9	7.9	200	200	1.1	1.1
MW-18S	1/19/2021	472	472	190	190	16.0	16	0.1 L	0.05	4.7	4.7	13	13	260	260	1.3	1.3
MW-18S	8/3/2021	334	334	150	150	12.0	12	0.1 L	0.05	0.41	0.41	6.4	6.4	200	200	1.1	1.1
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		10	
Minimum conc.			326		120		12.0		0.05		0.3		3.5		200		1.1
Maximum conc.			472		190		24.0		0.05		11.0		13.0		260		1.9
Average conc.			377		138		15.4		0.05		4.0		6.6		221		1.4
Distribution			Lognormal		Neither		Lognormal		NC		Lognormal		Lognormal		Neither		Lognormal
UCL 95			404.57		190*		17.71		NC		**11***		8.9		260*		1.5

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-20R																	
MW-20R	1/18/2017	100	100	46	46	1.6	1.6	0.1 L	0.05	0.2 L	0.1	3.1	3.1	85	85	1 L	0.5
MW-20R	7/12/2017	105	105	44	44	1.7	1.7	0.1 L	0.05	0.2 L	0.1	2.9	2.9	86	86	1 L	0.5
MW-20R	1/8/2018	100	100	43	43	1.7	1.7	0.1 L	0.05	0.2 L	0.1	3.0	3.0	87	87	1 L	0.5
MW-20R	8/28/2018	98	98	44	44	1.7	1.7	0.1 L	0.05	0.2 L	0.1	3.1	3.1	92	92	1 L	0.5
MW-20R	1/14/2019	100	100	42	42	1.6	1.6	0.1 L	0.05	0.2 L	0.1	2.9	2.9	110	110	1 L	0.5
MW-20R	8/21/2019	106	106	47	47	1.6	1.6	0.1 L	0.05	0.2 L	0.1	3.2	3.2	95	95	1 L	0.5
MW-20R	1/22/2020	102	102	47	47	1.6	1.6	0.1 L	0.05	0.2 L	0.1	3.1	3.1	93	93	1 L	0.5
MW-20R	8/25/2020	228	228	48	48	1.6	1.6	0.1 L	0.05	0.2 L	0.1	3.2	3.2	99	99	1 L	0.5
MW-20R	1/21/2021	98.9	98.9	45	45	1.4	1.4	0.1 L	0.05	0.2 L	0.1	2.5	2.5	110	110	1 L	0.5
MW-20R	8/2/2021	98	98	50	50	1.5	1.5	0.1 L	0.05	0.2 L	0.1	2.4	2.4	180	180	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		0		10		10		0	
Minimum conc.			98		42		1.4		0.05		0.1		2.4		85		0.5
Maximum conc.			228		50		1.7		0.05		0.1		3.2		180		0.5
Average conc.			114		46		1.6		0.05		0.1		2.9		104		0.5
Distribution			Neither		Lognormal		Neither		NC		NC		Neither		Neither		NC
UCL 95			228*		47.07		1.7*		NC		NC		3.2*		180*		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-26R																	
MW-26R	1/18/2017	199	199	85	85	4.4	4.4	0.10 L	0.05	0.2 L	0.10	9.9	9.9	130	130	1 L	0.5
MW-26R	7/11/2017	184	184	84	84	4.8	4.8	0.10 L	0.05	0.2 L	0.10	8.9	8.9	150	150	1 L	0.5
MW-26R	1/8/2018	201	201	81	81	4.5	4.5	0.10 L	0.05	0.2 L	0.10	9.2	9.2	130	130	1 L	0.5
MW-26R	8/28/2018	193	193	84	84	4.5	4.5	0.10 L	0.05	0.2 L	0.10	8.0	8.0	140	140	1 L	0.5
MW-26R	1/14/2019	203	203	84	84	4.6	4.6	0.10 L	0.05	0.2 L	0.10	9.5	9.5	150	150	1 L	0.5
MW-26R	8/20/2019	200	200	91	91	4.4	4.4	0.10 L	0.05	0.2 L	0.10	8.5	8.5	130	130	1 L	0.5
MW-26R	1/23/2020	211	211	94	94	4.6	4.6	0.14	0.14	0.2 L	0.10	10	10	130	130	1 L	0.5
MW-26R	8/25/2020	335	335	87	87	4.7	4.7	0.10 L	0.05	0.2 L	0.10	10	10	130	130	1 L	0.5
MW-26R	1/20/2021	215.2	215.2	100	100	4.8	4.8	0.1 L	0.05	0.2 L	0.1	11	11	130	130	1 L	0.5
MW-26R	8/2/2021	212	212	100	100	4.6	4.6	0.1 L	0.05	0.2 L	0.1	8.1	8.1	130	130	1 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		1		0		10		10		0	
Minimum conc.			184		81		4.4		0.05		0.10		8.0		130		0.5
Maximum conc.			335		100		4.8		0.14		0.10		11.0		150		0.5
Average conc.			215		89		4.6		0.06		0.10		9.3		135		0.5
Distribution			Neither		Neither		Lognormal		NC		NC		Lognormal		Neither		NC
UCL 95			335*		100*		4.68		NC		NC		9.90		150*		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
FMMW-1																	
FMMW-1	1/18/2017	299	299	110	110	14.0	14	0.1 L	0.05	1.9	1.9	11	11	180	180	1.1	1.1
FMMW-1	7/12/2017	341	341	110	110	21.0	21	0.1 L	0.05	1.4	1.4	8.0	8.0	190	190	1.4	1.4
FMMW-1	1/10/2018	312	312	100	100	15.0	15	0.1 L	0.05	3.0	3.0	8.2	8.2	190	190	1.3	1.3
FMMW-1	8/28/2018	278	278	98	98	14.0	14	0.1 L	0.05	1.6	1.6	16	16	170	170	1.0 L	0.5
FMMW-1	1/15/2019	291	291	100	100	15.0	15	0.1 L	0.05	0.81	0.81	14	14	180	180	1.0 L	0.5
FMMW-1	8/21/2019	290	290	96	96	14.0	14	0.1 L	0.05	1.3	1.3	14	14	170	170	1.0 L	0.5
FMMW-1	1/21/2020	285	285	110	110	13.0	13	0.1 L	0.05	0.9	0.9	13	13	170	170	1.0 L	0.5
FMMW-1	8/26/2020	382	382	92	92	14.0	14	0.1 L	0.05	1.2	1.2	13	13	190	190	1.0 L	0.5
FMMW-1	1/19/2021	271	271	99	99	12	12	0.1 L	0.05	1.8	1.8	13	13	170	170	1.0	1.0
FMMW-1	8/3/2021	282	282	120	120	10	10	0.1 L	0.05	0.89	0.89	13	13	61	61	1.0 L	0.5
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		0		10		10		10		4	
Minimum conc.			271		92		10.0		0.05		0.81		8.0		61		0.5
Maximum conc.			382		120		21		0.05		3.0		16		190		1.4
Average conc.			303		104		14.2		0.05		1.5		12.3		167		0.8
Distribution			Neither		Neither		Neither		NC		Lognormal		Neither		Neither		NC
UCL 95			382*		120*		21*		NC		1.97		16*		190*		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
FMMW-2																	
FMMW-2	1/18/2017	351	351	96	96	17.0	17	0.1 L	0.05	9.6	9.6	9.0	9.0	230	230	1.3	1.3
FMMW-2	7/12/2017	309	309	100	100	17.0	17	0.1 L	0.05	1.6	1.6	13	13	190	190	1.7	1.7
FMMW-2	1/10/2018	378	378	92	92	19.0	19	0.1 L	0.05	9.8	9.8	11	11	230	230	1.3	1.3
FMMW-2	8/28/2018	317	317	120	120	15.0	15	0.1 L	0.05	1.7	1.7	5.4	5.4	200	200	1.5	1.5
FMMW-2	1/15/2019	430	430	95	95	19.0	19	0.13	0.13	17	17	5.2	5.2	290	290	1.4	1.4
FMMW-2	8/21/2019	417	417	140	140	16.0	16	0.1 L	0.05	5.3	5.3	6.7	6.7	240	240	1.3	1.3
FMMW-2	1/21/2020	438	438	120	120	20.0	20	0.1 L	0.05	13	13	8.7	8.7	270	270	1.2	1.2
FMMW-2	8/27/2020	374	374	130	130	15.0	15	0.1 L	0.05	4.3	4.3	8.0	8.0	240	240	1.3	1.3
FMMW-2	1/19/2021	481	481	150	150	18	18	0.1 L	0.05	11	11	21	21	300	300	1.2	1.2
FMMW-2	8/3/2021	364	364	150	150	15	15	0.1 L	0.05	2.3	2.3	8.1	8.1	240	240	1.2	1.2
No. Analyzed		10		10		10.0		10		10		10		10		10	
No. Detect		10		10		10.0		1		10		10		10		10	
Minimum conc.			309		92		15		0.05		1.6		5.2		190		1.2
Maximum conc.			481		150		20		0.13		17.0		21.0		300		1.7
Average conc.			386		119		17.1		0.06		7.6		9.6		243		1.3
Distribution			Lognormal		Lognormal		Lognormal		NC		Lognormal		Lognormal		Lognormal		Neither
UCL 95			421.55		134.8		18.66		NC		**17.0***		12.91		266		1.7*

Notes:
Inorganic parameters measured in mg/L
Bold indicates UCL 95 is greater than Cleanup Level.
J indicates analyte was detected below the established reporting limit but above the detection limit
H indicates analyte was analyzed outside of specified holding time
L indicates below the given method reporting limit (MRL).
NC indicates not calculated due to less than 50 percent detection frequency.
MW-14S was dry in August of 2019 and 2020 and therefore was not sampled
* UCL represents maximum concentration detected because the calculated value was greater than the data sample range or the distribution was neither lognormal nor normal.
Statistical calculations use one half the MRL for parameters that were not detected.

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-10D					
MW-10D	01/18/17	0.03 L	0.015	0.001 L	0.0005
MW-10D	07/13/17	0.18 L	0.090	0.001 L	0.0005
MW-10D	01/08/18	0.18 L	0.090	0.001 L	0.0005
MW-10D	08/28/18	0.18 L	0.090	0.001 L	0.0005
MW-10D	01/14/19	0.18 L	0.090	0.001 L	0.0005
MW-10D	08/20/19	0.18 L	0.090	0.001 L	0.0005
MW-10D	01/22/20	0.036 L	0.018	0.001 L	0.0005
MW-10D	08/25/20	0.01 L	0.005	0.001 L	0.0005
MW-10D	01/20/21	0.006	0.006	0.001 L	0.0005
MW-10D	08/03/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		1		0	
Minimum conc.			0.005		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.050		0.0005
Distribution			NC		NC
UCL 95			NC		NC
MW-10S					
MW-10S	01/18/17	0.03 L	0.015	0.001 L	0.0005
MW-10S	07/13/17	0.18 L	0.090	0.001 L	0.0005
MW-10S	01/08/18	0.18 L	0.090	0.001 L	0.0005
MW-10S	08/28/18	0.18 L	0.090	0.001 L	0.0005
MW-10S	01/14/19	0.18 L	0.090	0.001 L	0.0005
MW-10S	08/20/19	0.18 L	0.090	0.001 L	0.0005
MW-10S	01/21/20	0.18 L	0.090	0.001 L	0.0005
MW-10S	08/25/20	0.01 L	0.005	0.001 L	0.0005
MW-10S	01/20/21	0.01 L	0.003	0.001 L	0.0005
MW-10S	08/02/21	0.01 L	0.005	0.003	0.0028
No. Analyzed		10		10	
No. Detect		0		1	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.057		0.0005
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-11D(2)					
MW-11D(2)	01/19/17	0.03 L	0.015	0.001 L	0.0005
MW-11D(2)	07/11/17	0.18 L	0.090	0.001 L	0.0005
MW-11D(2)	01/10/18	0.18 L	0.090	0.001 L	0.0005
MW-11D(2)	08/27/18	0.18 L	0.090	0.001 L	0.0005
MW-11D(2)	01/15/19	0.18 L	0.090	0.001 L	0.0005
MW-11D(2)	08/21/19	0.18 L	0.090	0.001 L	0.0005
MW-11D(2)	01/22/20	0.036 L	0.018	0.001 L	0.0005
MW-11D(2)	08/26/20	0.01 L	0.005	0.001 L	0.0005
MW-11D(2)	01/20/21	0.005 L	0.003	0.001 L	0.0005
MW-11D(2)	08/03/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		0		0	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.050		0.0005
Distribution			NC		NC
UCL 95			NC		NC
MW-11S					
MW-11S	01/18/17	0.03 L	0.015	0.001 L	0.0005
MW-11S	07/11/17	0.18 L	0.090	0.0035	0.0035
MW-11S	01/09/18	0.18 L	0.090	0.001 L	0.0005
MW-11S	08/27/18	0.18 L	0.090	0.0058	0.0058
MW-11S	01/15/19	0.18 L	0.090	0.001 L	0.0005
MW-11S	08/21/19	0.18 L	0.090	0.001 L	0.0005
MW-11S	01/22/20	0.036 L	0.018	0.001 L	0.0005
MW-11S	08/26/20	0.01 L	0.005	0.001	0.0011
MW-11S	01/19/21	0.005 L	0.003	0.001 L	0.0005
MW-11S	08/03/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		0		3	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0058
Average conc.			0.050		0.0014
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-12D					
MW-12D	01/19/17	0.03 L	0.015	0.001 L	0.0005
MW-12D	07/10/17	0.18 L	0.090	0.001 L	0.0005
MW-12D	01/09/18	0.18 L	0.090	0.001 L	0.0005
MW-12D	08/28/18	0.18 L	0.090	0.001 L	0.0005
MW-12D	01/16/19	0.18 L	0.090	0.001 L	0.0005
MW-12D	08/21/19	0.18 L	0.090	0.001 L	0.0005
MW-12D	01/21/20	0.18 L	0.090	0.001 L	0.0005
MW-12D	08/27/20	0.01 L	0.005	0.001 L	0.0005
MW-12D	01/20/21	0.01 L	0.003	0.001 L	0.0005
MW-12D	08/02/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		0		0	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.057		0.0005
Distribution			NC		NC
UCL 95			NC		NC
MW-12S					
MW-12S	01/19/17	0.03 L	0.015	0.550	0.550
MW-12S	07/10/17	0.18 L	0.090	0.770	0.770
MW-12S	01/09/18	0.18 L	0.090	0.430	0.430
MW-12S	08/28/18	0.18 L	0.090	0.840	0.840
MW-12S	01/14/19	0.18 L	0.090	0.500	0.500
MW-12S	08/21/19	0.18 L	0.090	0.980	0.980
MW-12S	01/21/20	0.18 L	0.090	0.009	0.009
MW-12S	08/27/20	0.01 L	0.005	0.450	0.450
MW-12S	01/20/21	0.01 L	0.003	0.003	0.003
MW-12S	08/02/21	0.01 L	0.005	0.340	0.340
No. Analyzed		10		10	
No. Detect		0		10	
Minimum conc.			0.003		0.003
Maximum conc.			0.090		0.980
Average conc.			0.057		0.487
Distribution			NC		Normal
UCL 95			NC		**0.67**

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-13D					
MW-13D	01/18/17	0.03 L	0.015	0.001 L	0.0005
MW-13D	07/10/17	0.18 L	0.090	0.001 L	0.0005
MW-13D	01/08/18	0.18 L	0.090	0.001 L	0.0005
MW-13D	08/28/18	0.18 L	0.090	0.001 L	0.0005
MW-13D	01/14/19	0.18 L	0.090	0.001 L	0.0005
MW-13D	08/20/19	0.18 L	0.090	0.001 L	0.0005
MW-13D	01/21/20	0.18 L	0.090	0.001 L	0.0005
MW-13D	08/25/20	0.01 L	0.005	0.001 L	0.0005
MW-13D	01/20/21	0.01 L	0.003	0.001 L	0.0005
MW-13D	08/03/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		0		0	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.057		0.0005
Distribution			NC		NC
UCL 95			NC		NC
MW-13S					
MW-13S	01/18/17	0.03 L	0.015	0.0034	0.0034
MW-13S	07/10/17	0.18 L	0.090	0.013	0.013
MW-13S	01/08/18	0.18 L	0.090	0.001 L	0.0005
MW-13S	08/28/18	0.18 L	0.090	0.0074	0.0074
MW-13S	01/14/19	5.80	5.80	0.001 L	0.0005
MW-13S	08/20/19	0.18 L	0.09	0.003	0.0033
MW-13S	01/21/20	0.18 L	0.09	0.001 L	0.0005
MW-13S	08/25/20	0.01 L	0.005	0.0017	0.0017
MW-13S	01/20/21	0.01 L	0.00	0.001 L	0.0005
MW-13S	08/03/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		1		5	
Minimum conc.			0.003		0.0005
Maximum conc.			5.800		0.013
Average conc.			0.628		0.003
Distribution			NC		Neither
UCL 95			NC		0.013*

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-14D					
MW-14D	01/18/17	2.40	2.40	1.1	1.1
MW-14D	07/12/17	0.91	0.91	0.96	0.96
MW-14D	01/08/18	2.20	2.20	1.0	1.0
MW-14D	08/28/18	2.70	2.70	1.1	1.1
MW-14D	01/14/19	2.50	2.50	1.1	1.1
MW-14D	08/20/19	4.60	4.60	1.4	1.4
MW-14D	01/22/20	0.24	0.24	1.1	1.1
MW-14D	08/26/20	3.59	3.59	1.4	1.4
MW-14D	01/19/21	3.04	3.04	1.0	1.0
MW-14D	08/03/21	4.79	4.79	1.3	1.3
No. Analyzed		10		10	
No. Detect		10		10	
Minimum conc.			0.240		0.96
Maximum conc.			4.79		1.40
Average conc.			2.70		1.15
Distribution			Normal		Neither
UCL 95			**3.53**		**1.4***
MW-14S					
MW-14S	01/18/17	0.088	0.088	0.250	0.25
MW-14S	07/12/17	0.180 L	0.090	0.240	0.24
MW-14S	01/08/18	0.180 L	0.090	0.100	0.10
MW-14S	08/28/18	0.180 L	0.090	0.240	0.24
MW-14S	01/14/19	0.180 L	0.090	0.190	0.19
MW-14S	01/22/20	0.036 L	0.018	0.017	0.02
MW-14S	01/19/21	0.005 L	0.003	0.040	0.04
MW-14S	08/03/21	0.221	0.221	0.430	0.43
No. Analyzed		8		8	
No. Detect		2		8	
Minimum conc.			0.003		0.017
Maximum conc.			0.221		0.430
Average conc.			0.086		0.188
Distribution			NC		Normal
UCL 95			NC		**0.28**

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-14R					
MW-14R	01/18/17	0.059	0.059	0.18	0.18
MW-14R	07/11/17	0.18 L	0.090	0.42	0.42
MW-14R	01/08/18	0.18 L	0.090	0.18	0.18
MW-14R	08/27/18	0.18 L	0.090	0.19	0.19
MW-14R	01/14/19	0.18 L	0.090	0.001 L	0.0005
MW-14R	08/20/19	0.18 L	0.090	0.19	0.19
MW-14R	01/21/20	0.18 L	0.090	0.18	0.18
MW-14R	08/25/20	0.050	0.050	0.19	0.19
MW-14R	01/19/21	0.054	0.054	0.20	0.20
MW-14R	08/02/21	0.055	0.055	0.18	0.18
No. Analyzed		10		10	
No. Detect		4		9	
Minimum conc.			0.050		0.0005
Maximum conc.			0.090		0.42
Average conc.			0.081		0.191
Distribution			NC		Neither
UCL 95			NC		**0.42***
MW-15D					
MW-15D	01/17/17	0.03 L	0.015	0.088	0.088
MW-15D	07/11/17	0.18 L	0.090	0.083	0.083
MW-15D	01/08/18	0.18 L	0.090	0.064	0.064
MW-15D	08/27/18	0.18 L	0.090	0.023	0.023
MW-15D	01/14/19	0.18 L	0.090	0.026	0.026
MW-15D	08/20/19	0.18 L	0.090	0.026	0.026
MW-15D	01/21/20	0.18 L	0.090	0.028	0.028
MW-15D	08/26/20	0.01 L	0.005	0.018	0.018
MW-15D	01/19/21	0.005 L	0.003	0.031	0.031
MW-15D	08/02/21	0.01 L	0.005	0.0068	0.007
No. Analyzed		10		10	
No. Detect		0		10	
Minimum conc.			0.003		0.007
Maximum conc.			0.090		0.088
Average conc.			0.057		0.039
Distribution			NC		Lognormal
UCL 95			NC		**0.082**

Statistical Summary of Groundwater Data - Dissolved Metals
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-15S					
MW-15S	01/17/17	0.03 L	0.015	0.93	0.93
MW-15S	07/10/17	0.18 L	0.090	0.64	0.64
MW-15S	01/08/18	0.18 L	0.090	0.85	0.85
MW-15S	08/27/18	0.18 L	0.090	0.83	0.83
MW-15S	01/14/19	0.18 L	0.090	1.1	1.1
MW-15S	08/20/19	0.18 L	0.090	1.2	1.2
MW-15S	01/21/20	0.18 L	0.090	1.2	1.2
MW-15S	08/26/20	0.028	0.028	1.2	1.2
MW-15S	01/19/21	0.005 L	0.003	1.1	1.1
MW-15S	08/02/21	0.055	0.055	1.1	1.1
No. Analyzed		10		10	
No. Detect		2		10	
Minimum conc.			0.003		0.64
Maximum conc.			0.090		1.2
Average conc.			0.065		1.015
Distribution			NC		Neither
UCL 95			NC		**1.2***
MW-17S					
MW-17S	01/17/17	0.03 L	0.015	1.0	1.0
MW-17S	07/11/17	0.18 L	0.090	1.1	1.1
MW-17S	01/08/18	0.18 L	0.090	0.82	0.82
MW-17S	08/27/18	0.18 L	0.090	0.82	0.82
MW-17S	01/16/19	0.18 L	0.090	0.77	0.77
MW-17S	08/22/19	0.18 L	0.090	1.2	1.2
MW-17S	01/21/20	0.18 L	0.090	1.2	1.2
MW-17S	08/25/20	0.01 L	0.005	0.84	0.84
MW-17S	01/20/21	0.005 L	0.003	1.9	1.9
MW-17S	08/02/21	0.01 L	0.005	0.88	0.88
No. Analyzed		10		10	
No. Detect		0		10	
Minimum conc.			0.003		0.77
Maximum conc.			0.090		1.9
Average conc.			0.057		1.053
Distribution			NC		Neither
UCL 95			NC		**1.9***

Statistical Summary of Groundwater Data - Dissolved Metals
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-18D					
MW-18D	01/17/17	0.056	0.056	0.001 L	0.0005
MW-18D	07/13/17	0.18 L	0.090	0.001 L	0.0005
MW-18D	01/10/18	0.18 L	0.090	0.001 L	0.0005
MW-18D	08/29/18	0.18 L	0.090	0.001 L	0.0005
MW-18D	01/15/19	0.18 L	0.090	0.001 L	0.0005
MW-18D	08/21/19	0.41	0.410	0.001 L	0.0005
MW-18D	01/22/20	0.18 L	0.090	0.001 L	0.0005
MW-18D	08/25/20	0.01 L	0.005	0.001 L	0.0005
MW-18D	01/19/21	0.005 L	0.003	0.001 L	0.0005
MW-18D	08/03/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		2		0	
Minimum conc.			0.003		0.0005
Maximum conc.			0.410		0.0005
Average conc.			0.093		0.0005
Distribution			NC		NC
UCL 95			NC		NC
MW-18S					
MW-18S	01/17/17	0.034	0.034	0.0010 L	0.0005
MW-18S	07/13/17	0.180 L	0.090	0.0010 L	0.0005
MW-18S	01/10/18	0.180 L	0.090	0.0010 L	0.0005
MW-18S	08/29/18	0.180 L	0.090	0.0010 L	0.0005
MW-18S	01/15/19	0.180 L	0.090	0.0010 L	0.0005
MW-18S	08/21/19	0.180 L	0.090	0.0010 L	0.0005
MW-18S	01/22/20	0.036 L	0.018	0.0010 L	0.0005
MW-18S	08/25/20	0.010 L	0.005	0.0010 L	0.0005
MW-18S	01/19/21	0.005 L	0.003	0.0010 L	0.0005
MW-18S	08/03/21	0.013	0.013	0.0010 L	0.0005
No. Analyzed		10		10	
No. Detect		2		0	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.057		0.0005
Distribution			NC		NC
UCL 95			NC		NC

Statistical Summary of Groundwater Data - Dissolved Metals
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-20R					
MW-20R	01/18/17	0.03 L	0.015	0.001 L	0.0005
MW-20R	07/12/17	0.18 L	0.090	0.001 L	0.0005
MW-20R	01/08/18	0.18 L	0.090	0.001 L	0.0005
MW-20R	08/28/18	0.18 L	0.090	0.001 L	0.0005
MW-20R	01/14/19	0.18 L	0.090	0.001 L	0.0005
MW-20R	08/21/19	0.18 L	0.090	0.001 L	0.0005
MW-20R	01/22/20	0.036 L	0.018	0.001 L	0.0005
MW-20R	08/25/20	0.01 L	0.005	0.001 L	0.0005
MW-20R	01/21/21	0.005 L	0.003	0.001 L	0.0005
MW-20R	08/02/21	0.01 L	0.005	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		0		0	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.050		0.001
Distribution			NC		NC
UCL 95			NC		NC
MW-26R					
MW-26R	01/18/17	0.60	0.60	0.38	0.38
MW-26R	07/11/17	0.69	0.69	0.20	0.20
MW-26R	01/08/18	0.64	0.64	0.38	0.38
MW-26R	08/28/18	0.60	0.60	0.39	0.39
MW-26R	01/14/19	0.58	0.58	0.39	0.39
MW-26R	08/20/19	0.67	0.67	0.41	0.41
MW-26R	01/23/20	0.14	0.14	0.42	0.42
MW-26R	08/25/20	0.711	0.711	0.42	0.42
MW-26R	01/20/21	0.753	0.753	0.43	0.43
MW-26R	08/02/21	0.742	0.742	0.44	0.44
No. Analyzed		10		10	
No. Detect		10		10	
Minimum conc.			0.140		0.20
Maximum conc.			0.753		0.44
Average conc.			0.613		0.386
Distribution			Neither		Neither
UCL 95			**0.753***		**0.44***

Statistical Summary of Groundwater Data - Dissolved Metals
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
FMMW-1					
FMMW-1	01/18/17	0.031	0.031	0.001 L	0.0005
FMMW-1	07/12/17	0.18 L	0.090	0.001 L	0.0005
FMMW-1	01/10/18	0.18 L	0.090	0.001 L	0.0005
FMMW-1	08/28/18	0.18 L	0.090	0.001 L	0.0005
FMMW-1	01/15/19	0.18 L	0.090	0.001 L	0.0005
FMMW-1	08/21/19	0.18 L	0.090	0.001 L	0.0005
FMMW-1	01/21/20	0.18 L	0.090	0.001 L	0.0005
FMMW-1	08/26/20	0.01 L	0.005	0.001 L	0.0005
FMMW-1	01/19/21	0.005 L	0.003	0.001 L	0.0005
FMMW-1	08/03/21	0.01 L	0.005	0.0011	0.0011
No. Analyzed		10		10	
No. Detect		1		1	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0005
Average conc.			0.058		0.0005
Distribution			NC		NC
UCL 95			NC		NC
FMMW-2					
FMMW-2	01/18/17	0.03 L	0.015	0.047	0.047
FMMW-2	07/12/17	0.18 L	0.090	0.036	0.036
FMMW-2	01/10/18	0.18 L	0.090	0.0065	0.0065
FMMW-2	08/28/18	0.18 L	0.090	0.043	0.043
FMMW-2	01/15/19	0.18 L	0.090	0.079	0.079
FMMW-2	08/21/19	0.18 L	0.090	0.011	0.011
FMMW-2	01/21/20	0.18 L	0.090	0.001 L	0.0005
FMMW-2	08/27/20	0.01 L	0.005	0.0029	0.0029
FMMW-2	01/19/21	0.005 L	0.003	0.001 L	0.0005
FMMW-2	08/03/21	0.01 L	0.005	0.015	0.0150
No. Analyzed		10		10	
No. Detect		0		8	
Minimum conc.			0.003		0.0005
Maximum conc.			0.090		0.0790
Average conc.			0.057		0.024
Distribution			NC		Lognormal
UCL 95			NC		**0.079***

Notes:

Metals measured in mg/L

MW-14S was dry in August of 2019 and 2020 and therefore was not sampled

Bold indicates UCL 95 is greater than Cleanup Level.

L indicates below the given method reporting limit (MRL).

NC indicates not calculated due to less than 50 percent detection frequency.

* UCL represents maximum concentration detected because the calculated value was greater than the data sample range or the distribution was neither lognormal nor normal.

Statistical calculations use one half the MRL for parameters that were not detected.

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene	
		Result	Conc.
MW-11S			
MW-11S	01/18/17	0.5 L	0.25
MW-11S	07/11/17	0.5 L	0.25
MW-11S	01/09/18	0.5 L	0.25
MW-11S	08/27/18	0.5 L	0.25
MW-11S	01/15/19	0.5 L	0.25
MW-11S	08/21/19	0.5 L	0.25
MW-11S	01/22/20	0.5 L	0.25
MW-11S	08/26/20	0.5 L	0.25
MW-11S	01/19/21	0.5 L	0.25
MW-11S	08/03/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
MW-12S			
MW-12S	01/19/17	0.5 L	0.25
MW-12S	07/10/17	0.5 L	0.25
MW-12S	01/09/18	0.5 L	0.25
MW-12S	08/28/18	0.5 L	0.25
MW-12S	01/14/19	0.5 L	0.25
MW-12S	08/21/19	0.5 L	0.25
MW-12S	01/21/20	0.5 L	0.25
MW-12S	08/27/20	0.5 L	0.25
MW-12S	01/20/21	0.5 L	0.25
MW-12S	08/02/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene	
		Result	Conc.
MW-12D			
MW-12D	01/19/17	0.5 L	0.25
MW-12D	07/10/17	0.5 L	0.25
MW-12D	01/09/18	0.5 L	0.25
MW-12D	08/28/18	0.5 L	0.25
MW-12D	01/16/19	0.5 L	0.25
MW-12D	08/21/19	0.5 L	0.25
MW-12D	01/21/20	0.5 L	0.25
MW-12D	08/27/20	0.5 L	0.25
MW-12D	01/20/21	0.5 L	0.25
MW-12D	08/02/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
MW-13S			
MW-13S	01/18/17	0.5 L	0.25
MW-13S	07/10/17	0.5 L	0.25
MW-13S	01/08/18	0.5 L	0.25
MW-13S	08/28/18	0.5 L	0.25
MW-13S	01/14/19	0.5 L	0.25
MW-13S	08/20/19	0.5 L	0.25
MW-13S	01/21/20	0.5 L	0.25
MW-13S	08/25/20	0.5 L	0.25
MW-13S	01/20/21	0.5 L	0.25
MW-13S	08/03/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
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Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
MW-13D			
MW-13D	01/18/17	0.5 L	0.25
MW-13D	07/10/17	0.5 L	0.25
MW-13D	01/08/18	0.5 L	0.25
MW-13D	08/28/18	0.5 L	0.25
MW-13D	01/14/19	0.5 L	0.25
MW-13D	08/20/19	0.5 L	0.25
MW-13D	01/21/20	0.5 L	0.25
MW-13D	08/25/20	0.5 L	0.25
MW-13D	01/20/21	0.5 L	0.25
MW-13D	08/03/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
MW-15S			
MW-15S	01/17/17	0.5 L	0.25
MW-15S	07/10/17	0.5 L	0.25
MW-15S	01/08/18	0.5 L	0.25
MW-15S	08/27/18	0.5 L	0.25
MW-15S	01/14/19	0.5 L	0.25
MW-15S	08/20/19	0.5 L	0.25
MW-15S	01/21/20	0.5 L	0.25
MW-15S	08/26/20	0.5 L	0.25
MW-15S	01/19/21	0.5 L	0.25
MW-15S	08/02/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
MW-17S			
MW-17S	01/17/17	0.5 L	0.25
MW-17S	07/11/17	0.5 L	0.25
MW-17S	01/08/18	0.5 L	0.25
MW-17S	08/27/18	0.5 L	0.25
MW-17S	01/16/19	0.5 L	0.25
MW-17S	08/22/19	0.5 L	0.25
MW-17S	01/21/20	0.5 L	0.25
MW-17S	08/25/20	0.5 L	0.25
MW-17S	01/20/21	0.5 L	0.25
MW-17S	08/02/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
MW-18S			
MW-18S	01/17/17	0.5 L	0.25
MW-18S	07/13/17	0.5 L	0.25
MW-18S	01/10/18	0.5 L	0.25
MW-18S	08/29/18	0.5 L	0.25
MW-18S	01/15/19	0.5 L	0.25
MW-18S	08/21/19	0.5 L	0.25
MW-18S	01/22/20	0.5 L	0.25
MW-18S	08/25/20	0.5 L	0.25
MW-18S	01/19/21	0.5 L	0.25
MW-18S	08/03/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene Result	Conc.
FMMW-2			
FMMW-2	01/18/17	0.5 L	0.25
FMMW-2	07/12/17	0.5 L	0.25
FMMW-2	01/10/18	0.5 L	0.25
FMMW-2	08/28/18	0.5 L	0.25
FMMW-2	01/15/19	0.5 L	0.25
FMMW-2	08/21/19	0.5 L	0.25
FMMW-2	01/21/20	0.5 L	0.25
FMMW-2	08/27/20	0.5 L	0.25
FMMW-2	01/19/21	0.5 L	0.25
FMMW-2	08/03/21	0.5 L	0.25
No. Analyzed		10	
No. Detect		0	
Minimum conc.			0.25
Maximum conc.			0.25
Average conc.			0.25
Distribution			NC
UCL 95			NC

Notes:
VOCs measured in ug/L
L = below the method reporting limit (MRL)
NC = not calculated due to less than 50 percent detection frequency or historically no detections.
Statistical calculations use one half the MRL for parameters that were non detected.

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2021 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene		Tetrachloroethene (PCE)	
		Result	Conc.	Result	Conc.
MW-11D(2)					
MW-11D(2)	01/19/17	0.5 L	0.25	1.00	1.00
MW-11D(2)	07/11/17	0.5 L	0.25	0.92	0.92
MW-11D(2)	01/10/18	0.5 L	0.25	0.80	0.80
MW-11D(2)	08/27/18	0.5 L	0.25	0.86	0.86
MW-11D(2)	01/15/19	0.5 L	0.25	0.99	0.99
MW-11D(2)	08/21/19	0.5 L	0.25	0.88	0.88
MW-11D(2)	01/22/20	0.5 L	0.25	1.1	1.1
MW-11D(2)	08/26/20	0.5 L	0.25	1.2	1.2
MW-11D(2)	01/20/21	0.5 L	0.25	1.2	1.2
MW-11D(2)	08/03/21	0.5 L	0.25	1.1	1.1
No. Analyzed		10		10	
No. Detect		0		10	
Minimum conc.			0.25		0.80
Maximum conc.			0.25		1.20
Average conc.			0.25		1.01
Distribution			NC		Lognormal
UCL 95			NC		1.10

Notes:

VOCs measured in ug/L

Bold indicates UCL 95 is greater than Cleanup Level.

L = below the method reporting limit (MRL)

NC = not calculated due to less than 50 percent detection frequency or historically no detections

Calculations use half the MRL for parameters that were not detected

Appendix H

QUARTERLY SITE INSPECTION REPORTS

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andres Lopez Date: 3/19/2021

Signature:  Weather: Cloudy

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock		X	
Standing Water			
Vegetation			
Bare or Sparsely Vegetated Areas		X	
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas		X	
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues		X	
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andres Lopez Date: 4/10/2021

Signature:  Weather: Sunny

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock		X	
Standing Water			
Vegetation			
Bare or Sparsely Vegetated Areas		X	
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas		X	
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues		X	
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andres Lopez Date: 7/15/2021

Signature:  Weather: Cloudy

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock		X	
Standing Water			
Vegetation			
Bare or Sparsely Vegetated Areas		X	
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	Was being mowed upon arrival
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas		X	
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues		X	
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Ruben Martinez Date: 10/14/2021

Signature:  Weather: Cloudy

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock		X	
Standing Water		X	
Vegetation			
Bare or Sparsely Vegetated Areas		X	
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas		X	
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues		X	
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

Appendix I

LANDFILL GAS SYSTEM O&M REPORTS

Hidden Valley Landfill
LFG System Monitoring & Maintenance
January 14th, 20th, 21st and 28th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed unscheduled maintenance at the flare on January 14th.
- Performed monthly extraction well monitoring on January 20th and 21st.
- Performed LFG repairs at N57, N-14, N-32, and N-17 on January 28th.

LANDFILL FLARE STATION

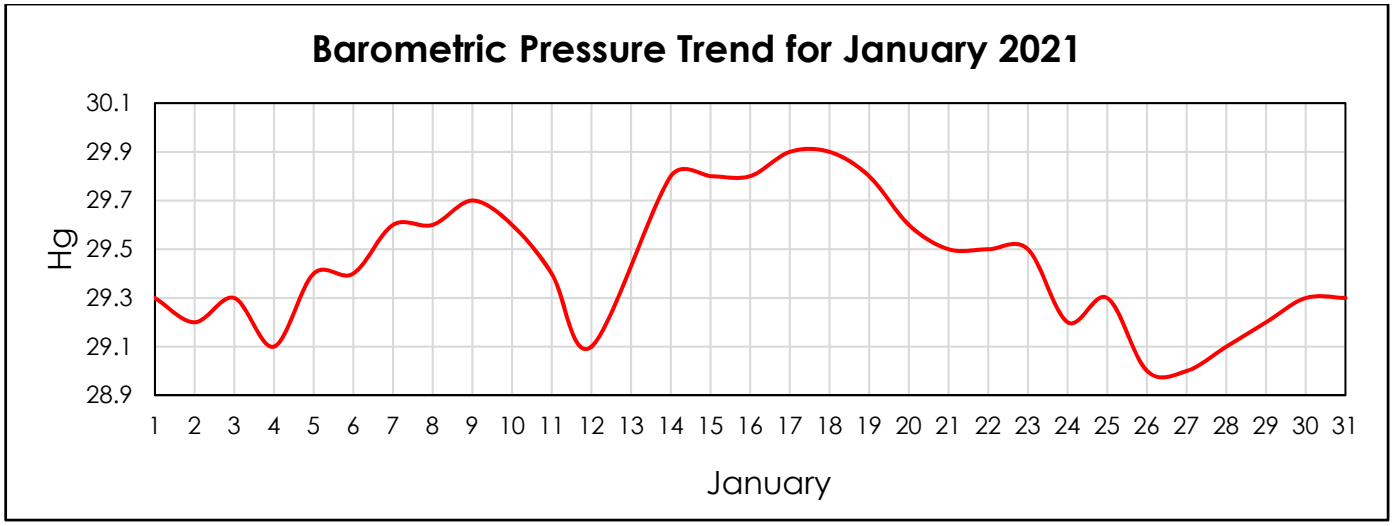
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
1/20/2021 10:01	37.4	22.5	4.1	36.0	118	118	29.63
1/21/2021 8:17	42.7	24.0	2.2	31.1	132	132	29.49

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
1/20/2021 16:19	41.6	23.9	2.3	32.2	144	144	29.55
1/21/2021 13:43	43.5	24.4	1.8	30.3	172	172	29.47

Barometric Pressure Trends for January 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-1

3” LFG Hose Replaced at N-57 (1)

(2)

3” Tee and 3” LFG Hose Repaired at N-32 (1)

(2)

2” Inlet Line on Condensate Trap Repair at N-32

Well Head Repaired at N-14
No figure available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
February 9th and 10th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on February 9th and 10th.
- Performed LFG repairs at E-38 on February 9th.
- Performed LFG repairs at E-37, E-41, N-40, N-10, CS-10 and N-45 on February 10th.

LANDFILL FLARE STATION

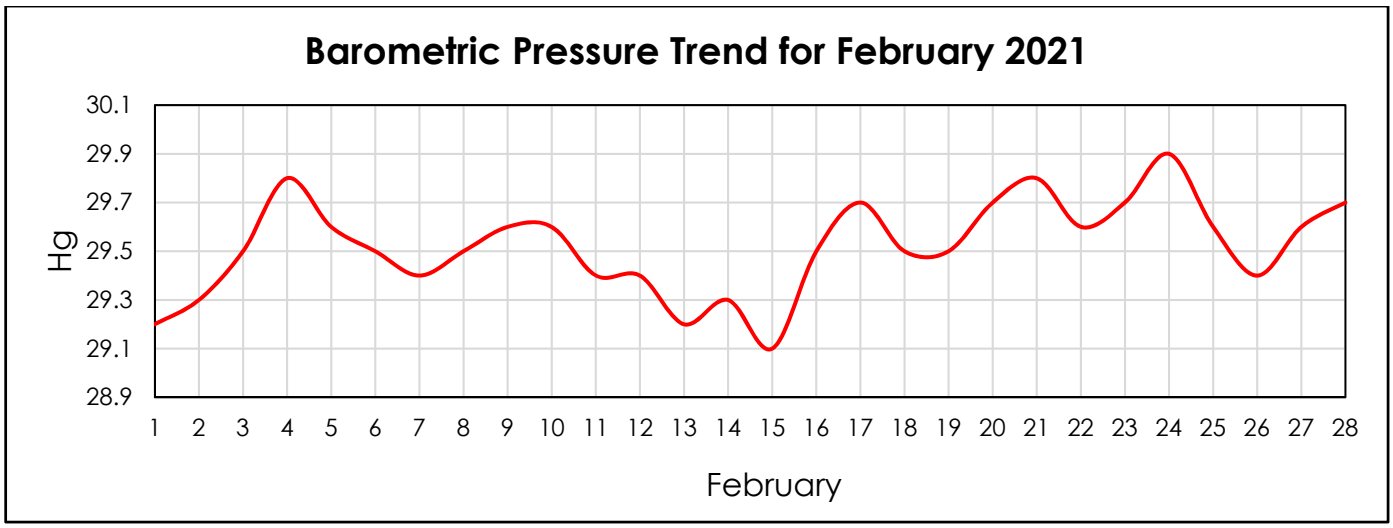
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
2/9/2021 10:46	35.5	21.4	3.1	40.0	162	162	29.60

After system maintenance

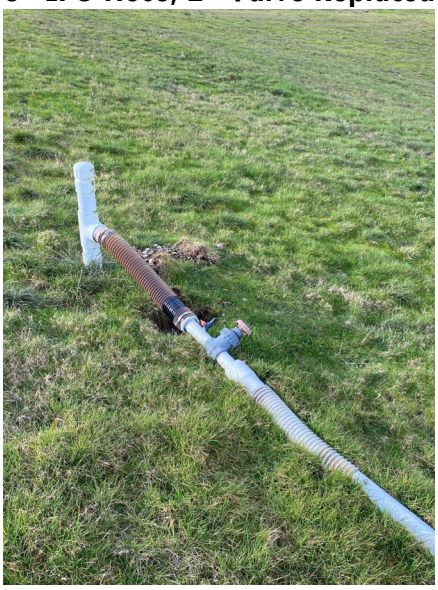
Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
2/9/2021 16:10	39.9	23.6	1.4	35.1	186	186	29.57
2/10/2021 11:48	39.1	22.6	2.1	36.2	166	166	29.63

Barometric Pressure Trends for February 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-2

3" LFG Hose, 2" Valve Replaced at E-38 (1)



(2)

Installed Well Heads at E-37

Installed Well Heads at E-41

Installed Well Heads at N-40

Replaced damaged 1-½" rubber gasket at flange adapter on condensate trap CS-10

Replaced 3" LFG Hose at N -10
No figure available.

Replaced 4" LFG Hose at N-45
No figure available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
March 9th and 10th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on March 9th and 10th.
- Performed LFG repairs at E-40 on February 10th.

LANDFILL FLARE STATION

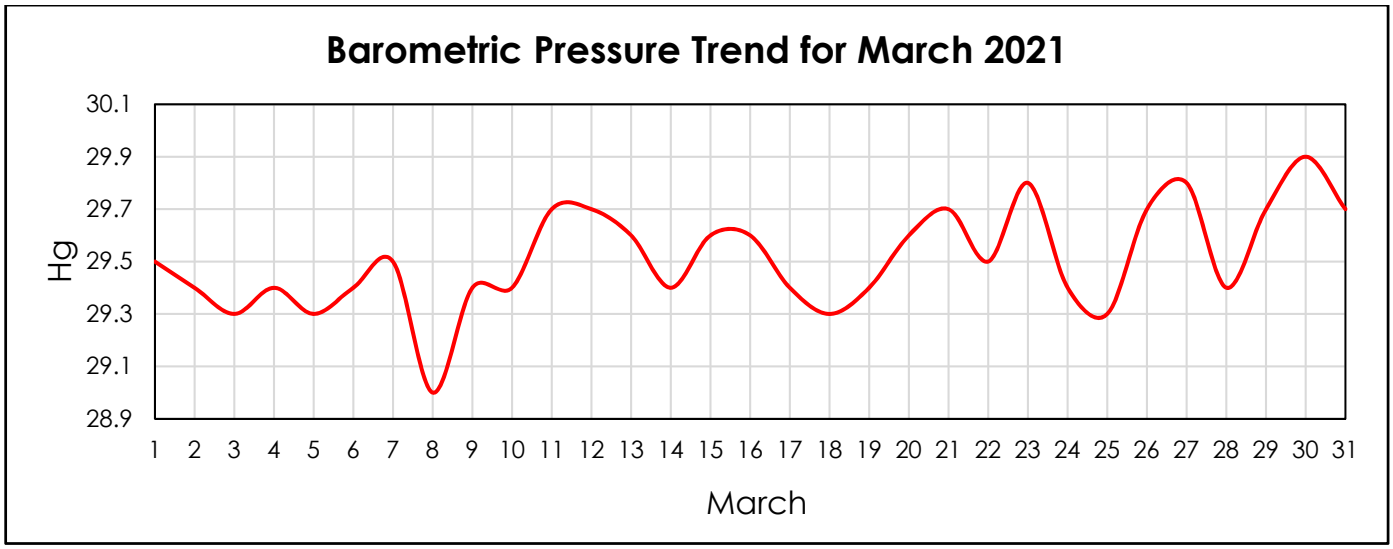
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
3/9/2021 9:59	35.0	20.7	1.8	42.5	167	167	29.27
3/10/2021 7:01	33.6	20.6	2.9	42.9	149	149	29.23

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
3/9/2021 16:20	35.6	21.3	1.6	41.5	157	157	29.29
3/10/2021 11:10	34.9	22.6	1.5	41	174	174	29.3

Barometric Pressure Trends for March 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-3

Lateral Line Repaired at E-40
No figure available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
April 16th, 27th and 28th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on April 16th, 27th and 28th.

LANDFILL FLARE STATION

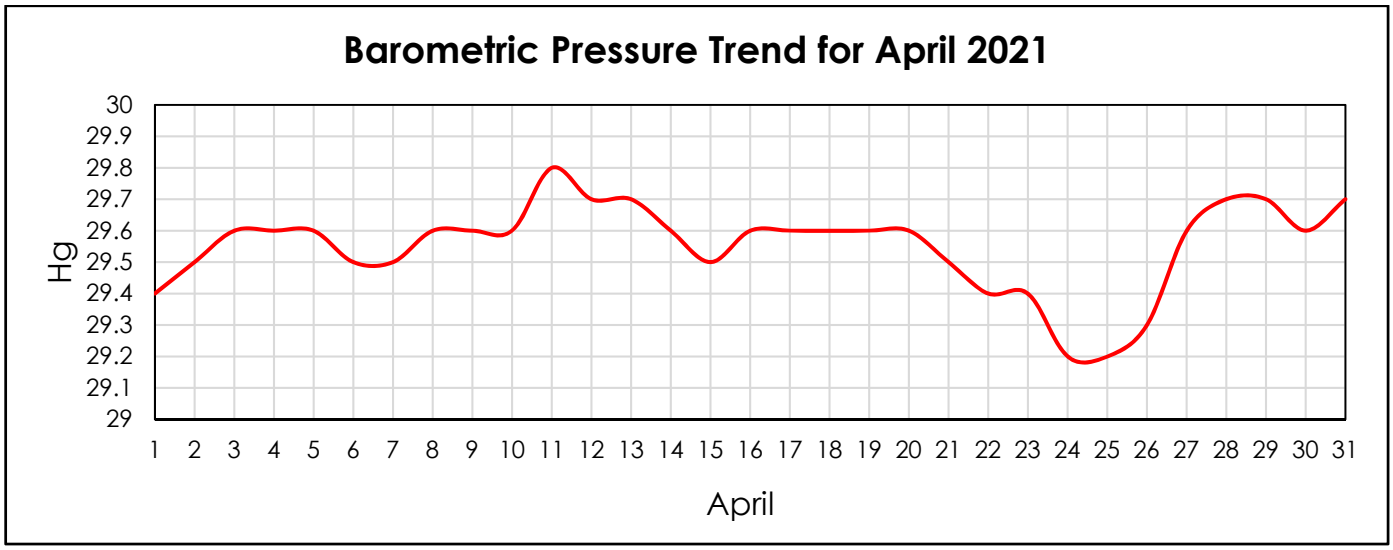
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
4/16/2021 6:59	30.6	19.5	3.3	46.6	169	169	29.66
4/27/2021 10:53	29.3	19.8	2.9	48.0	152	152	29.64
4/28/2021 6:35	28.3	17.8	3.7	50.2	143	143	29.74

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
4/16/2021 9:38	30.2	19.9	2.8	47.1	153	153	29.61
4/27/2021 14:38	29.1	19.4	2.7	48.8	143	143	29.58
4/28/2021 10:24	28.7	20.0	2.7	48.6	127	127	29.72

Barometric Pressure Trends for April 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-4

Hidden Valley Landfill
LFG System Monitoring & Maintenance
May 24th and 25th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on May 24th and 25th.
- Performed LFG Repairs at N-8 on May 25th.

LANDFILL FLARE STATION

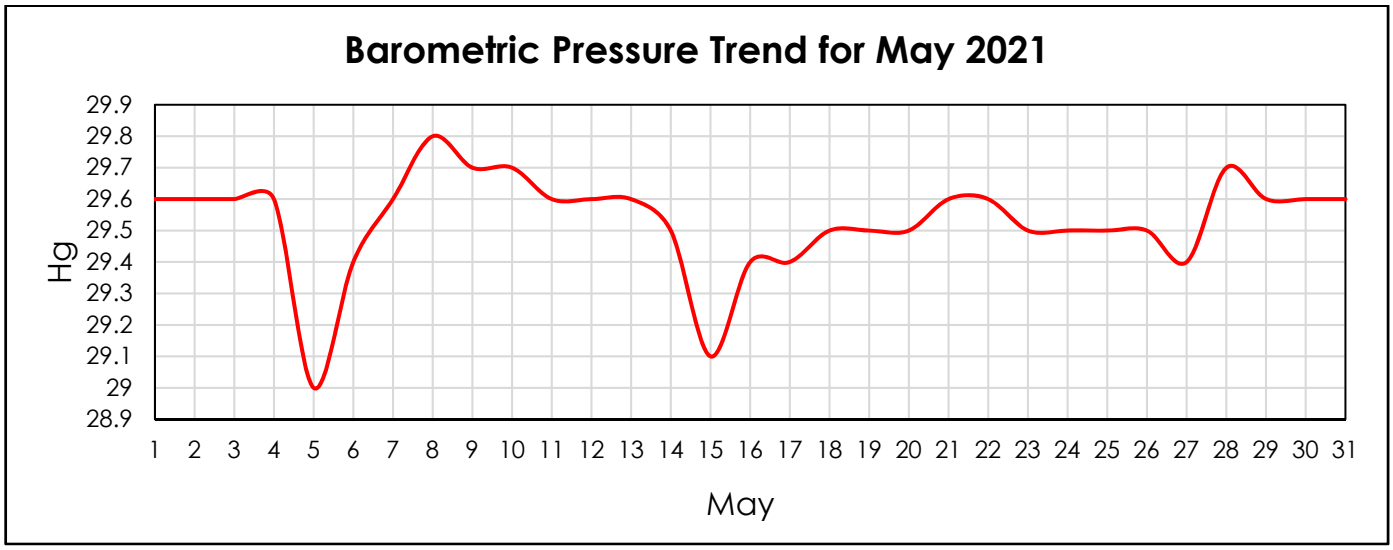
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
5/24/2021 12:22	31.4	22.3	2	44.3	130	130	29.54
5/25/2021 7:33	28.2	21.1	1.4	49.3	191	191	29.54

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
5/24/2021 16:06	28.6	21.4	1.1	48.9	160	160	29.49
5/25/2021 13:45	37	22.8	1.3	38.9	179	179	29.54

Barometric Pressure Trends for May 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-5

Installed 12”x3’ Header Pipe at N-8 (1)

(2)

Hidden Valley Landfill
LFG System Monitoring & Maintenance
June 6th, 8th and 10th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on June 8th, 9th and 10th.
- Performed LFG Repairs at E-32 and N-7 on June 8h.

LANDFILL FLARE STATION

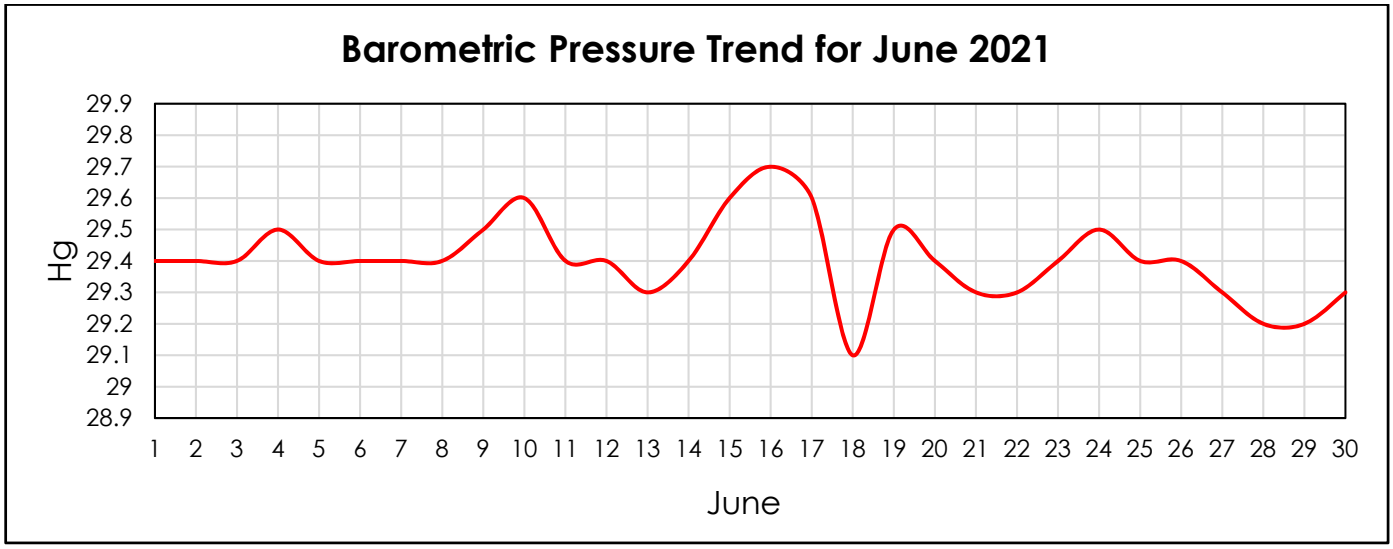
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
6/8/2021 11:55	30.7	22	1.5	45.8	233	233	29.38
6/9/2021 8:01	34.6	21.7	3.1	40.6	177	177	29.61

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
6/8/2021 15:51	37.6	22.4	2.3	37.7	180	180	29.39
6/9/2021 15:11	36.4	22.4	2.1	39.1	166	166	29.51
6/10/2021 11:18	37	22	2.9	38.1	137	137	29.57

Barometric Pressure Trends for June 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-6

Rebuilt Wellhead E-32
No figure available.

Temporally repaired N-7
No figure available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
July 3rd, 8th, 12th, 19th and 20th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on July 8th, 12th, 19th and 20th.
- Performed LFG Repairs at N-40, N-25, N-32, E-25, N-33 and N-41 on July 3rd, 12th and 19th.

LANDFILL FLARE STATION

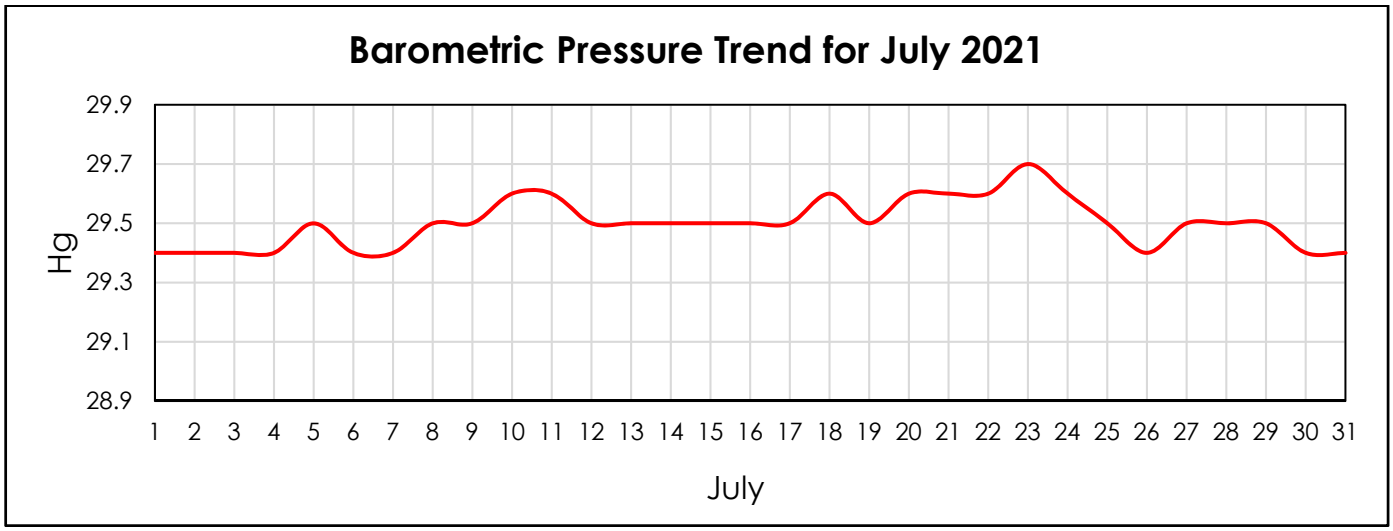
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
7/8/2021 7:40	35.6	21	5	38.4	137	137	29.5
7/19/2021 9:58	38.3	22.3	3.4	36	137	137	29.59
7/20/2021 8:15	36	21.1	3.5	39.4	160	160	29.64

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
7/19/2021 13:16	39	21.9	2.2	36.9	148	148	29.47
7/20/2021 11:58	37	21.5	2.6	38.9	156	156	29.6

Barometric Pressure Trends for July 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-7

Repair at E-25 (1)

Repair at E-25 (2)

Repair at N-33 (1)

Repair at N-33 (2)

Repair at N-41 (1)

Repair at N-41 (2)

Repaired damaged 3" line at N-40
No figure available.

Repaired damaged Well Head at N-25, N-40
No figure available.

Replaced damaged 6" LFG Hose at N-32
No figure available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
August 4th, 5th and 10th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on August 4th, 5th and 10th.

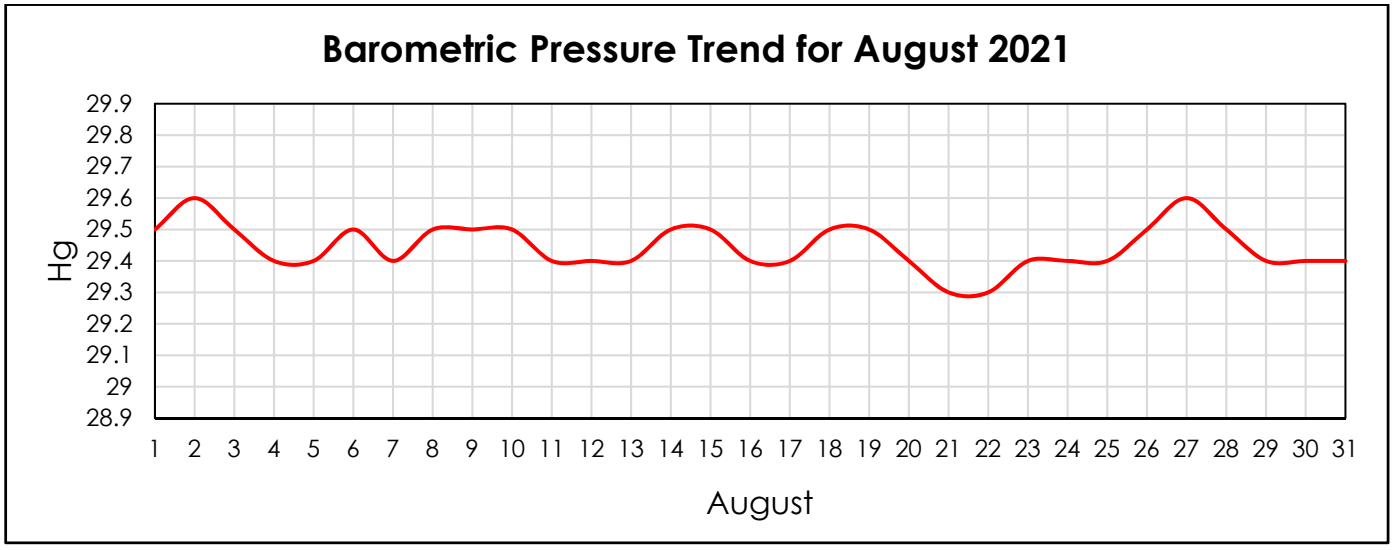
LANDFILL FLARE STATION

Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
8/4/2021 10:41	38.5	21.9	2.3	37.3	144	144	29.38
8/5/2021 8:20	40.6	22.4	2.4	34.6	188	188	29.34
8/10/2021 7:51	38.0	22.0	3.0	37.0	150	150	29.50

After system maintenance
No available data.

Barometric Pressure Trends for August 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-8

Hidden Valley Landfill
LFG System Monitoring & Maintenance
September 9th, 10th and 15th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on September 9th, 10th and 15th.

LANDFILL FLARE STATION

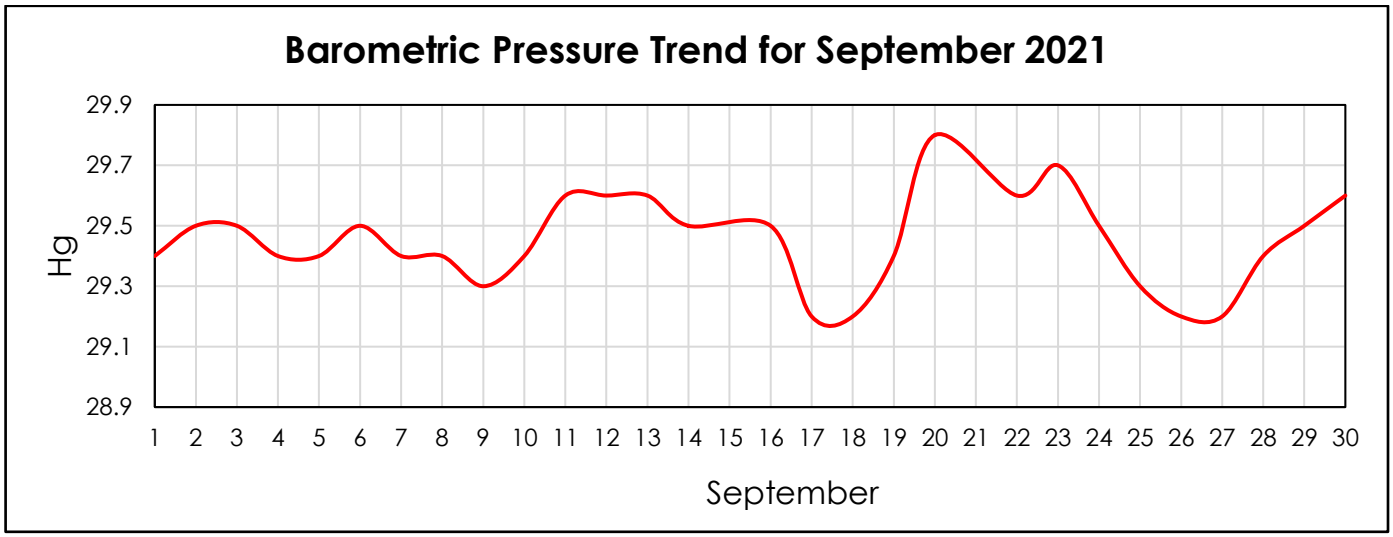
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
9/9/2021 7:42	38.2	21.4	4.5	35.9	156	156	29.31
9/10/2021 6:35	41	22.7	3.2	33.1	177	177	29.33

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
9/9/2021 14:31	43.1	22.8	2.0	32.1	171	171	29.26
9/10/2021 12:27	42.1	22.6	2.0	33.3	221	221	29.40
9/15/2021 11:22	37.8	22.3	2.0	37.9	202	202	29.49

Barometric Pressure Trends for September 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-9

Hidden Valley Landfill
LFG System Monitoring & Maintenance
October 25th, 26th and 27th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on October 25th, 26th and 27th.
- Primed and sealed condensate trap CS-8 with 10 gallons of water on October 26th.
- Rebuilt condensate trap 2" drain line near E-38 on October 27th.

LANDFILL FLARE STATION

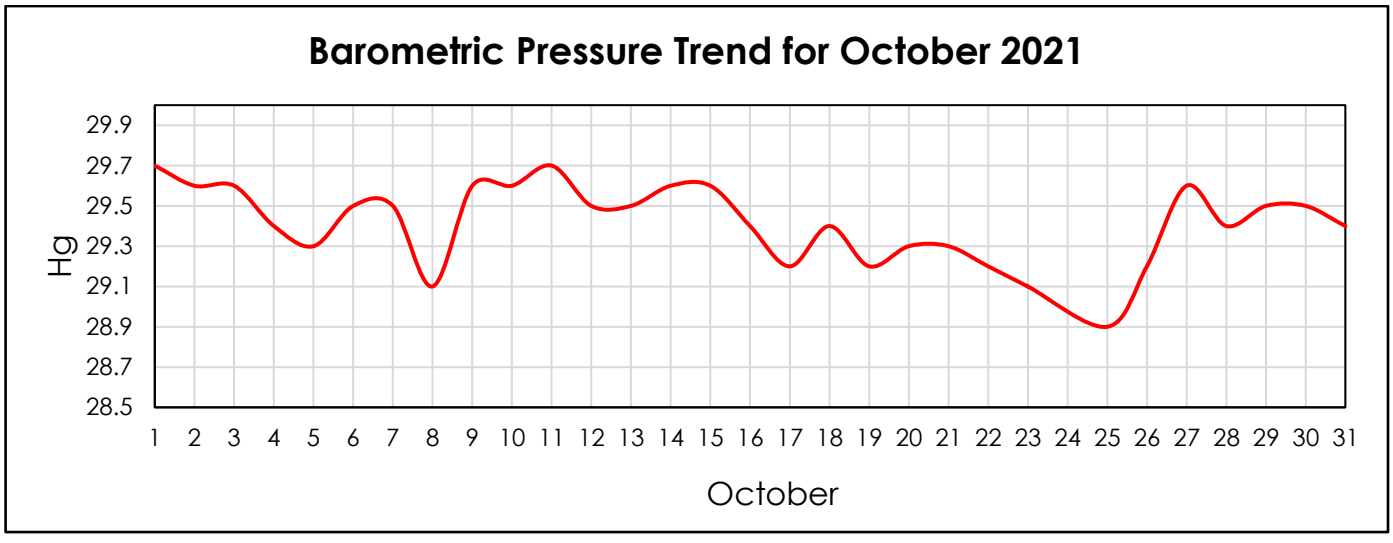
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
10/25/2021 10:44	31.2	20.3	3.4	45.1	189	189	28.67
10/26/2021 6:12	33.6	21	3	42.4	180	180	29.03

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
10/25/2021 15:46	33.5	21	2.9	42.6	181	181	28.84
10/26/2021 14:33	43.9	23.4	1.9	30.8	143	143	28.98
10/27/2021 6:18	41.1	22.2	2.2	34.5	131	131	29.43

Barometric Pressure Trends for October 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-10

Before repair at drain line near E-38

After repair at drain line near E-38

Hidden Valley Landfill
LFG System Monitoring & Maintenance
November 4th, 5th, 11th, 16th, 17th, and 30th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on November 4th, 5th, 11th, 16th, 17th, and 30th.

LANDFILL FLARE STATION

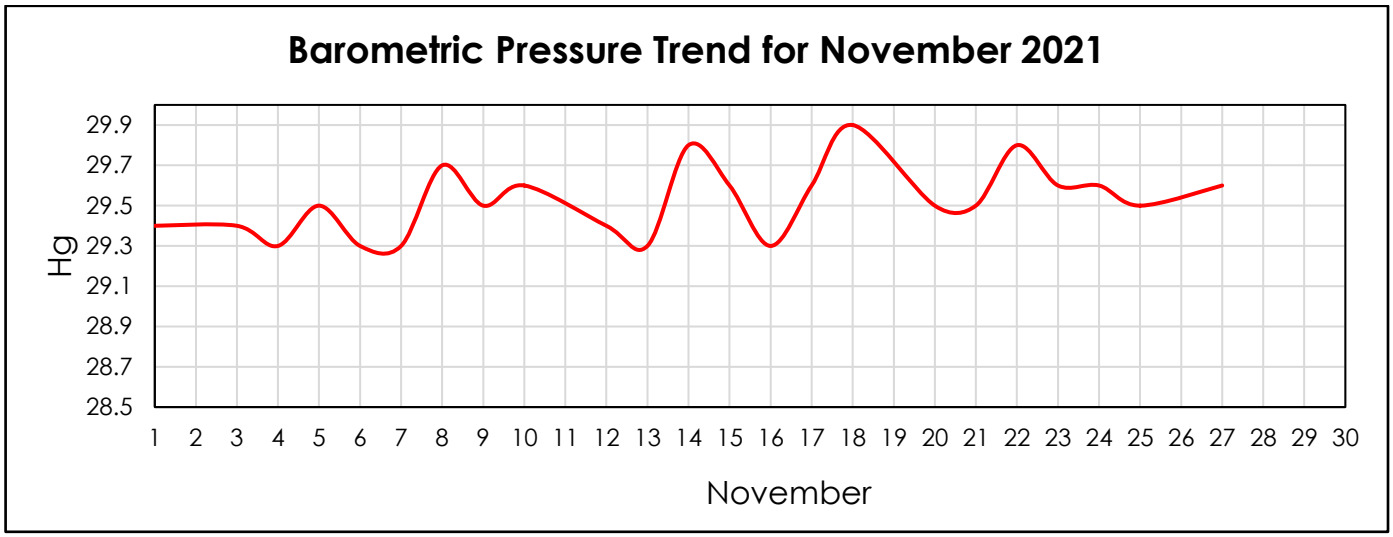
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
11/4/2021 7:55	41.6	23.7	2.1	32.6	137	137	28.87
11/17/2021 8:14	38	20.2	4.9	36.9	163	163	29.63

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
11/5/2021 10:23	39.2	22.4	2.8	35.6	141	141	29.29
11/16/2021 15:44	30.7	18.4	2.7	48.2	152	152	29.66

Barometric Pressure Trends for November 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-11

Hidden Valley Landfill
LFG System Monitoring & Maintenance
December 2nd, 3rd, and 8th, 2021

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on December 2nd, 3rd, and 8th.
- Repaired damaged line at N-25 on December 3rd.

LANDFILL FLARE STATION

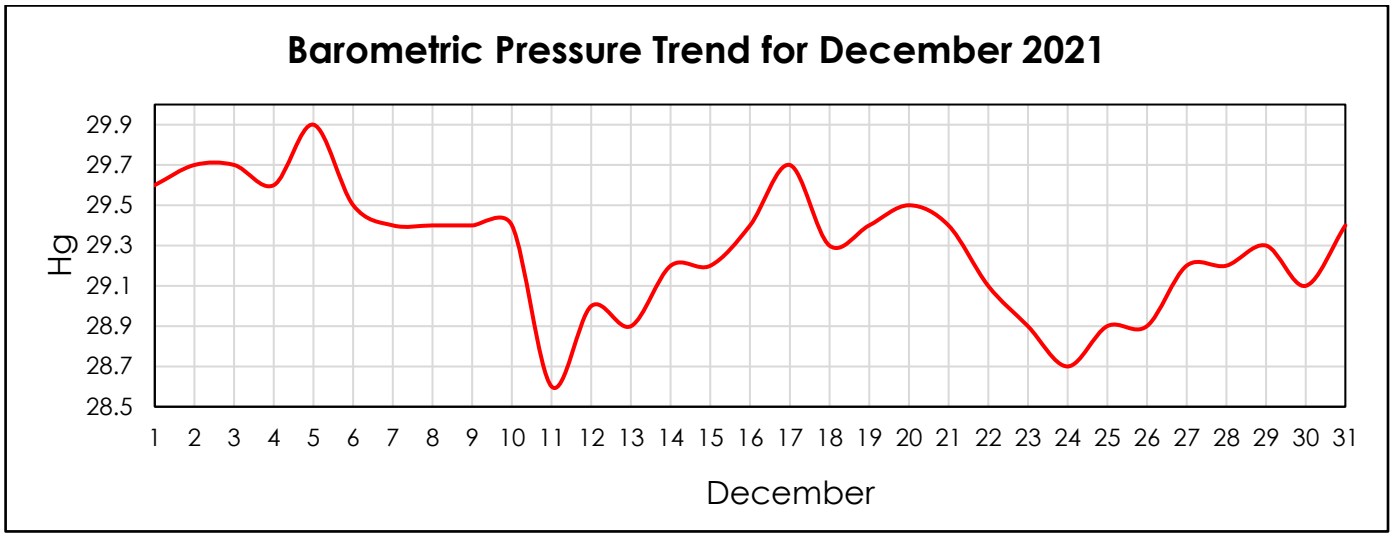
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
12/2/2021 8:20	37.5	19.7	4.1	38.7	124	124	29.58
12/3/2021 8:21	34.6	20	4.8	40.6	130	130	29.66

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
12/2/2021 15:28	35.3	19.4	4.3	41	114	114	29.66
12/3/2021 11:53	36.1	23.6	4.0	36.3	124	124	29.60

Barometric Pressure Trends for December 2021



Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-12

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andres Lopez Date: 3/4/2021

Signature: Weather: Cloudy

Instructions: Inspect each sump for pump operation and measure condensate fluid level, which should be below the overflow drainage pipe. Note any unusual observations such as soil staining or air leaks in the comments section.

Sump	Operation per Design (Y or N)	(1) Depth to Condensate (ft)	(2) Depth to Bottom (ft)	Height of Condensate (ft) = (2) – (1)	Comments
Sump No. 1	Y	-	9.43	-	Dry
Sump No. 2	Y	6.39	8.50	2.11	
Sump No. 3	Y	-	8.95	-	Dry
Sump No. 4	Y	6.20	8.50	2.30	
Sump No. 5	Y	7.75	9.90	2.15	
Sump No. 6	Y	7.40	9.10	1.70	Measured 3/19/21
Sump No. 7	Y	-	9.20	-	Dry. Measured 3/19/21
Sump No. 8	Y	6.70	9.40	2.70	Measured 3/19/21
Sump No. 9	Y	6.71	9.40	2.69	
Sump No. 10	Y	-	9.52	-	Dry
Sump No. 11	Y	7.22	9.55	2.33	

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andres Lopez Date: 4/10/2021

Signature: Weather: Sunny

Instructions: Inspect each sump for pump operation and measure condensate fluid level, which should be below the overflow drainage pipe. Note any unusual observations such as soil staining or air leaks in the comments section.

Sump	Operation per Design (Y or N)	(1) Depth to Condensate (ft)	(2) Depth to Bottom (ft)	Height of Condensate (ft) = (2) – (1)	Comments
Sump No. 1	Y	-	9.35	-	Dry
Sump No. 2	Y	6.40	8.50	2.10	
Sump No. 3	Y	-	8.85	-	Dry
Sump No. 4	Y	6.30	8.50	2.20	
Sump No. 5	Y	7.25	7.95	0.75	Blockage during DTB measurement
Sump No. 6	Y	7.30	9.15	1.85	
Sump No. 7	Y	-	9.20	-	Dry
Sump No. 8	Y	6.70	9.40	2.70	
Sump No. 9	Y	7.85	9.40	1.55	
Sump No. 10	N	-	9.52	-	Dry
Sump No. 11	Y	7.22	9.50	2.28	

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andres Lopez Date: 7/15/2021

Signature: Weather: Cloudy

Instructions: Inspect each sump for pump operation and measure condensate fluid level, which should be below the overflow drainage pipe. Note any unusual observations such as soil staining or air leaks in the comments section.

Sump	Operation per Design (Y or N)	(1) Depth to Condensate (ft)	(2) Depth to Bottom (ft)	Height of Condensate (ft) = (2) – (1)	Comments
Sump No. 1	Y	-	8.93	-	Dry
Sump No. 2	Y	6.42	8.48	2.06	
Sump No. 3	Y	-	8.85	-	Dry
Sump No. 4	Y	6.38	8.50	2.12	
Sump No. 5	-	8.05	9.90	1.85	Valve open upon arrival
Sump No. 6	Y	7.45	9.20	1.75	
Sump No. 7	Y	-	9.20	-	Dry
Sump No. 8	Y	6.70	9.45	2.75	
Sump No. 9	Y	7.91	9.41	1.50	
Sump No. 10	N	-	9.52	-	Dry
Sump No. 11	Y	7.25	9.52	2.27	

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Ruben Martinez Date: 10-14-21

Signature: [signature] Weather: Cloudy

Instructions: Inspect each sump for pump operation and measure condensate fluid level, which should be below the overflow drainage pipe. Note any unusual observations such as soil staining or air leaks in the comments section.

Sump	Operation per Design (Y or N)	(1) Depth to Condensate (ft)	(2) Depth to Bottom (ft)	Height of Condensate (ft) = (2) – (1)	Comments
Sump No. 1	Y	–	9.93		dry
Sump No. 2	Y				
Sump No. 3	Y	–			dry
Sump No. 4	Y	6.87	8.71		
Sump No. 5	Y				
Sump No. 6	Y	"	"		
Sump No. 7	Y	–	"		dry
Sump No. 8	Y	7.21	"		
Sump No. 9	Y	7.77	9.41		
Sump No. 10	N	~~dry~~	0.55	–	whistling when opened vaccum dry
Sump No. 11	Y	7.55	9.69		

Other Remarks: