SCS ENGINEERS

Report

Hidden Valley Landfill
Annual Report for 2014

Presented to:

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

Presented by:

SCS ENGINEERS
2405 140th Ave NE, Ste. 107
Bellevue, Washington 98005
(425) 746-4600

March 31, 2015
File No. 04215002.03

Offices Nationwide
www.scsengineers.com

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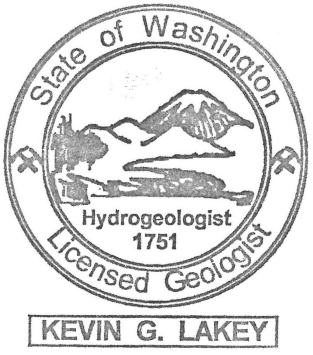

Elena Ramirez, LG
Project Geologist
SCS ENGINEERS

Kevin Lakey, PE, LHG
Project Director
SCS ENGINEERS

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1.0 INTRODUCTION

This document is the 2014 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 is a closed municipal solid waste landfill that stopped accepting waste on December 31, 1998. Post-closure activities are performed consistent with Post-Closure Care Permit No. 27 016 issued by the Tacoma-Pierce County Health Department (TPCHD), and Consent Decree No. 032146876 between the Washington Department of Ecology (Ecology), Pierce County (County) and LRI. The Hidden Valley Landfill is located at 17925 Meridian Street East, Puyallup, Washington (Figure 1).

1.1 FACILITY CONTACT INFORMATION

Hidden Valley Landfill
17925 Meridian Street East
Puyallup, Washington 98375
Facility Contact: Greg Burrington (253) 377-2957

1.2 FACILITY DESCRIPTION

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

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 of the site. As a result of the HRS, Hidden Valley Landfill was placed on the National Priority List (NPL) in April 1989.

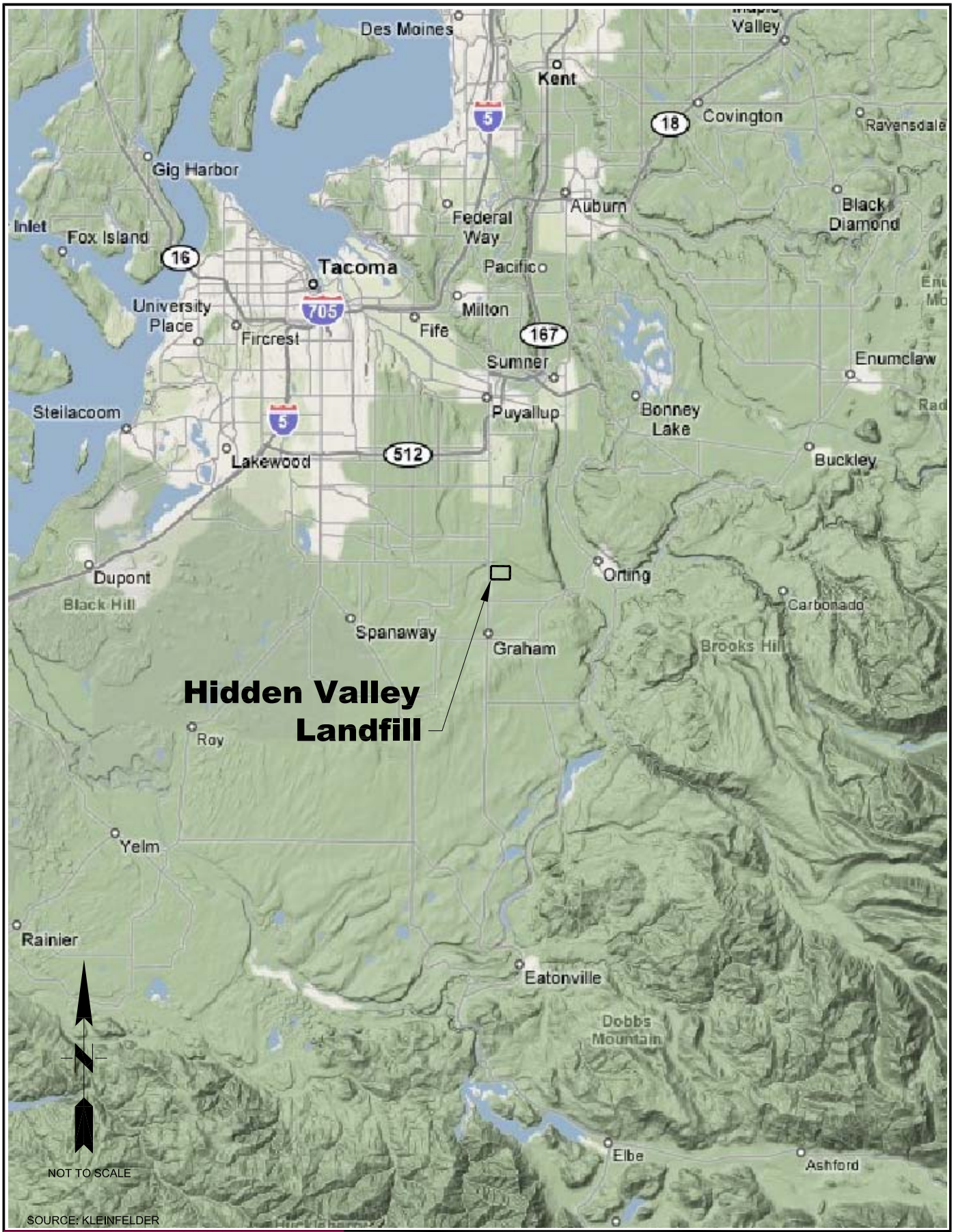
A Remedial Investigation (RI) was conducted under Ecology Consent Order DE 86 S173. The final RI report was submitted to Ecology in March 1992. The RI found groundwater impacts downgradient of the landfill. Groundwater contaminants have included dissolved iron and manganese, chloride, ammonia, nitrate, 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.

1.4 2014 MONITORING ACTIVITIES

Groundwater monitoring was performed quarterly in January and April, in accordance with the February 2001 Groundwater Compliance Monitoring Plan. Quarterly monitoring performed in July and October was performed in accordance with a revised Groundwater Monitoring Plan, dated August 2014. The new plan outlines programmatic changes to the groundwater monitoring program as agreed to by the TPCHD, Ecology, and LRI. These changes to the quarterly monitoring focus on implementing WAC 173-351 Appendix I and Appendix II testing requirements. Leachate monitoring was performed in January. Landfill gas monitoring was conducted monthly.

Monitoring results for the first three quarters of 2014 were previously submitted to the TPCHD and Ecology in quarterly reports. The Fourth Quarter 2014 groundwater data were submitted to the TPCHD in a separate data transmittal. This report includes groundwater summary tables for all four quarters. The groundwater database was provided to the TPCHD as a Microsoft Access file in electronic format (on compact disk) as a separate submittal. In addition, groundwater data generated from the Hidden Valley Landfill during 2014 were validated and input into Ecology's Environmental Information Management (EIM) system.



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

PROJECT NO. 04215002.03	DES BY LEL	SITE LOCATION MAP HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2015
SCALE NOT TO SCALE	CHK BY E.R.		FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		

2.0 LANDFILL GAS MONITORING

Perimeter soil gas probes were monitored for landfill gas monthly during 2014. Gas probe locations are shown on Figure 2. Parameters routinely measured at the gas probes included carbon dioxide, oxygen, and combustible gas (measured as methane). As described in Section 7, a portion of the gas extraction system on the south slope of the landfill was shut down in September 2009 in response to a suspected area of subsurface oxidation. This area of the gas extraction system remained off-line beginning in 2010 and through 2014 (affected gas wells include N42, N43, N60, N61, N62, and N54).

Perimeter soil gas probe readings were less than 5 percent methane by volume except as noted in Table 1. After obtaining a reading greater that 5 percent methane by volume, the TPCHD was notified and the vacuum on the adjacent well field was adjusted by LRI staff to recapture the landfill gas. Additional monitoring was subsequently performed by LRI staff until methane concentrations decreased to less than 5 percent by volume. Monthly gas probe monitoring results and system maintenance documentation are included in Appendix A.

Table 1. 2014 Landfill Gas Data

2014 Landfill Gas Data Perimeter Probe Readings Greater than 5 Percent Methane by Volume Hidden Valley Landfill, Pierce County, Washington		
Month	**Gas Probe**	**Methane Reading (%)**
March	GP-13A	6.2
April	GP-13A	9.6
May	GP-13A	5.4
August	GP-13A	5.2

Gas monitoring of building interiors was performed on February 25, June 16, August 12, and November 17, 2014. The main office, maintenance building, scale house/pay booth, leachate treatment buildings No. 1 and No. 2, recycling building, and transfer station were monitored. No detectable concentrations of combustible gas were found in any of these structures. Copies of the building survey reports are included in Appendix A.

E 52,500 E 53,000 E 53,500 E 54,000 E 54,500

N 26,000

N 25,500

N 25,000

SR-161 (MEDIDIAN STREET)

GP-22 LOCATED IN RIFLE RANGE

MAINTENANCE BUILDING

OFFICE BUILDING

FLARE NO.1

FLARE STATION

FLARE NO.2

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

CS-1 CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 CS-8 CS-9 CS-10

N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12 N13 N14 N15 N16 N17 N18 N19 N19A N20 N21 N23 N24 N25 N26 N27 N28 N29 N30 N31 N32 N33 N34 N35 N36 N36A N37 N37A N38 N39 N41 N42 N43 N44 N45 N46 N47 N48 N49 N50 N51 N52 N53 N54 N55 N55A N56 N57 N58 N59 N60 N60A N61 N62 N63 N64 N64A N64B,C N65 N66 N67 N68 N69 N70 N71 N72 N73 N75

H1 H2

CO

E-32 E-36 E-37 E-40 E-42

E1 E2 E2A E3A E4 E5 E6B E7 E8A E9 E10 E11 E12 E13 E14 E15 E16 E17 E18 E19 E20 E21 E22 E23 E24 E25 E25A E26 E27 E28 E29 E31 E33 E34 E34A E38 E39 E41 E43

12"ø SCH 40 PVC

12"x10" REDUCER

12"ø TEE

10"x8" REDUCER

8"x6" REDUCER

10"x6" REDUCER

10"ø SCH 40 PVC

3"ø SCH 40 PVC LATERAL (TYP.)

LEACHATE COLLECTION PIPE CLEANOUT

CONDENSATE DISPOSAL TRENCH

VERTICAL EXTRACTION WELLS AND HORIZONTAL COLLECTORS UNDER EAST LINED AREA SIDESLOPE LINER

LIMIT OF REFUSE

RECYCLING CENTER

LEACHATE PRETREATMENT FACILITY

GAS TO ENERGY FACILITY

TRANSFER STATION

PROPERTY LINE

UNDERGROUND AIR SUPPLY & CONDENSATE DISCHARGE PIPE

LFG-1 LFG-2 LFG-3

LEGEND:

- GP-1 Gas Probe
- Vertical Extraction Well Buried Under Liner
- Vertical Extraction Well
- CO Leachate Cleanout Riser
- Condensate Sump
- Control Valve
- Reducer
- Condensate Recirculation Lines
- Header Pipes
- 12"ø Header Pipe
- 10"ø PVC
- 8"ø PVC
- 6"ø PVC
- 4"ø PVC
- Underground Header Pipe

N

0 200

Scale in Feet

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

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

PROJECT NO. 04215002.03	DES BY KGL	GAS SYSTEM HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2015
SCALE AS SHOWN	CHK BY E.R.		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

Table 2 summarizes 2014 performance monitoring data for the side slope liner area, including leachate flow from Cell 2, fluid pumped from the leak detection sump (leakage flow), and rainfall totals. Leachate volumes as well as leakage pumped from the leak detection sump are recorded on a daily basis using a programmable logic controller (PLC) and verified by on-site personnel. In June, the PLC ceased operating and LRI personnel began collecting performance data manually as an interim measure until the PLC system can be replaced. Leachate levels at the main cell were generally less than 24 inches in 2014, except for some sporadic exceedances during June, and two readings in September (see attached PLC system data and site measurements). Leakage from the side slope liner in Cell 2 was well below the performance standard defined in the RAP. Rainfall totals are recorded by LRI personnel using an on-site rain gauge. Copies of the Hidden Valley Leachate Treatment System monthly reports are included in Appendix B.

3.4 SUMMARY OF LEAK DETECTION MONITORING DATA

Sampling of fluids in the leak detection system for the side-slope liner was performed on January 10; however, no fluids were present in the Main Leak Detection sump.

Table 2. 2014 Side Slope Liner Performance Data

2014 Side Slope Liner Performance Data Hidden Valley Landfill, Pierce County, Washington				
Month	Cell 1 Monthly Leachate Volume[b] (gallons)	Cell 2 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leakage Flow[a] (gallons)	Monthly Rainfall (inches)
January	2,666	9,912	3,824	5.1
February	5,111	11,022	0	5.85
March	23,235	0	714	7.95
April	12,247	7,413	0	4.59
May	10,625	5	0	4.34
June [c]	24,365	1,855	0	0.6
July [c]	8,395	4,306	0	1.2
August [c]	82	20,562	0	2.2
September [c]	21,943	23,107	0	2.0
October [c]	4,314	586	0	7.1
November [c]	14,417	4,388	0	3.1
December [c]	11,541	784	0	6.3
Totals	**238,941**	**83,940**	**4,538**	**50.33**

[a] Leakage is based on the volume of fluid pumped from the leak detection sump as recorded using a programmable logic controller (PLC) and confirmed by LRI staff.

[b] Cell 1 monthly volumes for June are from combined site and PLC data

[c] Data recorded by site LRI personnel.

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. Each quarter in which liquid is removed, the volume removed is recorded and a representative sample is collected and tested for leachate constituents (see TPCHD correspondence letter dated April 21, 2003). In 2014, the hydraulic gradient control system beneath the main leachate collection sump did not accumulate fluids and require pumping, therefore, this system was not sampled.

4.0 GROUNDWATER LEVELS AND FLOW DIRECTIONS

4.1 LOCAL HYDROGEOLOGY

Hidden Valley Landfill is located 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 is the uppermost-saturated unit at the site. Depth to groundwater at the landfill ranges from about 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 at the site is to the northwest with local components to the north and west. The down gradient 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-4D, 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 6, April 9, July 7, and October 29, 2014. The water level database and water level contour maps are presented in Appendix C.

Groundwater flow in both the shallow perched aquifer and the upper regional aquifer was generally toward the northwest during all the 2014 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 previous 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-4D indicate that the groundwater flow direction in the lower regional aquifer is to the northeast.

Background monitoring well MW-10S has a blockage approximately 5 feet down in the well. The blockage appears to be due to a compression fitting that was used to repair the pump tubing. The fitting prevents advancement of the water level probe beyond that point. An attempt to remove the pump and tubing was made during the Second Quarter 2013 sampling event; however, this attempt was unsuccessful and the pump appears to be wedged at depth. Rather than risk pulling the tubing loose from the pump, or possibly damaging the well screen, we recommend leaving the well pump in place and continuing to use it to collect samples. In the future, if the well pump needs repair or replacement, we will attempt pump removal. Until that time, we believe there is adequate water level elevation data to determine groundwater flow direction and gradient without a measurement from MW-10S.

5.0 GROUNDWATER QUALITY

The revised groundwater monitoring program added the WAC 173-351 Detection Monitoring requirements for Appendix I total and dissolved metals to the monitoring program. This requirement included the analysis of 15 metals for eight sampling events. For each of the eight sampling events, all 23 monitoring wells listed under the wet season annual event were included. In addition, all Appendix II parameters were also included for testing.

During 2014, groundwater samples were collected from 21 wells in January (annual monitoring), 11 wells in April (quarterly monitoring), 21 wells in July (new quarterly monitoring program, wells MW-12 S and MW-28S were not sampled due to insufficient water), and 20 wells in October (new quarterly monitoring program, wells MW-12S, MW-23S and MW-28S were not sampled due to insufficient water). Groundwater sampling locations are shown on Figure 3.

Copies of data summary tables for each quarter are provided in Appendix D. Data provided in the tables include field parameters, laboratory parameters, and quality control samples. Time series plots for selected water quality parameters are included in Appendix E. Statistical calculations performed on groundwater data are presented in Appendix F. The groundwater database was provided to the TPCHD as a Microsoft Access file in electronic format (on compact disk). In addition, groundwater data generated from the Hidden Valley Landfill during 2014 were validated and input into the EIM system.

5.1 WATER SUPPLY WELL DATA

Water quality samples were collected from two water supply wells, designated as Corliss and Paul Bunyan (see Figure 4) in January, April, July and October 2014. During the First Quarter 2014 event, the Corliss well was not operating during January and therefore, was subsequently sampled on March 27, 2014. Water quality results for the two water supply wells in 2014 were generally typical of previous results. Low concentrations of total metals and inorganic parameters were reported. The 2014 water quality test results for the Corliss and Paul Bunyan water supply wells do not indicate impacts from the Hidden Valley Landfill. A summary of the laboratory test results for the water supply wells is provided in Table 3.

5.2 BACKGROUND WATER QUALITY

Background water quality at the Hidden Valley Landfill is monitored using wells MW-l0S (shallow perched aquifer) and MW-10D (upper regional aquifer). These wells have been monitored on a quarterly basis since 1985.

In 2014, concentrations of inorganic parameters in samples from the background wells remained low and consistent with previous results. No detections of dissolved iron, manganese, or arsenic were reported above the laboratory method reporting limit in 2014. No VOCs were detected in samples collected from the background wells in 2014.

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 extraction/destruction system. Closure actions 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.

In general, water quality testing results from monitoring wells located downgradient of the landfill continue to display consistent trends of decreasing concentrations of parameters such as specific conductance, ammonia, manganese, and iron. Time series plots for specific conductance, dissolved iron, dissolved manganese, ammonia and nitrate were prepared for wells located close to and downgradient of the landfill (MW-11S, MW-11D(2), MW-13S, MW-13D, MW-14S, MW-14D, and MW-17S, see Appendix E).

The Hidden Valley Landfill Consent Decree established site groundwater cleanup levels and the groundwater point of compliance. Table 4 provides a summary of the site-specific groundwater cleanup levels and identifies those wells where 2014 water quality results were greater than the site-specific cleanup levels. Shallow perched aquifer water quality results that exceeded cleanup levels on one or more occasions in 2014 include nitrate (MW-11S, MW-13S, MW-17S, and FMMW-2), and dissolved manganese (MW-14S, MW-15S, MW-17S, and FMMW-2). Upper regional aquifer water quality results that exceeded cleanup levels on one or more occasions in 2014 include dissolved iron (MW-14D) and dissolved manganese (MW-14D and MW-15D). Lower regional aquifer water quality results that exceeded cleanup levels in 2014 are dissolved iron (MW-26R) and dissolved manganese (MW-26R). Results for the lower regional aquifer are interpreted to be background water quality. As discussed previously, 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 an absence of VOCs (see letter to TPCHD dated August 12, 2002).

Beginning with the Third Quarter 2014 monitoring event (July 2014), the groundwater monitoring program was modified to include the full suite of Appendix I metals for both the total and dissolved fractions for eight monitoring events. This additional monitoring was conducted consistent with the August 2014 revised Monitoring Plan. A summary of analytical results from these analyses is presented on Table 5. Barium and zinc were the only two metals that were consistently detected as both the total and dissolved factions, and the results were very similar. Low level detections of total only fractions were reported for arsenic (one detection), copper (five detections), lead (one detection), and nickel (six detections). The results of the first two rounds of total and dissolved metals sampling do not indicate that groundwater contamination by Appendix I metals from the Hidden Valley Landfill has occurred.

5.4 STATISTICAL ANALYSES

Groundwater quality data for the five-year period of January 2010 through October 2014 were statistically evaluated 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 distributions of data are also determined for chlorobenzene and tetrachloroethene for tracking purposes. If the distribution was either normal or lognormal, the upper 95 percent confidence limits of the mean (UCL 95) were calculated for each data set using MTCAStat, version 3.0 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.

Table 6 provides a summary of UCL 95 values. Shallow perched aquifer UCL 95 values that exceed cleanup levels include nitrate (MW-11S, MW-12S, MW-13S, MW-14S, MW-17S, and FMMW-2) and dissolved manganese (MW-11S, MW-12S, MW-13S, MW-14S, MW-15S, MW-17S, and FMMW-2). Upper regional aquifer UCL 95 values that exceed cleanup levels include dissolved iron (MW-14D) and dissolved manganese (MW-14D and MW-15D). Lower regional aquifer UCL 95 values that exceed cleanup levels include dissolved iron (MW-26R) and dissolved manganese (MW-26R). Statistical calculations are provided in Appendix F.

Table 3. 2014 Water Supply Well Data Summary

Parameters	MRL	Corliss				Paul Bunyan			
		January-14	April-14	July-14	October-14	January-14	April-14	July-14	October-14
Volatile Organics (µg/L)									
No Detections		*	*	*	*	*	*	*	*
Total Metals (mg/L)									
Arsenic	0.005	*	*	*	*	*	*	*	*
Copper	0.002				*				0.013
Iron	0.200	*	*	*	*	*	0.85	*	0.10
Manganese	0.001	0.0025	0.002	*	*	0.0036	0.021	0.002	*
Zinc	0.010	*	*	*	0.180	0.011	0.25	0.066	0.092
Inorganic Parameters (mg/L)									
Chloride	0.2-4.0	9.0	6.2	5.4	11.0	5.9	4.9	5.2	7.6
Ammonia as Nitrogen	0.10	*	*	*	*	*	*	*	*
Nitrate as Nitrogen	0.50	1.3	1.2	1.2	0.89	1.9	1.5	2.0	1.8
Nitrite as Nitrogen	0.50	*	*	*	*	*	*	*	*
Sulfate	0.5	10	8.9	9.2	11	9.2	8.9	9.9	9.5
Chemical Oxygen Demand	5.0	13 B	13 B	*	*	*	*	*	*
Total Organic Carbon	1.0	*	*	*	*	*	*	*	*
Color	5.0	5	10	*	15	*	15	*	15
Field Parameters									
pH		7.5	6.90	6.99	6.83	6.27	6.65	7.11	7.13
Conductance (µS)		221	211	210	234	205	234	270	243
Temperature (°C)		13.65	13.74	25.48	13.35	8.79	10.85	20.04	13.38

Notes:

Analyses performed by TestAmerica, Arvada, Colorado

VOCs not listed if concentrations in all samples were less than the method reporting limit

µg/L = micrograms per liter

mg/L = milligrams per liter

* = not reported at or above the MRL

H = sample was prepped or analyzed outside of the method hold-time

Table 4. Summary of 2014 Groundwater Quality Data versus Site-specific Cleanup Levels

Shallow Perched Aquifer

Parameter	Cleanup Level	MW-10S Background	MW-11S	MW-12S	MW-13S	MW-14S	MW-15S	MW-17S	MW-18S	MW-23S	MW-25S	MW-28S	FMMW-1	FMMW-2
Inorganics (mg/L)														
Chloride	250	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	250	–	–	–	–	–	–	–	–	–	–	–	–	–
Nitrate	10	–	Q2	–	Q2	–	–	Q2	–	–	–	–	–	Q2
Specific Conductance	700	–	–	–	–	–	–	–	–	–	–	–	–	–
TDS	500	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals (mg/L)														
Iron	0.30	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese	0.05	–	–	–	–	Q1,2,3,4	Q1,3,4	Q1,2,3,4	–	–	–	–	–	Q1,2,3,4
VOCs (µg/L)														
1,4-Dichlorobenzene	1.8	–	–	–	–	–	–	–	–	–	–	–	–	–

Upper Regional Aquifer **Lower Regional Aquifer**

Parameter	Cleanup Level	MW-10D Background	MW-11D(2)	MW-12D	MW-13D	MW-14D	MW-15D	MW-18D	MW-14R	MW-20R	MW-26R
Inorganics (mg/L)											
Chloride	250	–	–	–	–	–	–	–	–	–	–
Sulfate	250	–	–	–	–	–	–	–	–	–	–
Nitrate	10	–	–	–	–	–	–	–	–	–	–
Specific Conductance	700	–	–	–	–	–	–	–	–	–	–
TDS	500	–	–	–	–	–	–	–	–	–	–
Metals (mg/L)											
Iron	0.30	–	–	–	–	Q1,3,4	–	–	Q1	–	Q1,3,4
Manganese	0.05	–	–	–	–	Q1,2,3,4	Q3,4	–	Q1	–	Q1,3,4
VOCs (g/L)											
1,4-Dichlorobenzene	1.8	–	–	–	–	–	–	–	–	–	–

Notes:

Evaluated data are from 2014
– indicates results were less than cleanup level
Q indicates results were greater than cleanup level
1, 2, 3, 4 indicate quarter in which results were greater than cleanup levels

Table 5. Summary of Total and Dissolved Metals Analyses
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter		Month Sampled	Antimony-D	Antimony-T	Arsenic-D	Arsenic-T	Barium-D	Barium-T	Beryllium-D	Beryllium-T	Cadmium-D	Cadmium-T	Chromium-D	Chromium-T	Cobalt-D	Cobalt-T	Copper-D	Copper-T	Lead-D	Lead-T	Nickel-D	Nickel-T	Selenium-D	Selenium-T	Silver-D	Silver-T	Thallium-D	Thallium-T	Vanadium-D	Vanadium-T	Zinc-D	Zinc-T
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	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
Typical MRL		—	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.002	0.002	0.02	0.02	0.005	0.005	0.01	0.01	0.005	0.005	0.01	0.01	0.01	0.01
WAC 173-200 Criteria		—	—	—	0.00005	0.00005	1.0	1.0	—	—	—	0.01	0.05	0.05	—	—	1.0	1.0	0.05	0.05	—	—	0.01	0.01	0.05	0.05	—	—	—	—	5.0	5.0
Shallow Perched Aquifer																																
(BG)	MW-10S	July (3Q 2014)	*	*	*	*	*	0.002	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
(BG)	MW-10S	Oct. (4Q 2014)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-11S	July (3Q 2014)	*	*	*	*	0.011	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.046	0.047
	MW-11S	Oct. (4Q 2014)	*	*	*	*	0.009	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.130	0.120
	MW-12S	July (3Q 2014)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MW-12S	Oct. (4Q 2014)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MW-13S	July (3Q 2014)	*	*	*	*	0.011	0.011	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.031	0.026
	MW-13S	Oct. (4Q 2014)	*	*	*	*	0.006	0.007	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.024	*
	MW-14S	July (3Q 2014)	*	*	*	*	*	0.004	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-14S	Oct. (4Q 2014)	*	*	*	*	0.006	0.007	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-15S	July (3Q 2014)	*	*	*	*	0.010	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.049	0.044
	MW-15S	Oct. (4Q 2014)	*	*	*	*	0.014	0.015	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.061	0.065
	MW-17S	July (3Q 2014)	*	*	*	*	0.019	0.018	*	*	*	*	*	*	*	*	*	0.0020	*	*	*	0.0020	*	*	*	*	*	*	*	*	0.043	0.044
	MW-17S	Oct. (4Q 2014)	*	*	*	*	0.023	0.022	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.086	0.086
	MW-18S	July (3Q 2014)	*	*	*	*	0.013	0.012	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.019	0.019
	MW-18S	Oct. (4Q 2014)	*	*	*	*	0.012	0.013	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-23S	July (3Q 2014)	*	*	*	*	0.010	0.018	*	*	*	*	*	*	*	*	*	0.0054	*	0.049	*	0.0028	*	*	*	*	*	*	*	*	0.051	0.100
	MW-23S	Oct. (4Q 2014)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MW-25S	July (3Q 2014)	*	*	*	*	*	0.003	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.041	0.037
	MW-25S	Oct. (4Q 2014)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-28S	July (3Q 2014)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MW-28S	Oct. (4Q 2014)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	FMMW-1	July (3Q 2014)	*	*	*	*	0.009	0.008	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	FMMW-1	Oct. (4Q 2014)	*	*	*	*	0.007	0.009	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	FMMW-2	July (3Q 2014)	*	*	*	*	0.015	0.015	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.074	0.100
	FMMW-2	Oct. (4Q 2014)	*	*	*	*	0.018	0.019	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.039	0.037
Upper Regional Aquifer																																
(BG)	MW-10D	July (3Q 2014)	*	*	*	*	*	0.005	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
(BG)	MW-10D	Oct. (4Q 2014)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-11D(2)	July (3Q 2014)	*	*	*	*	*	0.008	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.014	0.015
	MW-11D(2)	Oct. (4Q 2014)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.050	0.052
	MW-12D	July (3Q 2014)	*	*	*	*	0.005	0.005	*	*	*	*	*	*	*	*	*	*	*	*	*	0.0029	*	*	*	*	*	*	*	*	*	*
	MW-12D	Oct. (4Q 2014)	*	*	*	*	0.007	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-13D	July (3Q 2014)	*	*	*	*	0.008	0.007	*	*	*	*	*	*	*	*	*	0.0024	*	*	*	0.0034	*	*	*	*	*	*	*	*	*	*
	MW-13D	Oct. (4Q 2014)	*	*	*	*	0.006	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-14D	July (3Q 2014)	*	*	*	*	0.009	0.009	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-14D	Oct. (4Q 2014)	*	*	*	**0.0059**	0.013	0.014	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-15D	July (3Q 2014)	*	*	*	*	0.006	0.007	*	*	*	*	*	*	*	*	*	0.0036	*	*	*	0.0031	*	*	*	*	*	*	*	*	0.025	0.026
	MW-15D	Oct. (4Q 2014)	*	*	*	*	0.006	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.017	0.018
	MW-18D	July (3Q 2014)	*	*	*	*	*	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	0.0024	*	*	*	*	*	*	*	*	*	*
	MW-18D	Oct. (4Q 2014)	*	*	*	*	0.006	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lower Regional Aquifer																																
	MW-14R	July (3Q 2014)	*	*	*	*	*	0.004	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.047	0.043
	MW-14R	Oct. (4Q 2014)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.023	0.028
	MW-20R	July (3Q 2014)	*	*	*	*	*	0.001	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-20R	Oct. (4Q 2014)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-26R	July (3Q 2014)	*	*	*	*	0.007	0.007	*	*	*	*	*	*	*	*	*	0.0029	*	*	*	*	*	*	*	*	*	*	*	*	*	0.019
	MW-26R	Oct. (4Q 2014)	*	*	*	*	0.007	0.007	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.011

Notes:

Parameter concentrations that are greater than WAC 173-200-050 Groundwater Quality Criteria are shown in bold

mg/L = milligrams per liter

BG = Background

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

— indicates not analyzed or not applicable

Table 6. Summary of 5-Year Groundwater Statistics

Shallow Perched Aquifer

Parameter	Cleanup Level	MCL / SMCL	MW-10S	MW-11S	MW-12S	MW-13S	MW-14S	MW-15S	MW-17S	MW-18S	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
Inorganics (mg/L)															
Chloride	250	250	6.9	16.0	18.9	17.9	9.9	18.9	20.2	16.6	11.8	9.7	12.0	16.5	17.8
Sulfate	250	250	9.4	19.8	8.4	19.3	8.7	11.7	7.5	8.9	15.3	6.8	12.3	15.9	13.1
Nitrate	10	10	2.1	**10.5**	**23.9**	**18.0**	**12.70**	3.7	**47.0**	6.83	1.0	1.7	4.0	4.1	**14.4**
Specific Conductance	700	700	151	306	383	342	174	317	559	356	233	266	200	324	421
TDS	500	500	100	299	275	217	108	173	300	235	144	171	138	202	263
Alkalinity	–	–	60.0	68.0	128	129	56.0	90.0	179	139	77	117	70	112	140
Ammonia	–	–	NC	0.29	1.62	0.24	2.31	3.90	5.40	NC	NC	NC	NC	NC	0.2
TOC	–	–	NC	4.10	2.90	3.20	1.80	1.90	2.40	1.60	NC	NC	NC	5.20	1.70
Metals (mg/L)															
Iron	0.30	0.30	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Manganese	0.05	0.05	NC	0.679	**0.42**	**0.99**	**0.87**	**0.82**	**1.17**	NC	0.042	NC	NC	NC	**0.18**
VOCs (ug/L)															
1,4-Dichlorobenzene	1.82	75	NC	NC	1.20	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Upper Regional Aquifer **Lower Regional Aquifer**

Parameter	Cleanup Level	MCL / SMCL	MW-10D	MW-11D(2)	MW-12D	MW-13D	MW-14D	MW-15D	MW-18D	MW-14R	MW-20R	MW-26R
Inorganics (mg/L)												
Chloride	250	250	6.60	6.40	11.7	15.1	10.6	13.3	10.3	2.30	2.2	4.10
Sulfate	250	250	9.83	6.30	5.70	16.3	11.1	9.50	5.40	4.2	3.2	8.9
Nitrate	10	10	1.8	1.80	1.30	6.00	NC	0.790	1.70	NC	NC	NC
Specific Conductance	700	700	186	249	335	331	195	379	289	111	259	161
TDS	500	500	129	150	206	220	127	199	197	101	131	123
Alkalinity	–	–	84.0	105	157	144	74.1	151	130	48.4	47	72
Ammonia	–	–	NC	NC	NC	NC	3.45	NC	NC	NC	NC	NC
TOC	–	–	NC	NC	NC	8.70	1.86	1.60	NC	NC	NC	NC
Metals (mg/L)												
Iron	0.30	0.30	NC	NC	NC	NC	**2.24**	NC	NC	NC	NC	**0.76**
Manganese	0.05	0.05	NC	NC	NC	NC	**0.84**	**0.32**	NC	NC	NC	**0.33**
VOCs (ug/L)												
Tetrachloroethene		5	NC	0.81	NC	NC	NC	NC	NC	NC	NC	NC
1,4-Dichlorobenzene	1.82	75	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
Evaluated data are from January 2009 through October 2013.
Values shown are the upper confidence limit on the mean (UCL 95)
Bold indicates greater than Cleanup Levels
NC = not calculated (see Section 5.4), less than 50 percent detection frequency
** = default to maximum valuce for UCL 95
*** = Z-statistic used in calculating the UCL 95
MCL = Maximum contaminant level/SMCL = Secondary MCL
– indicates not applicable

LEGEND:

MW-11(S) Monitoring Well Location

MW-25(S)
MW-25(D)

BC-4(R)
BC-4(S)

MW-27(S)
MW-27(D)

FMMW-2

FMMW-1

MW-18(S)
MW-18(D)

MW-11(D2)

MW-11(S)
MW-11(D)

176TH STREET

MAINTENANCE BUILDING

OFFICE BUILDING

MW-17(S)

MW-15(S)
MW-15(D)

MW-14(S)
MW-14(D)
MW-14(R)

STORMWATER BASIN AREA

MW-26(R)

MW-12(S)
MW-12(D)

MERIDIAN AVENUE

MW-28(S)

LIMIT OF REFUSE

MW-13(S)
MW-13(D)

LANDFILL

MW-10(S)
MW-10(D)

MW-23(S)
MW-23(D)

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

RECYCLE CENTER

MW-19(S)
MW-19(D)

PROPERTY BOUNDARY

MW-20(R)

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

PROJECT NO. 04215002.03	DES BY KGL	GROUNDWATER MONITORING WELL LOCATIONS HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2015
SCALE AS SHOWN	CHK BY E.R.		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
04215002.03	LEL
SCALE	CHK BY
NOT TO SCALE	EMS
CAD FILE	APP BY
FIGURE 4	KGL

WATER SUPPLY WELL LOCATION

HIDDEN VALLEY LANDFILL
PIERCE COUNTY, WASHINGTON

DATE
MARCH 2015

FIGURE
4

6.0 LEACHATE QUALITY

Leachate quality is monitored on an annual basis. A sample of untreated leachate was obtained from the East Lined Area leachate collection system on January 10, 2014. The sample was analyzed for the parameters specified in WAC 173-351, Appendix IV. Leachate quality for 2014 is typical of previous results. A summary of the analytical data for the leachate samples are provided in Table 7.

Table 7. Leachate Data Summary

Parameters	Leachate- Main Sump
Volatile Organics (µg/L)	
Acetone	36
Benzene	2.3
2-Butanone (MEK)	22
Carbon disulfide	4.2
1,4-Dichlorobenzene	1.6
Ethylbenzene	5.3
m,p-Xylenes	9.6
o-Xylenes	3.9
Toluene	10
Total Metals (mg/L)	
Antimony	0.012
Arsenic	0.078
Barium	0.7
Calcium	84
Chromium	0.2
Cobalt	0.016
Copper	0.077
Iron	7.1
Lead	0.022
Magnesium	46
Manganese	2.1
Nickel	0.52
Potassium	320
Sodium	3000
Vanadium	0.12
Zinc	0.31
Inorganic Parameters (mg/L)	
Alkalinity	5480
Bicarbonate Alkalinity	5480
Chloride	5000
Ammonia as Nitrogen	430
Nitrate as Nitrogen	*
Nitrite as Nitrogen	*
Sulfate	100
Chemical Oxygen Demand	1800 B
Total Dissolved Solids	12000
Total Organic Carbon	600
Biochemical Oxygen Demand	170
Field Parameters	
pH	7.64
Specific Conductance (µS/cm)	19500
Temperature (°C)	7.26

Notes:
Analyses performed by TestAmerica, Arvada, CO.
Volatile organic compounds not listed were not present at concentrations exceeding the MRL.
MRL varies due to required dilutions; see laboratory reports.
µg/L = micrograms per liter
mg/L = milligrams per liter

LEGEND

⊕ Sample Collection Location

N 27,000

N 26,500

N 26,000

N 25,500

N 25,000

176TH STREET

MAINTENANCE BUILDING

OFFICE BUILDING

MERIDIAN AVENUE

LIMIT OF REFUSE

RECYCLE CENTER

Paved

Dirt

Paved

Paved

Paved

176TH STREET

STORMWATER BASIN AREA

LANDFILL

LEAK DETECTION, MAIN

LEAK DETECTION, SIDE SLOPE

LEACHATE, EAST AREA

PROPERTY BOUNDARY

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. 04215002.03	DES BY M.O.	LEAK DETECTION AND LEACHATE MONITORING LOCATIONS	DATE MARCH 2015
SCALE AS SHOWN	CHK BY E.R.	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 5
CAD FILE FIGURE 5	APP BY KGL		

7.0 POST-CLOSURE MAINTENANCE

7.1 COVER SYSTEM MAINTENANCE

Maintenance inspections of the landfill cover system and the landfill gas condensate recirculation system were performed on a quarterly basis in 2014. Maintenance inspections were also performed on an ongoing basis by LRI staff, as well as during monthly and quarterly monitoring events. With the exception of the former sinkhole area on the south slope of the Southwest Closure Area (see below), the inspections found only minor areas for maintenance of the cover system, and no significant issues with the condensate recirculation system. Copies of the inspection reports, including site photographs, are included in Appendix G.

The south slope of the Southwest Closure area was repaired in May and June of 2014 (see Documentation Report for Repair of South Slope Cover System, December 19, 2014).

7.2 GROUNDWATER WELL MAINTENANCE

No significant well maintenance activities were performed in 2014.

Appendix A
Landfill Gas Monitoring Data

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
January 15, 2014

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-Jan	9:25	0.03	1.6	5.3	0.0			
GP-1B	15-Jan	9:29	0.00	0.0	12.3	7.5			
GP-1C	15-Jan	9:32	0.00	0.0	5.2	14.9			
GP-2A	15-Jan	9:45	0.03	4.4	17.0	0.5			
GP-2B	15-Jan	9:59	0.05	0.0	0.3	20.7			
GP-3S	15-Jan	10:07	-0.02	0.0	2.9	15.4			
GP-3M	15-Jan	10:11	0.00	0.0	3.6	6.5			
GP-3D	15-Jan	10:13	0.00	0.0	12.6	5.0			
GP-4A	15-Jan	10:23	0.01	0.0	0.3	20.8			
GP-4B	15-Jan	10:26	0.05	0.0	0.2	20.7			
GP-5A	15-Jan	10:33	0.00	0.0	0.1	20.7			
GP-5B	15-Jan	10:36	-9.52	0.0	0.1	20.8			
GP-6	15-Jan	10:45	0.02	0.0	0.1	20.6			
GP-7S	15-Jan	10:51	0.02	0.0	0.2	20.4			
GP-7D	15-Jan	10:54	0.02	0.0	0.2	20.6			
GP-8A	15-Jan	11:01	0.02	0.0	0.4	20.7			
GP-8B	15-Jan	11:05	0.41	0.0	0.2	20.8			
GP-9	15-Jan	11:11	0.00	0.0	1.9	16.9			
GP-10	15-Jan	11:20	0.00	0.0	0.1	20.8			
GP-11	15-Jan	11:27	0.01	0.0	0.7	20.0			
GP-12	15-Jan	11:36	0.01	0.0	2.4	16.8			
GP-13A	15-Jan	11:44	0.03	3.1	12.7	0.0	3.1	12.1	
GP-13B	15-Jan	11:47	0.02	0.0	0.3	20.8			
GP-14S	15-Jan	11:53	0.02	0.0	13.1	10.3			
GP-14D	15-Jan	11:56	0.01	0.0	16.6	1.3			
GP-15A	15-Jan	12:28	0.03	0.0	1.6	19.0			
GP-15B	15-Jan	12:31	0.08	0.0	9.2	2.3			
GP-16A	15-Jan	12:39	0.03	0.0	1.8	19.3			
GP-16B	15-Jan	12:42	0.04	0.0	2.0	19.2			
GP-17	15-Jan	12:52	-0.10	0.0	3.3	18.6			
GP-18	15-Jan	13:02	0.02	0.0	0.8	20.4			
GP-19	15-Jan	13:08	0.03	0.0	3.1	18.9			
LFG-1	15-Jan	12:00	0.02	0.4	14.9	3.4			*Note 2*
LFG-2	15-Jan	12:04	0.02	0.1	12.1	6.1			*Note 2*
LFG-3	15-Jan	12:12	0.05	15.2	23.1	<<<<	10	20.0	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	15-Jan-14	Temperature (^oF):	42

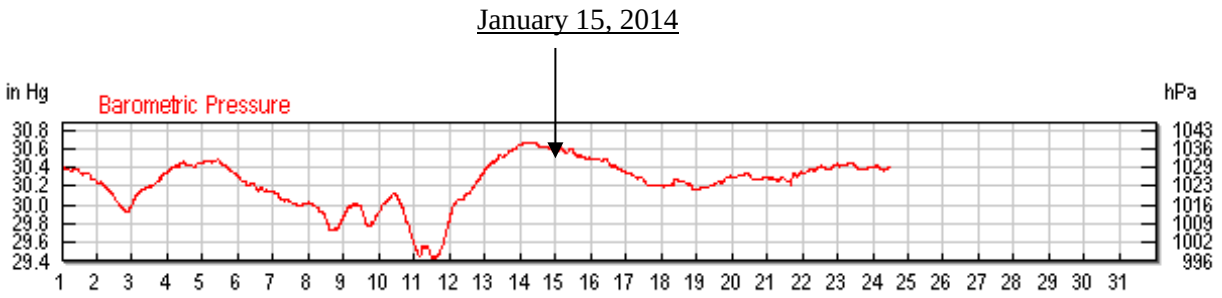
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring

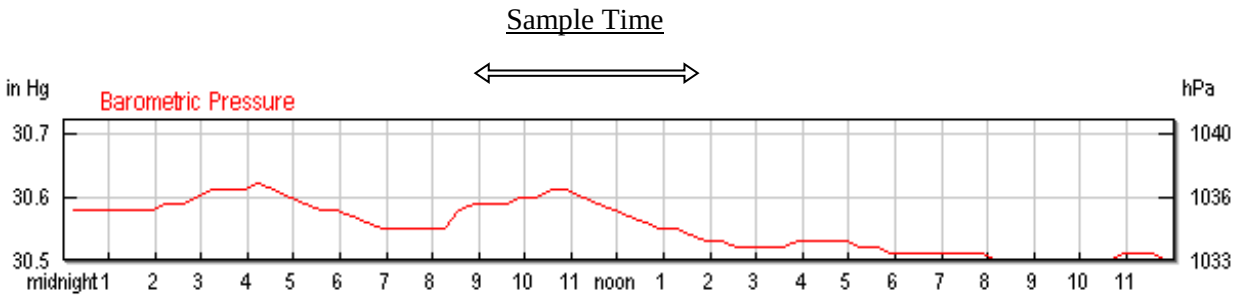
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
January 2014

Barometric Pressure Trend for January 2014



Barometric Pressure Trend for January 15, 2014



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

February 25, 2014

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	25-Feb	8:34	0.01	0.4	5.2	0.0			
GP-1B	25-Feb	8:37	0.00	0.0	11.3	10.6			
GP-1C	25-Feb	8:40	-0.01	0.0	7.4	13.3			
GP-2A	25-Feb	8:47	-0.02	1.2	12.9	3.9			
GP-2B	25-Feb	8:51	0.00	0.0	0.3	21.2			
GP-3S	25-Feb	8:56	-0.03	0.0	3.3	16.3			
GP-3M	25-Feb	8:59	-0.02	0.0	3.5	6.8			
GP-3D	25-Feb	9:02	-0.02	0.0	6.7	15.6			
GP-4A	25-Feb	9:09	-0.03	0.0	0.2	21.3			
GP-4B	25-Feb	9:12	0.03	0.0	0.2	21.2			
GP-5A	25-Feb	9:19	-0.03	0.0	0.1	21.2			
GP-5B	25-Feb	9:21	-0.03	0.0	0.1	21.2			
GP-6	25-Feb	9:28	-0.03	0.0	0.1	21.2			
GP-7S	25-Feb	9:37	-0.02	0.0	0.4	20.8			
GP-7D	25-Feb	9:34	-0.03	0.0	0.2	20.9			
GP-8A	25-Feb	9:46	-0.02	0.0	0.4	20.7			
GP-8B	25-Feb	9:49	-0.02	0.0	0.3	20.1			
GP-9	25-Feb	9:55	-0.02	0.0	2.0	18.4			
GP-10	25-Feb	10:01	-0.01	0.0	0.2	21.2			
GP-11	25-Feb	10:07	0.03	0.0	2.1	19.0			
GP-12	25-Feb	10:14	-0.01	0.0	3.6	12.3			
GP-13A	25-Feb	10:22	0.01	3.0	11.2	0.0	3.0	10.0	
GP-13B	25-Feb	10:25	0.00	0.0	0.4	21.1			
GP-14S	25-Feb	10:32	-0.01	0.0	11.5	11.1			
GP-14D	25-Feb	10:36	-0.01	0.0	16.2	2.1			
GP-15A	25-Feb	10:55	0.00	0.0	2.0	15.8			
GP-15B	25-Feb	10:58	0.00	0.0	9.7	3.7			
GP-16A	25-Feb	11:06	0.00	0.0	0.9	20.4			
GP-16B	25-Feb	11:09	0.03	0.0	0.9	20.4			
GP-17	25-Feb	11:17	-0.02	0.0	0.9	20.5			
GP-18	25-Feb	11:22	0.00	0.0	0.7	20.5			
GP-19	25-Feb	11:29	0.00	0.0	0.8	20.7			
LFG-1	25-Feb	10:40	0.00	0.2	14.0	5.9	0.3	13.5	*Note 2*
LFG-2	25-Feb	10:44	0.00	0.0	9.9	9.7			*Note 2*
LFG-3	25-Feb	10:48	0.04	4.9	20.9	0.0	5.1	20.4	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	25-Feb-14	Temperature (^oF):	43

Notes

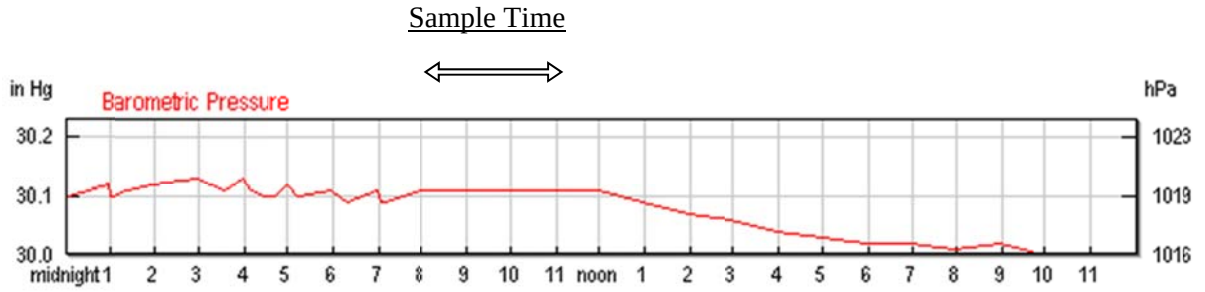
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring

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
HVL Landfill
February 2014

Barometric Pressure Trend for February 2014

Barometric Pressure Trend for February 25, 2014



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
March 27, 2014

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	27-Mar	13:18	0.09	0.0	5.0	0.0			
GP-1B	27-Mar	13:20	-0.04	0.0	10.2	12.6			
GP-1C	27-Mar	13:23	0.00	0.0	3.4	17.5			
GP-2A	27-Mar	13:29	-0.02	0.0	6.2	14.2			
GP-2B	27-Mar	13:31	0.04	0.0	0.4	20.5			
GP-3S	27-Mar	13:36	-0.02	0.0	3.6	14.9			
GP-3M	27-Mar	13:38	0.00	0.0	3.3	6.5			
GP-3D	27-Mar	13:41	0.01	0.0	7.9	9.6			
GP-4A	27-Mar	13:48	0.04	0.0	0.3	20.6			
GP-4B	27-Mar	13:51	0.09	0.0	0.2	20.6			
GP-5A	27-Mar	13:56	0.03	0.0	0.1	20.9			
GP-5B	27-Mar	13:59	0.03	0.0	0.1	20.9			
GP-6	27-Mar	14:11	0.05	0.0	0.1	21.1			
GP-7S	27-Mar	14:20	0.00	0.0	0.7	20.5			
GP-7D	27-Mar	14:17	0.05	0.0	0.3	20.9			
GP-8A	27-Mar	14:27	0.00	0.0	0.8	20.6			
GP-8B	27-Mar	14:30	0.00	0.0	0.3	21.2			
GP-9	27-Mar	14:35	0.01	0.0	1.5	19.5			
GP-10	27-Mar	14:40	0.03	0.0	0.2	21.2			
GP-11	27-Mar	14:45	0.01	0.0	0.8	18.0			
GP-12	27-Mar	14:51	0.00	0.0	0.4	20.8			
GP-13A	27-Mar	14:58	0.06	6.2	9.9	0.0	5.7	9.1	
GP-13B	27-Mar	15:02	0.09	0.0	0.4	21.1			
GP-14S	27-Mar	15:07	0.01	0.0	10.0	12.6			
GP-14D	27-Mar	15:10	0.00	0.0	17.2	0.7			
GP-15A	27-Mar	15:39	-4.00	0.0	3.5	8.2			
GP-15B	27-Mar	15:40	-0.01	0.0	3.5	8.2			
GP-16A	27-Mar	16:06	-0.02	0.0	0.6	20.4			
GP-16B	27-Mar	16:09	0.04	0.0	0.5	20.5			
GP-17	27-Mar	16:24	0.00	0.0	0.1	21.1			
GP-18	27-Mar	16:30	0.00	0.0	1.0	20.7			
GP-19	27-Mar	16:36	-0.03	0.0	0.1	21.2			
LFG-1	27-Mar	15:14	0.00	0.7	12.6	6.0			*Note 2*
LFG-2	27-Mar	15:18	-4.88	0.0	1.7	19.2			*Note 2*
LFG-3	27-Mar	15:25	0.01	4.4	18.8	0.0	12.5	20.6	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain/Wind
Calibration Date:	27-Mar-14	Temperature (^oF):	50

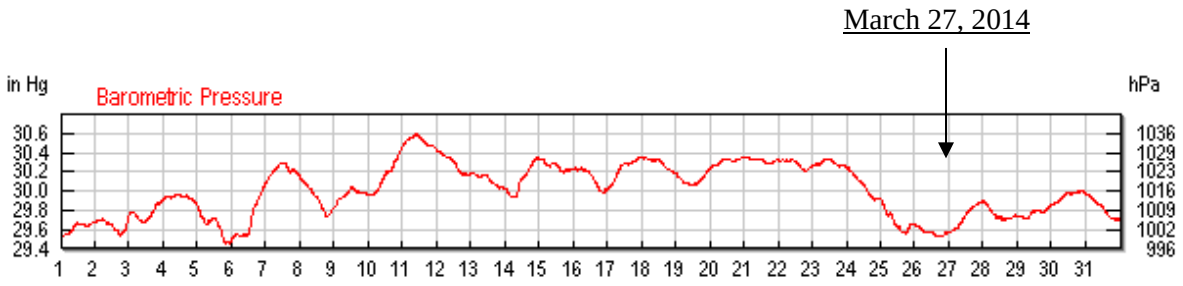
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring

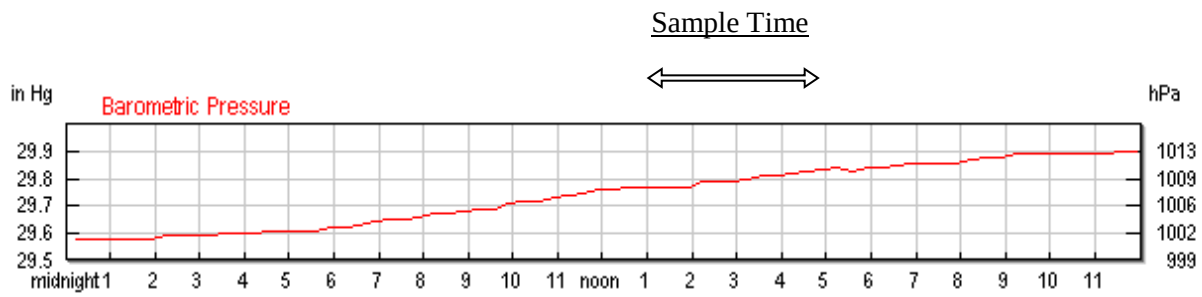
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
March 2014

Barometric Pressure Trend for March 2014



Barometric Pressure Trend for March 27, 2014



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
April 10, 2014

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	10:22	0.00	0.1	4.9	0.0			
GP-1B	10-Apr	10:26	0.00	0.0	9.8	11.8			
GP-1C	10-Apr	10:30	0.00	0.0	2.5	16.9			
GP-2A	10-Apr	10:36	0.00	0.0	1.1	18.0			
GP-2B	10-Apr	10:39	0.00	0.0	0.3	19.1			
GP-3S	10-Apr	10:46	0.00	0.0	2.8	14.9			
GP-3M	10-Apr	10:48	0.00	0.0	3.3	4.9			
GP-3D	10-Apr	10:50	0.00	0.0	7.8	8.5			
GP-4A	10-Apr	10:58	0.00	0.0	0.2	19.7			
GP-4B	10-Apr	11:01	0.00	0.0	0.2	19.6			
GP-5A	10-Apr	11:09	0.00	0.0	0.1	19.4			
GP-5B	10-Apr	11:11	0.00	0.0	0.1	19.7			
GP-6	10-Apr	11:19	0.00	0.0	0.1	19.6			
GP-7S	10-Apr	11:25	0.00	0.0	0.7	18.8			
GP-7D	10-Apr	11:28	0.00	0.0	0.3	19.3			
GP-8A	10-Apr	11:40	0.00	0.0	1.1	18.5			
GP-8B	10-Apr	11:43	0.00	0.0	0.7	18.4			
GP-9	10-Apr	11:50	0.00	0.0	1.4	17.7			
GP-10	10-Apr	11:56	0.00	0.0	0.1	19.4			
GP-11	10-Apr	12:01	0.00	0.0	1.1	18.2			
GP-12	10-Apr	12:12	0.00	0.0	0.3	18.9			
GP-13A	10-Apr	12:16	0.00	9.6	10.0	0.0	9.6	9.6	
GP-13B	10-Apr	12:22	0.00	0.1	0.2	19.6			
GP-14S	10-Apr	12:31	0.00	0.1	8.9	11.2			
GP-14D	10-Apr	12:35	0.00	0.1	16.4	0.5			
GP-15A	10-Apr	13:26	0.00	0.1	2.8	13.7			
GP-15B	10-Apr	13:28	0.00	0.1	10.5	1.2			
GP-16A	10-Apr	13:37	0.00	0.1	2.0	16.4			
GP-16B	10-Apr	13:40	0.00	0.1	1.7	16.7			
GP-17	10-Apr	13:48	0.00	0.1	0.1	20.0			
GP-18	10-Apr	13:53	0.00	0.1	0.6	19.9			
GP-19	10-Apr	14:02	0.00	0.1	2.1	18.0			
LFG-1	10-Apr	12:42	0.00	0.6	13.8	3.9			*Note 2*
LFG-2	10-Apr	12:48	0.00	0.9	14.2	2.3			*Note 2*
LFG-3	10-Apr	12:54	0.00	12.2	21.3	0.0	4.9	18.8	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Wind
Calibration Date:	10-Apr-14	Temperature (^{o}F):	55

Notes

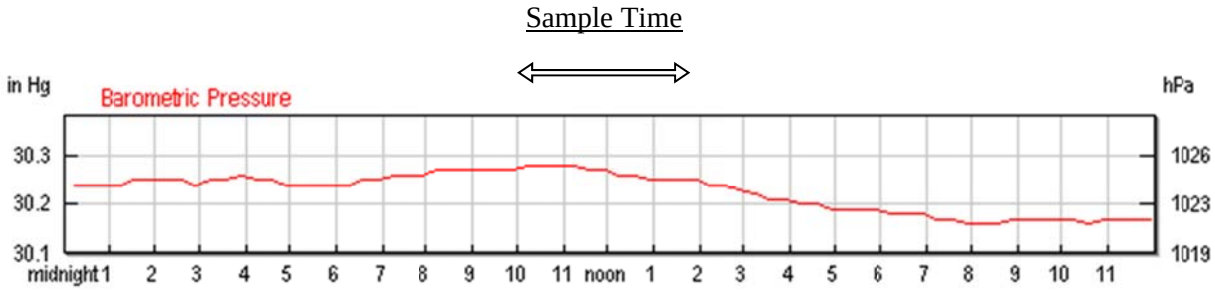
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. GEM O2 sensor failed on SCS GEM. HVL GEM used. Readings taken in GEM mode.

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
Hidden Valley Landfill
April 2014

Barometric Pressure Trend for April 2014

Barometric Pressure Trend for April 10, 2014



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

May 15, 2014

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-May	7:24	0.11	0.3	4.7	0.1			
GP-1B	15-May	7:28	0.15	0.0	9.5	12.1			
GP-1C	15-May	7:30	0.12	0.0	2.3	19.3			
GP-2A	15-May	7:36	0.17	0.0	1.1	19.7			
GP-2B	15-May	7:39	0.12	0.0	0.3	21.2			
GP-3S	15-May	7:50	0.00	0.0	1.8	17.6			
GP-3M	15-May	7:52	0.16	0.0	3.2	6.3			
GP-3D	15-May	7:55	0.21	0.0	8.2	8.0			
GP-4A	15-May	8:05	0.01	0.0	0.5	20.8			
GP-4B	15-May	8:08	0.02	0.0	0.2	21.3			
GP-5A	15-May	8:13	0.00	0.0	0.4	20.9			
GP-5B	15-May	8:17	0.00	0.0	0.2	21.1			
GP-6	15-May	8:22	0.00	0.0	0.4	20.7			
GP-7S	15-May	8:27	0.16	0.0	0.7	20.3			
GP-7D	15-May	8:29	0.01	0.0	0.4	20.6			
GP-8A									*Note 2*
GP-8B									*Note 2*
GP-9	15-May	8:42	0.27	0.0	0.9	19.8			
GP-10	15-May	8:48	0.15	0.0	0.2	21.1			
GP-11	15-May	8:53	0.12	0.0	1.2	19.7			
GP-12	15-May	8:58	0.00	0.0	0.3	19.3			
GP-13A	15-May	9:03	0.01	5.4	10.1	1.2			
GP-13B	15-May	9:06	0.03	0.0	0.2	21.1			
GP-14S	15-May	9:14	0.02	0.0	8.7	12.7			
GP-14D	15-May	9:16	0.14	0.0	15.8	1.6			
GP-15A	15-May	9:33	0.01	0.0	4.1	12.6			
GP-15B	15-May	9:36	0.00	0.0	8.9	5.0			
GP-16A	15-May	9:43	0.00	0.0	0.9	19.8			
GP-16B	15-May	9:45	0.00	0.0	0.2	21.2			
GP-17	15-May	9:51	0.14	0.0	0.6	20.6			
GP-18	15-May	9:55	0.02	0.0	0.5	21.2			
GP-19	15-May	10:01	0.00	0.0	2.3	19.5			
LFG-1	15-May	9:20	0.15	0.2	12.5	4.7			*Note 3*
LFG-2	15-May	9:24	0.00	0.0	7.6	10.1			*Note 3*
LFG-3	15-May	9:27	0.10	6.2	17.6	1.7			*Note 3*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear, Lt. Clouds
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	15-May-14	Temperature (^oF):	69

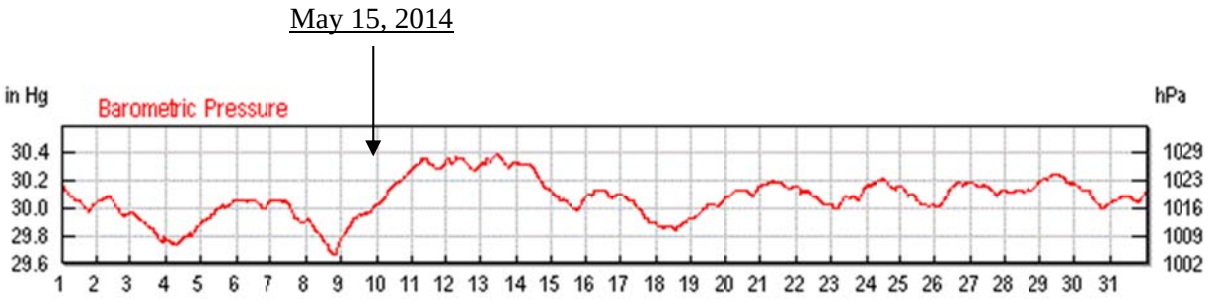
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to monitor, monument full of wasps
3. Located adjacent to southern sinkhole area, repair under construction durring monitoring

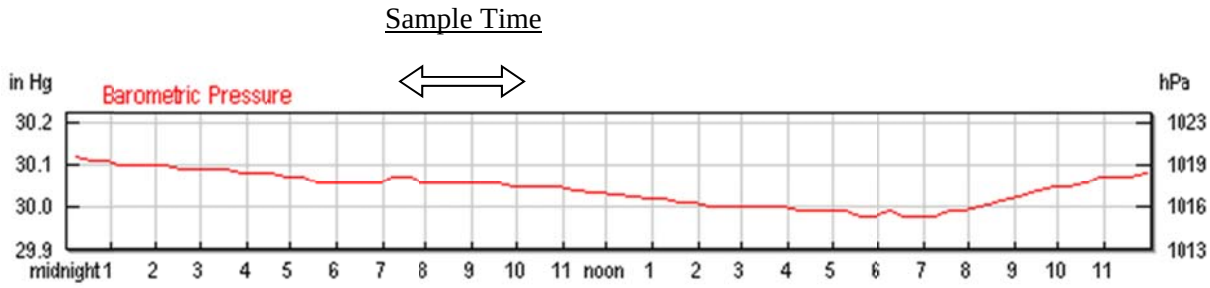
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
Hidden Valley Landfill
May 2014

Barometric Pressure Trend for May 2014



Barometric Pressure Trend for May 15, 2014



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

June 16, 2014

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	16-Jun	7:48	0.12	0.5	4.8	0.0			
GP-1B	16-Jun	7:51	0.14	0.0	10.0	11.3			
GP-1C	16-Jun	7:54	0.24	0.0	2.4	19.0			
GP-2A	16-Jun	7:58	0.40	0.0	1.5	19.1			
GP-2B	16-Jun	8:01	0.10	0.0	0.4	21.0			
GP-3S	16-Jun	8:06	0.09	0.0	1.5	18.1			
GP-3M	16-Jun	8:08	0.16	0.0	3.2	6.5			
GP-3D	16-Jun	8:11	0.11	0.0	6.6	13.9			
GP-4A	16-Jun	8:19	0.00	0.0	0.3	21.1			
GP-4B	16-Jun	8:22	0.08	0.0	0.3	21.0			
GP-5A	16-Jun	8:30	0.00	0.0	0.3	21.0			
GP-5B	16-Jun	8:35	0.00	0.0	0.4	21.1			
GP-6	16-Jun	8:40	0.24	0.0	0.9	20.4			
GP-7S	16-Jun	8:43	0.02	0.0	0.6	20.0			
GP-7D	16-Jun	8:47	0.03	0.0	0.3	21.2			
GP-8A	16-Jun	8:53	0.13	0.0	3.2	18.7			
GP-8B	16-Jun	8:55	0.12	0.0	1.0	20.6			
GP-9	16-Jun	9:01	0.12	0.0	1.8	18.3			
GP-10	16-Jun	9:07	0.02	0.0	0.2	21.3			
GP-11	16-Jun	9:12	0.04	0.0	1.4	19.6			
GP-12	16-Jun	9:17	0.00	0.0	0.3	21.1			
GP-13A	16-Jun	9:23	0.29	0.5	11.4	0.8			
GP-13B	16-Jun	9:26	0.10	0.0	0.4	21.1			
GP-14S	16-Jun	9:32	0.11	0.0	9.7	12.4			
GP-14D	16-Jun	9:36	0.00	0.0	16.5	0.6			
GP-15A	16-Jun	9:50	0.01	0.0	4.2	15.7			
GP-15B	16-Jun	9:53	0.06	0.0	5.7	13.0			
GP-16A	16-Jun	9:59	0.00	0.0	0.4	20.7			
GP-16B	16-Jun	10:02	0.08	0.0	0.3	20.8			
GP-17	16-Jun	10:08	-0.04	0.0	5.4	14.8			
GP-18	16-Jun	10:12	0.01	0.0	8.3	11.6			
GP-19	16-Jun	10:20	0.00	0.0	0.1	21.4			
LFG-1	16-Jun	9:39	0.02	0.2	12.9	3.6			*Note 2*
LFG-2	16-Jun	9:42	0.01	0.1	11.8	5.2			*Note 2*
LFG-3	16-Jun	9:46	0.06	9.7	19.4	0.0			*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	16-Jun-14	Temperature (^oF):	54

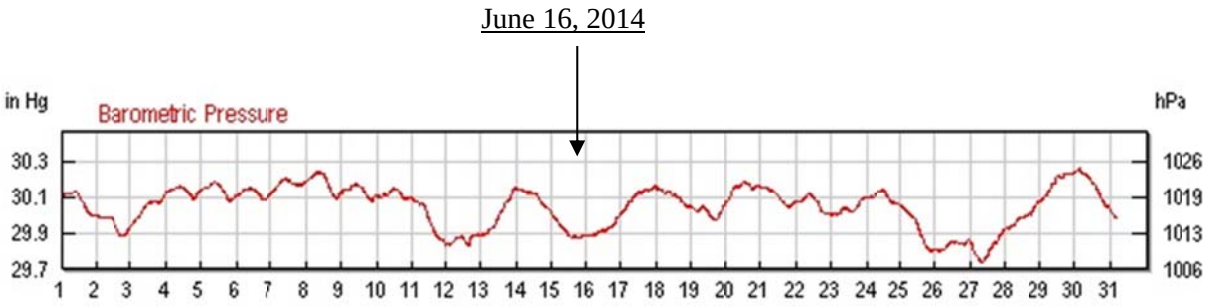
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located adjacent to southern sinkhole area, repair completed at time of monitoring

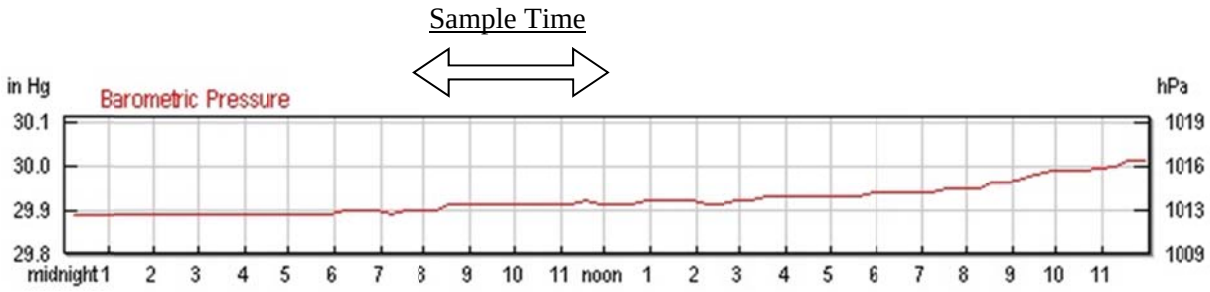
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
Hidden Valley Landfill
June 2014

Barometric Pressure Trend for June 2014



Barometric Pressure Trend for June 16, 2014



Source : KPLU Airport - http://www.wunderground.com/history/airport/KPLU/2014/6/16/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

July 10, 2014

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-Jul	7:24	0.10	0.3	4.8	0.0			
GP-1B	10-Jul	7:27	0.08	0.0	10.0	10.9			
GP-1C	10-Jul	7:29	0.10	0.0	1.1	20.0			
GP-2A	10-Jul	7:34	0.20	0.0	0.5	20.5			
GP-2B	10-Jul	7:36	0.18	0.0	0.3	21.0			
GP-3S	10-Jul	7:41	0.04	0.0	1.1	19.1			
GP-3M	10-Jul	7:44	0.21	0.0	3.0	9.6			
GP-3D	10-Jul	7:47	0.18	0.0	6.2	14.4			
GP-4A	10-Jul	7:54	0.01	0.0	1.0	20.0			
GP-4B	10-Jul	7:57	0.10	0.0	0.4	20.2			
GP-5A	10-Jul	8:02	0.01	0.0	0.6	19.7			
GP-5B	10-Jul	8:06	0.02	0.0	0.4	20.3			
GP-6	10-Jul	8:11	0.01	0.0	0.7	20.2			
GP-7S	10-Jul	8:17	0.11	0.0	0.9	19.5			
GP-7D	10-Jul	8:20	0.00	0.0	0.6	19.7			
GP-8A	10-Jul	8:33	0.21	0.0	2.8	17.8			
GP-8B	10-Jul	8:36	0.09	0.0	2.1	19.1			
GP-9	10-Jul	8:41	0.14	0.0	1.4	18.3			
GP-10	10-Jul	8:47	0.06	0.0	0.3	20.7			
GP-11	10-Jul	8:51	0.10	0.0	0.8	20.2			
GP-12	10-Jul	8:57	0.02	0.0	4.2	13.6			
GP-13A	10-Jul	9:02	0.14	2.0	11.6	0.0			
GP-13B	10-Jul	9:05	0.08	0.0	0.3	20.7			
GP-14S	10-Jul	9:12	0.03	0.0	8.3	13.6			
GP-14D	10-Jul	9:14	0.12	0.0	15.7	0.7			
GP-15A	10-Jul	10:04	0.01	0.0	3.3	17.2			
GP-15B	10-Jul	10:07	0.00	0.0	4.2	16.3			
GP-16A	10-Jul	10:12	0.01	0.0	0.4	20.3			
GP-16B	10-Jul	10:15	0.31	0.0	0.4	20.3			
GP-17	10-Jul	10:21	0.22	0.0	5.2	14.4			
GP-18	10-Jul	10:26	0.03	0.0	10.4	5.4			
GP-19	10-Jul	10:33	0.02	0.0	2.1	19.5			
LFG-1	10-Jul	9:18	0.01	0.0	10.5	5.6			*Note 2*
LFG-2	10-Jul	9:23	0.00	0.0	8.1	8.8			*Note 2*
LFG-3	10-Jul	9:27	0.06	6.3	17.3	1.0			*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	10-Jul-14	Temperature (^oF):	66

Notes

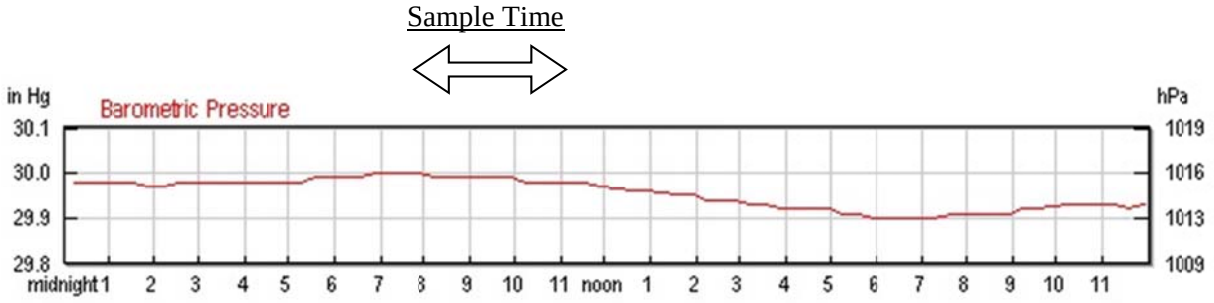
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located adjacent to southern sinkhole area, repair completed at time of monitoring

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
Hidden Valley Landfill
July 2014

Barometric Pressure Trend for July 2014

Barometric Pressure Trend for July 10, 2014



Source : KPLU Airport - http://www.wunderground.com/history/airport/KPLU/2014/6/16/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

August 12, 2014

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	12-Aug	7:38	-0.03	0.7	5.1	0.0			
GP-1B	12-Aug	7:45	-0.06	0.0	11.8	8.1			
GP-1C	12-Aug	7:48	-0.03	0.0	1.1	19.5			
GP-2A	12-Aug	7:52	-0.03	0.0	0.4	20.0			
GP-2B	12-Aug	7:56	0.04	0.0	0.2	20.4			
GP-3S	12-Aug	8:00	-0.06	0.0	0.5	19.7	0.3		
GP-3M	12-Aug	8:03	-0.05	0.0	2.5	15.6			
GP-3D	12-Aug	8:06	-0.03	0.0	2.8	18.6			
GP-4A	12-Aug	8:16	-0.03	0.0	0.8	19.6			
GP-4B	12-Aug	8:19	0.06	0.0	0.5	19.8			
GP-5A	12-Aug	8:24	0.00	0.0	1.2	19.1			
GP-5B	12-Aug	8:27	0.00	0.0	0.6	19.4			
GP-6	12-Aug	8:32	0.00	0.0	0.9	19.3			
GP-7S	12-Aug	8:37	0.01	0.0	1.3	19.0			
GP-7D	12-Aug	8:40	0.00	0.0	0.7	19.5			
GP-8A	12-Aug	8:49	0.00	0.0	6.1	12.0			
GP-8B	12-Aug	8:52	0.00	0.0	4.9	14.5			
GP-9	12-Aug	8:57	0.00	0.0	1.5	18.3			
GP-10	12-Aug	9:03	0.00	0.0	0.4	18.9			
GP-11	12-Aug	9:08	0.00	0.0	1.1	19.5			
GP-12	12-Aug	9:13	0.00	0.0	6.8	9.3			
GP-13A	12-Aug	9:24	0.31	5.2	11.4	0.0	5.3		
GP-13B	12-Aug	9:30	0.11	0.0	0.4	20.3			
GP-14S	12-Aug	9:58	0.11	0.0	9.6	12.0			
GP-14D	12-Aug	10:00	0.12	0.0	16.2	0.0			
GP-15A	12-Aug	10:19	0.00	0.0	4.0	16.3			
GP-15B	12-Aug	10:21	0.01	0.0	3.6	17.2			
GP-16A	12-Aug	10:27	0.06	0.0	1.2	19.2			
GP-16B	12-Aug	10:30	0.37	0.0	1.3	19.1			
GP-17	12-Aug	10:36	0.23	0.0	5.9	14.2			
GP-18	12-Aug	10:41	0.05	0.0	10.9	6.2			
GP-19									*Note 3*
LFG-1	12-Aug	10:05	0.01	0.2	12.0	3.4			*Note 2*
LFG-2	12-Aug	10:10	0.00	0.0	9.9	6.1			*Note 2*
LFG-3	12-Aug	10:13	0.05	9.3	17.6	0.8			*Note 2*

General Data

Monitored by:	S. Adlington	Weather Conditions	
Instruments:	GEM 2000	Sky Cover:	Overcast
Calibration Date:	12-Aug-14	Wind / Rain / Snow:	Lt. Rain
		Temperature (^{o}F):	68

Notes

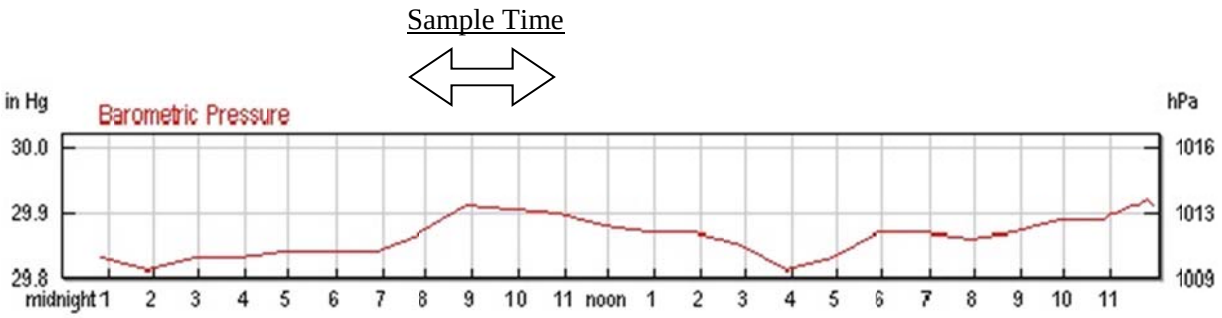
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located adjacent to southern sinkhole area, repair completed at time of monitoring
3. Access trail impassable.

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
Hidden Valley Landfill
August 2014

Barometric Pressure Trend for August 2014

Barometric Pressure Trend for August 12, 2014



Source : Tacoma Narows, WA -
http://www.wunderground.com/history/airport/KTIW/2014/8/12/DailyHistory.html?req_city=Tacoma&req_state=WA&req_statename=Washington
KPLU Airport could not be used as data was not available.

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

September 26, 2014

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	26-Sep-14	8:52	6.42	1.4	5.6	0.0			
GP-1B	26-Sep-14	8:54	4.78	0.0	4.9	15.8			
GP-1C	26-Sep-14	8:56	6.15	0.0	1.6	20.4			
GP-2A	26-Sep-14	9:09	-5.19	0.0	0.8	20.4			
GP-2B	26-Sep-14	9:11	>>>>	0.0	0.4	21.0			
GP-3S	26-Sep-14	9:15	8.27	0.0	0.2	21.3			
GP-3M	26-Sep-14	9:17	-0.38	0.0	0.1	21.3			
GP-3D	26-Sep-14	9:18	8.36	0.0	0.1	21.4			
GP-4A	26-Sep-14	9:21	8.39	0.0	0.1	21.4			
GP-4B	26-Sep-14	9:23	8.44	0.0	0.1	21.5			
GP-5A	26-Sep-14	9:26	8.46	0.0	0.1	21.4			
GP-5B	26-Sep-14	9:28	3.37	0.0	0.1	21.4			
GP-6	26-Sep-14	9:33	4.65	0.0	0.1	21.3			
GP-7S	26-Sep-14	9:37	8.55	0.0	0.6	20.5			
GP-7D	26-Sep-14	9:38	-1.78	0.0	0.2	21.4			
GP-8A	26-Sep-14	9:49	8.52	0.0	4.3	17.1			
GP-8B	26-Sep-14	9:52	7.57	0.0	1.2	20.5			
GP-9	26-Sep-14	9:58	8.63	0.0	2.3	17.6			
GP-10	26-Sep-14	10:05	9.23	0.0	0.5	20.3			
GP-11	26-Sep-14	10:17	8.03	0.0	1.2	19.8			
GP-12	26-Sep-14	10:23	8.07	0.0	0.1	21.6			
GP-13A	26-Sep-14	10:30	8.14	0.0	0.0	21.5			
GP-13B	26-Sep-14	10:32	-2.10	0.0	0.0	21.5			
GP-14S	26-Sep-14	10:41	5.81	0.0	13.3	9.8			
GP-14D	26-Sep-14	10:39	-4.38	0.0	16.5	1.3			
GP-15A	26-Sep-14	10:58	6.75	0.0	9.0	9.8			
GP-15B	26-Sep-14	11:05	6.18	0.0	10.3	2.7			
GP-16A	26-Sep-14	11:15	6.55	0.0	0.2	21.3			
GP-16B	26-Sep-14	11:18	6.58	0.0	0.2	21.3			
GP-17	26-Sep-14	11:24	6.72	0.0	8.0	10.8			
GP-18	26-Sep-14	11:35	7.18	0.0	1.0	20.8			
GP-19	26-Sep-14	11:49	3.11	0.0	0.0	21.5			
LFG-1	26-Sep-14	10:45	7.34	0.4	14.6	0.7			*Note 3*
LFG-2	26-Sep-14	10:51	6.63	0.2	14.8	1.0			*Note 3*
LFG-3	26-Sep-14	10:53	6.52	0.2	14.8	1.7			*Note 3*

General Data

		Weather Conditions	
Monitored by:	M. O'Hare	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Scattered Showers
Calibration Date:	26-Sep-14	Temperature (^oF):	58

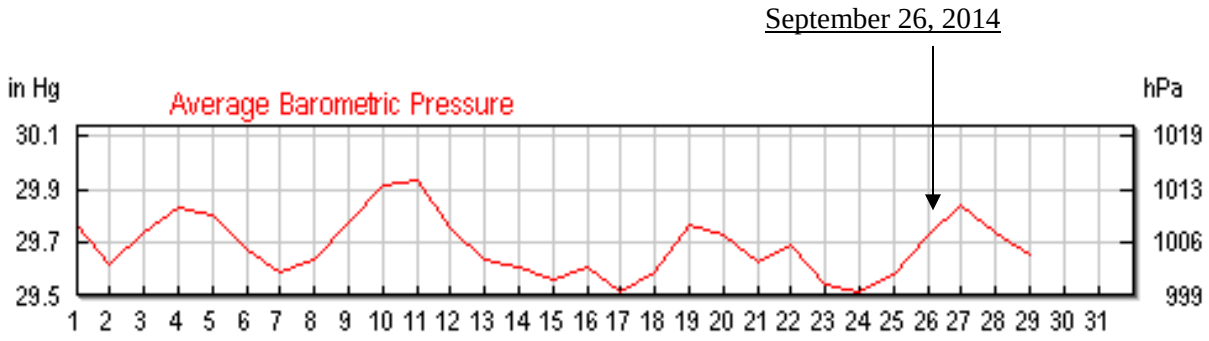
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to measure pressure due to equipment failure.
3. Located adjacent to southern sinkhole area, repair completed at time of monitoring

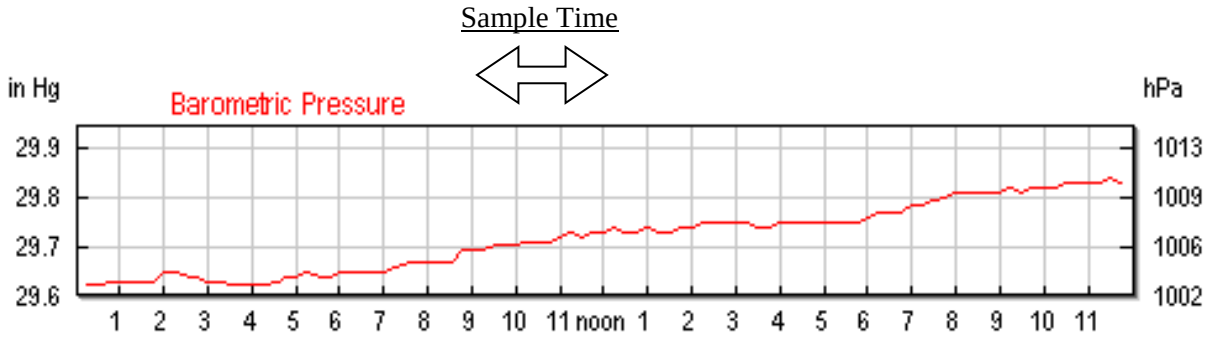
GP = Gas Probe
NM = Not measured - equipment malfunction
CH_4 = Methane
CO_2 = Carbon Dioxide
O_2 = Oxygen
S = shallow
M = medium
D = deep
A= shallow
B = medium
C = deep

Barometric Pressure Trend
Hidden Valley Landfill
September 26, 2014

Barometric Pressure Trend for September 2014



Barometric Pressure Trend for September 26, 2014



Source: KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=26&year=2014&month=9&graphspan=day
KPLU Airport could not be used as data was not available.

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill — 04213004.02

PCRCD dba LRI — October 22, 2014

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	22-Oct-14	9:09	-0.02	1.9	5.6	0.0			
GP-1B	22-Oct-14	9:12	0.00	0.0	8.1	11.2			
GP-1C	22-Oct-14	9:15	0.05	0.0	3.8	17.7			
GP-2A	22-Oct-14	9:20	0.10	0.2	3.4	16.1			
GP-2B	22-Oct-14	9:39	0.19	0.0	0.3	21.4			
GP-3S	22-Oct-14	9:44	0.10	0.0	1.0	20.3			
GP-3M	22-Oct-14	9:46	0.02	0.0	2.5	16.0			
GP-3D	22-Oct-14	9:49	0.03	0.0	6.4	9.2			
GP-4A	22-Oct-14	9:56	0.00	0.0	1.7	18.3			
GP-4B	22-Oct-14	10:00	0.03	0.0	0.2	21.4			
GP-5A	22-Oct-14	10:05	0.00	0.0	0.7	20.7			
GP-5B	22-Oct-14	10:08	0.00	0.0	0.6	20.6			
GP-6	22-Oct-14	10:12	0.00	0.0	0.1	21.4			
GP-7S	22-Oct-14	10:17	0.09	0.0	1.7	19.8			
GP-7D	22-Oct-14	10:19	-0.03	0.0	1.1	20.0			
GP-8A	22-Oct-14	10:30	-0.02	0.0	4.4	16.8			
GP-8B	22-Oct-14	10:33	-0.03	0.0	1.0	20.1			
GP-9	22-Oct-14	10:38	0.02	0.0	2.0	15.9			
GP-10	22-Oct-14	10:43	0.37	0.0	0.5	20.7			
GP-11	22-Oct-14	10:49	0.32	0.0	1.7	19.3			
GP-12	22-Oct-14	10:54	0.08	0.0	7.9	4.8			
GP-13A	22-Oct-14	11:00	0.04	1.4	14.4	0.0			
GP-13B	22-Oct-14	11:03	0.02	0.0	0.4	21.2			
GP-14S	22-Oct-14	11:09	0.10	0.0	12.4	9.9			
GP-14D	22-Oct-14	11:11	-0.05	0.0	16.6	0.0			
GP-15A	22-Oct-14	11:26	0.00	0.0	4.8	14.6			
GP-15B	22-Oct-14	11:29	-0.06	0.0	8.3	10.6			
GP-16A	22-Oct-14	11:36	-0.05	0.0	0.7	20.6			
GP-16B	22-Oct-14	11:38	-0.02	0.0	0.2	21.4			
GP-17	22-Oct-14	11:43	-0.26	0.0	6.7	11.8			
GP-18	22-Oct-14	11:48	0.02	0.0	7.4	14.7			
GP-19									*Note 3*
LFG-1	22-Oct-14	11:14	0.12	0.2	10.9	5.5			*Note 4*
LFG-2	22-Oct-14	11:20	-0.23	0.2	11.0	5.2			*Note 4*
LFG-3	22-Oct-14	11:17	-0.13	15.2	20.7	0.1			*Note 4*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain
Calibration Date:	22-Oct-14	Temperature (°F):	47

Notes

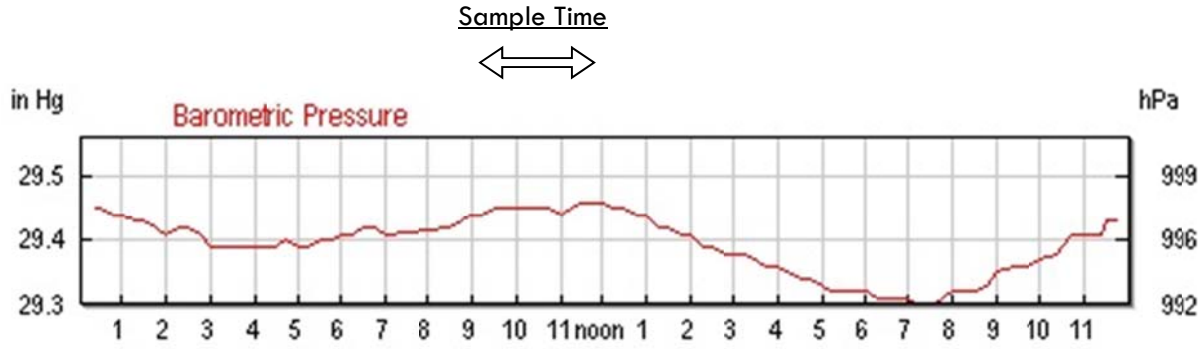
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to measure pressure due to equipment failure.
3. Unable to access at time of monitoring. Access trail not cleared of vegitation
4. Located adjacent to southern sinkhole area, repair completed at time of monitoring

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

Barometric Pressure Trend - October 2014
Hidden Valley Landfill, Pierce County, Washington

Barometric Pressure Trend for October 2014

Barometric Pressure Trend for October 22, 2014



Source : KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=25&year=2014&month=10&graphspan=month
KPLU Airport could not be used as data was not available.

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

November 17, 2014

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	17-Nov-14	7:40	0.03	2.0	5.8	0.0	2.2		
GP-1B	17-Nov-14	7:44	0.00	0.0	10.7	8.2			
GP-1C	17-Nov-14	7:48	0.00	0.0	8.2	11.3			
GP-2A	17-Nov-14	7:53	0.01	0.7	13.5	3.4			
GP-2B	17-Nov-14	7:56	0.01	0.0	0.2	20.8			
GP-3S	17-Nov-14	8:01	0.01	0.0	2.6	15.8			
GP-3M	17-Nov-14	8:03	0.00	0.0	2.8	14.8			
GP-3D	17-Nov-14	8:06	0.00	0.0	7.0	10.7			
GP-4A	17-Nov-14	8:12	0.00	0.0	1.1	19.3			
GP-4B	17-Nov-14	8:15	0.01	0.0	0.2	20.8			
GP-5A	17-Nov-14	8:20	-0.01	0.0	0.1	20.9			
GP-5B	17-Nov-14	8:24	0.00	0.0	0.3	20.2			
GP-6	17-Nov-14	8:29	0.00	0.0	0.1	20.9			
GP-7S	17-Nov-14	8:34	0.16	0.0	0.3	20.7			
GP-7D	17-Nov-14	8:37	0.00	0.0	1.0	19.9			
GP-8A	17-Nov-14	8:46	0.00	0.0	2.2	19.6			
GP-8B	17-Nov-14	8:49	-0.01	0.0	0.6	20.5			
GP-9	17-Nov-14	8:55	0.00	0.0	1.9	14.1			
GP-10	17-Nov-14	9:00	0.00	0.0	0.2	20.9			
GP-11									*Note 2*
GP-12	17-Nov-14	9:11	0.01	0.0	0.9	19.4			
GP-13A	17-Nov-14	9:17	0.04	4.1	14.0	0.3			
GP-13B	17-Nov-14	9:21	0.03	0.0	0.2	20.6			
GP-14S	17-Nov-14	9:26	0.01	0.0	10.8	10.7			
GP-14D	17-Nov-14	9:28	0.02	0.0	16.6	0.0			
GP-15A	17-Nov-14	9:44	0.02	0.0	4.0	14.8			
GP-15B	17-Nov-14	9:47	0.02	0.0	10.3	5.9			
GP-16A	17-Nov-14	9:54	0.00	0.0	2.9	16.8			
GP-16B	17-Nov-14	9:57	0.26	0.0	3.6	16.1			
GP-17	17-Nov-14	10:03	1.61	0.0	0.6	20.1			
GP-18	17-Nov-14	10:07	0.01	0.0	0.9	20.0			
GP-19	17-Nov-14	10:13	0.08	0.0	3.4	17.0			
LFG-1	17-Nov-14	9:32	0.03	0.2	14.2	4.3			
LFG-2	17-Nov-14	9:35	0.02	0.0	13.4	3.3			
LFG-3	17-Nov-14	9:40	0.08	9.3	20.0	0.0			

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	17-Nov-14	Temperature (^{o}F):	38

Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to measure due to frozen blockage in probe casing.

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

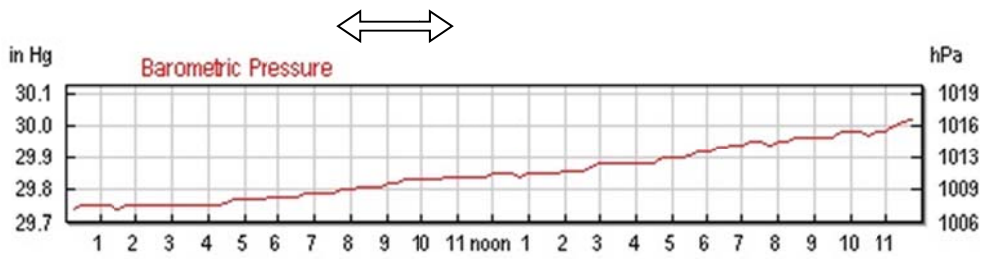
Barometric Pressure Trend - November 2014
Hidden Valley Landfill, Pierce County, Washington

Barometric Pressure Trend for November 2014

November 17, 2014

Barometric Pressure Trend for November 17, 2014

Sample Time



Source : KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=17&year=2014&month=11&graphspan=day
KPLU Airport could not be used as data was not available.

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

December 23, 2014

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	23-Dec-14	9:02	0.10	0.7	5.7	0.0			
GP-1B	23-Dec-14	9:05	-12.28	0.0	11.1	9.5			
GP-1C	23-Dec-14	9:11	-11.60	0.0	12.1	7.5			
GP-2A	23-Dec-14	9:19	0.55	2.4	16.5	0.0			
GP-2B	23-Dec-14	9:26	-11.36	0.0	0.1	21.6			
GP-3S	23-Dec-14	9:31	0.00	0.0	0.1	21.6			
GP-3M	23-Dec-14	9:33	-8.90	0.0	0.1	21.6			
GP-3D	23-Dec-14	9:40	0.00	0.0	0.1	21.5			
GP-4A	23-Dec-14	9:44	0.00	0.0	0.1	20.8			
GP-4B	23-Dec-14	9:50	0.00	0.0	0.2	20.7			
GP-5A	23-Dec-14	9:53	0.00	0.0	0.1	20.6			
GP-5B	23-Dec-14	9:58	0.00	0.0	0.1	20.6			
GP-6	23-Dec-14	10:00	0.01	0.0	0.1	20.6			
GP-7S	23-Dec-14	10:04	0.01	0.0	0.1	20.6			
GP-7D	23-Dec-14	10:07	0.01	0.0	0.1	20.5			
GP-8A	23-Dec-14	10:10	0.01	0.0	0.1	20.5			
GP-8B	23-Dec-14	10:13	0.02	0.0	0.1	20.6			
GP-9	23-Dec-14	10:16	0.02	0.0	0.1	20.6			
GP-10	23-Dec-14	10:19	-1.87	0.0	0.1	20.6			
GP-11	23-Dec-14	10:23	0.18	0.0	1.1	19.5			
GP-12	23-Dec-14	10:28	0.02	0.0	2.5	15.9			
GP-13A	23-Dec-14	7:55	-9.90	4.7	11.4	1.9			
GP-13B	23-Dec-14	7:57	-12.70	0.0	0.4	21.0			
GP-14S	23-Dec-14	8:00	-0.01	0.0	12.4	10.2			
GP-14D	23-Dec-14	8:01	-13.32	0.0	16.0	0.5			
GP-15A	23-Dec-14	8:05	-0.01	0.0	3.6	14.0			
GP-15B	23-Dec-14	8:07	-0.03	0.0	10.5	4.5			
GP-16A	23-Dec-14	8:13	-0.02	0.0	3.3	18.0			
GP-16B	23-Dec-14	8:14	-7.91	0.0	0.3	21.5			
GP-17	23-Dec-14	8:44	-1.70	0.0	2.4	18.4			
GP-18	23-Dec-14	8:51	-0.01	0.0	0.4	21.0			
GP-19	23-Dec-14	8:56	-0.01	0.0	0.5	21.1			
LFG-1	23-Dec-14	10:33	0.01	0.1	11.3	6.4			
LFG-2	23-Dec-14	10:39	0.01	0.0	10.3	7.0			
LFG-3	23-Dec-14	10:42	0.01	9.4	21.2	0.0			

General Data

		Weather Conditions	
Monitored by:	M. O'Hare	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Lt. Rain
Calibration Date:	23-Dec-14	Temperature (^oF):	46

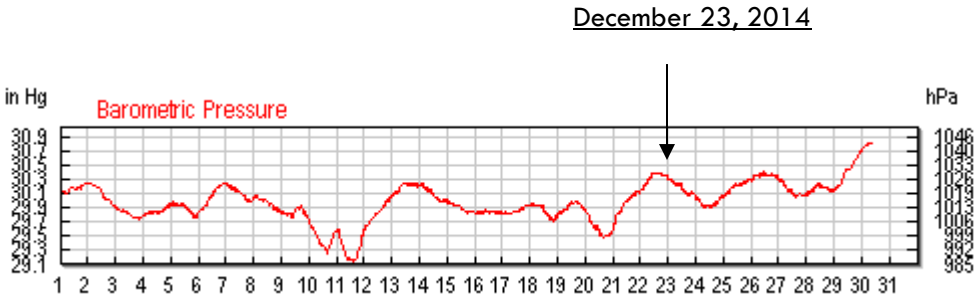
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling

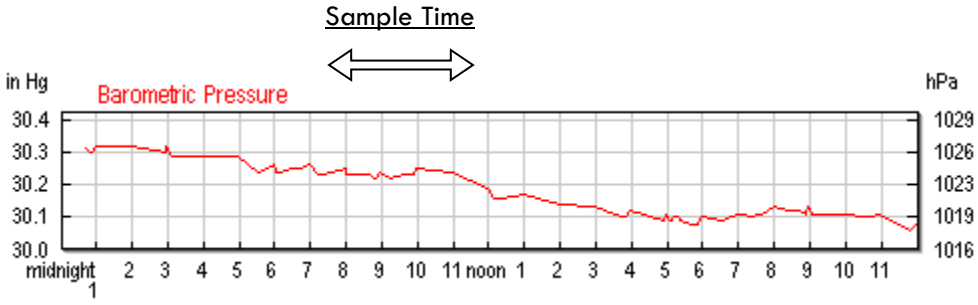
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - December 2014
Hidden Valley Landfill, Pierce County, Washington

Barometric Pressure Trend for December 2014



Barometric Pressure Trend for December 23, 2014



Source : KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=25&year=2014&month=10&graphspan=month
KPLU Airport could not be used as data was not available.

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 2/25/14
Weather Conditions: Overcast
Instrument: FID
Measured By: AM

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**.

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

Andrew McDonald
Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04214004.02

Date: JUNE 16, 2014
Weather Conditions: OVERCAST ~50°F, RAIN PREDICTED
Instrument: PHOTOVAC MICRO FID, SN C2J5325
Measured By: SAM ADLINGTON

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**.

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

NOTE: UNABLE TO MONITOR CONFERENCE ROOM ON THREE ATTEMPTS.

Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 8/12/2014
Weather Conditions: CLOUDY, INTERMITTANT RAIN
Instrument: MICRO FID
Measured By: SAM ADLINGTON

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**.

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

Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 11/17/2014
Weather Conditions: CLEAR & COLD
Instrument: MICRO FID
Measured By: SAM ADLINGTON

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**.

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

Signature

LFG-1, LFG-2, and LFG-3 Monitoring Results

	CH_4 Concentration (% by vol.)			CO_2 Concentration (% by vol.)			O_2 Concentration (% by vol.)		
Date	**LFG-1**	**LFG-2**	**LFG-3**	**LFG-1**	**LFG-2**	**LFG-3**	**LFG-1**	**LFG-2**	**LFG-3**
8-Sep-09	2.5	2.4	28.4	18.8	17.8	26.3	0.0	0.7	4.3
22-Sep-09									
2-Oct-09	1.1	2.7	22.3	19.4	16.7	25.6	0.0	2.7	0.0
8-Oct-09	1.1	3.4	42.2	18.4	15.3	32.7	0.0	4.2	0.0
15-Oct-09	1.8	2.0	26.6	19.7	15.1	27.0	0.0	4.0	0.0
4-Nov-09	2.1	4.6	43.4	19.8	16.1	33.9	0.0	3.8	0.0
12-Nov-09	1.4	1.0	18.2	19.4	18.3	30.7	0.5	3.8	0.7
23-Dec-09	2.1	0.7	37.7	17.8	14.7	28.4	0.3	4.2	0.3
19-Jan-10	0.4	0.5	6.7	18.2	18.3	23.4	0.0	1.1	0.0
18-Feb-10									
23-Mar-10	1.7	3.5	38.8	18.1	19.7	30.3	0.1	0.5	0.0
14-Apr-10	0.6	1.3	28.2	17.5	18.0	27.4	0.3	1.8	0.0
27-May-10	0.6	0.7	7.4	17.1	18.3	22.5	1.8	0.0	0.0
28-Jun-10	0.5	0.7	7.2	16.8	17.1	20.2	1.9	0.8	0.5
27-Jul-10									
21-Aug-10	0.4	0.7	3.5	17.8	17.0	19.8	0.8	0.1	0.1
9-Sep-10	0.5	0.6	2.4	17.5	17.0	19.5	0.1	0.0	0.0
22-Oct-10	0.5	0.6	16.5	16.2	16.5	21.4	1.3	0.3	0.1
11-Nov-10	0.4	0.3	3.0	16.6	17.1	19.5	1.1	0.3	0.0
9-Dec-10	0.0	0.0	0.6	15.3	16.2	18.9	1.2	0.1	0.0
25-Jan-11	2.8	0.4	0.7	19.1	16.3	17.5	0.8	0.0	0.0
24-Feb-11		0.4	2.8		15.8	19.3	1.4	0.0	
18-Mar-11	1.8	0.4	10.5	16.5	15.6	20.4			
25-Apr-11	2.9	1.0	15.6	17.4	15.9	21.7	0.0	0.0	0.0
31-May-11	0.9	0.4	19.0	15.3	13.9	21.7	0.9	0.0	0.6
17-Jun-11	1.0	0.3	15.9	15.2	13.1	20.5	1.6	0.0	0.1
22-Jul-11	0.7	0.1	7.2	14.3	13.1	18.3	2.4	0.2	0.9
16-Aug-11	1.3	0.1	47.4	15.3	14.4	29.1	1.6	0.0	0.3
21-Sep-11	0.3	0.2	4.6	16.3	17.4	19.5	1.3	0.0	0.0
12-Oct-11	0.4	0.5	2.7	16.0	16.4	18.8	1.5	0.0	0.6
16-Nov-11	0.7	0.6	30.0	17.5	17.4	27.7	3.3	0.0	0.0
2-Dec-11	0.6	0.2	4.4	17.5	16.4	20.0	2.7	0.0	0.0
23-Jan-12	0.2	0.0	3.2	17.3	15.1	19.8	2.7	0.0	0.2
24-Feb-12	0.4	0.0	24.3	16.6	13.1	25.1	6.0	0.0	0.7
16-Mar-12	0.5	0.0	15.7	13.4	13.2	22.6	3.6	0.0	4.4
27-Apr-12	0.7	0.1	23.1	13.1	13.5	24.5	1.5	0.0	3.9
11-May-12	0.4	0.0	7.0	13.8	11.0	17.9	6.0	0.0	0.5
15-Jun-12	0.1	0.0	6.8	14.4	12.8	18.2	3.2	0.2	0.3
27-Jul-12	0.3	0.1	3.3	17.4	15.8	19.1	0.1	0.8	0.0
28-Aug-12	0.7	0.1	10.5	13.6	14.0	21.2	3.2	2.4	0.0
21-Sep-12	0	0.6	21.0	13.9	13.2	25.4	1.7	4.8	0.0
25-Oct-12	0.8	0.0	3.8	16.6	12.3	19.5	1.3	5.0	0.0
19-Nov-12	1.9	0.0	47.9	17.1	12.3	33.0	0.0	3.8	0.0
20-Dec-12	0.2	1.0	6.8	17.3	17.2	20.3	0.0	0.0	0.0
16-Jan-13	0.2	0.0	11.1	19.1	15.2	3.1	0.5	3.1	0.0
14-Feb-13	0.0	0.2	11.9	16.4	17.1	24.7		0.9	
18-Mar-13	0.6	0.2	14.8	16.0	14.5	23.4	0.0	1.3	0.0
22-Mar-13	1.6	0.8	12.3	16.1	14.6	21.2	0.8	2.4	0.4
25-Apr-13	0.4	0.0	15.2	12.8	10.6	22.0	5.2	6.1	0.2
23-May-13	0.5	0.3	4.7	15.9	15.6	18.6	0.0	0.1	0.0
19-Jun-13	0.4	0.4	18.4	12.1	13.4	22.7	4.5	3.1	0.3
15-Jul-13	0.1	0.1	8.4	9.4	9.4	17.0	7.0	7.4	2.8
14-Aug-13	0.4	0.2	17.6	11.6	10.4	21.9	4.7	6.1	0.7
30-Sep-13	0.3	0.3	14.8	13.0	14.9	22.0	4.0	1.1	0.5
10-Oct-13	0.3	0.8	5.9	14.2	15.3	18.8	2.0	0.0	0.0
12-Nov-13	0.0	0.8	3.3	0.2	19.3	19.7	22.4	0.1	0.0
19-Dec-13	0.8	0.0	4.7	13.5	9.2	20.5	6.1	9.7	0.0
15-Jan-14	0.4	0.1	15.2	14.9	12.1	23.1	3.4	6.1	0.0
25-Feb-14	0.2	0.0	4.9	14.0	9.9	20.9	5.9	9.7	0.0
27-Mar-14	0.7	0.0	4.4	12.6	1.7	18.8	6.0	19.2	0.0
10-Apr-14	0.6	0.9	12.2	13.8	14.2	21.3	3.9	2.3	0.0
15-May-14	0.2	0.0	6.2	12.5	7.6	17.6	4.7	10.1	1.7
16-Jun-14	0.2	0.1	9.7	12.9	11.8	19.4	3.6	5.2	0.0
10-Jul-14	0.0	0.0	6.3	10.5	8.1	17.3	5.6	8.8	1.0
12-Aug-14	0.2	0.0	9.3	12.0	9.9	17.6	3.4	6.1	0.8
26-Sep-14	0.4	0.2	0.2	14.6	14.8	14.8	0.7	1.0	1.7
22-Oct-14	0.2	0.2	15.2	10.9	11.0	20.7	5.5	5.2	0.1
17-Nov-14	0.2	0.0	9.3	14.2	13.4	20.0	4.3	3.3	0.0
23-Dec-14	0.1	0.0	9.4	11.3	10.3	21.2	6.4	7.0	0.0

Figure 4. Monitoring Results LFG-1
Fourth Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

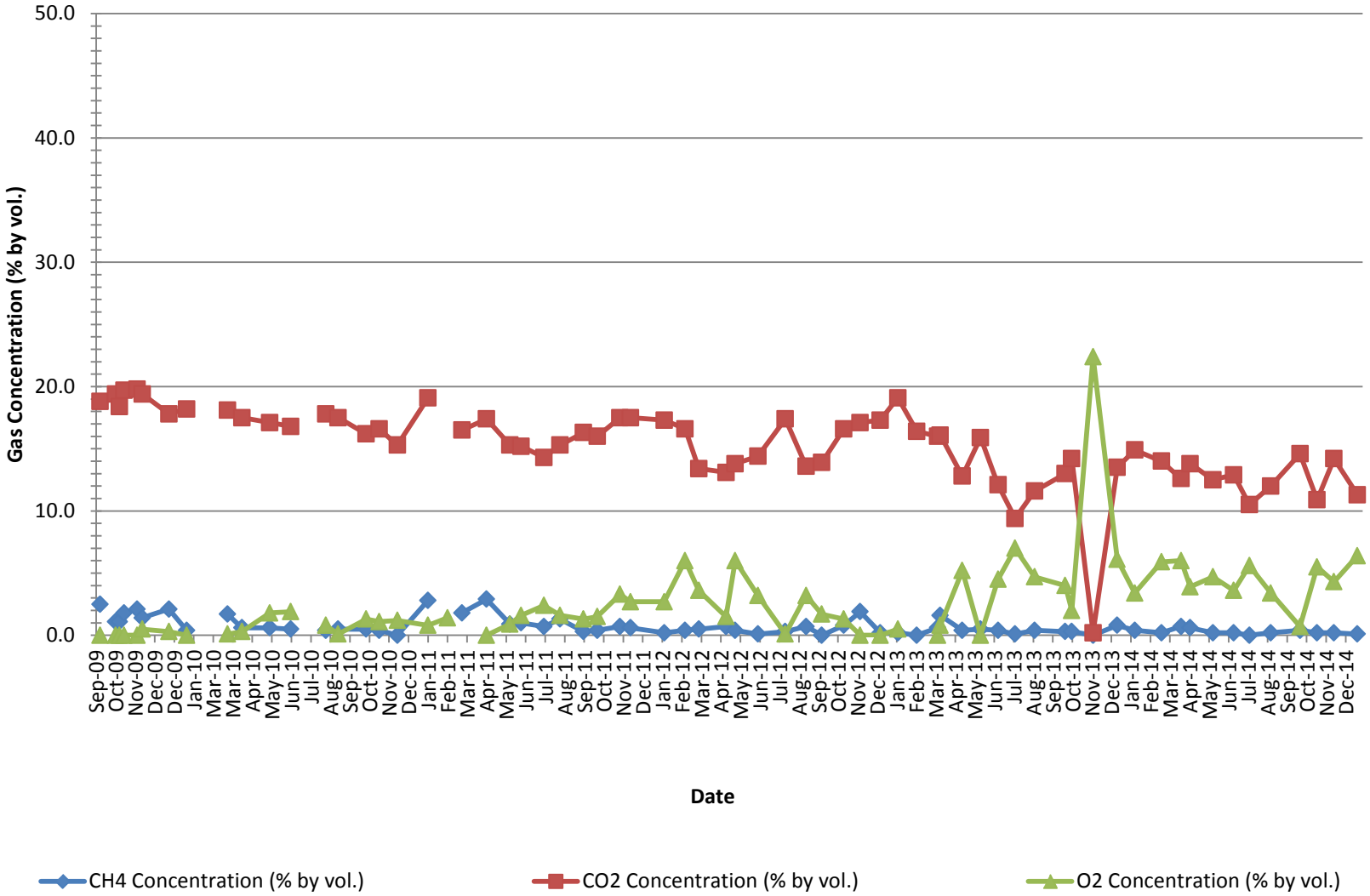


Figure 5. Monitoring Results LFG-2
Fourth Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

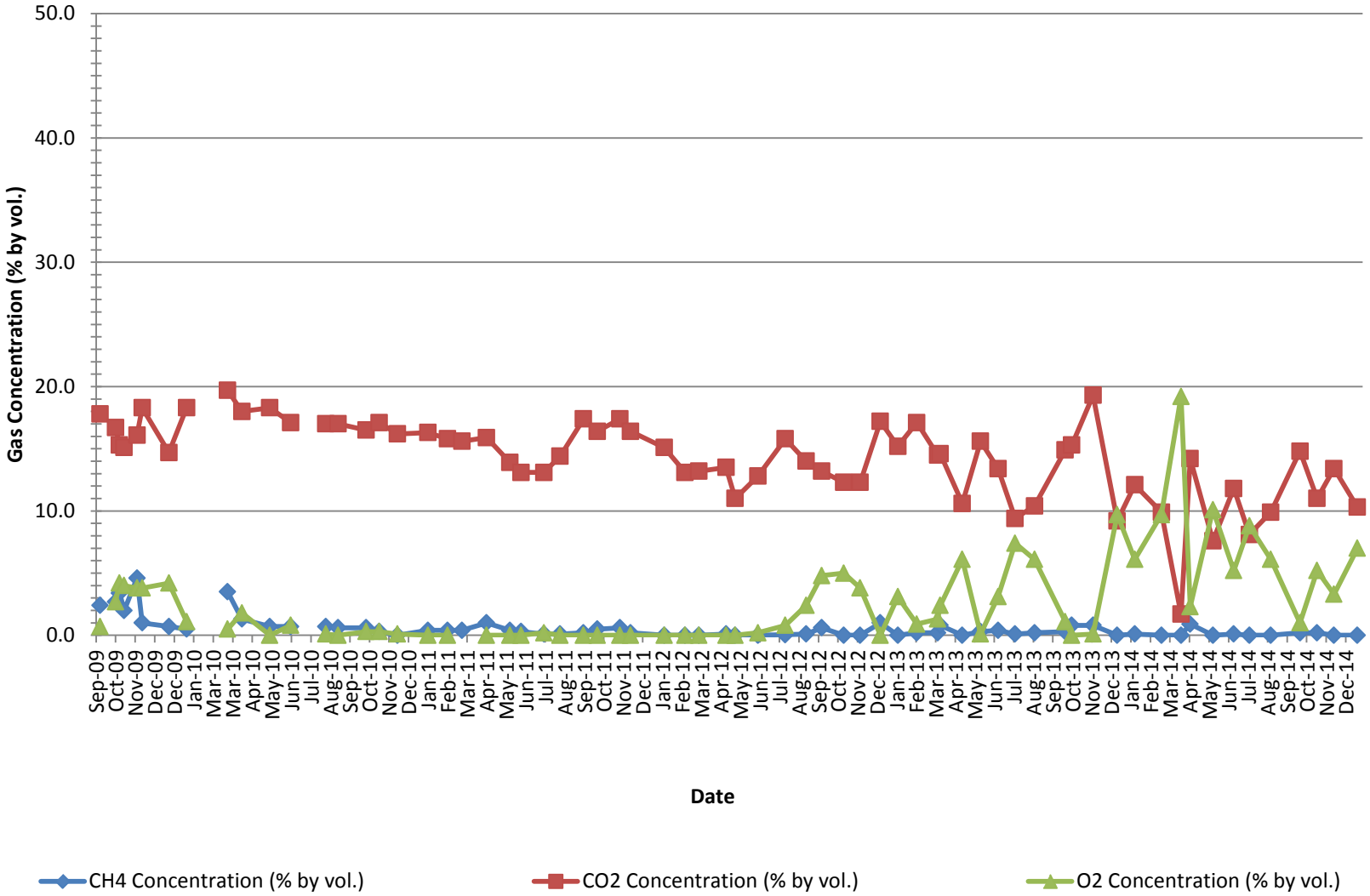


Figure 6. Monitoring Results LFG-3
Fourth Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

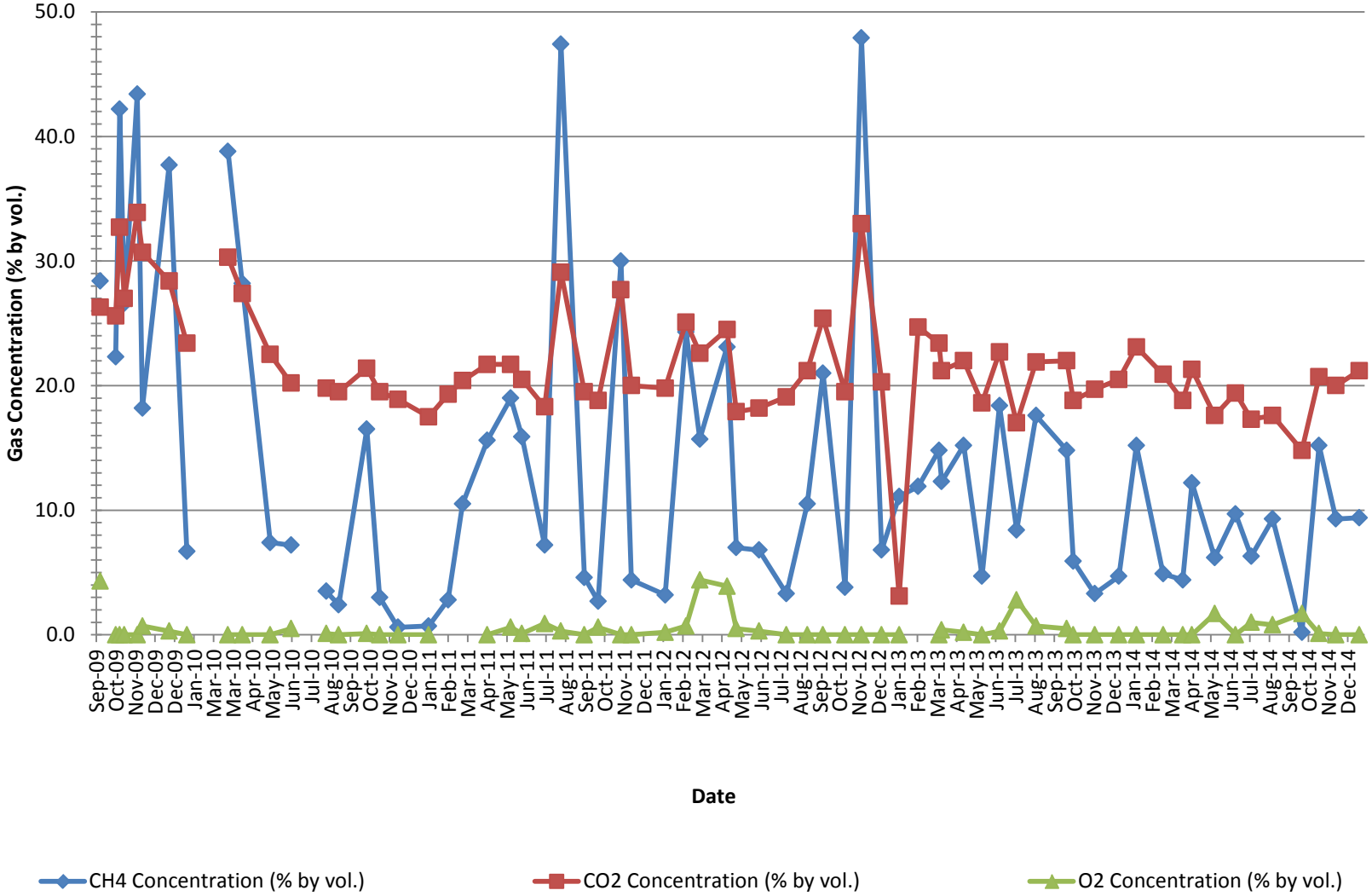


Table 1.
Carbon Monoxide (CO) Monitoring Results (ppmv)
Hidden Valley Landfill, Pierce County, Washington

	July 15, 2011	May 8, 2012	May 22 2012	March 20, 2013	April 16, 2014
LFG-1	5	300	1,000	40	10
LFG-2	12	12	2	<2	2
LFG-3	<2	2	2	<2	10
GP-13S	—	—	—	<2	<2
GP-13D	—	—	—	<2	<2
GP-14S	2	1	1	<2	<2
GP-14D	2	2	2	<2	<2
N-41	—	—	—	<2	—
N-42	20	18	18	5	8
N-43	35	10	10	5	5
N-45	—	18	18	5	10
N-54	10	12	12	<2	5
N-60	—	2	2	<2	8
N-61	—	—	—	<2	<2
N-62	—	5	5	<2	<2
N-63	—	2	2	<2	<2

Notes:
(−) = not analyzed
All readings in parts per million (ppm)

Table 2.
Down-hole Temperature Monitoring Results (°F)
Hidden Valley Landfill, Pierce County, Washington

	July 15, 2011	May 22 2012	March 20, 2013	April 16, 2014
LFG-1	81	78	106	54
LFG-2	83	57	73	53
LFG-3	83	57	95	53
N-42	—	68	65	53
N-43	76	67	59	52
N-45	—	42	—	54
N-54	—	69	70	52
N-60	90	67	57	55
N-61	—	77	58	54
N-62	69	61	60	54

Notes:
(−) = not analyzed
All readings in degrees Fahrenheit (° F)

Appendix B
Side Slope Liner System Monitoring Data

Hidden Valley Landfill

Month of Jan-14

Day	Leachate Level	Cell 2 Leak Level	Cell 2 Daily Avg. GPM	Cell 2 Leak GPD	Cell 1 Influent GPD	Cell 2 Influent GPD	304th Influent GPD	Treatment Discharge Avg GPM	Treatment Discharge GPD
31	22.80	2.52	0	0	0	0	0	79.24	16,482
1	23.02	4.34	0	0	0	0	99,991	79.37	11,032
2	23.02	0.13	0	0	0	0	6,048	79.49	23,212
3	23.07	10.03	0	0	0	0	5,794	79.48	22,175
4	23.28	0.48	0	0	0	0	5,907	79.33	22,608
5	23.41	1.56	0	0	0	0	5,404	79.24	20,682
6	23.59	31.36	0	0	162	0	5,681	79.14	21,606
7	23.54	5.08	1	1	786	4	5,338	79.03	20,152
8	18.63	8.60	40	56	0	4,558	5,641	79.41	21,440
9	18.81	26.11	0	0	-786	0	5,635	79.27	21,404
10	19.63	139.00	44	3767	786	3,766	5,503	78.72	20,624
11	18.68	1.95	0	0	0	0	4,107	79.50	15,661
12	19.24	2.30	0	0	0	0	5,662	79.26	21,638
13	19.50	1.39	0	0	1,717	0	6,587	79.41	25,171
14	19.89	0.39	0	0	0	0	3,820	79.32	14,675
15	20.07	0.22	0	0	-1,717	0	4,806	79.18	18,370
16	18.42	0.96	42	0	1,717	1,584	6,070	79.44	23,195
17	18.68	1.00	0	0	0	0	5,599	79.38	21,433
18	18.98	1.13	0	0	0	0	5,260	79.36	20,156
19	18.94	0.87	0	0	0	0	5,339	79.25	20,447
20	19.07	0.87	0	0	0	0	5,960	79.40	22,787
21	19.11	0.78	0	0	0	0	5,682	79.32	21,734
22	19.37	0.87	0	0	0	0	4,298	79.39	16,433
23	19.50	0.87	0	0	0	0	5,199	79.28	19,900
24	19.68	0.87	0	0	0	0	5,733	79.23	21,947
25	19.85	0.91	0	0	0	0	5,353	79.29	20,537
26	19.98	0.91	0	0	0	0	5,777	79.32	22,131
27	20.15	0.91	0	0	0	0	6,175	79.28	23,545
28	20.55	1.17	0	0	0	0	5,535	79.39	21,037
29	20.33	0.83	0	0	0	0	6,082	79.22	23,132
30	20.50	0.87	0	0	0	0	5,814	79.26	22,192
31	20.63	0.83	0	0	0	0	5,917	79.14	22,633
			Total Gallons:	**3,824**	**2,666**	**9,912**	**265,718**		**643,691**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Jan-14

	Discharge Pump 12		Cell 2 Influent Pump		Cell 2 Daily	Pump 12 Daily	Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge
Day	(hr)	(min)	(hr)	(min)	Hours	Hours	Total Gals.	Total Gals.	Total Gals.	Total Gals.	Total Gals.
31	46,115	49	2991	46	0.00	3.47	6552412	4,086,359	120418	96,900,000	101,800,252
1	46,118	8	2991	46	0.00	2.32	6552412	4,086,359	120418	96,999,991	101,811,284
2	46,122	60	2991	46	0.00	4.87	6552412	4,086,359	120418	97,006,039	101,834,496
3	46,127	39	2991	46	0.00	4.65	6552412	4,086,359	120418	97,011,833	101,856,671
4	46,132	24	2991	46	0.00	4.75	6552412	4,086,359	120418	97,017,740	101,879,279
5	46,136	45	2991	46	0.00	4.35	6552412	4,086,359	120418	97,023,144	101,899,961
6	46,141	18	2991	46	0.00	4.55	6552574	4,086,359	120418	97,028,825	101,921,566
7	46,145	33	2991	49	0.05	4.25	6553361	4,086,363	120419	97,034,162	101,941,719
8	46,150	3	2993	42	1.88	4.50	6553361	4,090,921	120475	97,039,803	101,963,159
9	46,154	33	2993	42	0.00	4.50	6552574	4,090,921	120475	97,045,438	101,984,563
10	46,158	55	2995	8	1.43	4.37	6553361	4,094,688	124242	97,050,942	102,005,187
11	46,162	12	2995	8	0.00	3.28	6553361	4,094,688	124242	97,055,048	102,020,848
12	46,166	45	2995	8	0.00	4.55	6553361	4,094,688	124242	97,060,710	102,042,486
13	46,172	2	2995	8	0.00	5.28	6555078	4,094,688	124242	97,067,297	102,067,658
14	46,175	7	2995	8	0.00	3.08	6555078	4,094,688	124242	97,071,118	102,082,332
15	46,178	59	2995	8	0.00	3.87	6553361	4,094,688	124242	97,075,924	102,100,703
16	46,183	51	2995	46	0.63	4.87	6555078	4,096,271	124242	97,081,994	102,123,898
17	46,188	21	2995	46	0.00	4.50	6555078	4,096,271	124242	97,087,593	102,145,331
18	46,192	35	2995	46	0.00	4.23	6555078	4,096,271	124242	97,092,853	102,165,487
19	46,196	53	2995	46	0.00	4.30	6555078	4,096,271	124242	97,098,192	102,185,934
20	46,201	40	2995	46	0.00	4.78	6555078	4,096,271	124242	97,104,151	102,208,721
21	46,206	14	2995	46	0.00	4.57	6555078	4,096,271	124242	97,109,833	102,230,455
22	46,209	41	2995	46	0.00	3.45	6555078	4,096,271	124242	97,114,132	102,246,888
23	46,213	52	2995	46	0.00	4.18	6555078	4,096,271	124242	97,119,331	102,266,788
24	46,218	29	2995	46	0.00	4.62	6555078	4,096,271	124242	97,125,064	102,288,735
25	46,222	48	2995	46	0.00	4.32	6555078	4,096,271	124242	97,130,417	102,309,272
26	46,227	27	2995	46	0.00	4.65	6555078	4,096,271	124242	97,136,194	102,331,403
27	46,232	24	2995	46	0.00	4.95	6555078	4,096,271	124242	97,142,369	102,354,948
28	46,236	49	2995	46	0.00	4.42	6555078	4,096,271	124242	97,147,904	102,375,985
29	46,241	41	2995	46	0.00	4.87	6555078	4,096,271	124242	97,153,986	102,399,118
30	46,246	21	2995	46	0.00	4.67	6555078	4,096,271	124242	97,159,800	102,421,310
31	46,251	7	2995	46	0.00	4.77	6555078	4,096,271	124242	97,165,718	102,443,943
					Total	**Gallons**	**2,666**	**9,912**	**3,824**	**265,718**	**643,691**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Feb-14

Day	Leachate Level	Cell 2 Leak Level	Cell 2 Daily Avg. GPM	Cell 2 Leak GPD	Cell 1 Influent GPD	Cell 2 Influent GPD	304th Influent GPD	Treatment Discharge Avg GPM	Treatment Discharge GPD
31	20.63	0.83	0	0	0	0	5,917	79.14	22,633
1	20.94	0.96	0	0	0	0	5,635	79.32	21,576
2	20.94	0.87	0	0	0	0	5,629	79.38	21,513
3	21.11	0.91	0	0	0	0	5,007	79.48	19,074
4	21.20	0.83	0	0	0	0	5,672	79.05	21,581
5	21.55	1.04	0	0	0	0	5,777	79.15	22,005
6	21.68	1.13	0	0	0	0	6,053	79.29	23,074
7	21.63	0.91	0	0	0	1	6,140	79.32	23,480
8	21.76	0.87	0	0	0	0	5,753	79.35	21,979
9	22.02	0.96	0	0	0	0	5,962	79.45	22,803
10	17.81	0.91	42	0	3,040	3,892	5,926	79.16	22,560
11	18.77	1.52	0	0	0	0	5,618	79.45	21,452
12	18.42	1.09	0	0	0	0	4,893	79.41	18,978
13	18.85	1.30	0	0	0	0	5,931	79.19	22,729
14	18.68	0.96	0	0	0	0	5,840	79.44	22,323
15	18.37	0.61	0	0	0	0	5,390	79.28	20,613
16	19.03	0.96	0	0	0	0	5,800	79.33	22,211
17	19.11	0.87	0	0	0	0	5,658	79.04	21,498
18	15.94	0.78	41	0	1,150	2,689	4,502	61.34	17,175
19	13.94	1.04	42	0	921	2,068	6,617	79.08	25,227
20	10.77	0.83	40	0	0	2,371	5,886	79.37	22,461
21	11.25	0.96	0	0	0	0	5,903	79.21	22,497
22	11.60	1.00	0	0	0	0	6,084	79.34	23,167
23	11.73	0.87	0	0	0	0	6,289	79.40	23,980
24	11.95	0.83	0	0	0	0	6,131	78.96	23,294
25	12.34	0.96	0	0	0	0	5,092	79.26	19,418
26	12.55	1.04	0	0	0	0	4,456	79.39	17,070
27	12.55	0.87	0	0	0	0	5,804	79.33	22,212
28	12.81	0.91	0	0	0	0	5,713	79.36	21,903
		Total Gallons:		**0**	**5,111**	**11,022**	**159,157**		**607,852**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill
Feb-14

	Hour Meters						Totalizers				
	Discharge Pump 12		Cell 2 Influent Pump		Cell 2 Daily	Pump 12 Daily	Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge
Day	(hr)	(min)	(hr)	(min)	Hours	Hours	Total Gals.	Total Gals.	Total Gals.	Total Gals.	Total Gals.
31	46,251	7	2995	46	0.00	4.77	6555078	4,096,271	124242	97,165,718	102,443,943
1	46,255	39	2995	46	0.00	4.53	6555078	4,096,271	124242	97,171,352	102,465,519
2	46,260	10	2995	46	0.00	4.52	6555078	4,096,271	124242	97,176,981	102,487,032
3	46,264	10	2995	46	0.00	4.00	6555078	4,096,271	124242	97,181,989	102,506,106
4	46,268	43	2995	46	0.00	4.55	6555078	4,096,271	124242	97,187,660	102,527,687
5	46,273	21	2995	46	0.00	4.63	6555078	4,096,271	124242	97,193,437	102,549,692
6	46,278	12	2995	46	0.00	4.85	6555078	4,096,271	124242	97,199,490	102,572,766
7	46,283	8	2995	46	0.00	4.93	6555078	4,096,273	124242	97,205,630	102,596,246
8	46,287	45	2995	46	0.00	4.62	6555078	4,096,273	124242	97,211,383	102,618,225
9	46,292	32	2995	46	0.00	4.78	6555078	4,096,273	124242	97,217,345	102,641,027
10	46,297	17	2997	19	1.55	4.75	6558118	4,100,165	124242	97,223,270	102,663,588
11	46,301	47	2997	19	0.00	4.50	6558118	4,100,165	124242	97,228,888	102,685,040
12	46,305	46	2997	19	0.00	3.98	6558118	4,100,165	124242	97,233,781	102,704,018
13	46,310	33	2997	19	0.00	4.78	6558118	4,100,165	124242	97,239,712	102,726,746
14	46,315	14	2997	19	0.00	4.68	6558118	4,100,165	124242	97,245,552	102,749,069
15	46,319	34	2997	19	0.00	4.33	6558118	4,100,165	124242	97,250,941	102,769,682
16	46,324	14	2997	19	0.00	4.67	6558118	4,100,165	124242	97,256,742	102,791,893
17	46,328	46	2997	19	0.00	4.53	6558118	4,100,165	124242	97,262,399	102,813,392
18	46,333	26	2998	24	1.08	4.67	6559268	4,102,854	124242	97,266,901	102,830,566
19	46,338	45	2999	13	0.82	5.32	6560189	4,104,922	124242	97,273,518	102,855,793
20	46,343	28	3000	12	0.98	4.72	6560189	4,107,293	124242	97,279,404	102,878,254
21	46,348	12	3000	12	0.00	4.73	6560189	4,107,293	124242	97,285,307	102,900,751
22	46,353	4	3000	12	0.00	4.87	6560189	4,107,293	124242	97,291,391	102,923,919
23	46,358	6	3000	12	0.00	5.03	6560189	4,107,293	124242	97,297,680	102,947,899
24	46,363	1	3000	12	0.00	4.92	6560189	4,107,293	124242	97,303,811	102,971,192
25	46,367	6	3000	12	0.00	4.08	6560189	4,107,293	124242	97,308,903	102,990,610
26	46,370	41	3000	12	0.00	3.58	6560189	4,107,293	124242	97,313,358	103,007,680
27	46,375	21	3000	12	0.00	4.67	6560189	4,107,293	124242	97,319,162	103,029,892
28	46,379	57	3000	12	0.00	4.60	6560189	4,107,293	124242	97,324,875	103,051,795
					Total	**Gallons**	**5,111**	**11,022**	**0**	**159,157**	**607,852**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Mar-14

Day	Leachate Level	Cell 2 Leak Level	Cell 2 Daily Avg. GPM	Cell 2 Leak GPD	Cell 1 Influent GPD	Cell 2 Influent GPD	304th Influent GPD	Treatment Discharge Avg GPM	Treatment Discharge GPD
28	12.81	0.91	0	0	0	0	5,713	79.36	21,903
1	13.90	1.09	0	0	0	0	5,683	6.90	21,750
2	13.77	0.91	0	0	1,109	0	6,152	79.56	23,549
3	13.55	0.61	0	0	4,855	0	6,039	-19.94	22,927
4	14.46	1.00	0	0	4,145	0	6,170	79.50	23,532
5	14.46	0.87	0	0	892	0	5,189	79.15	19,867
6	14.77	0.91	0	0	2,530	0	5,509	79.23	20,995
7	14.68	0.69	0	0	1,318	0	5,863	12.98	22,359
8	15.20	0.96	0	0	447	0	5,813	-79.39	92,089
9	15.38	0.91	0	714	647	0	6,042	-268.64	-78,712
10	15.59	0.91	0	0	0	0	6,399	63.42	19,532
11	15.64	0.83	0	0	0	0	5,785	77.87	59,180
12	16.12	0.87	0	0	0	0	5,552	79.43	21,288
13	16.16	0.91	0	0	0	0	5,078	105.01	19,532
14	16.20	0.83	0	0	4,478	0	5,785	79.34	22,136
15	16.59	0.96	0	0	1,209	0	5,897	65.54	22,610
16	16.38	0.69	0	0	0	0	5,922	79.53	22,744
17	16.90	0.91	0	0	0	0	5,640	101.35	21,486
18	17.11	0.96	0	0	0	0	5,802	65.54	22,285
19	17.29	0.69	0	0	1	0	5,441	102.65	20,736
20	17.55	0.91	0	0	0	0	4,693	62.62	17,909
21	17.72	0.91	0	0	0	0	6,139	79.36	23,571
22	17.85	0.91	0	0	0	0	5,671	79.40	21,836
23	17.94	1.00	0	0	0	0	5,881	79.30	22,680
24	18.07	1.04	0	0	0	0	5,438	64.67	20,822
25	18.37	1.04	0	0	0	0	5,616	-0.01	21,559
26	18.37	0.96	0	0	0	0	5,931	493.49	22,701
27	18.72	0.87	0	0	1,602	0	4,960	-18966.66	18,967
28	18.85	1.00	0	0	0	0	6,211	0.00	23,715
29	0.00	0.87	0	0	0	0	5,882	-1409.45	22,551
30	0.00	1.00	0	0	0	0	5,660	-835.39	21,720
31	0.00	1.00	0	0	1	0	6,390	0.18	24,466
			Total Gallons:	**714**	**23,235**	**0**	**178,233**		**682,382**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Mar-14

	Discharge Pump 12		Cell 2 Influent Pump		Cell 2 Daily	Pump 12 Daily	Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge
Day	(hr)	(min)	(hr)	(min)	Hours	Hours	Total Gals.	Total Gals.	Total Gals.	Total Gals.	Total Gals.
28	46,379	57	3000	12	0.00	4.60	6560189	4,107,293	124242	97,324,875	103,051,795
1	46,432	31	3000	12	0.00	52.57	6560189	4,107,293	124242	97,330,558	103,073,544
2	46,437	27	3000	27	0.25	4.93	6561298	4,107,293	124242	97,336,710	103,097,094
3	46,418	17	3000	27	0.00	-19.17	6566153	4,107,293	124242	97,342,749	103,120,021
4	46,423	13	3000	27	0.00	4.93	6570299	4,107,293	124242	97,348,920	103,143,553
5	46,427	24	3000	27	0.00	4.18	6571191	4,107,293	124242	97,354,109	103,163,420
6	46,431	49	3000	27	0.00	4.42	6573721	4,107,293	124242	97,359,617	103,184,415
7	46,460	31	3000	27	0.00	28.70	6575039	4,107,293	124242	97,365,480	103,206,774
8	46,441	11	3000	27	0.00	-19.33	6575486	4,107,293	124242	97,371,293	103,298,864
9	46,446	4	3000	27	0.00	4.88	6576133	4,107,293	124956	97,377,335	103,220,152
10	46,451	12	3000	27	0.00	5.13	6576133	4,107,293	124956	97,383,734	103,239,684
11	46,463	52	3000	27	0.00	12.67	6576133	4,107,293	124956	97,389,519	103,298,864
12	46,468	20	3000	27	0.00	4.47	6576133	4,107,293	124956	97,395,072	103,320,152
13	46,471	26	3000	27	0.00	3.10	6576133	4,107,293	124956	97,400,150	103,339,684
14	46,476	5	3000	27	0.00	4.65	6580611	4,107,293	124956	97,405,935	103,361,820
15	46,481	50	3000	27	0.00	5.75	6581820	4,107,293	124956	97,411,831	103,384,430
16	46,486	36	3000	27	0.00	4.77	6581820	4,107,293	124956	97,417,753	103,407,174
17	46,490	8	3000	27	0.00	3.53	6581820	4,107,293	124956	97,423,393	103,428,660
18	46,495	48	3000	27	0.00	5.67	6581820	4,107,293	124956	97,429,195	103,450,945
19	46,499	10	3000	27	0.00	3.37	6581821	4,107,293	124956	97,434,636	103,471,681
20	46,503	56	3000	27	0.00	4.77	6581821	4,107,293	124956	97,439,329	103,489,590
21	46,508	53	3000	27	0.00	4.95	6581821	4,107,293	124956	97,445,468	103,513,161
22	46,513	28	3000	27	0.00	4.58	6581821	4,107,293	124956	97,451,138	103,534,997
23	46,518	14	3000	27	0.00	4.77	6581821	4,107,293	124956	97,457,020	103,557,676
24	46,523	36	3000	27	0.00	5.37	6581821	4,107,293	124956	97,462,458	103,578,499
25	0	8	0	0	-3000.45	-46523.47	6581821	4,107,293	124956	97,468,074	103,600,057
26	0	54	0	0	0.00	0.77	6581821	4,107,293	124956	97,474,005	103,622,758
27	0	53	0	0	0.00	-0.02	6583423	4,107,293	124956	97,478,965	103,641,725
28	0	53	0	0	0.00	0.00	6583423	4,107,293	124956	97,485,176	103,665,439
29	0	37	0	0	0.00	-0.27	6583423	4,107,293	124956	97,491,058	103,687,991
30	0	11	0	0	0.00	-0.43	6583423	4,107,293	124956	97,496,718	103,709,711
31	2,220	19	401380	24	401380.40	2220.13	6583424	4,107,293	124956	97,503,108	103,734,177
					Total	**Gallons**	**23,235**	**0**	**714**	**178,233**	**682,382**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill
Month of Apr-14

Day	Leachate Level	Cell 2 Leak Level	Cell 2 Daily Avg. GPM	Cell 2 Leak GPD	Cell 1 Influent GPD	Cell 2 Influent GPD	304th Influent GPD	Treatment Discharge Avg GPM	Treatment Discharge GPD
31	0.00	1.00	0	0	1	0	6,390	0.18	24,466
1	18.90	0.91	0	0	0	0	5,372	0.01	20,570
2	19.11	0.96	0	0	0	0	4,363	78.98	16,664
3	19.24	0.96	0	0	0	0	5,657	79.33	21,657
4	15.55	0.96	41	0	2,828	3,248	6,063	79.27	22,987
5	15.90	0.83	0	0	0	0	5,645	79.33	21,499
6	16.20	0.96	0	0	0	0	6,218	79.23	23,769
7	16.12	0.91	0	0	1	0	5,611	79.33	21,340
8	16.38	0.91	0	0	0	0	4,937	79.20	18,851
9	16.46	0.96	0	0	0	0	21,544	79.52	18,210
10	16.77	1.04	0	0	0	0	5,550	79.58	22,522
11	16.81	1.04	0	0	0	0	6,352	79.34	20,548
12	16.85	0.91	0	0	578	0	-11,902	79.40	21,517
13	17.29	1.09	0	0	2,802	0	5,550	79.64	21,264
14	17.29	0.96	0	0	0	0	6,352	79.36	24,285
15	17.55	1.09	0	0	0	0	5,225	79.13	19,942
16	17.64	1.09	0	0	0	0	5,176	79.24	19,810
17	17.46	0.87	0	0	0	0	4,911	79.56	18,855
18	18.24	1.22	0	0	3,547	0	5,788	79.26	22,192
19	17.72	0.83	0	0	424	0	5,347	79.40	20,565
20	18.29	1.09	0	0	0	0	5,965	79.62	23,011
21	18.46	1.13	0	0	208	0	5,909	79.38	22,704
22	13.42	1.00	41	0	1,859	4,165	5,472	79.52	20,994
23	13.64	1.09	0	0	0	0	6,250	79.40	23,978
24	13.81	1.00	0	0	0	0	5,400	79.60	20,617
25	14.07	1.00	0	0	0	0	5,889	76.59	22,749
26	14.07	1.09	0	0	0	0	5,669	79.54	21,953
27	14.12	0.87	0	0	0	0	4,820	79.35	18,648
28	14.51	0.96	0	0	0	0	6,363	79.23	23,927
29	14.77	1.00	0	0	0	0	6,883	76.87	25,059
30	15.03	1.09	0	0	0	0	4,401	79.20	16,870
			Total Gallons:	**0**	**12,247**	**7,413**	**166,781**		**637,557**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Apr-14

	Discharge Pump 12		Cell 2 Influent Pump		Cell 2 Daily	Pump 12 Daily	Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge
Day	(hr)	(min)	(hr)	(min)	Hours	Hours	Total Gals.	Total Gals.	Total Gals.	Total Gals.	Total Gals.
31	2,220	19	401380	24	na	na	6583424	4,107,293	124956	97,503,108	103,734,177
1	46,527	38	3000	27	na	na	6583424	4,107,293	124956	97,508,481	103,754,746
2	46,531	9	3000	27	0.00	3.52	6583424	4,107,293	124956	97,512,844	103,771,411
3	46,535	42	3000	27	0.00	4.55	6583424	4,107,293	124956	97,518,501	103,793,068
4	46,540	32	3001	47	1.33	4.83	6586252	4,110,541	124956	97,524,564	103,816,055
5	46,545	3	3001	47	0.00	4.52	6586252	4,110,541	124956	97,530,209	103,837,555
6	46,550	3	3001	47	0.00	5.00	6586252	4,110,541	124956	97,536,427	103,861,324
7	46,554	32	3001	47	0.00	4.48	6586253	4,110,541	124956	97,542,038	103,882,664
8	46,558	30	3001	47	0.00	3.97	6586253	4,110,541	124956	97,546,975	103,901,515
9	46,562	19	3001	47	0.00	3.82	6586253	4,110,541	124956	97,568,519	103,919,725
10	46,567	2	3001	47	0.00	4.72	6586253	4,110,541	124956	97,574,069	103,942,247
11	46,571	21	3001	47	0.00	4.32	6586253	4,110,541	124956	97,580,421	103,962,795
12	46,575	52	3001	47	0.00	4.52	6586831	4,110,541	124956	97,568,519	103,984,312
13	46,580	19	3001	47	0.00	4.45	6589633	4,110,541	124956	97,574,069	104,005,576
14	46,585	25	3001	47	0.00	5.10	6589633	4,110,541	124956	97,580,421	104,029,861
15	46,589	37	3001	47	0.00	4.20	6589633	4,110,541	124956	97,585,646	104,049,803
16	46,593	47	3001	47	0.00	4.17	6589633	4,110,541	124956	97,590,822	104,069,612
17	46,597	44	3001	47	0.00	3.95	6589633	4,110,541	124956	97,595,734	104,088,467
18	46,602	24	3001	47	0.00	4.67	6593180	4,110,541	124956	97,601,522	104,110,659
19	46,606	43	3001	47	0.00	4.32	6593604	4,110,541	124956	97,606,869	104,131,224
20	46,611	32	3001	47	0.00	4.82	6593604	4,110,541	124956	97,612,834	104,154,235
21	46,616	18	3001	47	0.00	4.77	6593812	4,110,541	124956	97,618,743	104,176,938
22	46,620	42	3003	28	1.68	4.40	6595671	4,114,706	124956	97,624,216	104,197,932
23	46,625	44	3003	28	0.00	5.03	6595671	4,114,706	124956	97,630,465	104,221,910
24	46,630	3	3003	28	0.00	4.32	6595671	4,114,706	124956	97,635,865	104,242,527
25	46,634	60	3003	28	0.00	4.95	6595671	4,114,706	124956	97,641,754	104,265,275
26	46,639	36	3003	28	0.00	4.60	6595671	4,114,706	124956	97,647,424	104,287,229
27	46,643	31	3003	28	0.00	3.92	6595671	4,114,706	124956	97,652,243	104,305,877
28	46,648	33	3003	28	0.00	5.03	6595671	4,114,706	124956	97,658,607	104,329,804
29	46,653	59	3003	28	0.00	5.43	6595671	4,114,706	124956	97,665,489	104,354,863
30	46,657	32	3003	28	0.00	3.55	6595671	4,114,706	124956	97,669,890	104,371,733
					Total	**Gallons**	**12,247**	**7,413**	**0**	**166,781**	**637,557**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of May-14

Day	Leachate Level	Cell 2 Leak Level	Cell 2 Daily Avg. GPM	Cell 2 Leak GPD	Cell 1 Influent GPD	Cell 2 Influent GPD	304th Influent GPD	Treatment Discharge Avg GPM	Treatment Discharge GPD
30	15.03	1.09	0	0	0	0	4,401	79.20	16,870
1	15.07	1.04	0	0	1,036	0	6,237	#N/A	10,696
2	15.25	1.04	0	0	0	0	6,106	#N/A	280
3	15.46	1.09	0	0	0	0	6,153	#N/A	0
4	15.51	0.96	0	0	0	0	6,152	#N/A	0
5	15.77	1.00	0	0	0	0	6,143	0.00	0
6	15.81	1.00	0	0	0	0	5,661	0.00	0
7	16.07	1.04	0	0	0	0	4,897	0.00	0
8	15.99	1.00	0	0	0	0	6,524	0.00	0
9	16.33	1.00	0	0	0	0	6,334	0.00	0
10	16.51	1.00	0	0	0	0	5,489	0.00	0
11	16.59	1.00	0	0	0	0	5,687	0.00	0
12	16.72	1.00	0	0	5,200	5	6,383	0.00	0
13	16.94	1.00	0	0	0	0	5,520	0.00	0
14	17.20	1.09	0	0	0	0	5,478	0.00	0
15	17.16	1.00	0	0	0	0	5,883	0.00	0
16	17.42	1.00	0	0	3,080	0	6,133	0.00	0
17	17.68	1.09	0	0	0	0	5,912	0.00	0
18	17.72	1.04	0	0	1,310	0	6,475	0.00	0
19	17.77	1.00	0	0	0	0	5,781	0.00	0
20	17.90	1.00	0	0	0	0	5,471	0.00	0
21	18.11	1.00	0	0	0	0	5,112	0.00	0
22	18.33	1.04	0	0	0	0	6,316	0.00	0
23	18.29	0.96	0	0	0	0	6,277	78.73	1,732
24	18.50	1.00	0	0	0	0	5,570	0.00	0
25	18.68	1.04	0	0	0	0	5,444	0.00	0
26	18.81	1.00	0	0	0	0	5,810	0.00	0
27	18.98	1.04	0	0	0	0	5,643	#N/A	0
28	18.94	0.96	0	0	0	0	5,652	#N/A	0
29	19.24	1.00	0	0	0	0	6,451	#N/A	0
30	19.29	1.04	0	0	0	0	5,629	#N/A	0
31	19.20	1.00	0	0	0	0	6,420	#N/A	0
			Total Gallons:	**0**	**10,625**	**5**	**182,742**		**12,709**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

May-14

	Discharge Pump 12		Cell 2 Influent Pump		Cell 2 Daily	Pump 12 Daily	Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge
Day	(hr)	(min)	(hr)	(min)	Hours	Hours	Total Gals.	Total Gals.	Total Gals.	Total Gals.	Total Gals.
30	46,657	32	3003	28	0.00	3.55	6595671	4,114,706	124956	97,669,890	104,371,733
1	#N/A	47	3003	28	0.00	#N/A	6596707	4,114,706	124956	97,676,127	104,382,429
2	#N/A	51	3003	28	0.00	#N/A	6596707	4,114,706	124956	97,682,233	104,382,710
3	#N/A	51	3003	28	0.00	#N/A	6596707	4,114,706	124956	97,688,386	104,382,710
4	46,659	51	3003	28	0.00	#N/A	6596707	4,114,706	124956	97,694,537	104,382,710
5	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,700,680	104,382,710
6	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,706,342	104,382,710
7	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,711,238	104,382,710
8	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,717,762	104,382,710
9	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,724,096	104,382,710
10	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,729,585	104,382,710
11	46,659	51	3003	28	0.00	0.00	6596707	4,114,706	124956	97,735,272	104,382,710
12	46,659	51	3003	28	0.00	0.00	6601907	4,114,711	124956	97,741,655	104,382,710
13	46,659	51	3003	28	0.00	0.00	6601907	4,114,711	124956	97,747,175	104,382,710
14	46,659	51	3003	28	0.00	0.00	6601907	4,114,711	124956	97,752,652	104,382,710
15	46,659	51	3003	28	0.00	0.00	6601907	4,114,711	124956	97,758,535	104,382,710
16	46,659	51	3003	28	0.00	0.00	6604987	4,114,711	124956	97,764,668	104,382,710
17	46,659	51	3003	28	0.00	0.00	6604987	4,114,711	124956	97,770,580	104,382,710
18	46,659	51	3003	28	0.00	0.00	6606296	4,114,711	124956	97,777,056	104,382,710
19	46,659	51	3003	28	0.00	0.00	6606296	4,114,711	124956	97,782,837	104,382,710
20	46,659	51	3003	28	0.00	0.00	6606296	4,114,711	124956	97,788,307	104,382,710
21	46,659	51	3003	28	0.00	0.00	6606296	4,114,711	124956	97,793,420	104,382,710
22	46,659	51	3003	28	0.00	0.00	6606296	4,114,711	124956	97,799,736	104,382,710
23	46,660	13	3003	28	0.00	0.37	6606296	4,114,711	124956	97,806,013	104,384,442
24	46,660	17	3003	28	0.00	0.07	6606296	4,114,711	124956	97,811,583	104,384,442
25	46,660	17	3003	28	0.00	0.00	6606296	4,114,711	124956	97,817,027	104,384,442
26	46,660	17	3003	28	0.00	0.00	6606296	4,114,711	124956	97,822,837	104,384,442
27	46,660	#N/A	3003	28	0.00	#N/A	6606296	4,114,711	124956	97,828,480	104,384,442
28	46,660	#N/A	3003	28	0.00	#N/A	6606296	4,114,711	124956	97,834,132	104,384,442
29	46,660	#N/A	3003	28	0.00	#N/A	6606296	4,114,711	124956	97,840,583	104,384,442
30	46,660	#N/A	3003	28	0.00	#N/A	6606296	4,114,711	124956	97,846,212	104,384,442
31	46,660	#N/A	3003	28	0.00	#N/A	6606296	4,114,711	124956	97,852,632	104,384,442
					Total	**Gallons**	**10,625**	**5**	**0**	**176,322**	**12,709**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Summary of Leachate Monitoring - June 2014
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
6/1/2014	23.12	0.0	329,406		231,590	
6/2/2014	23.19	0.0	329,648	242		
6/3/2014	23.26	0.0	329,704	56		
6/4/2014	23.30	0.0	329,729	25		
6/5/2014	23.37	0.0	329,798	69	231,590	0
6/6/2014	23.41		329,952	154		
6/7/2014	23.44		330,436	484		
6/8/2014	23.47		330,699	263		
6/9/2014	23.58		330,922	223		
6/10/2014	23.61		330,954	32		
6/11/2014	23.63		330,979	25		
6/12/2014	23.68		331,154	175		
6/13/2014	23.83	0.0				
6/14/2014	23.90	0.4				
6/15/2014	32.96	0.0				
6/16/2014	24.03	0.0				
6/17/2014	24.05	0.0	331,158	4		
6/18/2014	24.12	0.0				
6/19/2014	24.30	0.0	331,219	61	234,809	3,219
6/20/2014	24.55	0.2	331,229	10	238,840	4,031
6/21/2014	22.00	0.0	331,232	3	245,865	7,025
6/22/2014	22.16	0.0	331,240	8	248,607	2,742
6/23/2014	21.30	0.0			252,883	4,276
6/24/2014	21.31	0.0	331,243	3	252,888	5
6/25/2014	21.32	0.0	331,245	2		
6/26/2014	21.53	0.0			255,955	3,067
6/27/2014	21.11	0.0				
6/28/2014	21.15	0.0	331,251	6		
6/29/2014	21.18	0.0				
6/30/2014	21.33	0.0	331,261	10	255,955	0
	Total	0.6	1,855	1,855	24,365	24,365

Measurements collected by HVL Staff.

Summary of Leachate Monitoring - July 2014
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
7/1/2014	21.44	0.0	331,270		255,955	
7/2/2014	21.48	0.0	331,300	30		
7/3/2014	21.55	0.0	331,303	3		
7/4/2014	21.62	0.0	331,410	107		
7/5/2014	21.68	0.0	331,430	20		
7/6/2014	21.74	0.0	331,893	463		
7/7/2014	21.81	0.0	331,922	29		
7/8/2014	21.87	0.0	332,145	223		
7/9/2014	21.91	0.0	333,364	1,219		
7/10/2014	21.95	0.0	333,496	132		
7/11/2014	22.10	0.0	333,847	351	257,540	1,585
7/12/2014	20.90	0.0	334,107	260	264,339	6,799
7/13/2014	20.97	0.0	334,434	327		
7/14/2014	21.04	0.0	334,536	102		
7/15/2014	21.08	0.0	334,747	211		
7/16/2014	21.19	0.0	334,849	102		
7/17/2014	21.26	0.0	334,929	80		
7/18/2014	21.33	0.0	334,962	33	264,350	11
7/19/2014	21.37	0.0	334,962	0		
7/20/2014	21.44	0.0	334,962	0		
7/21/2014	21.52	0.0	335,042	80		
7/22/2014	22.00	0.0	335,044	2		
7/23/2014	22.07	0.0	335,162	118		
7/24/2014	21.72	1.2	335,173	11		
7/25/2014	21.77	0.0				
7/26/2014	21.84	0.0				
7/27/2014	21.85	0.0	335,185	12		
7/28/2014	21.91	0.0	335,199	14		
7/29/2014	21.97	0.0	335,281	82		
7/30/2014	22.04	0.0	335,308	27		
7/31/2014	22.10	0.0	335,576	268	264,350	0
	Total	1.2	4,306	4,306	8,395	8,395

Measurements collected by HVL Staff.

Summary of Leachate Monitoring - August 2014
2014 Annual Montitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
8/1/2014	22.18	0.0	335,594		264,350	
8/2/2014	22.24	0.0	336,587	993		
8/3/2014	22.28	0.0				
8/4/2014	22.31	0.0	336,598	11	264,432	82
8/5/2014	22.00	0.0	336,599	1		
8/6/2014	22.08	0.0				
8/7/2014	22.12	0.0	336,600	1		
8/8/2014	22.22	0.0	336,602	2		
8/9/2014	22.27	0.0	340,215	3,613		
8/10/2014	22.32	0.0	341,931	1,716		
8/11/2014	22.38	0.0	343,169	1,238		
8/12/2014	22.44	0.0	351,106	7,937		
8/13/2014	22.49	0.2				
8/14/2014	22.57	1.5	351,780	674		
8/15/2014	22.65	0.0	352,138	358		
8/16/2014	22.69	0.0				
8/17/2014	22.76	0.0				
8/18/2014	22.82	0.0				
8/19/2014	22.88	0.0				
8/20/2014	22.92	0.0	352,240	102		
8/21/2014	23.00	0.0				
8/22/2014	23.02	0.0	352,279	39		
8/23/2014	23.09	0.0	352,319	40		
8/24/2014	23.12	0.0	352,453	134		
8/25/2014	23.18	0.0	353,018	565		
8/26/2014	23.24	0.0	353,046	28		
8/27/2014	23.29	0.0	353,277	231		
8/28/2014	23.35	0.0	354,033	756		
8/29/2014	23.40	0.0	355,593	1,560		
8/30/2014	23.47	0.0	356,056	463		
8/31/2014	23.51	0.5	356,156	100	264,432	0
	Total	2.2	20,562	20,562	82	82

Measurements collected by HVL Staff.

Summary of Leachate Monitoring - September 2014
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
9/1/2014	23.56	0.0	356,496		264,432	
9/2/2014	23.61	0.0	356,660	164		
9/3/2014	23.66	0.0	356,671	11		
9/4/2014	23.72	0.0	356,972	301		
9/5/2014	23.76	0.0	357,748	776		
9/6/2014	23.81	0.0	358,921	1,173		
9/7/2014	23.86	0.0	360,287	1,366		
9/8/2014	23.91	0.0	364,335	4,048		
9/9/2014	23.98	0.0	368,702	4,367		
9/10/2014	24.02	0.0	366,548	-2,154		
9/11/2014	23.90	0.0	368,702	2,154		
9/12/2014	23.96	0.0				
9/13/2014	23.99	0.0				
9/14/2014	24.04	0.0				
9/15/2014	24.10	0.0			264,432	0
9/16/2014	24.15	0.0			266,444	2,012
9/17/2014	23.65	0.0			271,265	4,821
9/18/2014	22.94	0.0			275,900	4,635
9/19/2014	21.24	0.0			280,336	4,436
9/20/2014	21.12	0.0			283,958	3,622
9/21/2014	21.24	0.0	370,906	2,204	286,375	2,417
9/22/2014	21.31	0.0				
9/23/2014	21.39	0.0				
9/24/2014	21.46	0.8				
9/25/2014	21.54	0.6				
9/26/2014	21.62	0.1				
9/27/2014	21.69	0.5				
9/28/2014	21.77	0.0				
9/29/2014	21.84	0.0				
9/30/2014	21.88	0.0	379,603	8,697	286,375	0
	Total	2.0	23,107	23,107	21,943	21,943

Measurements collected by HVL Staff.

Summary of Leachate Monitoring - October 2014
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
10/1/2014	21.94	0.0	370,906		286,375	
10/2/2014	21.99	0.0				
10/3/2014	22.04	0.0				
10/4/2014	22.09	0.0				
10/5/2014	22.13	0.0				
10/6/2014	22.18	0.0				
10/7/2014	22.28	0.0				
10/8/2014	22.28	0.0				
10/9/2014	22.38	0.0	370,907	1		
10/10/2014	22.47	0.0				
10/11/2014	22.51	0.0				
10/12/2014	22.55	0.7				
10/13/2014	22.61	0.0				
10/14/2014	22.67	0.5				
10/15/2014	22.73	0.5				
10/16/2014	22.81	0.6				
10/17/2014	22.89	0.0	370,913	6		
10/18/2014	22.96	0.1				
10/19/2014	22.99	0.1				
10/20/2014	23.03	0.0	370,917	4		
10/21/2014	23.10	0.0	370,918	1		
10/22/2014	23.16	0.0	370,920	2		
10/23/2014	23.24	1.5				
10/24/2014	23.33	0.7				
10/25/2014	23.39	0.5				
10/26/2014	23.41	0.2				
10/27/2014	23.49	0.0	370,926	6		
10/28/2014	23.68	0.0				
10/29/2014	23.74	0.3				
10/30/2014	23.85	0.5				
10/31/2014	23.38	1.0	371,492	566	290,689	4,314
	Total	7.1	586	586	4,314	4,314

Measurements collected by HVL Staff.

Summary of Leachate Monitoring - November 2014
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
11/1/2014	22.09	0.5	371,492		299,299	
11/2/2014	22.26	0.1			301,932	2,633
11/3/2014	21.86	0.2			303,158	1,226
11/4/2014	21.99	0.5				
11/5/2014	22.09	0.6				
11/6/2014	22.21	0.7				
11/7/2014	22.30	0.5	373,429	1,937		
11/8/2014	22.43	0.0				
11/9/2014	22.58	0.0				
11/10/2014	22.66	0.0	373,429	0	303,158	0
11/11/2014	22.78	0.0				
11/12/2014	21.77	0.0				
11/13/2014	21.89	0.0	373,431	2	310,781	7,623
11/14/2014	21.98	0.0				
11/15/2014	22.11	0.0				
11/16/2014	22.23	0.0				
11/17/2014	22.29	0.0				
11/18/2014	22.33	0.0				
11/19/2014	22.39	0.0				
11/20/2014	22.44	0.0				
11/21/2014	22.49					
11/22/2014	22.56					
11/23/2014	22.60					
11/24/2014	22.70					
11/25/2014	22.78					
11/26/2014	22.45		375,880	2,449	313,716	2,935
11/27/2014	22.58					
11/28/2014	22.70					
11/29/2014	22.83					
11/30/2014	22.94		375,880	0	313,716	0
Total		3.1	4,388	4,388	14,417	14,417

Measurements collected by HVL Staff.

Summary of Leachate Monitoring - December 2014
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Date	Cell 2, Side-Slope Leachate Level (Inches)	Precipitation (Inches)	Cell 2, Side Slope Totalizer Reading (Gallons)	Calculated Cell 2, Side Slope Volume (GPD)	Cell 1, Main Sump Totalizer Reading (Gallons)	Calculated Cell 1, Main Sump Volume (GPD)
12/1/2014	23.06	0.0	375,588		318,087	
12/2/2014	22.38	0.0			318,995	908
12/3/2014	22.52	0.0				
12/4/2014	22.59	0.0				
12/5/2014	22.65	0.1			319,046	51
12/6/2014	22.76	0.2	375,711	123	323,538	4,492
12/7/2014	22.17	0.1			323,558	20
12/8/2014	22.25	0.0				
12/9/2014	22.33	0.2				
12/10/2014	22.44	0.4				
12/11/2014	22.44	0.7				
12/12/2014	22.46	0.3				
12/13/2014	22.62	0.2				
12/14/2014	22.85	0.0				
12/15/2014	22.95	0.0				
12/16/2014	22.99	0.0			323,558	0
12/17/2014	23.09	0.1	375,712	1		
12/18/2014	23.19	0.1				
12/19/2014	23.23	0.5	376,372	660		
12/20/2014	23.31	0.1				
12/21/2014	23.29	1.1			327,896	4,338
12/22/2014	22.51	0.0			329,625	1,729
12/23/2014	22.68	0.0				
12/24/2014	22.83	0.6			329,628	3
12/25/2014	22.92	0.8				
12/26/2014	22.99	0.1				
12/27/2014	23.08	0.1				
12/28/2014	23.18	0.4				
12/29/2014		0.2				
12/30/2014		0.0				
12/31/2014		0.0	376,372	0	329,628	0
Total		6.3	784	784	11,541	11,541

Measurements collected by HVL Staff.

Appendix C
Groundwater Monitoring Data for 2014

Table 1
2014 Main Sump and Side Slope Liner Area Performance Data
First Quarter 2014 Monitoring Report
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	2,666	9,912	3,824	5.10
February	5,111	11,022	0	5.85
March	23,235	0	714	7.95

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

Table 2
Water Level Elevations - January 6, 2014
First Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Well Number	Well Casing Elevation	Depth to Water	Water Level Elevation
MW-10S	460.17	NM	NM
MW-10D	460.69	32.25	428.44
MW-11S	516.44	94.81	421.63
MW-11D	516.56	95.10	421.46
MW-11D(2)	515.53	95.61	419.92
MW-12S	489.94	DRY	DRY
MW-12D	489.97	69.01	420.96
MW-13S	448.81	26.20	422.61
MW-13D	448.94	26.60	422.34
MW-14S	477.95	52.05	425.90
MW-14D	477.98	53.90	424.08
MW-14R	476.84	115.64	361.20
MW-15S	498.76	77.50	421.26
MW-15D	498.52	82.26	416.26
MW-17S	552.44	131.00	421.44
MW-18S	538.40	132.31	406.09
MW-18D	539.00	132.71	406.29
MW-19S	485.71	57.30	428.41
MW-19D	485.82	62.95	422.87
MW-20R	469.43	101.25	368.18
MW-22U	545.92	141.50	404.42
MW-22L	546.07	144.22	401.85
MW-23S	448.34	22.06	426.28
MW-23D	448.25	26.20	422.05
MW-25S	527.80	128.04	399.76
MW-25D	527.52	125.25	402.27
MW-26R	481.81	67.01	414.80
MW-27S	531.81	107.60	424.21
MW-27D	531.92	107.80	424.12
MW-28S	466.87	DRY	DRY
FMW-01	542.59	145.62	396.97
FMW-02	536.40	137.70	398.70
BC-4S	526.68	127.43	399.25
BC-4D	526.94	NM	NM

Notes:
DRY = Well contained no water
NM = Not Measured due to blockage in well

Table 3
Field Parameters
First Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Sample ID	Sample Number	Date	Method	pH (SU)	Conductivity (µS/cm)	Temperature (°C)
MW-10S	HVL-010614-04	1/6/14	DP	6.65	160	12.79
MW-10D	HVL-010614-03	1/6/14	DP	6.68	100	12.39
MW-11S	HVL-010814-15	1/8/14	SP	5.97	221	14.14
MW-11D(2)	HVL-010814-16	1/8/14	SP	6.78	210	13.40
MW-12S	—	—	—	—	—	—
MW-12D	HVL-010714-12	1/7/14	DP	6.55	310	16.92
MW-13S	HVL-010614-05	1/6/14	SP	6.34	190	17.32
MW-13D	HVL-010614-06	1/6/14	DP	6.37	133	16.39
MW-14S	HVL-010614-02	1/6/14	DP	6.10	200	11.95
MW-14D	HVL-010614-01	1/6/14	DP	6.45	142	12.06
MW-14R	HVL-010714-11	1/7/14	DP	6.98	98	11.17
MW-15S	HVL-010714-10	1/7/14	SP	6.19	257	13.49
MW-15D	HVL-010714-09	1/7/14	SP	6.79	272	13.74
MW-17S	HVL-010914-17	1/9/14	SP	6.30	434	17.57
MW-18S	HVL-010914-20	1/9/14	SP	6.32	327	13.62
MW-18D	HVL-010914-19	1/9/14	SP	6.76	268	13.78
MW-20R	HVL-011014-22	1/10/14	SP	6.65	97	10.31
MW-23S	HVL-010714-08	1/7/14	DP	6.09	190	11.05
MW-25S	HVL-010914-21	1/9/14	SP	6.74	257	11.82
MW-26R	HVL-011014-25	1/10/14	SP	6.71	141	11.08
MW-28S	—	—	—	—	—	—
FMW-01	HVL-010814-13	1/8/14	SP	6.34	270	13.19
FMW-02	HVL-010814-14	1/8/14	SP	6.19	345	15.88
Water Supply Well, P. Bunyan	HVL-011014-26	1/10/14	Grab	7.50	221	13.65
Water Supply Well, Corliss	HVL-032714-27	3/27/14	Grab	6.27	205	8.79
Leak Detection, Side Slope	HVL-011014-24	1/10/14	Grab	8.07	264	34.54
Leachate, East Area	HVL-011014-23	1/10/14	Grab	7.64	195	13.54

Notes:
The groundwater cleanup level for specific conductance is 700 (µS).
µS/cm = microsiemens per centimeter
°C = degrees Celsius
Grab = collected from sampling point
SP = submersible bladder-pump (non-dedicated)
DP = dedicated bladder-pump
— = not analyzed or not applicable

Table 4
Inorganic Parameters
First Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	MRL	Cleanup Levels	MW-10S	MW-10D	MW-11S	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14R	MW-14D	MW-15S	MW-15D	MW-17S	MW-18S	MW-18D	MW-20R	MW-23S	MW-25S	MW-26R	MW-28S	FMW-01	FMW-02
			Background																						
Alkalinity (mg $CaCO_3$/L)	5.0	—	65	65	69	99	—	150	120	140	86	47	88	100	120	200	130	120	48	76	110	66	—	110	140
Bicarbonate Alkalinity (mg CaCO3/L)	5.0	—	65	65	69	99	—	150	120	140	86	47	88	100	120	200	130	120	48	76	110	66	—	110	140
Chloride (mg/L)	0.2-4.0	250[b]	9.4	8.6	15	6.2	—	10.0	10	10	16.0	1.7	10.0	14.0	8.8	13	12	8.4	1.8	8.2	9.9	3.9	—	11	14
Ammonia as Nitrogen (mg/L)	0.10	—	*	*	*	*	—	*	*	*	0.5	*	4.2	4.3	*	8.4	*	*	*	*	*	*	—	*	0.31
Nitrate as Nitrogen (mg/L)	0.50	10[a]	0.8	0.8	3.4	1.8	—	1.1	0.3	0.5	*	0.2	*	*	0.8	1.7	5.0	1.7	*	1.1	1.6	*	—	1.1	5.2
Sulfate (mg/L)	0.50-10	250[b]	12.0	13.0	12	7	—	5.7	20	18	9	4	11	11	9.2	4.4	5.2	5.4	3.0	14.0	6.9	7.9	—	15	5.9
Total Dissolved Solids (mg/L)	10	500[b]	120	120	150	140	—	200	210	220	150	95	150	160	180	240	220	180	91	140	170	110	—	180	240
Total Organic Carbon (mg/L)	1.0	—	*	*	1.1	*	—	*	2.3	2.0	2.0	*	1.7	1.7	*	2.1	1.1	*	*	1.3	*	*	—	1.1	1.6

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
mg/L = milligrams per liter
* indicates not reported at or above the MRL (Method Reporting Limit)
— indicates not analyzed or not applicable
a = Primary Drinking Water Standard
b = Secondary Drinking Water Standard

Table 5
Dissolved Metals
First Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameters	MRL	Cleanup Levels	MW-10S Background	MW-10D Background	MW-11S	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14R	MW-14D	MW-15S	MW-15D	MW-17S	MW-18S	MW-18D	MW-20R	MW-23S	MW-25S	MW-26R	MW-28S	FMW-01	FMW-02
Arsenic	0.005	—	0.005	0.005	*	*	—	*	*	*	*	0.008	*	*	*	*	*	*	*	*	*	*	—	*	*
Iron	0.20	0.30[a]	0.100	0.100	*	*	—	*	*	*	*	3.300	*	*	*	*	*	*	*	0.100	*	0.840	—	*	*
Manganese	0.010	0.05[a]	*	0.001	*	*	—	*	0.007	*	**0.17**	1.000	*	**0.88**	*	**1.00**	*	*	0.001	0.022	*	0.250	—	*	**0.081**

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
a = Secondary Maximum Contaminant Level
Analyses performed by TestAmerica, Arvada, Colorado
mg/L = milligrams per liter
* indicates not reported at or above the MRL (Method Reporting Limit)
— indicates not analyzed or not applicable

Table 6
Volatile Organic Compounds
First Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameters	Units	MRL	Cleanup Levels[a]	MW-10S	MW-10D	MW-11S	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14R	MW-14D	MW-15S	MW-15D	MW-17S	MW-18S	MW-18D	MW-20R	MW-23S	MW-25S	MW-26R	MW-28S	FMW-01	FMW-02
				Background																						
Tetrachloroethene	µg/L	0.5	5.0[a]	*	*	*	0.88	–	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	–	*	*
Toluene	µg/L	0.5	1000	*	*	*	*	–	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	–	*	*
Trichloroethene	µg/L	0.5	5.0	*	*	*	*	–	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	–	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds not listed were not present at concentrations exeeding the MRL
[a] = MTCA Method A table value, Federal and State Groundwater MCL
µg/L = micrograms per liter
* = not reported at or above the MRL (Method Reporting Limit)
– = not analyzed or not applicable

Table 7
Duplicate Sample Evaluation
First Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	Units	MRL	MW-17S	DUP (MW-17S)	RPD (%)
Volatile Organics					
No Detections			*	*	
Dissolved Metals					
No Detections			*	*	
Inorganic Parameters					
Alkalinity	mg CaCO3/L	5	140	140	0
Bicarbonate Alkalinity	mg CaCO3/L	5	140	140	0
Total Organic Carbon	mg/L	1.0	2.0	*	—
Chloride	mg/L	4.0	10	10	0
Nitrate as Nitrogen	mg/L	0.5	0.51	0.52	2
Total Dissolved Solids	mg/L	10	220	220	0
Sulfate	mg/L	0.5	18	18	0

Notes:
Analysis performed by TestAmerica, Arvada, 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
* = not reported at or above the MRL (Method Reporting Limit)
— = not applicable

Table 8
Water Supply Wells
First Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	MRL	Paul Bunyan	Corliss
Volatile Organic Compounds			
No Detections	Varies	*	*
Total Metals			
Arsenic (mg/L)	0.005	*	*
Iron (mg/L)	0.020	*	*
Manganese (mg/L)	0.001	0.0036	0.0025
Zinc (mg/L)	0.010	0.011	*
Inorganic Parameters			
Chloride (mg/L)	4.0	5.9	9.0
Ammonia as Nitrogen (mg/L)	0.1		*
Nitrate as Nitrogen (mg/L)	0.5	1.9	1.3
Nitrite as Nitrogen (mg/L)			
Sulfate (mg/L)	0.5	9.2	10
Chemical Oxygen Demand (mg/L)	5.0	*	13 B
Total Organic Carbon (mg/L)	1.0	*	*
Color	5.0	—	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Analytes not listed were not present at concentrations exceeding the MRL
B = Analyte detected in field blank
µg/L = micrograms per liter
mg/L = milligrams per liter
— = not applicable or not analyzed
* = not reported at or above the MRL (Method Reporting Limit)

Table 9
Leachate and Leak Detection Monitoring
January 2013 (First Quarter)
Hidden Valley Landfill, Pierce County, Washington

Parameters	MRL	Leak Detection-Side Slope	Leachate-East Area
Volatile Organics (µg/L)			
Acetone	10	11	36
Benzene	0.5	0.97	2.3
2-Butanone (MEK)	6-24	—	22
Carbon Disulfide	0.5	—	4.2
1,4-Dichlorobenzene	0.5	—	1.6
Ethylbenzene		—	5.3
m,p-Xylenes	0.5	—	9.6
Methylene Chloride	2-8	—	
o-Xylenes	0.5	—	3.9
4-Methyl-2-pentanone (MIBK)	5-20	—	5.2
Toluene	0.5	1.8	10
Total Metals (mg/L)			
Antimony	0.004	0.13	0.012
Arsenic	0.025	0.19	0.078
Barium	0.005	0.53	0.7
Calcium	0.200	10	84
Chromium	0.010	0.07	0.2
Cobalt	0.010	0.03	0.016
Copper	0.010	0.58	0.077
Iron	0.200	2.60	7.1
Lead	0.005	0.02	0.022
Magnesium	0.200	9.0	46
Manganese	0.005	0.18	2.1
Nickel	0.010	0.55	0.52
Potassium	30	370	320
Selenium	0.010	0.0051	*
Sodium	1.0	4800	3000
Vanadium	0.010	0.14	0.12
Zinc	0.050	0.51	0.31
Inorganic Parameters (mg/L)			
Alkalinity	10	7803	5480
Bicarbonate Alkalinity	10	7803	5480
Chloride	200	2500	5000
Ammonia as Nitrogen	10.0	530	430
Nitrate as Nitrogen	0.5-2.5	5.8	*
Sulfate	5.0	140	100
Chemical Oxygen Demand	100	2700 B	1800 B
Total Dissolved Solids	200	17000	12000
Total Organic Carbon	50	810	600
Biochemical Oxygen Demand	50	—	170
Field Parameters			
pH	—	8.07	7.64
Conductivity (µS/cm)	—	26400	19500
Temperature (°C)	—	34.54	7.26

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds not listed were not present at concentrations exceeding the MRL
µg/L = micrograms per liter
mg/L = milligrams per liter
µS = microsiemens
°C = degrees celcius
— = not applicable or not analyzed
* = not reported at or above the MRL (Method Reporting Limit)

Table 1. 2014 Main Sump and Side Slope Liner Area Performance Data
Second Quarter 2014 Monitoring Report
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	2,666	9,912	3,824	5.10
February	5,111	11,022	0	5.85
March	23,235	0	714	7.95
April	12,247	7,413	82	3.90
May	10,625	3,552*	0	5.00
June	24,365*	1,855*	0	0.60

Notes:

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

-- = No data available

Table 2. Water Level Elevations - April 7, 2014
Second Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation	Depth to Water (FT)	Water Level Elevation
MW-10S	460.17	NM	NA
MW-10D	460.69	22.30	438.39
MW-11S	516.44	86.84	429.60
MW-11D	512.06	85.65	426.41
MW-11D(2)	515.53	85.64	429.89
MW-12S	489.94	58.50	431.44
MW-12D	489.97	58.97	431.00
MW-13S	448.81	17.55	431.26
MW-13D	448.94	17.79	431.15
MW-14S	477.95	41.10	436.85
MW-14D	477.98	43.40	434.58
MW-14R	476.84	111.25	365.59
MW-15S	498.52	67.31	431.21
MW-15D	498.52	72.40	426.12
MW-17S	552.44	123.83	428.61
MW-18S	546.98	125.00	421.98
MW-18D	546.01	124.32	421.69
MW-19S	485.71	48.91	436.80
MW-19D	485.82	50.03	435.79
MW-22U	545.92	134.35	411.57
MW-22L	546.07	135.55	410.52
MW-23S	448.34	21.05	427.29
MW-23D	448.25	18.98	429.27
MW-25S	526.54	118.95	407.59
MW-25D	526.66	116.98	409.68
MW-26R	481.81	58.08	423.73
MW-27S	531.81	98.53	433.28
MW-27D	531.92	98.92	433.00
MW-28S	466.87	DRY	NA
FMW-01	542.59	136.30	406.29
FMW-02	536.40	129.60	406.80
BC-4S	526.68	118.76	407.92
BC-4R	526.94	152.35	374.59

Notes:
DRY = Well contained no water
NM = Not Measured due to blockage in well
NA = Not applicable

Table 3. Field Parameters
Second Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Sample Number	Date	Method	pH (SU)	Specific Conductivity (µS/cm)	Temperature (°C)
MW-10S	HVL-040714-04	4/7/14	DP	6.37	145	13.28
MW-10D	HVL-040714-05	4/7/14	DP	6.50	152	13.25
MW-11S	HVL-040814-10	4/8/14	SP	5.97	283	15.48
MW-11D(2)	HVL-040814-11	4/8/14	SP	6.85	204	15.38
MW-13S	HVL-040914-14	4/9/14	SP	6.17	286	16.53
MW-13D	HVL-040714-03	4/7/14	DP	6.44	340	15.85
MW-14S	HVL-040714-02	4/7/14	DP	5.86	114	11.74
MW-14D	HVL-040714-01	4/7/14	DP	5.92	139	11.95
MW-17S	HVL-040814-12	4/8/14	SP	6.06	523	19.97
FMW-01	HVL-040814-08	4/8/14	SP	6.29	229	14.30
FMW-02	HVL-040814-09	4/8/14	SP	6.19	467	15.97
Water Supply Well, P. Bunyan	HVL-040714-06	4/7/14	Grab	6.65	234	10.85
Water Supply Well, Corliss	HVL-040714-07	4/7/14	Grab	6.90	211	13.74

Notes:
The groundwater cleanup level for specific conductance is 700 (µS).
µS/cm = microsiemens per centimeter
°C = degrees Celsius
Grab = collected from sampling point
SP = submersible bladder-pump (non-dedicated)
DP = dedicated bladder-pump
— = not analyzed or not applicable

Table 4. Inorganic Parameters
Second Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Units	MRL	Cleanup Levels	Background		MW-11S	MW-11D(2)	MW-13S	MW-13D	MW-14S	MW-14D	MW-17S	FMW-01	FMW-02
				MW-10S	MW-10D									
Alkalinity, Bicarbonate	mg CaCO3/L	5	—	55	65	57	94	58	140	39	58	140	90	150
Alkalinity, Total	mg CaCO3/L	5	—	55	65	57	94	58	140	39	58	140	90	150
Ammonia	mg N/L	0.1-0.2	—	*	*	*	*	*	*	0.18	2.5	5.6	*	*
Chloride	mg/L	4	250[b]	8.8	7	17	6.8	20	17	7.1	8.7	27	11	21
Nitrate	mg N/L	0.2-1	10[a]	1.2	1.0	**11**	1.7	**18**	6	1.6	*	**23**	1.7	**15**
Sulfate	mg/L	0.2-4	250[b]	9.7	9.3	19	7	19	16	7.7	8.9	10	15	19
Total Dissolved Solids	mg/L	10	500[b]	99	110	210	150	230	240	83	100	350	170	330
Total Organic Carbon	mg/L	1	—	1	*	1.2	*	1.1	*	1.3	1.4	2	1	1.5

Notes:
Analyses performed by TestAmerica in Denver, Colorado
Parameter concentrations that are greater than cleanup levels are shown in **bold**
mg/L = milligrams per liter
* indicates not reported at or above the MRL (Method Reporting Limit)
— = not analyzed or not applicable
a = Primary Drinking Water Standard
b = Secondary Drinking Water Standard

Table 5. Dissolved Metals
Second Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Units	MRL	Cleanup Levels	Background		MW-11S	MW-11D(2)	MW-13S	MW-13D	MW-14S	MW-14D	MW-17S	FMW-01	FMW-02
				MW-10S	MW-10D									
Arsenic, Dissolved	mg/L	0.005	—	*	*	*	*	*	*	*	*	*	*	*
Iron, Dissolved	mg/L	0.1	0.3[a]	*	*	*	*	*	*	*	*	*	*	*
Manganese, Dissolved	mg/L	0.001	0.05[a]	*	*	0.001	*	0.002	*	**0.063**	**0.57**	**1.6**	*	**0.084**

Notes:

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

a = Secondary Maximum Contaminant Level

Analyses performed by TestAmerica in Denver, Colorado

Metals not listed were not present at concentrations exeeding the MRL

mg/L = milligrams per liter

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

— indicates not analyzed or not applicable

Table 6. Volatile Organic Compounds
Second Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Units	MRL	Cleanup Levels	Background		MW-11S	MW-11D(2)	MW-13S	MW-13D	MW-14S	MW-14D	MW-17S	FMW-01	FMW-02
				MW-10S	MW-10D									
Tetrachloroethene	µg/L	0.5	5[a]	*	*	*	0.77	*	*	*	*	*	*	*

Notes:

Analyses performed by TestAmerica in Denver, Colorado.

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

a = MTCA Method A table value, Federal and State Groundwater MCL

µg/L = micrograms per liter

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

— = not analyzed or not applicable

Table 7. Water Supply Wells
Second Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	Units	MRL	Corliss	Paul Bunyan
Volatile Organic Compounds				
No Detections	µg/L	Varies	*	*
Total Metals				
Arsenic, Total	mg/L	0.005	*	*
Iron, Total	mg/L	0.020	*	0.85
Manganese, Total	mg/L	0.001	0.002	0.021
Zinc, Total	mg/L	0.010	*	0.25
Inorganic Parameters				
Chloride	mg/L	4.0	6.2	4.9
Ammonia (as N)	mg/L	0.1	*	*
Nitrate (as N)	mg/L	0.5	1.2	1.5
Nitrite (as N)	mg/L	0.5	*	*
Sulfate	mg/L	0.5	8.9	8.9
Chemical Oxygen Demand	mg/L	5.0	13 B	*
Total Organic Carbon	mg/L	1.0	*	*
Color	PCU	5	10	15

Notes:

Analyses performed by TestAmerica in Denver, Colorado.

Analytes not listed were not present at concentrations exceeding the MRL.

Color reported in color units

µg/L = micrograms per liter

mg/L = milligrams per liter

PCU = platinum-cobalt units

— = not applicable or not analyzed

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

Table 1. 2014 Main Sump and Side Slope Liner Area Performance Data
Third Quarter 2014 Monitoring Report
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	2,666	9,912	3,824	5.10
February	5,111	11,022	0	5.85
March	23,235	0	714	7.95
April	12,247	7,413	82	3.90
May	10,625	3,552	0	5.00
June	24,365	1,855	0	0.60
July	8,395	4,306	0	1.20
August	82	20,562	0	2.20
September	21,943	14,410	539	2.00

Notes:

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

-- = No data available

Table 2. Water Level Elevations - July 7, 2014
Third Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation	Depth to Water (FT)	Water Level Elevation
Shallow Perched Aquifer			
MW-10S	460.17	NM	NA
MW-11S	516.44	91.30	425.14
MW-12S	489.94	Dry	NA
MW-13S	448.81	23.52	425.29
MW-14S	477.95	47.29	430.66
MW-15S	498.76	73.10	425.66
MW-17S	552.44	127.78	424.66
MW-18S	538.40	129.83	408.57
MW-19S	485.71	52.32	433.39
MW-23S	448.34	20.89	427.45
MW-25S	527.80	122.61	405.19
MW-27S	531.81	102.35	429.46
MW-28S	466.87	Dry	NA
FMMW-1	542.59	140.75	401.84
FMMW-2	536.40	133.50	402.90
BC-4S	526.68	121.88	404.80
Upper Regional Aquifer			
MW-10D	460.69	28.53	432.16
MW-11D	512.06	90.76	421.30
MW-11D(2)	515.53	90.75	424.78
MW-12D	489.97	65.18	424.79
MW-13D	448.94	23.60	425.34
MW-14D	477.98	49.25	428.73
MW-15D	498.52	78.00	420.52
MW-18D	539.00	128.77	410.23
MW-19D	485.82	52.03	433.79
MW-22U	545.92	139.01	406.91
MW-23D	449.96	25.15	424.81
MW-25D	527.52	119.16	408.36
MW-27D	531.92	103.00	428.92
Lower Regional Aquifer			
MW-14R	476.84	121.78	355.06
MW-20R	469.43	111.95	357.48
MW-22L	546.07	140.00	406.07
MW-26R	481.81	127.65	354.16
BC-4R	526.94	140.40	386.54

Notes:

DRY = Well contained no water

NM = Not Measured due to blockage in well

NA = Not applicable

Table 3. Field Parameters
Third Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Sample Number	Date	Method	pH	Specific Conductivity	Temperature
Units				**(SU)**	**(µS/cm)**	**(°C)**
Cleanup Levels					**700[b]**	
Shallow Perched Aquifer						
MW-10S	HVL-071014-18	7/10/14	DP	5.96	160	11.51
MW-11S	HVL-070814-03	7/8/14	SP	6.19	250	16.34
MW-12S	Dry	—	—	—	—	—
MW-13S	HVL-070814-05	7/8/14	SP	6.35	340	19.63
MW-14S	HVL-070914-13/-14	7/9/14	DP	5.42	140	14.26
MW-15S	HVL-070914-12	7/9/14	SP	5.54	230	16.44
MW-17S	HVL-070814-01	7/8/14	SP	6.06	350	20.76
MW-18S	HVL-070914-10	7/9/14	SP	6.32	310	17.22
MW-23S	HVL-071014-20	7/10/14	DB	6.26	210	14.53
MW-25S	HVL-070814-02	7/8/14	SP	5.72	150	13.45
MW-28S	Dry	—	—	—	—	—
FMMW-1	HVL-070914-07	7/9/14	SP	6.38	300	15.41
FMMW-2	HVL-070914-08	7/9/14	SP	6.17	300	17.80
Upper Regional Aquifer						
MW-10D	HVL-071014-19	7/10/14	DP	6.30	210	12.04
MW-11D(2)	HVL-070814-04	7/8/14	SP	6.91	210	18.16
MW-12D	HVL-071114-23	7/11/14	DP	6.70	270	18.01
MW-13D	HVL-070814-06	7/8/14	DP	6.67	340	18.27
MW-14D	HVL-071014-16	7/10/14	DP	5.81	180	13.11
MW-15D	HVL-070914-11	7/9/14	SP	6.91	270	15.27
MW-18D	HVL-070914-09	7/9/14	SP	6.84	260	17.13
Lower Regional Aquifer						
MW-14R	HVL-071114-21	7/11/14	SP	6.44	100	14.82
MW-20R	HVL-071114-22	7/11/14	DP	6.66	99	10.11
MW-26R	HVL-071014-17	7/10/14	DP	6.32	160	11.60

Notes:

The groundwater cleanup level for specific conductance is 700 (µS).
µS/cm = microsiemens per centimeter
°C = degrees Celsius
Grab = collected from sampling point
SP = submersible bladder-pump (non-dedicated)
DP = dedicated bladder-pump
— = not analyzed or not applicable

Table 4. Inorganic Parameters
Third Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Alkalinity, Bicarbonate	Alkalinity, Total	Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
Units	mg $CaCO_3$/L	mg $CaCO_3$/L	mg N/L	mg/L	mg N/L	mg/L	mg/L	mg/L	mg/L
MRL	5	5	0.1	0.2-4	0.2	0.2-4	10	1	4
Cleanup Levels	—	—	—	250[b]	10[a]	250[b]	500[b]	—	—
Shallow Perched Aquifer									
(BG) MW-10S	62	62	*	6.3	0.59	8.7	100	*	*
MW-11S	67	67	0.29	20	2.1	15	170	1.2	*
MW12S	—	—	—	—	—	—	—	—	—
MW-13S	130	130	*	22	*	16	230	1.6	*
MW-14S	43	43	0.2	8.8	0.56	12	98	1.1	*
MW-15S	67	67	2.9	20	*	9.9	140	1.8	*
MW-17S	120	120	2.5	23	1.5	8.2	220	1.8	*
MW-18S	120	120	*	20	0.84	6.2	210	1.4	*
MW-23S	69	69	*	12	1.6	15	140	1.3	19
MW-25S	57	57	*	6.5	1.2	6.2	110	*	*
MW-28S	—	—	—	—	—	—	—	—	—
FMMW-1	100	100	*	21	3.1	13	200	*	*
FMMW-2	110	110	0.11	20	0.84	12	210	1.3	*
Upper Regional Aquifer									
(BG) MW-10D	83	83	*	5.5	1.8	8.1	140	*	4.4
MW-11D(2)	85	85	*	6.5	1.7	6.9	140	*	28
MW-12D	120	120	*	9	1.4	6	180	*	*
MW-13D	140	140	*	21	0.33	14	240	1.1	*
MW-14D	63	63	3.4	7.8	*	11	120	1.3	*
MW-15D	140	140	0.1	11	0.52	9.5	180	1.2	15
MW-18D	110	110	*	9.6	1.6	5.5	170	*	*
Lower Regional Aquifer									
MW-14R	45	45	*	1.7	0.2	3.6	99	*	*
MW-20R	44	44	*	1.7	*	2.9	200	*	*
MW-26R	69	69	*	3.9	*	8.5	120	*	*

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**
mg/L = milligrams per liter
* indicates not reported at or above the MRL (Method Reporting Limit)
— = not analyzed or not applicable

a = Primary Drinking Water Standard
b = Secondary Drinking Water Standard
BG - Background/upgradient wells

Table 5. WAC 173-351 Appendix I Metals (Total and Dissolved Fractions)
Third Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter		Antimony-D	Antimony-T	Arsenic-D	Arsenic-T	Barium-D	Barium-T	Beryllium-D	Beryllium-T	Cadmium-D	Cadmium-T	Chromium-D	Chromium-T	Cobalt-D	Cobalt-T	Copper-D	Copper-T	Lead-D	Lead-T	Nickel-D	Nickel-T	Selenium-D	Selenium-T	Silver-D	Silver-T	Thallium-D	Thallium-T	Vanadium-D	Vanadium-T	Zinc-D	Zinc-T
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	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	0.002	0.005	0.005	0.005	0.001	0.005	0.001	0.005	0.005	0.005	0.002	0.01	0.01	0.01	0.002	0.002	0.001	0.02	0.002	0.005	0.005	0.01	0.01	0.005	0.001	0.01	0.01	0.01	0.01
Cleanup Levels		—	—	0.00005	0.00005	1	1	—	—	—	0.01	0.05	0.05	—	—	1	1	0.05	0.05	—	—	0.01	0.01	0.05	0.05	—	—	—	—	5	5
Shallow Perched Aquifer																															
(BG)	MW-10S	*	*	*	*	*	0.002	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-11S	*	*	*	*	0.011	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.046	0.047
	MW-12S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MW-13S	*	*	*	*	0.011	0.011	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.031	0.026
	MW-14S	*	*	*	*	*	0.004	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-15S	*	*	*	*	0.010	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.049	0.044
	MW-17S	*	*	*	*	0.019	0.018	*	*	*	*	*	*	*	*	*	0.0020	*	*	*	0.0020	*	*	*	*	*	*	*	*	0.043	0.044
	MW-18S	*	*	*	*	0.013	0.012	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.019	0.019
	MW-23S	*	*	*	*	0.010	0.018	*	*	*	*	*	*	*	*	*	0.0054	*	0.049	*	0.0028	*	*	*	*	*	*	*	*	0.051	0.100
	MW-25S	*	*	*	*	*	0.003	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.041	0.037
	MW-28S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	FMMW-1	*	*	*	*	0.009	0.008	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	FMMW-2	*	*	*	*	0.015	0.015	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.074	0.100
Upper Regional Aquifer																															
(BG)	MW-10D	*	*	*	*	*	0.005	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-11D(2)	*	*	*	*	*	0.008	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.014	0.015
	MW-12D	*	*	*	*	0.005	0.005	*	*	*	*	*	*	*	*	*	*	*	*	*	0.0029	*	*	*	*	*	*	*	*	*	*
	MW-13D	*	*	*	*	0.008	0.007	*	*	*	*	*	*	*	*	*	0.0024	*	*	*	0.0034	*	*	*	*	*	*	*	*	*	*
	MW-14D	*	*	*	*	0.009	0.009	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-15D	*	*	*	*	0.006	0.007	*	*	*	*	*	*	*	*	*	0.0036	*	*	*	0.0031	*	*	*	*	*	*	*	*	0.025	0.026
	MW-18D	*	*	*	*	*	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	0.0024	*	*	*	*	*	*	*	*	*	*
Lower Regional Aquifer																															
	MW-14R	*	*	*	*	*	0.004	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.047	0.043
	MW-20R	*	*	*	*	*	0.001	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	MW-26R	*	*	*	*	0.007	0.007	*	*	*	*	*	*	*	*	*	0.0029	*	*	*	*	*	*	*	*	*	*	*	*	*	0.019

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**
Metals not listed were not present at concentrations exeeding the MRL
mg/L = milligrams per liter
BG = Background
* indicates not reported at or above the MRL (Method Reporting Limit)
— indicates not analyzed or not applicable

Table 6. WAC 173-351 Appendix II Dissolved Metals
Third Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.2	0.1	0.1	0.001	2	1
Cleanup Levels	—	0.3[b]	—	0.05[b]	—	—
Shallow Perched Aquifer						
MW-10S	17	*	5.7	*	*	6.5
MW-11S	18	*	5.7	0.021	7.1	21
MW-13S	31	*	8.9	0.0067	7.1	34
MW-12S	—	—	—	—	—	—
MW-14S	13	*	4	**0.091**	3.3	6.9
MW-15S	14	*	4.5	**0.64**	9.3	18
MW-17S	22	*	7.3	**0.68**	15	32
MW-18S	27	*	8.4	*	9.3	30
MW-23S	23	*	6.8	0.013	2.3	15
MW-25S	16	*	6.3	*	2	11
MW-28S	—	—	—	—	—	—
FMMW-1	26	*	7.5	*	4.6	31
FMMW-2	25	*	7.9	**0.072**	11	29
Upper Regional Aquifer						
MW-10D	21	*	8.8	*	*	7.6
MW-11D(2)	21	*	9.3	*	2.6	10
MW-12D	25	*	10	*	3.2	20
MW-13D	36	*	14	*	4.7	23
MW-14D	12	**0.74**	3.8	**0.81**	6.7	13
MW-15D	22	*	9.3	**0.3**	3.2	26
MW-18D	26	*	11	*	3.7	14
Lower Regional Aquifer						
MW-14R	7.4	*	4.5	0.0014	2.1	5.4
MW-20R	7.5	*	4.1	*	2.1	5.9
MW-26R	16	**0.62**	7.6	**0.34**	2	5.9

Notes:

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

Analyses performed by TestAmerica in Denver, Colorado

b = Secondary Drinking Water Standard

mg/L = milligrams per liter

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

— indicates not analyzed or not applicable

Table 7. Volatile Organic Compounds
Third Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter		Acetone	Tetrachloroethene
Units		µg/L	µg/L
MRL		10	0.5
Cleanup Levels		—	5[a]
Shallow Perched Aquifer			
(BG)	MW-10S	*	*
	MW-11S	*	*
	MW-12S	—	—
	MW-13S	*	*
	MW-14S	*	*
	MW-15S	*	*
	MW-17S	*	*
	MW-18S	*	*
	MW-23S	*	*
	MW-25S	*	*
	MW-28S	—	—
	FMMW-1	*	*
	FMMW-2	*	*
Upper Regional Aquifer			
(BG)	MW-10D	*	*
	MW-11D(2)	*	0.65
	MW-12D	*	*
	MW-13D	*	*
	MW-14D	*	*
	MW-15D	*	*
	MW-18D	*	*
Lower Regional Aquifer			
	MW-14R	11	*
	MW-20R	*	*
	MW-26R	*	*

Notes:

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

a = MTCA Method A table value, Federal and State Groundwater MCL

BG = Background monitoring location

µg/L = micrograms per liter

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

— = not analyzed or not applicable

Table 8. Water Supply Wells
Third Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	Units	MCL	Corliss	Paul Bunyan
Field Parameters				
pH	SU	6.5-8.5	6.99	7.11
Specific Conductivity	µS/cm	700	210	270
Temperature	deg C	—	25.48	20.04
Volatile Organic Compounds				
No Detections	µg/L	Varies	*	*
Metals				
Arsenic, Total	mg/L	0.005	*	*
Manganese, Total	mg/L	0.001	*	0.002
Zinc, Total	mg/L	0.010	*	0.07
Inorganic Parameters				
Ammonia	mg/L	0.1	*	*
Chemical Oxygen Demand	mg/L	5.0	*	*
Chloride	mg/L	4.0	5.4	5.2
Nitrate	mg/L	0.2	1.2	2.0
Nitrite (as N)	mg/L	0.5	*	*
Sulfate	mg/L	0.2	9.2	9.90
Total Organic Carbon	mg/L	1.0	*	*
Color	PCU	15	*	*

Notes:

Analyses performed by TestAmerica in Denver, Colorado.
Analytes not listed were not present at concentrations exceeding the MRL.
Color reported in color units
µg/L = micrograms per liter
mg/L = milligrams per liter
PCU = platinum-cobalt units
* = not reported at or above the MRL (Method Reporting Limit)
SU = Standard Units
µS/cm = microsiemens per centimeter
°C = degrees Celsius

Table 1. 2014 Main Sump and Side Slope Liner Area Performance Data
Fourth Quarter 2014 Monitoring Report
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	2,666	9,912	3,824	5.10
February	5,111	11,022	0	5.85
March	23,235	0	714	7.95
April	12,247	7,413	82	3.90
May	10,625	3,552	0	5.00
June	24,365	1,855	0	0.60
July	8,395	4,306	0	1.20
August	82	20,562	0	2.20
September	21,943	14,410	539	2.00
October	104,314	586	0	7.10
November	14,417	4,388	0	3.10
December	11,541	784	0	6.30

Notes:

a = Leakage is fluid volume pumped from the leak detection sump as recorded by LRI staff.
-- = No data available

Table 2. Water Level Elevations - October, 29 2014
Fourth Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation	Depth to Water (FT)	Water Level Elevation
Shallow Perched Aquifer			
MW-10S	460.17	NM	NA
MW-11S	516.44	95.85	420.59
MW-12S	489.94	Dry	NA
MW-13S	448.81	27.87	420.94
MW-14S	477.95	52.66	425.29
MW-15S	498.76	78.43	420.33
MW-17S	552.44	132.70	419.74
MW-18S	538.40	133.60	404.80
MW-19S	485.71	59.20	426.51
MW-23S	448.34	NM	NM
MW-25S	527.80	128.70	399.10
MW-27S	531.81	110.02	421.79
MW-28S	466.87	Dry	NA
FMMW-1	542.59	147.22	395.37
FMMW-2	536.40	139.47	396.93
BC-4S	526.68	133.00	393.68
Upper Regional Aquifer			
MW-10D	460.69	33.98	426.71
MW-11D	512.06	96.41	415.65
MW-11D(2)	515.53	96.60	418.93
MW-12D	489.97	70.90	419.07
MW-13D	448.94	28.20	420.74
MW-14D	477.98	55.45	422.53
MW-15D	498.52	84.25	414.27
MW-18D	539.00	133.92	405.08
MW-19D	485.82	71.96	413.86
MW-22U	545.92	145.55	400.37
MW-23D	449.96	28.97	420.99
MW-25D	527.52	126.37	401.15
MW-27D	531.92	110.07	421.85
Lower Regional Aquifer			
MW-14R	476.84	122.81	354.03
MW-20R	469.43	110.11	359.32
MW-22L	546.07	146.60	399.47
MW-26R	481.81	NM	NM
BC-4R	526.94	NM	NM

Notes:

DRY = Well contained no water

NM = Not Measured due to blockage in well

NA = Not applicable

Table 3. Field Parameters
Fourth Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Sample Number	Date	Method	pH	Specific Conductivity	Temperature
Units				**(SU)**	**(µS/cm)**	**(°C)**
Cleanup Levels					**700[b]**	
Shallow Perched Aquifer						
MW-10S	HVL-102914-16	10/29/14	DP	6.72	166	13.76
MW-11S	HVL-102714-01	10/27/14	SP	6.01	236	14.18
MW-12S	Dry	—	—	—	—	—
MW-13S	HVL-102914-19	10/29/14	SP	6.47	209	18.12
MW-14S	HVL-102914-14	10/29/14	DP	6.22	185	13.94
MW-15S	HVL-102814-08	10/28/14	SP	6.07	271	14.91
MW-17S	HVL-102814-07	10/28/14	SP	6.25	377	19.36
MW-18S	HVL-102714-03	10/27/14	SP	7.16	295	16.15
MW-23S	Blocked	—	—	—	—	—
MW-25S	HVL-102814-12	10/28/14	SP	6.66	234	13.09
MW-28S	Dry	—	—	—	—	—
FMMW-1	HVL-102714-06	10/27/14	SP	7.36	293	15.12
FMMW-2	HVL-102814-13	10/28/14	SP	6.18	344	16.82
Upper Regional Aquifer						
MW-10D	HVL-102914-17	10/29/14	DP	6.75	160	13.32
MW-11D(2)	HVL-102714-02	10/27/14	SP	7.50	329	14.20
MW-12D	HVL-103014-22	10/30/14	DP	6.80	294	17.43
MW-13D	HVL-102914-18	10/29/14	DP	6.74	272	17.30
MW-14D	HVL-102914-15	10/29/14	DP	6.45	218	13.30
MW-15D	HVL-102814-09	10/28/14	SP	6.68	291	14.57
MW-18D	HVL-102714-04	10/27/14	SP	7.72	247	15.68
Lower Regional Aquifer						
MW-14R	HVL-102814-11	10/28/14	SP	7.18	92	13.80
MW-20R	HVL-103014-21	10/30/14	DP	7.39	91	10.99
MW-26R	HVL-103014-20	10/30/14	DP	7.20	156	11.44

Notes:

The groundwater cleanup level for specific conductance is 700 (µS).
µS/cm = microsiemens per centimeter
°C = degrees Celsius
Grab = collected from sampling point
SP = submersible bladder-pump (non-dedicated)
DP = dedicated bladder-pump
— = not analyzed or not applicable

Table 4. Inorganic Parameters
Fourth Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Alkalinity, Bicarbonate	Alkalinity, Total	Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
Units	mg $CaCO_3$/L	mg $CaCO_3$/L	mg N/L	mg/L	mg N/L	mg/L	mg/L	mg/L	mg/L
MRL	5	5	0.1	0.2-4	0.2	0.2	10	1	4
Cleanup Levels	—	—	—	250[b]	10[a]	250[b]	500[b]	—	—
Shallow Perched Aquifer									
(BG) MW-10S	76	76	*	6	0.81	7.2	110	*	*
MW-11S	65	65	*	21	4.5	11	170	*	*
MW12S	—	—	—	—	—	—	—	—	—
MW-13S	99	99	*	7.1	0.8	8.4	150	*	*
MW-14S	63	63	0.35	12	0.78	7.1	120	2	5.2
MW-15S	81	81	3.9	17	6.1	8.8	170	1.9	*
MW-17S	170	170	4.8	20	*	4.1	230	2.4	*
MW-18S	130	130	*	17	0.2	4.5	190	1.1	*
MW-23S	—	—	—	—	—	—	—	—	—
MW-25S	110	110	*	10	1.4	7.1	160	*	*
MW-28S	—	—	—	—	—	—	—	—	—
FMMW-1	100	100	*	23	2.5	17	200	*	*
FMMW-2	130	130	0.33	22	5.1	6.1	230	1.4	*
Upper Regional Aquifer									
(BG) MW-10D	74	74	*	6.3	0.7	7.8	120	*	*
MW-11D(2)	88	88	*	6.5	1.8	7.7	140	*	7.6
MW-12D	150	150	*	13	1.1	6	190	*	*
MW-13D	120	120	*	9.9	0.83	12	180	*	*
MW-14D	76	76	4.3	16	*	12	150	1.3	4.8
MW-15D	140	140	*	13	0.53	9.3	200	1.2	30
MW-18D	110	110		9.2	1.7	5.8	180	*	*
Lower Regional Aquifer									
MW-14R	47	47	*	2.1	*	3.6	97	*	*
MW-20R	46	46	*	2	*	3	94	*	*
MW-26R	75	75	*	4.6	*	9.3	140	*	*

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**
mg/L = milligrams per liter
* indicates not reported at or above the MRL (Method Reporting Limit)
— = not analyzed or not applicable

a = Primary Drinking Water Standard
b = Secondary Drinking Water Standard
BG - Background/upgradient wells

Table 5. WAC 173-351 Appendix I Metals (Total and Dissolved Fractions)
Fourth Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Antimony-D	Antimony-T	Arsenic-D	Arsenic-T	Barium-D	Barium-T	Beryllium-D	Beryllium-T	Cadmium-D	Cadmium-T	Chromium-D	Chromium-T	Cobalt-D	Cobalt-T	Copper-D	Copper-T	Lead-D	Lead-T	Nickel-D	Nickel-T	Selenium-D	Selenium-T	Silver-D	Silver-T	Thallium-D	Thallium-T	Vanadium-D	Vanadium-T	Zinc-D	Zinc-T
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	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	0.002	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.002	0.002	0.02	0.02	0.005	0.005	0.01	0.01	0.005	0.005	0.01	0.01	0.01	0.01
Cleanup Levels	—	—	0.00005	0.00005	1	1	—	—	—	0.01	0.05	0.05	—	—	1	1	0.05	0.05	—	—	0.01	0.01	0.05	0.05	—	—	—	—	*5*	*5*
Shallow Perched Aquifer																														
(BG) MW-10S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11S	*	*	*	*	0.009	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.130	0.120
MW-12S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-13S	*	*	*	*	0.006	0.007	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.024	*
MW-14S	*	*	*	*	0.006	0.007	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-15S	*	*	*	*	0.014	0.015	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.061	0.065
MW-17S	*	*	*	*	0.023	0.022	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.086	0.086
MW-18S	*	*	*	*	0.012	0.013	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-23S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-25S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-28S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FMMW-1	*	*	*	*	0.007	0.009	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-2	*	*	*	*	0.018	0.019	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.039	0.037
Upper Regional Aquifer																														
(BG) MW-10D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11D(2)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.050	0.052
MW-12D	*	*	*	*	0.007	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-13D	*	*	*	*	0.006	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-14D	*	*	*	0.0059	0.013	0.014	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-15D	*	*	*	*	0.006	0.010	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.017	0.018
MW-18D	*	*	*	*	0.006	0.006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lower Regional Aquifer																														
MW-14R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.023	0.028
MW-20R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-26R	*	*	*	*	0.007	0.007	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.011

Notes:

Parameter concentrations that are greater than cleanup levels are shown in **bold**
Metals not listed were not present at concentrations exeeding the MRL
mg/L = milligrams per liter
BG = Background
* indicates not reported at or above the MRL (Method Reporting Limit)
— indicates not analyzed or not applicable

Table 6. WAC 173-351 Appendix II Dissolved Metals
Fourth Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.2	0.1	0.1	0.001	2	1
Cleanup Levels	—	0.3[b]	—	0.05[b]	—	—
Shallow Perched Aquifer						
MW-10S	21	*	6.5	*	*	9.8
MW-11S	17	*	5.1	0.0079	6.6	20
MW-13S						
MW-12S	20	*	5.6	0.012	4.6	21
MW-14S	17	*	5.3	**0.24**	4.2	12
MW-15S	17	*	5.3	**0.87**	8.9	15
MW-17S	23	*	8	**1.1**	14	26
MW-18S	21	*	6.2	0.0013	8.4	25
MW-23S						
MW-25S	22	*	9.6	*	2.4	12
MW-28S						
FMMW-1	22	*	6.4	*	3.6	28
FMMW-2	25	*	8	**0.09**	11	28
Upper Regional Aquifer						
MW-10D	20	*	6.5	*	*	9.6
MW-11D(2)	18	*	7.8	*	2.2	7.9
MW-12D	31	*	12	*	3.4	21
MW-13D	29	*	11	*	3.6	15
MW-14D	17	**2.8**	4.9	**1.2**	7.7	13
MW-15D	23	*	10	**0.22**	2.7	20
MW-18D	23	*	9.1	*	3.3	12
Lower Regional Aquifer						
MW-14R	6.2	*	3.8	*	*	4.5
MW-20R	8.1	*	4.2	*	2.1	5.5
MW-26R	18	**0.68**	8	**0.37**	2.2	5.7

Notes:

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

Analyses performed by TestAmerica in Denver, Colorado

b = Secondary Drinking Water Standard

mg/L = milligrams per liter

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

— indicates not analyzed or not applicable

Table 7. Volatile Organic Compounds
Fourth Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter		No Detections
Units		µg/L
MRL		—
Cleanup Levels		—
Shallow Perched Aquifer		
(BG)	MW-10S	—
	MW-11S	—
	MW-12S	—
	MW-13S	—
	MW-14S	—
	MW-15S	—
	MW-17S	—
	MW-18S	—
	MW-23S	—
	MW-25S	—
	MW-28S	—
	FMMW-1	—
	FMMW-2	—
Upper Regional Aquifer		
(BG)	MW-10D	—
	MW-11D(2)	—
	MW-12D	—
	MW-13D	—
	MW-14D	—
	MW-15D	—
	MW-18D	—
Lower Regional Aquifer		
	MW-14R	—
	MW-20R	—
	MW-26R	—

Notes:

Volatile organic compounds not listed were not present at concentrations exeeding the MRL
a = MTCA Method A table value, Federal and State Groundwater MCL
BG = Background monitoring location
µg/L = micrograms per liter
* = not reported at or above the MRL (Method Reporting Limit)
— = not analyzed or not applicable

Table 8. Water Supply Wells
Fourth Quarter 2014 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	Units	MRL	Corliss	Paul Bunyan
Field Parameters				
pH	SU	6.5-8.5	6.83	7.13
Specific Conductivity	µS/cm	700	234	243
Temperature	deg C	—	13.35	13.38
Volatile Organic Compounds				
No Detections	µg/L	Varies	*	*
Metals				
Arsenic, Total	mg/L	0.005	*	*
Copper, Total	mg/L	0.002	*	0.013
Iron, Total	mg/L	0.10	*	0.10
Manganese, Total	mg/L	0.001	*	*
Zinc, Total	mg/L	0.010	0.180	0.092
Inorganic Parameters				
Ammonia	mg/L	0.1	*	*
Chemical Oxygen Demand	mg/L	5.0	*	*
Chloride	mg/L	4.0	11.0	7.6
Nitrate	mg/L	0.20	0.89	1.8
Nitrite (as N)	mg/L	0.5	*	*
Sulfate	mg/L	0.20	11	9.5
Total Organic Carbon	mg/L	1.0	*	*
Color	PCU	5	15	15

Notes:

Analyses performed by TestAmerica in Denver, Colorado.

Analytes not listed were not present at concentrations exceeding the MRL.

Color reported in color units

µg/L = micrograms per liter

mg/L = milligrams per liter

PCU = platinum-cobalt units

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

SU = Standard Units

µS/cm = microsiemens per centimeter

°C = degrees Celsius

Data Validation Report
First Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Project Site:	LRI Hidden Valley	**Event Name:**	1Q 2014 GW Monitoring Event			
Project No.:	04214002.02	**Sampling Event Date(s):**	1/6/2014-1/10/2014			
Project Manager	K. Lakey	**Sampler(s):**	M. O'Hare, A. McDonald			
		Data Reviewer:	E. Ramirez			
Lab: TestAmerica Denver						
Sample Delivery Groups	J50860-1	J50902-1	J50950-1	J51011-1	J51012-1	J51016-1
Analyses Requested:						
VOCs (8260B)	x	x	x	x	x	x
Dissolved Metals	x	x	x	--	x	x
Total Metals	--	--	--	x	--	
Anions (Cl/SO4)	x	x	x	x	x	x
Method 300.0 (NO3,NO2,SO4,Cl)	x	x	x	x	x	x
Method 350.1 (Ammonia)	x	x	x	x	x	x
MCAWW 410.4 (COD)	--	--	--	x	--	x
SM 2120B (Color)	--	--	--	--	--	x
SM 2320B (T. Alk., BiCar Alk)	x	x	x	x	x	--
SM 2540C (TDS)	x	x	x	x	x	--
SM 5210B (BOD)	--	--	--	x	--	--
SM 5310B (TOC)	x	x	x	x	x	--
SW846 6010B (Tot. Metals)	--	--	--	x	--	--
SW846 6020 (Diss. Metals)	x	x	x	x	x	x
SW846 8260B (VOCs)	x	x	x	x	x	x
SW846 9012A (Cyanide)	--	--	--	x	--	--
Sample Types	GW	GW	GW	Leachate	GW	WS
Sampling Date	1/6/2014	1/7/2014	1/8/2014	1/10/2014	1/10/2014	1/10/2014
Sample IDs (HVL-MMDDYY-XX)	01, 02, 03, 04, 05, 06, 07, TB	08, 09, 10, 11, 12	13, 14, 15, 16, 18, 20, TB	23, 24	22, 25	26
Sample Receiving						
Sample Login Documentation	Reviewed	Reviewed	Reviewed	Reviewed	Reviewed	Reviewed
COCs	Reviewed	Reviewed	Reviewed	Reviewed	Reviewed	Reviewed
Cooler Temps (< 6°C)	Less than 6°C	Less than 6°C	Less than 6°C	Less than 6°C	Less than 6°C	Less than 6°C
Hold Times	Were not met; See comments below.	Were not met; See comments below.	Were not met; See comments below.	Were met	Were not met; See comments below.	Were not met; See comments below.
Preservative	Matched	Matched	Matched	Matched	Matched	Matched
Field QC Samples						
Trip Blanks	All NDs	All NDs	All NDs	All NDs	All NDs	All NDs
Field Blanks	NA	NA	See notes below.	NA	NA	NA
Field Replicates						

Data Validation Report
First Quarter 2014 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Sample Delivery Groups	J50860-1	J50902-1	J50950-1	J51011-1	J51012-1	J51016-1
Laboratory QC Samples						
Method Blanks	OK	OK	OK	See Case Narrative	See Case Narrative	See Case Narrative
LCS/LCSD	OK	OK	OK	OK	OK	OK
Duplicates	OK	OK	OK	OK	OK	OK
MS/MSD	See Case Narrative	OK	See Case Narrative	See Case Narrative	See Case Narrative	See Case Narrative
Surragates	OK	OK	See Case Narrative	OK	OK	OK
Lab Flagged Data	H-Out of Hold Nitrate	H-Out of Hold Nitrate	H-Out of Hold Nitrate		H-Out of Hold Nitrate	H-Out of Hold Nitrate
Special DV-Flags	J (-01) 8260 dilution, B for TOC	B for TOC	B for TOC			
Analyses						
Organics	See notes below.	No comments	See notes below.	See notes below.	No comments	
Metals	No comments	No comments	No comments	No comments	No comments	
General Chemistry	No comments	No comments	No comments	No comments	No comments	
	Cl and SO4 analyses by TestAmerica St. Louis.	Cl and SO4 analyses by TestAmerica St. Louis.	Cl and SO4 analyses by TestAmerica St. Louis.	Cl and SO4 analyses by TestAmerica St. Louis.	Cl and SO4 analyses by TestAmerica St. Louis.	Cl and SO4 analyses by TestAmerica St. Louis.
General Comments:	Diss Fe analysis by TestAmerica Seattle.	Diss Fe analysis by TestAmerica Seattle.	Diss Fe analysis by TestAmerica Seattle.	Diss Fe analysis by TestAmerica Seattle.	Diss Fe analysis by TestAmerica Seattle.	Diss Fe analysis by TestAmerica Seattle.

Notes:
For lab group 50860-1 and due to analyst error, the sample HVL-010614-01 was diluted for Method 8260B when the sample did not require dilution.
Hold times for 5860-1 nitrate (Method 300.0) were performed outside of hold times.
Hold times for 50902-1 nitrate (Method 300.0) were performed outside of hold times.
Hold times for 50950-1 nitrate (Method 300.0) were performed outside of hold times and impacted the following samples: -13, -14, -20.
For lab group 50950-1, MS/MSD from -20 may inidcate a matrix interference for the following VOCs: 1,1-DCE, 1,2-DCP, chloroform, ethyl benzene, toluene.
For lab group 51011-1, samples -23 and -24 had pH greater than 2. Non-compliant w/ 8260B Methodology.
For lab group 51012-1, sample -25 was analayzed outside of hold time due to instrument failure.
For lab group 51016-1, sample -26 was analayzed outside of hold time due to instrument failure.
Field blank (-18) contained concentrations of acetone (12 µg/L) and total organic carbon (24 mg/L). Some TOC samples were B-flagged.

DATA VALIDATION REPORT – HIDDEN VALLEY LANDFILL 2Q 2014

Project Details

Project No.	04214002.03	**Site Name**	Hidden Valley Landfill
Data Validator	Elena Ramirez	**Data Level**	Level II
Date	June 3, 2014	**DV Tier**	Modified Tier 1
QA Document	Groundwater Compliance Monitoring Plan, Hidden Valley Landfill, February 2001 (Kleinfelder)		

Sample Login Summary

Sample Group	Sample Login Comments	Analytical Lab (Primary)
280-53933-1	No comments	TestAmerica Denver
280-53934-1	No comments	TestAmerica Denver
280-53981-1	No comments	TestAmerica Denver
280-54051-1	No comments	TestAmerica Denver

Analytical Summary

Sample Group	Analyses						
	Ions*	Metals**	VOCs	TOC	TDS	COD	Color
280-53933-1	x	x (+ Zn, Fe)	x	x		x	x
280-53934-1	x	x	x	x	x		
280-53981-1	x	x	x	x	x		
280-54051-1	x	x	x	x	x		

*Ions include alkalinity, ammonia, nitrate/nitrite, sulfate, and chloride. **Metals (dissolved) include As and Mn.

Laboratory Quality Assurance Samples

Lab QA Samples	Results	Comments
Duplicates	Within Limits	No comments
LCS/LCSD	Within Limits	No comments
Method Blank	No detections	No comments
MS/MSD	See lab report	280-53933-1 (Zn). 280-53981 (ammonia)
Surrogates	Within Limits	No comments

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
Trip Blank	280-53934-1	VOCs	Acetone detected (11 µg/L)
Field Blank	280-54051-1	Ions, Metals, VOCs, TOC, TDS	TDS detected (15 mg/L)
Replicate	280-54051-1	See table below	RPDs within limits

Detailed Field Replicate Evaluation

Duplicate Evaluation				
Analyte	**Units**	**HVL-040914-12**	**HVL-040914-13**	**RPD (%)**
Alkalinity, Total	mg/L	130	140	7.4
Alkalinity, Bicarbonate	mg/L	130	140	7.4
Chloride	mg/L	5.3	5.6	5.5
Manganese	mg/L	27	26	3.8

Analyte	Units	HVL-040914-12	HVL-040914-13	RPD (%)
Nitrate (as N)	mg/L	1.6	1.6	0
Sulfate	mg/L	10	10	0
Total Dissolved Solids	mg/L	350	350	0
Total Organic Carbon	mg/L	2	1.9	5.1

Lab Qualifier Definitions

Lab Qualifiers	Description	Lab Group
F1	MS and/or MSD Recovery exceeds the control limits	280-53981-1
4	MS, MSD: original sample greater than matrix spike concentration	280-53933-1
H	Sample analyzed outside hold-time	280-54051-1

Qualified Data and Usability

Lab qualifiers are noted. All data, as qualified, are acceptable for use.

THIRD QUARTER 2014 DATA VALIDATION REPORT
HIDDEN VALLEY LANDFILL

Project Details

Project No.	04214002.03	**Site Name**	Hidden Valley Landfill
Data Validator	Matt O'Hare	**Data Level**	Level 2
Date	8/15/2014	**DV Tier**	Tier 1
QA Document	Hidden Valley Landfill Groundwater Monitoring Plan, August 8, 2014		

Sample Login Summary

Sample Group	Sample Login Comments	Analytical Lab (Primary)
280-57580-1	Two coolers slightly higher than recommended temperature. One VOA broken in transit. Nitrate out of hold due to shipping delay.	TestAmerica, Denver CO
280-57675-1	No comments.	TestAmerica, Denver CO
280-57676-1	No comments.	TestAmerica, Denver CO
280-57696-1	A Trip Blank was listed on the chain-of-custody but was not received. Sampling times on the bottles/chain-of-custody for two samples were recorded incorrectly. Nitrate out of hold due to shipping delay.	TestAmerica, Denver CO

Analytical Summary

Sample Group	Analyses						
	TDS/Alk/NO_3	Metals (Dissolved and Total)	NH_3/TOC	VOCs	Anions	TSS	Iron (Dissolved)
280-57580-1	x	x	x	x	x	x	x
280-57675-1	x	x	x	x	x		x
280-57676-1	x	x	x	x	x	x	x
280-57696-1	x	x	x	x	x	x	x

Laboratory Quality Assurance Samples

Lab QA Samples	Results	Comments
Method Blank	No comments.	No issues were noted.
LCS/LCSD	No comments.	No issues were noted.
Duplicates	No comments.	No issues were noted.
MS/MSD	Possible interferences.	See case narratives for additional info (NH_3 280-57675, 280-57676, 280-57696)

Detailed Field Replicate Evaluation

Duplicate Evaluation				
Analyte	**Units**	**HVL-070914-13**	**HVL-070914-13**	**RPD (%)**
Alkalinity	mg/L	43	43	0
Total Dissolved Solids	mg/L	98	94	3
Calcium, Dissolved	mg/L	13	13	0
Magnesium, Dissolved	mg/L	4	4	0

Duplicate Evaluation				
Analyte	**Units**	**HVL-070914-13**	**HVL-070914-13**	**RPD (%)**
Sodium, Dissolved	mg/L	7	6.9	1
Manganese, Dissolved	mg/L	0.097	0.091	4

*RPD is elevated; sample results is at or only slightly above the analyte MRL.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
QC-FB	280-57580	Nitrate as N (0.34 mg/L), Calcium (0.22 mg/L)	Nitrate concentrations under 3.4 mg/L "J" flagged
QC-TB	280-57676	Nothing detected.	No comments.
Replicate	280-57580	See above	See above

Lab Qualifier Definitions

Lab Qualifiers	Description	Lab Group
H	Samples analyzed outside of Hold Time	208-57580; 280-57696
F1	MS and/or MSD Recovery exceeds the control limits	208-57675
F3	Duplicate RPD exceeds the control limit	280-57696
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	208-57675

Qualified Data and Usability

Due to a lab equipment issue, the temperature for samples (in lab group 280-57580) for organic analysis reached temperatures greater than 6 °C for approximately five hours and 15 minutes with a maximum temperature of 16.7 °C prior to sample analysis. Other than the temperature change, the containers were not disturbed. It is uncertain how this event impacted preserved, sealed samples. These results were not qualified, but this issued is noted.

Lab qualifiers are as specified. All data, as qualified, are acceptable for use.

FOURTH QUARTER 2014 DATA VALIDATION REPORT
HIDDEN VALLEY LANDFILL

Project Details

Project No.	04215002.03	**Site Name**	Hidden Valley Landfill
Data Validator	Matt O'Hare	**Data Level**	Level 2
Date	2/3/2015	**DV Tier**	Tier 1
QA Document	Hidden Valley Landfill Groundwater Monitoring Plan, August 8, 2014		

Sample Login Summary

Sample Group	Sample Login Comments	Analytical Lab (Primary)
280-61815-1	Due to a shipping delay, Nitrate performed outside of hold time for 3 samples. See case narrative. Several samples diluted to be in calibration range.	TestAmerica, Denver CO
280-61856-1	No comments.	TestAmerica, Denver CO
280-61907-1	No comments.	TestAmerica, Denver CO
280-61969-1	No comments.	TestAmerica, Denver CO
280-62000-1	Holding times not met for several samples. See case narrative.	TestAmerica, Denver CO

Analytical Summary

Sample Group	Analyses						
	TDS/Alk/NO_3	Metals (Dissolved and Total)	NH_3/TOC	VOCs	Anions	TSS	Iron (Dissolved)
280-61815-1	x	x	x	x	x	x	x
280-61856-1	x	x	x	x	x	x	x
280-61907-1	x	x	x	x	x	x	x
280-61969-1	x	x	x	x	x		x
280-62000-1	x	x	x	x	x	x	x
	x	x	x	x	x	x	x

Laboratory Quality Assurance Samples

Lab QA Samples	Results	Comments
Method Blank	No comments.	No issues were noted.
LCS/LCSD	Possible interferences	See case narrative for additional info (Ag 280-61815-1, 280-61907-1, 280-61969-1, 280-62000-1)
Duplicates	No comments.	No issues were noted.
MS/MSD	Possible interferences.	See case narratives for additional info (NH_3 280-61815-1, 280-61969-1, 280-62000-1, Mn 280-61856-1, 280-61907-1, Cu 280-61907-1, TOC 280-61969-1, 280-62000-1)

Detailed Field Replicate Evaluation

Duplicate Evaluation				
Analyte	**Units**	**HVL-102814-09**	**HVL-102814-10**	**RPD (%)**
Alkalinity	mg/L	140	140	0
Sulfate	Mg/L	9.3	9.3	0

Duplicate Evaluation				
Analyte	**Units**	**HVL-102814-09**	**HVL-102814-10**	**RPD (%)**
Total Dissolved Solids	mg/L	200	190	3
Total Suspended Solids	mg/L	29	30	2
Calcium, Dissolved	mg/L	23	23	0
Magnesium, Dissolved	mg/L	10	9.7	2
Sodium, Dissolved	mg/L	21	20	2
Manganese, Dissolved	mg/L	0.22	0.22	0

*RPD is elevated; sample results is at or only slightly above the analyte MRL.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
QC-FB	280-57580	Nothing detected.	No comments.
QC-TB	280-57676	Nothing detected.	No comments.
Replicate	280-57580	See above	See above

Lab Qualifier Definitions

Lab Qualifiers	Description	Lab Group
H	Samples analyzed outside of Hold Time	208-61815; 280-62000
F1	MS and/or MSD Recovery exceeds the control limits	208-61856; 280-61815; 280-61907; 280-61969; 280-62000
X	Surrogate is outside control limits.	280-61856; 280-61815; 280-61907; 280-62000
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	208-61856; 280-61907; 280-62000
E	Result exceeded calibration range.	280-61856; 280-61907; 280-62000
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	280-61856; 280-61815; 280-61907; 280-61969; 280-62000
^	Instrument related QC exceeds the control limits.	280-61815; 280-61907
*	LCS or LCSD exceeds the control limits	280-61815; 280-61907; 280-61969; 280-62000
F2	MS/MSD RPD exceeds control limits.	280-62000

Qualified Data and Usability

Lab qualifiers are as specified. All data, as qualified, are acceptable for use.

Groundwater Chemistry - Field Parameters
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Sample ID	Sample Date	DO (mg/L)	ORP (mV)	pH (SU)	Specific Conductance (uS/cm)	Temperature (deg C)	Turbidity (NTU)
FMMW-1							
HVL-010814-13	1/8/2014	4.11		6.34	270	13.19	
HVL-040814-08	4/8/2014	4.87		6.29		14.3	0.46
HVL-070914-07	7/9/2014	3.61	75.7	6.38	300	15.41	0.57
HVL-102714-06	10/27/2014	5.51	334	7.36	293	15.12	1
FMMW-2							
HVL-102814-13	10/28/2014	0.58	299	6.18	344	16.82	1
HVL-010814-14	1/8/2014	0.44		6.19	345	15.88	
HVL-070914-08	7/9/2014	0.35	26.9	6.17	300	17.8	4.49
HVL-040814-09	4/8/2014	0.7		6.19		15.97	1.43
Leachate, East Area							
HVL-011014-23	1/10/2014			7.64	195	13.54	
Leak Detection, Side Slope							
HVL-011014-24	1/10/2014			8.07	264	34.54	
MW-10D							
HVL-102914-17	10/29/2014	4.38	284	6.75	160	13.32	4
HVL-040714-05	4/7/2014	4.01		6.5		13.25	3.37
HVL-010614-03	1/6/2014	3.84		6.68	100	12.39	
HVL-071014-19	7/10/2014	4.56	31.8	6.3	210	12.04	1.31
MW-10S							
HVL-102914-16	10/29/2014	3.36	264	6.72	166	13.76	1
HVL-010614-04	1/6/2014	3.45		6.65	160	12.79	

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Sample ID	Sample Date	DO (mg/L)	ORP (mV)	pH (SU)	Specific Conductance (uS/cm)	Temperature (deg C)	Turbidity (NTU)
HVL-071014-18	7/10/2014	3.8	81.7	5.96	160	11.51	1.3
HVL-040714-04	4/7/2014	5.27		6.37		13.28	3.36
MW-11D(2)							
HVL-102714-02	10/27/2014	3.47	407	7.50	329	14.20	9
HVL-010814-16	1/8/2014	4.19		6.78	210	13.4	
HVL-040814-11	4/8/2014	4.39		6.85		15.38	1.93
HVL-070814-04	7/8/2014	5.21	113.5	6.91	210	18.16	24.25
MW-11S							
HVL-070814-03	7/8/2014	0.75	90.1	6.19	250	16.34	1.14
HVL-102714-01	10/27/2014	0.63	385	6.01	236	14.18	1
HVL-040814-10	4/8/2014	0.96		5.97		15.48	1.41
HVL-010814-15	1/8/2014	1.12		5.97	221	14.14	
MW-12D							
HVL-103014-22	10/30/2014	2.80	179	6.80	294	17.43	1
HVL-010714-12	1/7/2014	1.51		6.55	310	16.92	
HVL-071114-23	7/11/2014	2.15	62.1	6.7	270	18.01	0.66
MW-13D							
HVL-102914-18	10/29/2014	1.76	265	6.74	272	17.30	3
HVL-010614-06	1/6/2014	4.17		6.37	133	16.39	
HVL-040714-03	4/7/2014	2.23		6.44		15.85	2.96
HVL-070814-06	7/8/2014	1.87	104.1	6.67	340	18.27	2.15
MW-13S							

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Sample ID	Sample Date	DO (mg/L)	ORP (mV)	pH (SU)	Specific Conductance (uS/cm)	Temperature (deg C)	Turbidity (NTU)
HVL-010614-05	1/6/2014	0.12		6.34	190	17.32	
HVL-040914-14	4/9/2014	0.55		6.17		16.53	1.22
HVL-070814-05	7/8/2014	0.34	102.9	6.35	340	19.63	0.98
HVL-102914-19	10/29/2014	1.93	315	6.47	209	18.12	12
MW-14D							
HVL-040714-01	4/7/2014	0.42		5.92		11.95	3.68
HVL-071014-16	7/10/2014	0.48	21.4	5.81	180	13.11	1.35
HVL-010614-01	1/6/2014	0.65		6.45	142	12.06	
HVL-102914-15	10/29/2014	1.00	165	6.45	218	13.30	4
MW-14R							
HVL-102814-11	10/28/2014	2.60	312	7.18	92	13.80	1
HVL-071114-21	7/11/2014	2.16	3	6.44	100	14.82	0.69
HVL-010714-11	1/7/2014	3.55		6.98	98	11.17	
MW-14S							
HVL-040714-02	4/7/2014	1.01		5.86		11.74	3
HVL-102914-14	10/29/2014	1.56	321	6.22	185	13.94	2
HVL-070914-13	7/9/2014	0.89	63.1	5.42	140	14.26	1.79
HVL-010614-02	1/6/2014	1.16		6.1	200	11.95	
HVL-070914-14	7/9/2014	0.89	63.1	5.42	140	14.26	1.79
MW-15D							
HVL-070914-11	7/9/2014	0.18	-4.3	6.91	270	15.27	12.27

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Sample ID	Sample Date	DO (mg/L)	ORP (mV)	pH (SU)	Specific Conductance (uS/cm)	Temperature (deg C)	Turbidity (NTU)
HVL-010714-09	1/7/2014	0.92		6.79	272	13.74	
HVL-102814-09	10/28/2014	0.45	302	6.68	291	14.57	50
MW-15S							
HVL-070914-12	7/9/2014		98.7	5.54	230	16.44	1.69
HVL-010714-10	1/7/2014	0.28		6.19	257	13.49	
HVL-102814-08	10/28/2014	0.34	314	6.07	271	14.91	1
MW-17S							
HVL-010914-17	1/9/2014	0.36		6.3	434	17.57	
HVL-040814-12	4/8/2014	0.33		6.06		19.97	3.91
HVL-070814-01	7/8/2014	0.46	78.9	6.06	350	20.76	1.41
HVL-102814-07	10/28/2014	0.54	301	6.25	377	19.36	1
MW-18D							
HVL-102714-04	10/27/2014	2.96	324	7.72	247	15.68	3
HVL-010914-19	1/9/2014	2.07		6.76	268	13.78	
HVL-070914-09	7/9/2014	2.25	45.6	6.84	260	17.13	4.82
MW-18S							
HVL-010914-20	1/9/2014	1.15		6.32	327	13.62	
HVL-070914-10	7/9/2014	0.69	41.5	6.32	310	17.22	1.41
HVL-102714-03	10/27/2014	0.63	351	7.16	295	16.15	1
MW-20R							
HVL-011014-22	1/10/2014	1.9		6.65	97	10.31	
HVL-071114-22	7/11/2014	1.93	-137.8	6.66	99	10.11	3.33

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Sample ID	Sample Date	DO (mg/L)	ORP (mV)	pH (SU)	Specific Conductance (uS/cm)	Temperature (deg C)	Turbidity (NTU)
HVL-103014-21	10/30/2014	3.63	105	7.39	91	10.99	4
MW-23S							
HVL-010714-08	1/7/2014	3.13		6.09	190	11.05	
HVL-071014-20	7/10/2014	5.01	36.2	6.26	210	14.53	25.2
MW-25S							
HVL-070814-02	7/8/2014	5.21	170.7	5.72	150	13.45	1.52
HVL-102814-12	10/28/2014	2.99	226	6.66	234	13.09	5
HVL-010914-21	1/9/2014	2.26		6.74	257	11.82	
MW-26R							
HVL-011014-25	1/10/2014	0.72		6.71	141	11.08	
HVL-071014-17	7/10/2014	0.11	-159.4	6.32	160	11.6	3.42
HVL-103014-20	10/30/2014	1.30	-116	7.20	156	11.44	1
QC, F-Blank							
HVL-070914-15	7/9/2014				3.5		
HVL-010914-18	1/9/2014	3.12		8.5	6	9.3	
Water Supply Well, Corliss							
HVL-103014-23	10/30/2014	6.47	207	6.83	234	13.35	1000
HVL-071114-25	7/11/2014	3.91	76.4	6.99	210	25.48	2.25
HVL-040714-07	4/7/2014	3.17		6.9		13.74	4.81
HVL-011014-26	1/10/2014	4.5		7.5	221	13.65	
Water Supply Well, P. Bunyan							
HVL-103014-24	10/30/2014	3.66	346	7.13	243	13.38	4

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Sample ID	Sample Date	DO (mg/L)	ORP (mV)	pH (SU)	Specific Conductance (uS/cm)	Temperature (deg C)	Turbidity (NTU)
HVL-071114-24	7/11/2014	4	84.3	7.11	270	20.04	4.97
HVL-032714-27	3/27/2014			6.27	205	8.79	
HVL-040714-06	4/7/2014	4.21		6.65		10.85	2.13

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Sample ID	Sample Date	Alkalinity as Bicarbonate (mg/L)	Alkalinity, Total (mg/L)	Ammonia (mg/L)	COD (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)	TSS (mg/L)
FMMW-1											
HVL-010814-13	1/8/2014	110	110	0.1 U		11	1.1 H	15	180	1.1	
HVL-040814-08	4/8/2014	90	90	0.1 U		11	1.7	15	170	1	
HVL-070914-07	7/9/2014	100	100	0.1 U		21	3.1 J	13	200	1 U	4 U
HVL-102714-06	10/27/2014	100	100	0.1 U		23	2.5	17	200	1 U	4 U
FMMW-2											
HVL-010814-14	1/8/2014	140	140	0.31		14	5.2 H	5.9	240	1.6	
HVL-040814-09	4/8/2014	150	150	0.1 U		21	15	19	330	1.5	
HVL-070914-08	7/9/2014	110	110	0.11		20	0.84 J	12	210	1.3	4 U
HVL-102814-13	10/28/2014	130	130	0.33		22	5.1	6.1	230	1.4	4 U
Leachate, East Area											
HVL-011014-23	1/10/2014	5480 H	5480 H	430	1800 B	2500	5 U	100	12000	600	
Leak Detection, Side Slope											
HVL-011014-24	1/10/2014	7803 H	7803 H	530	2700 B	5000	5.8	140	17000	810	
MW-10D											
HVL-010614-03	1/6/2014	65	65	0.1 U		8.6	0.8 H	13	120	1 U	
HVL-040714-05	4/7/2014	65	65	0.1 U		7	0.97	9.3	110	1 U	
HVL-071014-19	7/10/2014	83	83	0.1 U		5.5	1.8 J	8.1	140	1 U	4.4
HVL-102914-17	10/29/2014	74	74	0.1 U		6.3	0.69	7.8	120	1 U	4 U

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Sample ID	Sample Date	Alkalinity as Bicarbonate (mg/L)	Alkalinity, Total (mg/L)	Ammonia (mg/L)	COD (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)	TSS (mg/L)
MW-10S											
HVL-010614-04	1/6/2014	65	65	0.1 U		9.4	0.82 H	12	120	2 U	
HVL-040714-04	4/7/2014	55	55	0.1 U		8.8	1.2	9.7	99	1	
HVL-071014-18	7/10/2014	62	62	0.1 U		6.3	0.59 J	8.7	100	1 U	4 U
HVL-102914-16	10/29/2014	76	76	0.1 U		6	0.81	7.2	110	1 U	4 U
MW-11D(2)											
HVL-010814-16	1/8/2014	99	99	0.1 U		6.2	1.8	6.9	140	1 U	
HVL-040814-11	4/8/2014	94	94	0.1 U		6.8	1.7	7	150	1 U	
HVL-070814-04	7/8/2014	85	85	0.1 U		6.5	1.7 J	6.9	140	1 U	28
HVL-102714-02	10/27/2014	88	88	0.1 U		6.5	1.8	7.7	140	1 U	7.6
MW-11S											
HVL-010814-15	1/8/2014	69	69	0.1 U		15	3.4	12	150	1.1	
HVL-040814-10	4/8/2014	57	57	0.1 U		17	11	19	210	1.2	
HVL-070814-03	7/8/2014	67	67	0.29		20	2.1 J	15	170	1.2	4 U
HVL-102714-01	10/27/2014	65	65	0.1 U		21	4.5	11	170	1 U	4 U
MW-12D											
HVL-010714-12	1/7/2014	150	150	0.1 U		10	1.1	5.7	200	1 U	
HVL-071114-23	7/11/2014	120	120	0.1 U		9	1.4 J	6	180	1 U	4 U
HVL-103014-22	10/30/2014	150	150	0.1 U		13	1.1	6	190	1 U	4 U

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Sample ID	Sample Date	Alkalinity as Bicarbonate (mg/L)	Alkalinity, Total (mg/L)	Ammonia (mg/L)	COD (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)	TSS (mg/L)
MW-13D											
HVL-010614-06	1/6/2014	140	140	0.1 U		10	0.51 H	18	220	2	
HVL-010614-07	1/6/2014	140	140	0.1 U		10	0.52 H	18	220	1 U	
HVL-040714-03	4/7/2014	140	140	0.1 U		17	6	16	240	1 U	
HVL-070814-06	7/8/2014	140	140	0.1 U		21	0.33 J	14	240	1.1	4 U
HVL-102914-18	10/29/2014	120	120	0.1 U		9.9	0.83	12	180	1 U	4 U
MW-13S											
HVL-010614-05	1/6/2014	120	120	0.1 U		9.7	0.33 H	20	210	2.3	
HVL-040914-14	4/9/2014	58	58	0.1 U		20	18	19	230	1.1	
HVL-070814-05	7/8/2014	130	130	0.1 U		22	0.2 U	16	230	1.6	4 U
HVL-102914-19	10/29/2014	99	99	0.1 U		7.1	0.8	8.4	150	1 U	4 U
MW-14D											
HVL-010614-01	1/6/2014	88	88	4.2		10	0.2 UH	11	150	1.7	
HVL-040714-01	4/7/2014	58	58	2.5		8.7	0.2 U	8.9	100	1.4	
HVL-071014-16	7/10/2014	63	63	3.4		7.8	0.2 U	11	120	1.3	4 U
HVL-102914-15	10/29/2014	76	76	4.3		16	0.2 U	12	150	1.3	4.8
MW-14R											
HVL-010714-11	1/7/2014	47	47	0.1 U		1.7	0.21	3.6	95	1 U	
HVL-071114-21	7/11/2014	45	45	0.1 U		1.7	0.2 J	3.6	99	1 U	4 U

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Sample ID	Sample Date	Alkalinity as Bicarbonate (mg/L)	Alkalinity, Total (mg/L)	Ammonia (mg/L)	COD (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)	TSS (mg/L)
HVL-102814-11	10/28/2014	47	47	0.1 U		2.1	0.2 U	3.6	97	1 U	4 U
MW-14S											
HVL-010614-02	1/6/2014	86	86	0.51		16	0.2 UH	8.8	150	2	
HVL-040714-02	4/7/2014	39	39	0.18		7.1	1.6	7.7	83	1.3	
HVL-070914-13	7/9/2014	43	43	0.19		8.6	0.56 J	9.5	98	1.1	4 U
HVL-070914-14	7/9/2014	43	43	0.2		8.8	0.53 J	12	94	1.1	4 U
HVL-102914-14	10/29/2014	63	63	0.35		12	0.78	7.1	120	2	5.2
MW-15D											
HVL-010714-09	1/7/2014	120	120	0.1 U		8.8	0.79 H	9.2	180	1 U	
HVL-070914-11	7/9/2014	140	140	0.1		11	0.52 J	9.5	180	1.2	15
HVL-102814-09	10/28/2014	140	140	0.1 U		13	0.53	9.3	200	1.2	29
HVL-102814-10	10/28/2014	140	140	0.1 U		12	0.51	9.3	190	1 U	30
MW-15S											
HVL-010714-10	1/7/2014	100	100	4.3		14	0.2 UH	11	160	1.7	
HVL-070914-12	7/9/2014	67	67	2.9		20	0.2 U	9.9	140	1.8	4 U
HVL-102814-08	10/28/2014	81	81	3.9		17	6.1	8.8	170	1.9	4 U
MW-17S											
HVL-010914-17	1/9/2014	200	200	8.4		13	1.7	4.4	240	2.1	
HVL-040814-12	4/8/2014	130	130	5.3		27	23	10	350	2	

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HVL-040814-13	4/8/2014	140	140	5.6		26	23	10	350	1.9	
HVL-070814-01	7/8/2014	120	120	2.5		23	1.5 J	8.2	220	1.8	4 U
HVL-102814-07	10/28/2014	170	170	4.8		20	0.2 U	4.1	230	2.4	4 U
MW-18D											
HVL-010914-19	1/9/2014	120	120	0.1 U		8.4	1.7	5.4	180	1 U	
HVL-070914-09	7/9/2014	110	110	0.1 U		9.6	1.6 J	5.5	170	1 U	4 U
HVL-102714-04	10/27/2014	110	110	0.1 U		9.2	1.7	5.8	180	1 U	4 U
MW-18S											
HVL-010914-20	1/9/2014	130	130	0.1 U		12	5 H	5.2	220	1.1	
HVL-070914-10	7/9/2014	120	120	0.1 U		20	0.84 J	6.2	210	1.4	4 U
HVL-102714-03	10/27/2014	130	130	0.1 U		17	0.2	4.5	190	1.1	4 U
MW-20R											
HVL-011014-22	1/10/2014	48	48	0.1 U		1.8	0.2 U	3	91	1 U	
HVL-071114-22	7/11/2014	44	44	0.1 U		1.7	0.2 U	2.9	200	1 U	4 U
HVL-103014-21	10/30/2014	46	46	0.1 U		2	0.2 U	3	94	1 U	4 U
MW-23S											
HVL-010714-08	1/7/2014	76	76	0.1 U		8.2	1.1 H	14	140	1.3	
HVL-071014-20	7/10/2014	69	69	0.1 U		12	1.6 J	15	140	1.3	19
MW-25S											

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Sample ID	Sample Date	Alkalinity as Bicarbonate (mg/L)	Alkalinity, Total (mg/L)	Ammonia (mg/L)	COD (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)	TSS (mg/L)
HVL-010914-21	1/9/2014	110	110	0.1 U		9.9	1.6	6.9	170	1 U	
HVL-070814-02	7/8/2014	57	57	0.1 U		6.5	1.2 J	6.2	110	1 U	4 U
HVL-102814-12	10/28/2014	110	110	0.1 U		10	1.4	7.1	160	1 U	4 U
MW-26R											
HVL-011014-25	1/10/2014	66	66	0.1 U		3.9	0.2 UH	7.9	110	1 U	
HVL-071014-17	7/10/2014	69	69	0.1 U		3.9	0.2 U	8.5	120	1 U	4 U
HVL-103014-20	10/30/2014	75	75	0.1 U		4.6	0.2 U	9.3	140	1 U	4 U
QC, F-BLANK											
HVL-010914-18	1/9/2014	5 U	5 U	0.1 U		0.2 U	0.2 U	0.2 U	10 U	24	
HVL-040914-15	4/9/2014	5 U	5 U	0.1 U		0.2 U	0.2 U	0.2 U	15	1 U	
HVL-070914-15	7/9/2014	5 U	5 U	0.1 U		0.2 U	0.34 J	0.2 U	10 U	1 U	4 U
HVL-102714-05	10/27/2014	5 U	5 U	0.1 U		0.2 U	0.2 U	0.2 U	10 U	1 U	4 U
Water Supply Well, Corliss											
HVL-011014-26	1/10/2014			0.1 U	13 B	9	1.3 H	10		1 U	
HVL-040714-07	4/7/2014			0.1 U	5 U	6.2	1.2	8.9		1 U	
HVL-071114-25	7/11/2014			0.1 U	5 U	5.4	1.2 J	9.2		1 U	
HVL-103014-23	10/30/2014			0.1 U	5 U	11	0.89	11		1 U	
Water Supply Well, P. Bunyan											
HVL-032714-27	3/27/2014	5 U	5 U	0.1 U	5 U	5.9	1.9	9.2	10 U	1 U	

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Sample ID	Sample Date	Alkalinity as Bicarbonate (mg/L)	Alkalinity, Total (mg/L)	Ammonia (mg/L)	COD (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)	TSS (mg/L)
HVL-040714-06	4/7/2014			0.1 U	5 U	4.9	1.5	8.9		1 U	
HVL-071114-24	7/11/2014			0.1 U	5 U	5.2	2 J	9.9		1 U	
HVL-103014-24	10/30/2014			0.1 U	5 U	7.6	1.8	9.5		1 U	

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Groundwater Chemistry - Metals
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		Antimony (mg/L)		Arsemic (mg/L)		Barium (mg/L)		Beryllium (mg/L)		Cadmium (mg/L)		Calcium (mg/L)		Chromium (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
FMMW-1															
HVL-010814-13	1/8/2014			0.005 U											
HVL-040814-08	4/8/2014			0.005 U											
HVL-070914-07	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.0092	0.0084	0.005 U	0.001 U	0.005 U	0.005 U	26		0.005 U	0.002 U
HVL-102714-06	10/27/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0072	0.0086	0.005 U	0.005 U	0.005 U	0.005 U	22		0.005 U	0.005 U
FMMW-2															
HVL-010814-14	1/8/2014			0.005 U											
HVL-040814-09	4/8/2014			0.005 U											
HVL-070914-08	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.015	0.015	0.005 U	0.001 U	0.005 U	0.005 U	25		0.005 U	0.002 U
HVL-102814-13	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.018	0.019	0.005 U	0.005 U	0.005 U	0.005 U	25		0.005 U	0.005 U
Leachate, East Area															
HVL-011014-23	1/10/2014		0.012		0.078		0.7		0.001 U		0.005 U		84		0.2
Leak Detection, Side Slope															
HVL-011014-24	1/10/2014		0.13		0.19		0.53		0.001 U		0.005 U		10		0.065
MW-10D															
HVL-010614-03	1/6/2014			0.005											
HVL-040714-05	4/7/2014			0.005 U											
HVL-071014-19	7/10/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.001 U	0.005 U	0.005 U	21		0.005 U	0.002 U
HVL-102914-17	10/29/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	20		0.005 U	0.005 U
MW-10S															
HVL-010614-04	1/6/2014			0.005											
HVL-040714-04	4/7/2014			0.005 U											
HVL-071014-18	7/10/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.0022	0.005 U	0.001 U	0.005 U	0.005 U	17		0.005 U	0.002 U
HVL-102914-16	10/29/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	21		0.005 U	0.005 U
MW-11D(2)															
HVL-010814-16	1/8/2014			0.005 U											
HVL-040814-11	4/8/2014			0.005 U											
HVL-070814-04	7/8/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.0079	0.005 U	0.001 U	0.005 U	0.005 U	21		0.005 U	0.002 U
HVL-102714-02	10/27/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	18		0.005 U	0.005 U
MW-11S															
HVL-010814-15	1/8/2014			0.005 U											
HVL-040814-10	4/8/2014			0.005 U											
HVL-070814-03	7/8/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.011	0.01	0.005 U	0.001 U	0.005 U	0.005 U	18		0.005 U	0.002 U
HVL-102714-01	10/27/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.009	0.01	0.005 U	0.005 U	0.005 U	0.005 U	17		0.005 U	0.005 U
MW-12D															
HVL-010714-12	1/7/2014			0.005 U											
HVL-071114-23	7/11/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005	0.0053	0.005 U	0.001 U	0.005 U	0.005 U	25		0.005 U	0.002 U
HVL-103014-22	10/30/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0066	0.006	0.005 U	0.005 U	0.005 U	0.005 U	31		0.005 U	0.005 U

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		Antimony (mg/L)		Arsemic (mg/L)		Barium (mg/L)		Beryllium (mg/L)		Cadmium (mg/L)		Calcium (mg/L)		Chromium (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
MW-13D															
HVL-010614-06	1/6/2014			0.005 U											
HVL-010614-07	1/6/2014			0.005 U											
HVL-040714-03	4/7/2014			0.005 U											
HVL-070814-06	7/8/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.0078	0.0074	0.005 U	0.001 U	0.005 U	0.005 U	36		0.005 U	0.002 U
HVL-102914-18	10/29/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0062	0.0057	0.005 U	0.005 U	0.005 U	0.005 U	29		0.005 U	0.005 U
MW-13S															
HVL-010614-05	1/6/2014			0.005 U											
HVL-040914-14	4/9/2014			0.005 U											
HVL-070814-05	7/8/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.011	0.011	0.005 U	0.001 U	0.005 U	0.005 U	31		0.005 U	0.002 U
HVL-102914-19	10/29/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0063	0.0073	0.005 U	0.005 U	0.005 U	0.005 U	20		0.005 U	0.005 U
MW-14D															
HVL-010614-01	1/6/2014			0.0083											
HVL-040714-01	4/7/2014			0.005 U											
HVL-071014-16	7/10/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.0092	0.0092	0.005 U	0.001 U	0.005 U	0.005 U	12		0.005 U	0.002 U
HVL-102914-15	10/29/2014	0.002 U	0.05 U	0.005 U	0.0059	0.013	0.014	0.005 U	0.005 U	0.005 U	0.005 U	17		0.005 U	0.005 U
MW-14R															
HVL-010714-11	1/7/2014			0.005 U											
HVL-071114-21	7/11/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.004	0.005 U	0.001 U	0.005 U	0.005 U	7.4		0.005 U	0.002 U
HVL-102814-11	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	6.2		0.005 U	0.005 U
MW-14S															
HVL-010614-02	1/6/2014			0.005 U											
HVL-040714-02	4/7/2014			0.005 U											
HVL-070914-13	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.0039	0.005 U	0.001 U	0.005 U	0.005 U	13		0.005 U	0.002 U
HVL-070914-14	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.0038	0.005 U	0.001 U	0.005 U	0.005 U	13		0.005 U	0.002 U
HVL-102914-14	10/29/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.006	0.0068	0.005 U	0.005 U	0.005 U	0.005 U	17		0.005 U	0.005 U
MW-15D															
HVL-010714-09	1/7/2014			0.005 U											
HVL-070914-11	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.0059	0.0073	0.005 U	0.001 U	0.005 U	0.005 U	22		0.005 U	0.002 U
HVL-102814-09	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0055	0.01	0.005 U	0.005 U	0.005 U	0.005 U	23		0.005 U	0.005 U
HVL-102814-10	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.006	0.011	0.005 U	0.005 U	0.005 U	0.005 U	23		0.005 U	0.005 U
MW-15S															
HVL-010714-10	1/7/2014			0.005 U											
HVL-070914-12	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.01	0.0099	0.005 U	0.001 U	0.005 U	0.005 U	14		0.005 U	0.002 U
HVL-102814-08	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.014	0.015	0.005 U	0.005 U	0.005 U	0.005 U	17		0.005 U	0.005 U
MW-17S															
HVL-010914-17	1/9/2014			0.005 U											
HVL-040814-12	4/8/2014			0.005 U											
HVL-040814-13	4/8/2014			0.005 U											
HVL-070814-01	7/8/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.019	0.018	0.005 U	0.001 U	0.005 U	0.005 U	22		0.005 U	0.002 U
HVL-102814-07	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.023	0.022	0.005 U	0.005 U	0.005 U	0.005 U	23		0.005 U	0.005 U

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		Antimony (mg/L)		Arsemic (mg/L)		Barium (mg/L)		Beryllium (mg/L)		Cadmium (mg/L)		Calcium (mg/L)		Chromium (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
MW-18D															
HVL-010914-19	1/9/2014			0.005 U											
HVL-070914-09	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.0055	0.005 U	0.001 U	0.005 U	0.005 U	26		0.005 U	0.002 U
HVL-102714-04	10/27/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0057	0.0055	0.005 U	0.005 U	0.005 U	0.005 U	23		0.005 U	0.005 U
MW-18S															
HVL-010914-20	1/9/2014			0.005 U											
HVL-070914-10	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.013	0.012	0.005 U	0.001 U	0.005 U	0.005 U	27		0.005 U	0.002 U
HVL-102714-03	10/27/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.012	0.013	0.005 U	0.005 U	0.005 U	0.005 U	21		0.005 U	0.005 U
MW-20R															
HVL-011014-22	1/10/2014			0.005 U											
HVL-071114-22	7/11/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.001	0.005 U	0.001 U	0.005 U	0.005 U	7.5		0.005 U	0.002 U
HVL-103014-21	10/30/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	8.1		0.005 U	0.005 U
MW-23S															
HVL-010714-08	1/7/2014			0.005 U											
HVL-071014-20	7/10/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.0098	0.018	0.005 U	0.001 U	0.005 U	0.005 U	23		0.005 U	0.002 U
MW-25S															
HVL-010914-21	1/9/2014			0.005 U											
HVL-070814-02	7/8/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.0027	0.005 U	0.001 U	0.005 U	0.005 U	16		0.005 U	0.002 U
HVL-102814-12	10/28/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	22		0.005 U	0.005 U
MW-26R															
HVL-011014-25	1/10/2014			0.005 U											
HVL-071014-17	7/10/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.0069	0.0074	0.005 U	0.001 U	0.005 U	0.005 U	16		0.005 U	0.002 U
HVL-103014-20	10/30/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.0074	0.0074	0.005 U	0.005 U	0.005 U	0.005 U	18		0.005 U	0.005 U
QC, F-BLANK															
HVL-010914-18	1/9/2014			0.005 U											
HVL-040914-15	4/9/2014			0.005 U											
HVL-070914-15	7/9/2014	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.001 U	0.005 U	0.001 U	0.005 U	0.005 U	0.22		0.005 U	0.002 U
HVL-102714-05	10/27/2014	0.002 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.2 U		0.005 U	0.005 U
Water Supply Well, Corliss															
HVL-011014-26	1/10/2014			0.005 U											
HVL-040714-07	4/7/2014				0.005 U										
HVL-071114-25	7/11/2014				0.005 U										
HVL-103014-23	10/30/2014		0.05 U		0.005 U		0.005 U		0.005 U		0.005 U				0.005 U
Water Supply Well, P. Bunyan															
HVL-032714-27	3/27/2014		0.002 U	0.005 U	0.005 U		0.001 U		0.001 U		0.005 U		0.2 U		0.002 U
HVL-040714-06	4/7/2014				0.005 U										
HVL-071114-24	7/11/2014				0.005 U										
HVL-103014-24	10/30/2014		0.05 U		0.005 U		0.005 U		0.005 U		0.005 U				0.005 U

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		Cobalt (mg/L)		Copper (mg/L)		Iron (mg/L)		Lead (mg/L)		Magnesium (mg/L)		Manganese (mg/L)		Nickel (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
FMMW-1															
HVL-010814-13	1/8/2014					0.1 U						0.001 U			
HVL-040814-08	4/8/2014					0.1 U						0.001 U			
HVL-070914-07	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	7.5		0.001 U		0.02 U	0.002 U
HVL-102714-06	10/27/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	6.4		0.001 U		0.02 U	0.02 U
FMMW-2															
HVL-010814-14	1/8/2014					0.1 U						0.081			
HVL-040814-09	4/8/2014					0.1 U						0.084			
HVL-070914-08	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	7.9		0.072		0.02 U	0.002 U
HVL-102814-13	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	8		0.09		0.02 U	0.02 U
Leachate, East Area															
HVL-011014-23	1/10/2014		0.016		0.077		7.1		0.022		46		2.1		0.52
Leak Detection, Side Slope															
HVL-011014-24	1/10/2014		0.026		0.58		2.6		0.02		9		0.18		0.55
MW-10D															
HVL-010614-03	1/6/2014					0.1						0.001			
HVL-040714-05	4/7/2014					0.1 U						0.001 U			
HVL-071014-19	7/10/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	8.8		0.001 U		0.02 U	0.002 U
HVL-102914-17	10/29/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	6.5		0.001 U		0.02 U	0.02 U
MW-10S															
HVL-010614-04	1/6/2014					0.1						0.001 U			
HVL-040714-04	4/7/2014					0.1 U						0.001 U			
HVL-071014-18	7/10/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	5.7		0.001 U		0.02 U	0.002 U
HVL-102914-16	10/29/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	6.5		0.001 U		0.02 U	0.02 U
MW-11D(2)															
HVL-010814-16	1/8/2014					0.1 U						0.001 U			
HVL-040814-11	4/8/2014					0.1 U						0.001 U			
HVL-070814-04	7/8/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	9.3		0.001 U		0.02 U	0.002 U
HVL-102714-02	10/27/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	7.8		0.001 U		0.02 U	0.02 U
MW-11S															
HVL-010814-15	1/8/2014					0.1 U						0.001 U			
HVL-040814-10	4/8/2014					0.1 U						0.0013			
HVL-070814-03	7/8/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	5.7		0.021		0.02 U	0.002 U
HVL-102714-01	10/27/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	5.1		0.0079		0.02 U	0.02 U
MW-12D															
HVL-010714-12	1/7/2014					0.1 U						0.001 U			
HVL-071114-23	7/11/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	10		0.001 U		0.02 U	0.0029
HVL-103014-22	10/30/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	12		0.001 U		0.02 U	0.02 U

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		Cobalt (mg/L)		Copper (mg/L)		Iron (mg/L)		Lead (mg/L)		Magnesium (mg/L)		Manganese (mg/L)		Nickel (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
MW-13D															
HVL-010614-06	1/6/2014					0.1 U						0.001 U			
HVL-010614-07	1/6/2014					0.1 U						0.001 U			
HVL-040714-03	4/7/2014					0.1 U						0.001 U			
HVL-070814-06	7/8/2014	0.01 U	0.01 U	0.01 U	0.0024	0.1 U	100 U	0.002 U	0.001 U	14		0.001 U		0.02 U	0.0034
HVL-102914-18	10/29/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	11		0.001 U		0.02 U	0.02 U
MW-13S															
HVL-010614-05	1/6/2014					0.1 U						0.0073			
HVL-040914-14	4/9/2014					0.1 U						0.002			
HVL-070814-05	7/8/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	8.9		0.0067		0.02 U	0.002 U
HVL-102914-19	10/29/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	5.6		0.012		0.02 U	0.02 U
MW-14D															
HVL-010614-01	1/6/2014					3.3						1			
HVL-040714-01	4/7/2014					0.1 U						0.57			
HVL-071014-16	7/10/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.74	670	0.002 U	0.001 U	3.8		0.81		0.02 U	0.002 U
HVL-102914-15	10/29/2014	0.01 U	0.01 U	0.01 U	0.01 U	2.8		0.002 U	0.002 U	4.9		1.2		0.02 U	0.02 U
MW-14R															
HVL-010714-11	1/7/2014					0.1 U						0.001 U			
HVL-071114-21	7/11/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	4.5		0.0014		0.02 U	0.002 U
HVL-102814-11	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	3.8		0.001 U		0.02 U	0.02 U
MW-14S															
HVL-010614-02	1/6/2014					0.1 U						0.17			
HVL-040714-02	4/7/2014					0.1 U						0.063			
HVL-070914-13	7/9/2014	0.01 U	0.01 U	0.01 U	0.0026	0.1 U	100 U	0.002 U	0.001 U	4		0.097		0.02 U	0.002 U
HVL-070914-14	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	4		0.091		0.02 U	0.002 U
HVL-102914-14	10/29/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	5.3		0.24		0.02 U	0.02 U
MW-15D															
HVL-010714-09	1/7/2014					0.1 U						0.001 U			
HVL-070914-11	7/9/2014	0.01 U	0.01 U	0.01 U	0.0036	0.1 U	100 U	0.002 U	0.001 U	9.3		0.3		0.02 U	0.0031
HVL-102814-09	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	10		0.22		0.02 U	0.02 U
HVL-102814-10	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	9.7		0.22		0.02 U	0.02 U
MW-15S															
HVL-010714-10	1/7/2014					0.1 U						0.88			
HVL-070914-12	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	4.5		0.64		0.02 U	0.002 U
HVL-102814-08	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	5.3		0.87		0.02 U	0.02 U
MW-17S															
HVL-010914-17	1/9/2014					0.1 U						1			
HVL-040814-12	4/8/2014					0.1 U						1.6			
HVL-040814-13	4/8/2014					0.1 U						1.6			
HVL-070814-01	7/8/2014	0.01 U	0.01 U	0.01 U	0.002	0.1 U	100 U	0.002 U	0.001 U	7.3		0.68		0.02 U	0.002
HVL-102814-07	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	8		1.1		0.02 U	0.02 U

Groundwater Chemistry - Metals
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		Cobalt (mg/L)		Copper (mg/L)		Iron (mg/L)		Lead (mg/L)		Magnesium (mg/L)		Manganese (mg/L)		Nickel (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
MW-18D															
HVL-010914-19	1/9/2014					0.1 U						0.001 U			
HVL-070914-09	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	11		0.001 U		0.02 U	0.0024
HVL-102714-04	10/27/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	9.1		0.001 U		0.02 U	0.02 U
MW-18S															
HVL-010914-20	1/9/2014					0.1 U						0.001 U			
HVL-070914-10	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	8.4		0.001 U		0.02 U	0.002 U
HVL-102714-03	10/27/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	6.2		0.0013		0.02 U	0.02 U
MW-20R															
HVL-011014-22	1/10/2014					0.1 U						0.0014			
HVL-071114-22	7/11/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	4.1		0.001 U		0.02 U	0.002 U
HVL-103014-21	10/30/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	4.2		0.001 U		0.02 U	0.02 U
MW-23S															
HVL-010714-08	1/7/2014					0.1						0.022			
HVL-071014-20	7/10/2014	0.01 U	0.01 U	0.01 U	0.0054	0.1 U	100 U	0.002 U	0.049	6.8		0.013		0.02 U	0.0028
MW-25S															
HVL-010914-21	1/9/2014					0.1 U						0.001 U			
HVL-070814-02	7/8/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	6.3		0.001 U		0.02 U	0.002 U
HVL-102814-12	10/28/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	9.6		0.001 U		0.02 U	0.02 U
MW-26R															
HVL-011014-25	1/10/2014					0.84						0.25			
HVL-071014-17	7/10/2014	0.01 U	0.01 U	0.01 U	0.0029	0.62	570	0.002 U	0.001 U	7.6		0.34		0.02 U	0.002 U
HVL-103014-20	10/30/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.68		0.002 U	0.002 U	8		0.37		0.02 U	0.02 U
QC, F-BLANK															
HVL-010914-18	1/9/2014					0.1 U						0.001 U			
HVL-040914-15	4/9/2014					0.1 U						0.001 U			
HVL-070914-15	7/9/2014	0.01 U	0.01 U	0.01 U	0.002 U	0.1 U	100 U	0.002 U	0.001 U	0.1 U		0.001 U		0.02 U	0.002 U
HVL-102714-05	10/27/2014	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U		0.002 U	0.002 U	0.1 U		0.001 U		0.02 U	0.02 U
Water Supply Well, Corliss															
HVL-011014-26	1/10/2014					0.1 U						0.0025			
HVL-040714-07	4/7/2014						0.1 U						0.0016		
HVL-071114-25	7/11/2014												0.001 U		
HVL-103014-23	10/30/2014		0.01 U		0.01 U		0.1 U		0.002 U						0.02 U
Water Supply Well, P. Bunyan															
HVL-032714-27	3/27/2014		0.01 U		0.002 U	0.2 U	0.02 U		0.001 U		0.2 U	0.0036	0.0036		0.002 U
HVL-040714-06	4/7/2014						0.85						0.021		
HVL-071114-24	7/11/2014												0.0022		
HVL-103014-24	10/30/2014		0.01 U		0.013		0.1		0.002 U						0.02 U

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		Potassium (mg/L)		Selenium (mg/L)		Silver (mg/L)		Sodium (mg/L)		Thallium (mg/L)		Vanadium (mg/L)		Zinc (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
FMMW-1															
HVL-010814-13	1/8/2014														
HVL-040814-08	4/8/2014														
HVL-070914-07	7/9/2014	4.6		0.005 U	0.005 U	0.01 U	0.01 U	31		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102714-06	10/27/2014	3.6		0.005 U	0.005 U	0.01 U	0.01 U	28		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
FMMW-2															
HVL-010814-14	1/8/2014														
HVL-040814-09	4/8/2014														
HVL-070914-08	7/9/2014	11		0.005 U	0.005 U	0.01 U	0.01 U	29		0.005 U	0.001 U	0.01 U	0.01 U	0.074	0.1
HVL-102814-13	10/28/2014	11		0.005 U	0.005 U	0.01 U	0.01 U	28		0.005 U	0.005 U	0.01 U	0.01 U	0.039	0.037
Leachate, East Area															
HVL-011014-23	1/10/2014		320		0.005 U		0.01 U		3000						0.31
Leak Detection, Side Slope															
HVL-011014-24	1/10/2014		370		0.0051		0.01 U		4800						0.51
MW-10D															
HVL-010614-03	1/6/2014														
HVL-040714-05	4/7/2014														
HVL-071014-19	7/10/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	7.6		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102914-17	10/29/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	9.6		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-10S															
HVL-010614-04	1/6/2014														
HVL-040714-04	4/7/2014														
HVL-071014-18	7/10/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	6.5		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102914-16	10/29/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	9.8		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-11D(2)															
HVL-010814-16	1/8/2014														
HVL-040814-11	4/8/2014														
HVL-070814-04	7/8/2014	2.6		0.005 U	0.005 U	0.01 U	0.01 U	10		0.005 U	0.001 U	0.01 U	0.01 U	0.014	0.015
HVL-102714-02	10/27/2014	2.2		0.005 U	0.005 U	0.01 U	0.01 U	7.9		0.005 U	0.005 U	0.01 U	0.01 U	0.05	0.052
MW-11S															
HVL-010814-15	1/8/2014														
HVL-040814-10	4/8/2014														
HVL-070814-03	7/8/2014	7.1		0.005 U	0.005 U	0.01 U	0.01 U	21		0.005 U	0.001 U	0.01 U	0.01 U	0.046	0.047
HVL-102714-01	10/27/2014	6.6		0.005 U	0.005 U	0.01 U	0.01 U	20		0.005 U	0.005 U	0.01 U	0.01 U	0.13	0.12
MW-12D															
HVL-010714-12	1/7/2014														
HVL-071114-23	7/11/2014	3.2		0.005 U	0.005 U	0.01 U	0.01 U	20		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-103014-22	10/30/2014	3.4		0.005 U	0.005 U	0.01 U	0.01 U	21		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U

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		Potassium (mg/L)		Selenium (mg/L)		Silver (mg/L)		Sodium (mg/L)		Thallium (mg/L)		Vanadium (mg/L)		Zinc (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
MW-13D															
HVL-010614-06	1/6/2014														
HVL-010614-07	1/6/2014														
HVL-040714-03	4/7/2014														
HVL-070814-06	7/8/2014	4.7		0.005 U	0.005 U	0.01 U	0.01 U	23		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102914-18	10/29/2014	3.6		0.005 U	0.005 U	0.01 U	0.01 U	15		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-13S															
HVL-010614-05	1/6/2014														
HVL-040914-14	4/9/2014														
HVL-070814-05	7/8/2014	7.1		0.005 U	0.005 U	0.01 U	0.01 U	34		0.005 U	0.001 U	0.01 U	0.01 U	0.031	0.026
HVL-102914-19	10/29/2014	4.6		0.005 U	0.005 U	0.01 U	0.01 U	21		0.005 U	0.005 U	0.01 U	0.01 U	0.024	0.01 U
MW-14D															
HVL-010614-01	1/6/2014														
HVL-040714-01	4/7/2014														
HVL-071014-16	7/10/2014	6.7		0.005 U	0.005 U	0.01 U	0.01 U	13		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102914-15	10/29/2014	7.7		0.005 U	0.005 U	0.01 U	0.01 U	13		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-14R															
HVL-010714-11	1/7/2014														
HVL-071114-21	7/11/2014	2.1		0.005 U	0.005 U	0.01 U	0.01 U	5.4		0.005 U	0.001 U	0.01 U	0.01 U	0.047	0.043
HVL-102814-11	10/28/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	4.5		0.005 U	0.005 U	0.01 U	0.01 U	0.023	0.028
MW-14S															
HVL-010614-02	1/6/2014														
HVL-040714-02	4/7/2014														
HVL-070914-13	7/9/2014	3.4		0.005 U	0.005 U	0.01 U	0.01 U	7		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-070914-14	7/9/2014	3.3		0.005 U	0.005 U	0.01 U	0.01 U	6.9		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102914-14	10/29/2014	4.2		0.005 U	0.005 U	0.01 U	0.01 U	12		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-15D															
HVL-010714-09	1/7/2014														
HVL-070914-11	7/9/2014	3.2		0.005 U	0.005 U	0.01 U	0.01 U	26		0.005 U	0.001 U	0.01 U	0.01 U	0.025	0.026
HVL-102814-09	10/28/2014	2.7		0.005 U	0.005 U	0.01 U	0.01 U	21		0.005 U	0.005 U	0.01 U	0.01 U	0.014	0.018
HVL-102814-10	10/28/2014	2.5		0.005 U	0.005 U	0.01 U	0.01 U	20		0.005 U	0.005 U	0.01 U	0.01 U	0.017	0.017
MW-15S															
HVL-010714-10	1/7/2014														
HVL-070914-12	7/9/2014	9.3		0.005 U	0.005 U	0.01 U	0.01 U	18		0.005 U	0.001 U	0.01 U	0.01 U	0.049	0.044
HVL-102814-08	10/28/2014	8.9		0.005 U	0.005 U	0.01 U	0.01 U	15		0.005 U	0.005 U	0.01 U	0.01 U	0.061	0.065
MW-17S															
HVL-010914-17	1/9/2014														
HVL-040814-12	4/8/2014														
HVL-040814-13	4/8/2014														
HVL-070814-01	7/8/2014	15		0.005 U	0.005 U	0.01 U	0.01 U	32		0.005 U	0.001 U	0.01 U	0.01 U	0.043	0.044
HVL-102814-07	10/28/2014	14		0.005 U	0.005 U	0.01 U	0.01 U	26		0.005 U	0.005 U	0.01 U	0.01 U	0.086	0.086

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		Potassium (mg/L)		Selenium (mg/L)		Silver (mg/L)		Sodium (mg/L)		Thallium (mg/L)		Vanadium (mg/L)		Zinc (mg/L)	
Samp_ID	Samp_Date	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
MW-18D															
HVL-010914-19	1/9/2014														
HVL-070914-09	7/9/2014	3.7		0.005 U	0.005 U	0.01 U	0.01 U	14		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102714-04	10/27/2014	3.3		0.005 U	0.005 U	0.01 U	0.01 U	12		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-18S															
HVL-010914-20	1/9/2014														
HVL-070914-10	7/9/2014	9.3		0.005 U	0.005 U	0.01 U	0.01 U	30		0.005 U	0.001 U	0.01 U	0.01 U	0.019	0.019
HVL-102714-03	10/27/2014	8.4		0.005 U	0.005 U	0.01 U	0.01 U	25		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-20R															
HVL-011014-22	1/10/2014														
HVL-071114-22	7/11/2014	2.1		0.005 U	0.005 U	0.01 U	0.01 U	5.9		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-103014-21	10/30/2014	2.1		0.005 U	0.005 U	0.01 U	0.01 U	5.5		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-23S															
HVL-010714-08	1/7/2014														
HVL-071014-20	7/10/2014	2.3		0.005 U	0.005 U	0.01 U	0.01 U	15		0.005 U	0.001 U	0.01 U	0.01 U	0.051	0.1
MW-25S															
HVL-010914-21	1/9/2014														
HVL-070814-02	7/8/2014	2		0.005 U	0.005 U	0.01 U	0.01 U	11		0.005 U	0.001 U	0.01 U	0.01 U	0.041	0.037
HVL-102814-12	10/28/2014	2.4		0.005 U	0.005 U	0.01 U	0.01 U	12		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
MW-26R															
HVL-011014-25	1/10/2014														
HVL-071014-17	7/10/2014	2		0.005 U	0.005 U	0.01 U	0.01 U	5.9		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.019
HVL-103014-20	10/30/2014	2.2		0.005 U	0.005 U	0.01 U	0.01 U	5.7		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.011
QC, F-BLANK															
HVL-010914-18	1/9/2014														
HVL-040914-15	4/9/2014														
HVL-070914-15	7/9/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	1 U		0.005 U	0.001 U	0.01 U	0.01 U	0.01 U	0.01 U
HVL-102714-05	10/27/2014	2 U		0.005 U	0.005 U	0.01 U	0.01 U	1 U		0.005 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U
Water Supply Well, Corliss															
HVL-011014-26	1/10/2014													0.01 U	
HVL-040714-07	4/7/2014														0.01 U
HVL-071114-25	7/11/2014														0.01 U
HVL-103014-23	10/30/2014				0.005 U		0.01 U				0.005 U		0.01 U		0.18
Water Supply Well, P. Bunyan															
HVL-032714-27	3/27/2014		3 U		0.005 U		0.01 U		1 U					0.11	0.11
HVL-040714-06	4/7/2014														0.25
HVL-071114-24	7/11/2014														0.066
HVL-103014-24	10/30/2014				0.005 U		0.01 U				0.005 U		0.01 U		0.092

Groundwater Chemistry - Volatile Organics
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Sample ID	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,3-Trichloropropane	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane
FMMW-1													
HVL-010814-13	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040814-08	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070914-07	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102714-06	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
FMMW-2													
HVL-010814-14	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040814-09	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070914-08	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-13	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
Leachate, East Area													
HVL-011014-23	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
Leak Detection, Side Slope													
HVL-011014-24	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-10D													
HVL-010614-03	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040714-05	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-071014-19	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102914-17	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-10S													
HVL-010614-04	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040714-04	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-071014-18	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102914-16	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-11D(2)													
HVL-010814-16	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040814-11	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070814-04	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102714-02	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-11S													
HVL-010814-15	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040814-10	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070814-03	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102714-01	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-12D													
HVL-010714-12	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-071114-23	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-103014-22	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-13D													
HVL-010614-06	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-010614-07	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040714-03	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070814-06	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102914-18	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-13S													
HVL-010614-05	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040914-14	4/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070814-05	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102914-19	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-14D													
HVL-010614-01	1/6/2014	2.1 U	1.6 U	2.1 U	2.7 U	2.2 U	2.3 U	3.3 U	4.7 U	1.8 U	1.5 U	1.2 U	1.8 U
HVL-040714-01	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-071014-16	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102914-15	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-14R													
HVL-010714-11	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-071114-21	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-11	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	1,4-Dichlorobenzene	2-Butanone (MEK)	2-Hexanone	4-Methyl-2-pentanone (MIBK)	Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide
FMMW-1													
HVL-010814-13	1/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040814-08	4/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-07	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102714-06	10/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
FMMW-2													
HVL-010814-14	1/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040814-09	4/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-08	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-13	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Leachate, East Area													
HVL-011014-23	1/10/2014	1.6	22	5 U	5.2	36	20 U		0.5 U	0.5 U	0.5 U	0.5 U	4.2
Leak Detection, Side Slope													
HVL-011014-24	1/10/2014	0.5 U	6 U	5 U	5 U	11	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-10D													
HVL-010614-03	1/6/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040714-05	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071014-19	7/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102914-17	10/29/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-10S													
HVL-010614-04	1/6/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040714-04	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071014-18	7/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102914-16	10/29/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-11D(2)													
HVL-010814-16	1/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040814-11	4/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070814-04	7/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102714-02	10/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-11S													
HVL-010814-15	1/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040814-10	4/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070814-03	7/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102714-01	10/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-12D													
HVL-010714-12	1/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071114-23	7/11/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-103014-22	10/30/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-13D													
HVL-010614-06	1/6/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-010614-07	1/6/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040714-03	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070814-06	7/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102914-18	10/29/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-13S													
HVL-010614-05	1/6/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040914-14	4/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070814-05	7/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102914-19	10/29/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-14D													
HVL-010614-01	1/6/2014	1.6 U	20 U	17 U	9.8 U	19 U	20 U		1 U	1 U	1.9 U	2.1 U	4.5 U
HVL-040714-01	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071014-16	7/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102914-15	10/29/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-14R													
HVL-010714-11	1/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071114-21	7/11/2014	0.5 U	6 U	5 U	5 U	11	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-11	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	cis-1,4-Dichloro-2-butene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene
FMMW-1													
HVL-010814-13	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040814-08	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070914-07	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102714-06	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
FMMW-2													
HVL-010814-14	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040814-09	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070914-08	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-13	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
Leachate, East Area													
HVL-011014-23	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		5.3
Leak Detection, Side Slope													
HVL-011014-24	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
MW-10D													
HVL-010614-03	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040714-05	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-071014-19	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102914-17	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-10S													
HVL-010614-04	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040714-04	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-071014-18	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102914-16	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-11D(2)													
HVL-010814-16	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040814-11	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070814-04	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102714-02	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-11S													
HVL-010814-15	1/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040814-10	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070814-03	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102714-01	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-12D													
HVL-010714-12	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-071114-23	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-103014-22	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-13D													
HVL-010614-06	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-010614-07	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040714-03	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070814-06	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102914-18	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-13S													
HVL-010614-05	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040914-14	4/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070814-05	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102914-19	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-14D													
HVL-010614-01	1/6/2014	1.9 U	1.7 U	4.1 U	1.6 U	3 U	1.5 U	1.6 U		1.7 U	1.7 U		1.6 U
HVL-040714-01	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-071014-16	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102914-15	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-14R													
HVL-010714-11	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-071114-21	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-11	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	Iodomethane	m, p-Xylenes	Methylene Chloride	m-Xylene & p-Xylene	o-Xylene	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene
FMMW-1													
HVL-010814-13	1/8/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040814-08	4/8/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070914-07	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102714-06	10/27/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
FMMW-2													
HVL-010814-14	1/8/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040814-09	4/8/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070914-08	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-13	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
Leachate, East Area													
HVL-011014-23	1/10/2014	1 U	9.6	2 U			0.5 U	0.5 U	10	0.5 U	0.5 U		0.5 U
Leak Detection, Side Slope													
HVL-011014-24	1/10/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	1.8	0.5 U	0.5 U		0.5 U
MW-10D													
HVL-010614-03	1/6/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040714-05	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-071014-19	7/10/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102914-17	10/29/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-10S													
HVL-010614-04	1/6/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040714-04	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-071014-18	7/10/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102914-16	10/29/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-11D(2)													
HVL-010814-16	1/8/2014	1 U	0.5 U	2 U			0.5 U	0.88	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040814-11	4/8/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.77	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070814-04	7/8/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.65	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102714-02	10/27/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-11S													
HVL-010814-15	1/8/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040814-10	4/8/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070814-03	7/8/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102714-01	10/27/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-12D													
HVL-010714-12	1/7/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-071114-23	7/11/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-103014-22	10/30/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-13D													
HVL-010614-06	1/6/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-010614-07	1/6/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040714-03	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070814-06	7/8/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102914-18	10/29/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-13S													
HVL-010614-05	1/6/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040914-14	4/9/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070814-05	7/8/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102914-19	10/29/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-14D													
HVL-010614-01	1/6/2014	2.3 U	3.4 U	3.2 U			1.7 U	2 U	1.7 U	1.5 U	1.9 U		1.6 U
HVL-040714-01	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-071014-16	7/10/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102914-15	10/29/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-14R													
HVL-010714-11	1/7/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-071114-21	7/11/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-11	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
FMMW-1				
HVL-010814-13	1/8/2014	0.5 U	3 U	0.5 U
HVL-040814-08	4/8/2014	0.5 U	3 U	0.5 U
HVL-070914-07	7/9/2014	0.5 U	3 U	0.5 U
HVL-102714-06	10/27/2014	0.5 U	3 U	0.5 U
FMMW-2				
HVL-010814-14	1/8/2014	0.5 U	3 U	0.5 U
HVL-040814-09	4/8/2014	0.5 U	3 U	0.5 U
HVL-070914-08	7/9/2014	0.5 U	3 U	0.5 U
HVL-102814-13	10/28/2014	0.5 U	3 U	0.5 U
Leachate, East Area				
HVL-011014-23	1/10/2014	0.5 U	3 U	0.5 U
Leak Detection, Side Slope				
HVL-011014-24	1/10/2014	0.5 U	3 U	0.5 U
MW-10D				
HVL-010614-03	1/6/2014	0.5 U	3 U	0.5 U
HVL-040714-05	4/7/2014	0.5 U	3 U	0.5 U
HVL-071014-19	7/10/2014	0.5 U	3 U	0.5 U
HVL-102914-17	10/29/2014	0.5 U	3 U	0.5 U
MW-10S				
HVL-010614-04	1/6/2014	0.5 U	3 U	0.5 U
HVL-040714-04	4/7/2014	0.5 U	3 U	0.5 U
HVL-071014-18	7/10/2014	0.5 U	3 U	0.5 U
HVL-102914-16	10/29/2014	0.5 U	3 U	0.5 U
MW-11D(2)				
HVL-010814-16	1/8/2014	0.5 U	3 U	0.5 U
HVL-040814-11	4/8/2014	0.5 U	3 U	0.5 U
HVL-070814-04	7/8/2014	0.5 U	3 U	0.5 U
HVL-102714-02	10/27/2014	0.5 U	3 U	0.5 U
MW-11S				
HVL-010814-15	1/8/2014	0.5 U	3 U	0.5 U
HVL-040814-10	4/8/2014	0.5 U	3 U	0.5 U
HVL-070814-03	7/8/2014	0.5 U	3 U	0.5 U
HVL-102714-01	10/27/2014	0.5 U	3 U	0.5 U
MW-12D				
HVL-010714-12	1/7/2014	0.5 U	3 U	0.5 U
HVL-071114-23	7/11/2014	0.5 U	3 U	0.5 U
HVL-103014-22	10/30/2014	0.5 U	3 U	0.5 U
MW-13D				
HVL-010614-06	1/6/2014	0.5 U	3 U	0.5 U
HVL-010614-07	1/6/2014	0.5 U	3 U	0.5 U
HVL-040714-03	4/7/2014	0.5 U	3 U	0.5 U
HVL-070814-06	7/8/2014	0.5 U	3 U	0.5 U
HVL-102914-18	10/29/2014	0.5 U	3 U	0.5 U
MW-13S				
HVL-010614-05	1/6/2014	0.5 U	3 U	0.5 U
HVL-040914-14	4/9/2014	0.5 U	3 U	0.5 U
HVL-070814-05	7/8/2014	0.5 U	3 U	0.5 U
HVL-102914-19	10/29/2014	0.5 U	3 U	0.5 U
MW-14D				
HVL-010614-01	1/6/2014	2.9 U	9.4 U	1 U
HVL-040714-01	4/7/2014	0.5 U	3 U	0.5 U
HVL-071014-16	7/10/2014	0.5 U	3 U	0.5 U
HVL-102914-15	10/29/2014	0.5 U	3 U	0.5 U
MW-14R				
HVL-010714-11	1/7/2014	0.5 U	3 U	0.5 U
HVL-071114-21	7/11/2014	0.5 U	3 U	0.5 U
HVL-102814-11	10/28/2014	0.5 U	3 U	0.5 U

All units in micrograms per liter (µg

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Sample ID	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,3-Trichloropropane	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane
MW-14S													
HVL-010614-02	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040714-02	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070914-13	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-070914-14	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102914-14	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-15D													
HVL-010714-09	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-070914-11	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-09	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-10	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-15S													
HVL-010714-10	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-070914-12	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-08	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-17S													
HVL-010914-17	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040814-12	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-040814-13	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070814-01	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-07	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-18D													
HVL-010914-19	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-070914-09	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102714-04	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-18S													
HVL-010914-20	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-070914-10	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102714-03	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-20R													
HVL-011014-22	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-071114-22	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-103014-21	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-23S													
HVL-010714-08	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-071014-20	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-25S													
HVL-010914-21	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-070814-02	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102814-12	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
MW-26R													
HVL-011014-25	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-071014-17	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-103014-20	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
QC, F-BLANK													
HVL-010914-18	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040914-15	4/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-070914-15	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-102714-05	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
Water Supply Well, Corliss													
HVL-011014-26	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040714-07	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-071114-25	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-103014-23	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
Water Supply Well, P. Bunyan													
HVL-032714-27	3/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-040714-06	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U		0.5 U	0.5 U	0.5 U
HVL-071114-24	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U
HVL-103014-24	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2 U	1 U	0.5 U	0.5 U	0.5 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	1,4-Dichlorobenzene	2-Butanone (MEK)	2-Hexanone	4-Methyl-2-pentanone (MIBK)	Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide
MW-14S													
HVL-010614-02	1/6/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040714-02	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-13	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-14	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102914-14	10/29/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-15D													
HVL-010714-09	1/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-11	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-09	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-10	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-15S													
HVL-010714-10	1/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-12	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-08	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-17S													
HVL-010914-17	1/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040814-12	4/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040814-13	4/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070814-01	7/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-07	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-18D													
HVL-010914-19	1/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-09	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102714-04	10/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-18S													
HVL-010914-20	1/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-10	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102714-03	10/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-20R													
HVL-011014-22	1/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071114-22	7/11/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-103014-21	10/30/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-23S													
HVL-010714-08	1/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071014-20	7/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-25S													
HVL-010914-21	1/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070814-02	7/8/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102814-12	10/28/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-26R													
HVL-011014-25	1/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071014-17	7/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-103014-20	10/30/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
QC, F-BLANK													
HVL-010914-18	1/9/2014	0.5 U	6 U	5 U	5 U	13	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040914-15	4/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-070914-15	7/9/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-102714-05	10/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Water Supply Well, Corliss													
HVL-011014-26	1/10/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040714-07	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071114-25	7/11/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-103014-23	10/30/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Water Supply Well, P. Bunyan													
HVL-032714-27	3/27/2014	0.5 U	6 U	5 U	5 U	10 U	20 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-040714-06	4/7/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-071114-24	7/11/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HVL-103014-24	10/30/2014	0.5 U	6 U	5 U	5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	cis-1,4-Dichloro-2-butene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene
MW-14S													
HVL-010614-02	1/6/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040714-02	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070914-13	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070914-14	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102914-14	10/29/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-15D													
HVL-010714-09	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-070914-11	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-09	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-10	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-15S													
HVL-010714-10	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-070914-12	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-08	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-17S													
HVL-010914-17	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040814-12	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-040814-13	4/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070814-01	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-07	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-18D													
HVL-010914-19	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-070914-09	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102714-04	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-18S													
HVL-010914-20	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-070914-10	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102714-03	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-20R													
HVL-011014-22	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-071114-22	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-103014-21	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-23S													
HVL-010714-08	1/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-071014-20	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-25S													
HVL-010914-21	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-070814-02	7/8/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102814-12	10/28/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
MW-26R													
HVL-011014-25	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-071014-17	7/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-103014-20	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
QC, F-BLANK													
HVL-010914-18	1/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040914-15	4/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-070914-15	7/9/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-102714-05	10/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
Water Supply Well, Corliss													
HVL-011014-26	1/10/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040714-07	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-071114-25	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-103014-23	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
Water Supply Well, P. Bunyan													
HVL-032714-27	3/27/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		1 U
HVL-040714-06	4/7/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-071114-24	7/11/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U
HVL-103014-24	10/30/2014	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	2 U	1 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	Iodomethane	m, p-Xylenes	Methylene Chloride	m-Xylene & p-Xylene	o-Xylene	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene
MW-14S													
HVL-010614-02	1/6/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040714-02	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070914-13	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070914-14	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102914-14	10/29/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-15D													
HVL-010714-09	1/7/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-070914-11	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-09	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-10	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-15S													
HVL-010714-10	1/7/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-070914-12	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-08	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-17S													
HVL-010914-17	1/9/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040814-12	4/8/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-040814-13	4/8/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070814-01	7/8/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-07	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-18D													
HVL-010914-19	1/9/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-070914-09	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102714-04	10/27/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-18S													
HVL-010914-20	1/9/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-070914-10	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102714-03	10/27/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-20R													
HVL-011014-22	1/10/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-071114-22	7/11/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-103014-21	10/30/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-23S													
HVL-010714-08	1/7/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-071014-20	7/10/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-25S													
HVL-010914-21	1/9/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-070814-02	7/8/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102814-12	10/28/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
MW-26R													
HVL-011014-25	1/10/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-071014-17	7/10/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-103014-20	10/30/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
QC, F-BLANK													
HVL-010914-18	1/9/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040914-15	4/9/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-070914-15	7/9/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-102714-05	10/27/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
Water Supply Well, Corliss													
HVL-011014-26	1/10/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040714-07	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-071114-25	7/11/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-103014-23	10/30/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
Water Supply Well, P. Bunyan													
HVL-032714-27	3/27/2014	1 U	0.5 U	2 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
HVL-040714-06	4/7/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-071114-24	7/11/2014	1 U	0.5 U	2 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U
HVL-103014-24	10/30/2014	1 U		2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	0.5 U

All units in micrograms per liter (µg/L)

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Sample ID	Sample Date	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
MW-14S				
HVL-010614-02	1/6/2014	0.5 U	3 U	0.5 U
HVL-040714-02	4/7/2014	0.5 U	3 U	0.5 U
HVL-070914-13	7/9/2014	0.5 U	3 U	0.5 U
HVL-070914-14	7/9/2014	0.5 U	3 U	0.5 U
HVL-102914-14	10/29/2014	0.5 U	3 U	0.5 U
MW-15D				
HVL-010714-09	1/7/2014	0.5 U	3 U	0.5 U
HVL-070914-11	7/9/2014	0.5 U	3 U	0.5 U
HVL-102814-09	10/28/2014	0.5 U	3 U	0.5 U
HVL-102814-10	10/28/2014	0.5 U	3 U	0.5 U
MW-15S				
HVL-010714-10	1/7/2014	0.5 U	3 U	0.5 U
HVL-070914-12	7/9/2014	0.5 U	3 U	0.5 U
HVL-102814-08	10/28/2014	0.5 U	3 U	0.5 U
MW-17S				
HVL-010914-17	1/9/2014	0.5 U	3 U	0.5 U
HVL-040814-12	4/8/2014	0.5 U	3 U	0.5 U
HVL-040814-13	4/8/2014	0.5 U	3 U	0.5 U
HVL-070814-01	7/8/2014	0.5 U	3 U	0.5 U
HVL-102814-07	10/28/2014	0.5 U	3 U	0.5 U
MW-18D				
HVL-010914-19	1/9/2014	0.5 U	3 U	0.5 U
HVL-070914-09	7/9/2014	0.5 U	3 U	0.5 U
HVL-102714-04	10/27/2014	0.5 U	3 U	0.5 U
MW-18S				
HVL-010914-20	1/9/2014	0.5 U	3 U	0.5 U
HVL-070914-10	7/9/2014	0.5 U	3 U	0.5 U
HVL-102714-03	10/27/2014	0.5 U	3 U	0.5 U
MW-20R				
HVL-011014-22	1/10/2014	0.5 U	3 U	0.5 U
HVL-071114-22	7/11/2014	0.5 U	3 U	0.5 U
HVL-103014-21	10/30/2014	0.5 U	3 U	0.5 U
MW-23S				
HVL-010714-08	1/7/2014	0.5 U	3 U	0.5 U
HVL-071014-20	7/10/2014	0.5 U	3 U	0.5 U
MW-25S				
HVL-010914-21	1/9/2014	0.5 U	3 U	0.5 U
HVL-070814-02	7/8/2014	0.5 U	3 U	0.5 U
HVL-102814-12	10/28/2014	0.5 U	3 U	0.5 U
MW-26R				
HVL-011014-25	1/10/2014	0.5 U	3 U	0.5 U
HVL-071014-17	7/10/2014	0.5 U	3 U	0.5 U
HVL-103014-20	10/30/2014	0.5 U	3 U	0.5 U
QC, F-BLANK				
HVL-010914-18	1/9/2014	0.5 U	3 U	0.5 U
HVL-040914-15	4/9/2014	0.5 U	3 U	0.5 U
HVL-070914-15	7/9/2014	0.5 U	3 U	0.5 U
HVL-102714-05	10/27/2014	0.5 U	3 U	0.5 U
Water Supply Well, Corliss				
HVL-011014-26	1/10/2014	0.5 U	3 U	0.5 U
HVL-040714-07	4/7/2014	0.5 U	3 U	0.5 U
HVL-071114-25	7/11/2014	0.5 U	3 U	0.5 U
HVL-103014-23	10/30/2014	0.5 U	3 U	0.5 U
Water Supply Well, P. Bunyan				
HVL-032714-27	3/27/2014	0.5 U	3 U	0.5 U
HVL-040714-06	4/7/2014	0.5 U	3 U	0.5 U
HVL-071114-24	7/11/2014	0.5 U	3 U	0.5 U
HVL-103014-24	10/30/2014	0.5 U	3 U	0.5 U

All units in micrograms per liter (µg

Appendix D
Water Level Data

Water Level Measurements
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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
MW-10S	460.17	424.51	424.01		432.03	432.97	432.63		431.58			428.77		427.30		424.60	430.21
MW-10D	460.69		421.96		428.06	428.55	389.19		363.77			373.41		423.54		398.74	351.73
MW-11S	516.44			DRY	422.20	422.59	422.18				420.95					DRY	
MW-11D	516.56			417.65	422.07	422.43					420.79		418.18	417.20		416.27	
MW-11D(2)	515.53																
MW-12S	489.94		DRY		427.23	DRY				423.27						DRY	
MW-12D	489.97	415.92	416.57		420.16	421.39	421.65			419.80			417.59	416.82		415.66	
MW-13S	448.81			422.29	424.75	425.23	424.71			422.90			420.86		420.33	419.52	422.41
MW-13D	448.94	418.89		418.12	422.54	422.91				421.28						417.59	
MW-14S	477.95		DRY		427.06	427.33	426.95	425.55					423.05	422.39		DRY	425.35
MW-14D	477.98	418.33	419.33		424.34	423.65	423.90	422.78					420.45	419.83		418.30	421.39
MW-14R	476.84				363.04	363.31		362.42								360.31	
MW-15S	498.76				426.86			425.43								421.83	
MW-15D	498.52				423.32			421.73								417.40	
MW-16S	480.27				427.52				425.92							421.67	
MW-16D	480.73				425.67				423.45							419.52	
MW-17S	552.44				422.10					421.14						416.31	
MW-18S	538.40				405.27						404.36	402.61			402.03	401.68	
MW-18D	539.00				406.43						405.61					402.91	
MW-19S	485.71				430.35				429.41							427.19	
MW-19D	485.82				422.65				419.88							416.22	
MW-20R	469.43				361.05				371.54							368.72	
MW-22U	545.92																
MW-22L	546.07																
MW-23S	448.34																
MW-23D	448.25																
MW-25S	527.80																
MW-25D	527.52																
MW-26R	481.81																
MW-27S	531.81																
MW-27D	531.92																
MW-28S	466.87																
BC-4S	526.68			399.00	401.24								399.08			397.82	
BC-4D	526.94			366.39	369.12							367.19				366.16	
FM-1	542.59																
FM-2	536.40																

Notes: 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-4D 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

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WELL	12/02/88	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
MW-10S		429.60	432.60	434.17			436.30	441.21	439.43	435.95		434.50			430.93	428.49	426.70
MW-10D		398.87	408.23	429.90			432.07	436.45	434.36	374.97		430.18			426.24	424.33	423.15
MW-11S	420.70		422.63		424.13	425.88		430.40	429.02	426.38			425.10		420.67	DRY	
MW-11D		420.40	422.47					429.35					424.90			418.55	
MW-11D(2)																	
MW-12S			425.65			428.93		432.23			423.02			427.23	DRY	DRY	
MW-12D	418.69	419.12	421.29	422.67		424.63		428.79	427.21					423.07	419.27	417.66	
MW-13S		421.86	423.34	424.15		426.35		430.41	428.80		426.41		425.48		422.40	421.35	
MW-13D			422.76					430.10					424.49				
MW-14S		425.17	427.42		429.20		431.77	437.32	435.15	424.33		429.96			424.96	423.11	DRY
MW-14D		421.96	424.47		425.58		428.09	432.40	430.60			426.31					419.47
MW-14R			362.86					368.74					361.22				361.30
MW-15S			427.43			431.53		436.43			430.68	425.18			424.68	422.97	
MW-15D			423.45					431.47				429.71					
MW-16S			427.90					439.37					431.22				422.35
MW-16D			425.63					433.43					427.26				420.66
MW-17S			423.04			426.88		430.72			426.88		424.79		420.99	419.02	
MW-18S	403.28	404.51	406.58	407.63		408.64		412.41	411.88		409.73			408.62	406.68	404.41	
MW-18D			406.66					412.61						408.48			
MW-19S			432.97					437.37					432.38				
MW-19D			421.87					428.59					423.90				
MW-20R			371.50					377.61						365.39			
MW-22U																	
MW-22L																	
MW-23S																	
MW-23D																	
MW-25S																	
MW-25D																	
MW-26R																	
MW-27S																	
MW-27D																	
MW-28S																	
BC-4S			401.83					406.95						403.42			
BC-4D			369.06					374.72						370.05			
FM-1																	
FM-2																	

Water Level Measurements
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WELL	10/26/89	10/27/89	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
MW-10S			427.78	429.68	428.78	435.27		438.49	441.52	442.60	442.83	442.22	441.27	440.44	439.68	438.34	438.12
MW-10D								434.58				437.30		435.54		433.69	
MW-11S	DRY		DRY	420.88	420.15	426.26		427.82	430.91	431.60	431.25	430.89	430.10	429.34	428.78	427.82	427.27
MW-11D	417.12							427.58						429.20			
MW-11D(2)																	
MW-12S	DRY		DRY	DRY	DRY	428.56	429.00	430.59	433.16	433.09	433.02	432.74	431.96	431.22	430.90	429.95	429.69
MW-12D	416.67							426.75						428.24			
MW-13S	420.52		421.39	422.37	421.75	427.85	427.90	429.29	432.16	432.60	432.43	431.81	431.07	430.51	429.68	429.34	429.21
MW-13D		418.22						428.30						430.42			
MW-14S			423.25	425.29	424.95	432.01	434.11	434.81	438.30	439.52	439.50	438.70	437.47	436.42	435.51	434.01	433.00
MW-14D								430.95						431.68			
MW-14R								366.27						367.42			
MW-15S	421.85		422.85	425.50	424.90	431.31		433.53	436.97	438.07	437.73	437.27	436.25	435.32	432.65	433.38	432.76
MW-15D	418.47							429.11						430.56			
MW-16S								436.38						433.05			
MW-16D								431.37						432.43			
MW-17S	417.57		417.35	420.19	420.58	432.44	427.10	428.38	431.34	431.71	431.47	431.09	430.39	429.67	429.34	428.46	427.90
MW-18S		403.69	403.17	405.25	405.18	407.10	408.05	410.02	412.32		414.05	412.96	412.37	411.90	411.73	412.20	410.48
MW-18D		403.73	403.79	405.27	405.01	409.03		410.72	413.08	414.39	413.66	413.85	413.31	412.48	412.13	411.36	410.59
MW-19S		426.78						436.74						436.71			
MW-19D		417.94						428.38						428.57			
MW-20R	369.50							374.60						375.22			
MW-22U			DRY	DRY	DRY	DRY		DRY	409.70	410.55	410.23	410.39	410.04	409.47	408.97	408.75	408.72
MW-22L			400.83	402.38	412.21	405.19	406.07	407.12	409.53	410.84	410.65	410.60	409.98	409.25	408.75	408.01	407.21
MW-23S								432.63						432.47			
MW-23D								427.92						428.61			
MW-25S								404.32						407.69			
MW-25D								407.37						410.27			
MW-26R																	
MW-27S																	
MW-27D																	
MW-28S																	
BC-4S		399.12						404.52						406.70			
BC-4D		367.40						372.03						374.99			
FM-1																	
FM-2																	

Water Level Measurements
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	06/18/90	07/02/90	07/24/90	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
MW-10S	425.45	436.65	435.11	432.69	425.32	430.05		435.69	436.67	441.32	433.22	444.30	443.36	435.20	429.35	433.49	430.31
MW-10D	433.14		431.02	427.99	431.62				433.89			439.41	433.96	431.16	424.29	428.87	425.25
MW-11S	427.53	426.82	425.44	422.41	420.58	418.67	427.55	426.78	426.58	430.09	431.22	432.12	428.19	425.83	419.28	422.73	419.60
MW-11D			425.17		420.38				427.61			432.05		425.60	418.97	422.63	419.60
MW-11D(2)																	
MW-12S	429.79	428.89	426.32				426.09	429.24	429.03	430.76	432.81	430.35	430.08	428.04	DRY	424.73	DRY
MW-12D			423.97	421.01		418.31			427.02			431.85		424.23	417.46	421.17	418.17
MW-13S	429.07	428.27	426.86	424.68	423.66	423.45	429.03	428.13	430.33	432.43	423.59	434.54	430.83	428.63	419.23	422.47	419.20
MW-13D			425.44		421.13				426.64			433.29		426.07	418.79	422.40	419.15
MW-14S	433.54	432.42	430.71	427.07	425.03	424.47		432.45	420.35	447.30	438.95	440.39	434.42	431.01	424.05	428.57	424.27
MW-14D			427.17		422.14				433.28			435.84	430.25	427.33	420.45	424.73	420.89
MW-14R			355.95		359.66				367.49			370.24		358.20	361.18	361.44	355.42
MW-15S	433.05	432.04	430.29	426.96					433.07			438.36		430.88	423.88	427.90	424.26
MW-15D			425.99						429.29			434.82		426.37	419.11	423.59	419.70
MW-16S			427.06						434.89								
MW-16D			428.09				405.49		431.36								
MW-17S	428.15	427.42	426.04	422.86	420.92				428.25			431.88		426.56	419.34	423.07	410.72
MW-18S	DRY	409.86	408.55	406.71	405.51	404.46		409.38		411.88	403.76	413.42	411.32	409.46	DRY	DRY	DRY
MW-18D	410.70	410.21	408.81	406.71	405.41							415.38	411.78	409.59	404.61	406.61	
MW-19S			433.11									437.67		436.20	427.29	429.69	425.96
MW-19D			424.70									431.53		424.40	416.28	420.71	416.74
MW-20R			360.41		365.62				375.93			376.74		362.13	372.01	367.38	359.15
MW-22U	DRY	408.72	408.47	403.32								401.78		408.83	408.68	408.66	408.68
MW-22L		406.95	405.43	403.47					DRY			411.12		406.33	401.89	403.50	401.71
MW-23S			429.61		426.73				431.73			429.94		430.28	426.11	427.38	425.59
MW-23D			424.96						428.00			431.86		425.43	419.36	422.39	419.50
MW-25S			402.12		399.24				404.54			412.34		403.25	399.17	399.99	398.66
MW-25D			405.81						406.91			414.08		406.76	401.69	403.37	401.33
MW-26R															418.41	422.24	418.64
MW-27S															418.61	423.23	418.89
MW-27D															419.12	423.47	419.53
MW-28S																	
BC-4S			403.62									409.35			400.69	402.05	
BC-4D			368.69									366.55			367.82	369.21	
FM-1																	
FM-2																	

Water Level Measurements
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	10/19/92	03/22/93	06/02/93	09/07/93	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
MW-10S	DRY	427.37	433.05	429.61	424.88	427.86	427.72	DRY	425.98	438.16	434.82	428.32	433.15	444.11	440.80	433.97	
MW-10D	420.98	423.64	428.63	425.74	422.47	424.73	424.07	419.79	422.56	435.70	431.53	424.59	430.60	440.31	437.51	430.54	
MW-11S	DRY	420.13	417.27	413.06	410.27	414.64	412.38	407.22	414.56	421.87	418.51	413.36	419.71	421.50	429.48	414.41	417.75
MW-11D	414.86	420.10	417.13	413.00	410.19	414.50	412.28	407.18	414.34	421.77	418.43	413.26	419.50	421.45	429.42	414.32	416.59
MW-11D(2)																	
MW-12S	416.73	DRY	425.34							430.21					431.24	426.37	
MW-12D	414.37	417.47	420.84	418.33	415.55	418.14	416.80	413.23	416.49	428.03					429.82	422.98	
MW-13S	415.91	417.76	422.08	419.65		419.49	418.12	414.48	417.91	429.13	425.05	418.71	425.06	433.50	431.04	424.23	427.59
MW-13D	415.78	417.56	422.02	419.58	416.81	419.38	418.04	414.42	417.86	429.06	424.98	418.58	424.90	433.35	430.96	424.12	427.49
MW-14S	DRY	423.43	428.37	424.16	422.73	425.00	423.78	DRY	424.23	434.94	430.66	423.86	429.78	440.34	437.20	429.49	432.92
MW-14D	417.55	419.77	424.55	421.64	418.74	421.42	420.20	416.51	419.40	432.14	427.68	420.79	427.28	436.82	434.40	426.88	430.49
MW-14R	356.74	359.29	358.88	355.18	358.09	358.96	357.64	354.24	356.62	365.61				369.81			
MW-15S	420.15	423.16	427.81		421.51	424.97	423.51	419.66	423.86	433.81					427.78	429.11	
MW-15D	416.43	418.66	423.40	420.59	417.67	420.36	419.13	415.39	418.49	431.00					425.25	425.50	
MW-16S																	
MW-16D																	
MW-17S	414.86	418.76	423.44	420.18	416.45	421.45	419.24	413.79	420.11	428.54	425.98	420.54	426.26	431.64	429.74	425.04	427.53
MW-18S	402.62	404.70	407.14	404.83	403.39	406.60	405.20	403.10	405.74	411.72					DRY	408.31	
MW-18D	402.31	403.76	406.46	404.57	402.82	404.78	403.96	401.86	403.78	412.14	408.71	404.27	408.24	416.00	414.02	408.47	
MW-19S	423.42	426.81	429.59	426.05	423.79	427.18	425.62	422.10	427.13	434.65					435.56	430.05	
MW-19D	413.53	415.55	419.27	421.38	417.80	418.42	423.53	412.11	415.87	430.29					430.78	422.34	
MW-20R	363.22	365.37	365.90	361.92	364.98	365.22	364.22	359.17	363.85	373.56				377.05			
MW-22U	408.63	408.59	408.58	408.89	408.63	408.64	408.63	408.57	408.54	409.08					410.29	405.03	
MW-22L	399.72	401.02	403.34	401.49	400.09	401.97	401.20	399.45	401.09	408.62					409.88	408.78	
MW-23S	422.09	426.54	427.46	425.22	423.01	426.11	424.79	420.91	426.02	430.94	427.78	424.75	429.37	433.76	431.80	427.50	
MW-23D	416.24	419.16	422.21	419.55	417.14	419.74	418.50	414.73	418.86	427.76					429.71	423.78	
MW-25S	397.72	398.29	400.04	398.53	397.87	399.47	397.06	397.58	399.71	407.39			401.96		410.74	402.43	
MW-25D	399.65	400.76	403.36	401.38	399.88	401.89	400.91	399.23	401.32	409.70	405.91	401.29	405.30		412.72	404.96	
MW-26R	415.27	417.27	419.19	418.28	415.67	418.73	417.29	413.53	416.61	428.77				434.35			
MW-27S	416.24	417.80	423.19	418.84	416.44	419.39	417.93	415.62	417.69	430.84					433.34	426.05	
MW-27D	416.07	418.44	423.34	419.84	416.84	419.92	418.69	415.20	417.89	430.78					433.07	425.86	
MW-28S																	
BC-4S	397.85	399.65	401.91	399.98	398.21	400.45	399.62	397.63	399.46	406.34					407.84	402.93	
BC-4D	364.26	366.06	367.48	364.51	359.84	366.08	365.16	362.99	364.10	373.21					376.22	368.33	
FM-1																	
FM-2																	

Water Level Measurements
2014 Annual Monitoring Report
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WELL	12/11/96	03/25/97	06/09/97	09/08/97	12/15/97	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
MW-10S	436.16	445.61	439.49	433.31	432.19	437.30	433.77	428.00	433.79	442.47	436.83	431.71	430.83		436.94	432.19	428.97
MW-10D	434.00	442.38	436.18	429.66	427.41	434.53	429.96	423.75	431.90	438.93	433.70	426.89	431.44	436.77	433.55	427.03	424.19
MW-11S		423.39	418.63	412.39	412.87	417.79	414.02	408.99	415.83	420.90	416.45	412.06	415.73	423.34	426.51	421.59	419.72
MW-11D		423.34	418.51	413.28	412.78	417.61	413.91	408.90	415.74	420.83	416.35	411.36	414.93	423.39	426.35	421.50	
MW-11D(2)															425.56	419.62	416.78
MW-12S		433.87					425.82			431.86	427.97		427.32	430.54	427.78	423.13	421.56
MW-12D		433.87					422.07			430.90	426.27	419.38	423.50	428.36	425.58	419.44	417.88
MW-13S		434.98	429.54	423.56	422.52	428.26	423.57	418.03	426.12	432.13	427.19	421.46	425.30	429.86	427.12	421.34	421.16
MW-13D		434.90	429.43	423.42	422.39	428.09	423.70	417.90	425.97	432.01	427.04	421.08	425.06	430.60	427.02	421.03	419.24
MW-14S		441.55	435.71	428.32	427.05	433.69	428.75	422.95	430.34	438.56	432.56	425.72	430.83	436.56	432.40	425.90	424.15
MW-14D		438.83	432.64	425.79	424.31	430.99	426.18	419.88	428.76	435.53	430.66	421.99	427.70	432.97	429.91	423.00	420.48
MW-14R		372.37	369.35			368.84	365.64		364.34	373.99	367.36	356.76	363.30	369.84	366.37	359.91	360.24
MW-15S		435.18					424.03			432.64		421.22		430.58	427.04	421.28	419.49
MW-15D		427.38					514.69			424.18		411.73		421.54			
MW-16S																	
MW-16D																	
MW-17S		432.24	428.74	424.01	439.79	427.79	424.56	419.45	425.71	430.27	426.52	421.82	425.80	427.62	426.16	421.84	419.87
MW-18S		414.02		Dry	Dry	410.57	407.51		408.63	412.72	Dry	Dry	408.54	411.43	408.98	405.65	404.28
MW-18D	410.41	417.25	412.99	407.54	416.88	411.08	407.44	403.67	408.40	415.00	410.69	405.37	407.87	412.18	409.91	399.71	403.71
MW-19S		438.73					429.57			436.29		427.23		435.42	432.31	427.38	426.66
MW-19D		434.56					420.63			430.58		418.87		428.76	426.35	418.67	
MW-20R		374.66				375.28	369.21			377.97				377.63	372.31	366.82	366.18
MW-22U		411.65					408.60		408.55	410.21	408.62	408.74	408.52	408.87	408.49	408.65	
MW-22L		413.61		404.22			404.12		404.66	411.54	407.15	402.27	404.35	408.62	406.42	402.24	
MW-23S	427.10	434.60	431.35	427.15	427.01	430.92	427.28	424.07	428.77	432.50	427.83	426.17	429.15	431.62	428.74	426.10	425.11
MW-23D		433.41		423.11	422.29	427.46	423.22		425.09		425.35			428.71	426.04	420.98	
MW-25S		415.13		401.39			401.46		403.13	412.72	406.26	399.65	402.07	408.62	405.62	399.66	399.04
MW-25D		416.69	411.61	404.92	403.70	408.83	404.80	401.02	405.80	414.14	408.78	402.74	405.09	410.31	408.06	402.82	
MW-26R		436.69				428.69			426.31	433.49				430.47	427.51	420.53	417.96
MW-27S		436.35					425.22			435.18				431.83	429.31	421.77	
MW-27D		437.98					425.02			434.74				431.95	428.99	422.76	
MW-28S															427.07	423.74	
BC-4S		410.54					401.92		402.72							400.12	
BC-4D		380.40					371.40		369.96							367.67	
FM-1														404.48	401.66	397.12	395.29
FM-2														405.20	402.76	398.67	396.75

Water Level Measurements
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WELL	03/22/01	04/19/01	07/12/01	10/23/01	01/18/02	04/25/02	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
MW-10S	427.53	421.97	428.15	420.04	435.69	438.75	432.88	425.14	430.66	433.54	428.64	426.52	432.67	432.97	423.80	426.31	431.62
MW-10D	424.34	425.08	423.72	419.61	433.32	435.80	428.84	422.88	427.50	430.82	424.40	423.28	429.32	430.20	421.95	423.54	427.69
MW-11S	418.59	420.17	418.34	413.80	426.51	428.58	423.19	416.94	425.25	424.44	418.96	418.20	423.74	423.49	417.12	417.45	421.87
MW-11D	418.50	420.07	418.27	413.73	426.55	428.29	423.10	416.88	424.98	424.33	418.88	418.11	423.67	423.42			421.76
MW-11D(2)	416.74	417.20	415.95	412.88	425.34	427.79	421.18	414.99	420.21	422.49	416.52	415.89	421.73	422.53	414.92	415.64	419.73
MW-12S	419.49	421.98	419.94	416.82	428.12	429.76	424.84	418.13	423.57	425.56	420.23	418.73	425.10	427.12	418.39	418.79	
MW-12D	417.07	417.34	416.12	412.92	425.48	427.70	421.22	415.87	420.27	422.59	416.69	416.13	421.69	422.66	415.12	415.71	420.12
MW-13S	419.02	419.17	417.86	414.65	427.30	429.86	423.87	418.02	422.46	424.50	418.68	418.22	423.64	424.45	416.60	417.58	421.86
MW-13D	418.65	418.89	417.62	414.36	426.99	429.28	423.06	417.18	423.58	425.19	418.12	417.81	423.27	424.20	416.29	417.31	421.64
MW-14S	423.07	424.36	422.73	418.24	431.60	434.77	427.58	421.26	426.91	429.14	422.85	422.70	427.86	428.02	421.45	422.76	425.78
MW-14D	420.38	420.88	419.58	416.36	429.53	432.06	424.95	418.65	423.28	426.58	420.23	419.66	425.59	423.17	418.46	419.77	423.61
MW-14R	351.60	351.25	344.49	345.94	352.63	357.03	348.54	350.49	352.16	356.12	347.33	351.66	355.57	358.31	348.28	352.96	355.64
MW-15S	418.65	419.71	418.49	414.65	426.65	429.36	423.02	416.69	421.63	423.99	418.43	418.04	423.14	423.40	416.59	417.34	421.18
MW-15D												411.39	417.25	425.34	417.27	418.73	415.41
MW-16S																	
MW-16D																	
MW-17S	418.51	419.89	418.49	413.12	426.54	428.14	423.46	417.19	422.29	424.13	419.13	417.88	423.59	423.63	417.01	416.56	421.87
MW-18S	403.78	404.29	403.73	402.93	409.63	412.72	406.88	403.06	405.43	407.56	403.93	403.45	407.29	407.34	403.52	403.27	
MW-18D	403.36	403.75	403.09	401.44	409.31	410.30	406.80	402.61	405.07	407.43	403.58	402.96	406.68	407.33	402.80	402.86	
MW-19S	425.04	426.53	425.59	422.06	432.98	434.46	428.75	423.15	428.49	430.11	424.68	425.14	429.91	429.94	422.85	423.99	
MW-19D	419.13	416.48	418.04	412.43	427.77	427.43	420.61	417.61	423.12	422.82	416.52	415.85	421.87	425.71	417.37	416.98	423.55
MW-20R	359.06	357.77	348.98	353.10	360.85	363.44	352.90	356.14	357.16	361.74	351.00	356.61	361.66	364.08	351.66	359.30	361.23
MW-22U	415.11		408.52	408.51	408.58	408.71	408.63	408.60	408.58	408.58	408.58	408.54	408.55	408.55	408.51	408.53	
MW-22L	400.35	402.85	400.12	398.94	405.67	408.34	403.40	399.76	401.60	403.97	400.42	400.03	403.19	398.80	399.89	399.84	
MW-23S	424.28	424.38	424.02	420.01	429.36	430.66	426.72	421.88	426.86	427.36	423.52	423.38	427.33	426.98	421.90	423.12	426.42
MW-23D	418.31	418.24	417.24	414.80	425.84	428.05	422.13	417.02	421.05	423.50	418.02	417.75	422.92	423.21	416.77	417.47	420.82
MW-25S	398.49	399.12	398.45	397.69	403.93	408.25	401.21	397.96	400.43	401.87	398.56	398.62	401.25	401.40			400.23
MW-25D	399.04	401.61	400.66	399.30	406.84	410.29	404.55	400.28	402.89	405.11	401.15	400.71	404.54	404.80			401.62
MW-26R	418.40	419.10	417.36	414.16	426.39	429.08	421.86	415.99	420.47	423.51	417.02	416.39	422.04	422.59	414.50	415.49	419.60
MW-27S	417.86	418.95	417.81	415.59	427.92	431.41	424.01	416.90	421.45	425.44	418.43	417.81	424.31	424.72	416.86	417.50	421.54
MW-27D	418.61	419.53	418.49	415.18	428.07	431.16	424.05	417.41	421.92	425.55	419.02	418.27	424.47	425.08	417.15	418.02	422.11
MW-28S					427.42	428.56	424.95	422.18		425.82	422.21		424.25	425.50			421.63
BC-4S	397.88	398.36	397.90	396.63	403.56	405.74	401.04	397.08	399.11	401.71	397.90	397.53	400.87	400.42	397.20	397.06	399.05
BC-4D	364.58	364.70	361.47	360.01	366.94	371.19	365.29	363.26	364.35	367.83	362.29	362.80	366.45	368.67	361.83	362.51	365.58
FM-1	395.11	395.14	395.03	394.20	400.29	404.03	398.34	394.69	395.29	398.80	395.20	394.49	397.28	398.92	394.84	395.27	398.88
FM-2	396.35	396.50	397.80	395.30	400.88	404.80	399.46	395.89	396.75	400.20	396.65	395.70	398.82	400.29	396.07	395.61	396.69

Water Level Measurements
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	02/23/05	04/21/05	07/22/05	10/17/05	01/18/06	04/14/06	08/08/06	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
MW-10S		432.98	430.84	425.93	440.79	438.37	431.52	427.17	442.36	438.36	432.94	430.61	435.04	435.58	431.82	423.99	435.75
MW-10D		429.57	426.49	422.63	437.31	435.68	426.74	423.53	439.31	436.82	428.95	425.67	431.93	432.69	427.35	421.94	432.42
MW-11S		422.93	421.08	416.47	430.09	433.19	420.89	416.76	430.96	428.60	422.56	419.23	425.37	425.56	421.17	416.01	427.07
MW-11D		422.85	420.98	416.40	429.95	428.09	420.77	416.72	431.28	428.63	422.47	419.15	425.58	425.45	421.10	415.93	426.96
MW-11D(2)		421.50	419.03	414.94	428.78	427.98	419.00	415.75	431.30	429.01	421.14	417.51	424.15	424.91	419.73	414.67	424.94
MW-12S			422.63			429.50	422.32	417.51	432.11	429.76	424.03		426.45	426.78	421.84		428.32
MW-12D		421.66	419.09	415.19	428.69	427.81	418.97	415.93	430.87	428.67	421.10	417.45	423.68	424.52	419.37	414.83	424.81
MW-13S		423.36	420.64	416.81	430.15	429.04	420.11	417.49	432.11	429.85	422.44	419.00	424.94	425.80	420.50	416.34	426.40
MW-13D		423.20	420.49	416.65	430.04	428.97	419.92	417.35	432.02	429.77	422.27	418.93	424.96	425.58	420.39	416.19	426.24
MW-14S		427.26	425.00	421.19	436.81	435.05	424.99	421.40	438.52	435.52	426.92	424.48	430.14	430.98	425.26		431.42
MW-14D		425.37	422.64	418.65	432.93	432.11	422.65	419.35	435.41	433.26	424.94	421.12	427.89	428.77	423.10	418.21	428.23
MW-14R		359.64	354.42	354.06	360.01	365.51	350.93	354.43	365.69	364.03	352.31	355.75	359.78	362.63	356.22	353.58	358.61
MW-15S		422.66	420.53	416.50	430.91	429.01	420.43	416.74	432.43	429.92	422.23	418.84	425.20	425.92	420.69	415.96	426.49
MW-15D		417.13	414.42	417.49	424.63	423.80	414.42	411.10	427.02	424.90	416.71	412.77	419.63	420.02	414.79	409.93	420.11
MW-16S																	
MW-16D																	
MW-17S		422.78	421.20	416.32	429.49	427.73	420.97	414.66	430.35	428.03	422.45	417.86	424.52	425.14	421.19		426.49
MW-18S	405.68	406.27	405.74		403.62	410.66	405.63	403.63	404.80	402.66	398.23	395.80	408.59	408.98	405.77	403.16	409.61
MW-18D	404.87	406.10	404.95		405.80	412.59	405.57	403.23	408.12	406.42	400.03	397.25	408.89	409.69	405.62	402.77	409.36
MW-19S		429.68	427.13	423.14	436.89	433.99	426.70	423.21	437.47	434.32	427.92	425.69	431.40	431.34	426.83	422.49	434.55
MW-19D		424.87	419.51	416.31	431.44	429.22	418.33	416.38	431.65	430.83	420.54	418.63	425.59	422.96	419.45	416.83	426.70
MW-20R		367.10	365.10	359.88	364.98	371.55	353.35	360.35	372.19	369.70	354.75	359.85	363.34	366.95	360.29	357.26	363.90
MW-22U		408.48	408.45	408.42	409.31	408.68	408.66	408.67	410.75	409.12	403.21	408.66	408.63	408.68	408.64	408.65	408.63
MW-22L		402.44	401.68	399.67	408.36	408.67	401.95	399.93	411.13	409.53	408.84	400.70	404.84	405.84	402.06	399.66	405.39
MW-23S		427.22	426.81		434.54	431.58	426.99	423.52	434.74	432.07	428.03	426.22	428.13	427.94	425.67	421.36	432.59
MW-23D		422.38	421.50		431.53	429.77	421.75	418.56	432.41	430.17	423.10	420.33	424.12	425.12	419.94	415.95	427.22
MW-25S		400.86	398.32	396.69	407.84	407.33	398.24	396.69	410.92	408.72	399.75	397.52	402.59	404.10	399.63	397.85	403.98
MW-25D		402.57	400.62	398.08	408.45	408.77	400.76	398.27	411.43	409.96	402.42	399.38	404.63	406.01	401.67	398.85	405.31
MW-26R		420.93	418.16	414.26	427.64	427.15	417.51	416.03	431.96	429.28	420.27	420.27	422.65	423.93	417.77	412.87	421.81
MW-27S		423.09	421.01	416.89	431.74	431.41	421.17	417.03	434.62	432.82	423.82	419.02	426.60	428.13	421.57	416.64	426.62
MW-27D		423.70	421.51	417.15	431.58	431.22	421.57	417.67	434.38	432.58	424.02	419.79	426.33	427.98	422.01	416.76	426.75
MW-28S		423.30			430.34	428.30	423.12		430.59	428.57	423.37	422.21	426.60	426.59	422.20		428.75
BC-4S		399.65	399.63	397.03	405.98	406.21	399.62	397.42	408.86	405.70	401.11	398.20	402.59	403.49	399.51	396.97	402.94
BC-4D		367.62	366.14	363.33	370.34	374.62	364.84	364.03	375.24	375.48	366.10	365.42	369.13	370.84	366.13	362.86	367.21
FM-1		395.77	396.29	394.54	402.96	404.72	396.37	394.77	407.49	407.03	398.64	395.16	399.50	401.03	396.45	394.63	397.95
FM-2		397.47	398.29	395.79	404.02	405.29	398.29	395.96	408.00	406.24	399.82	396.59	401.02	402.38	398.39	395.85	399.52

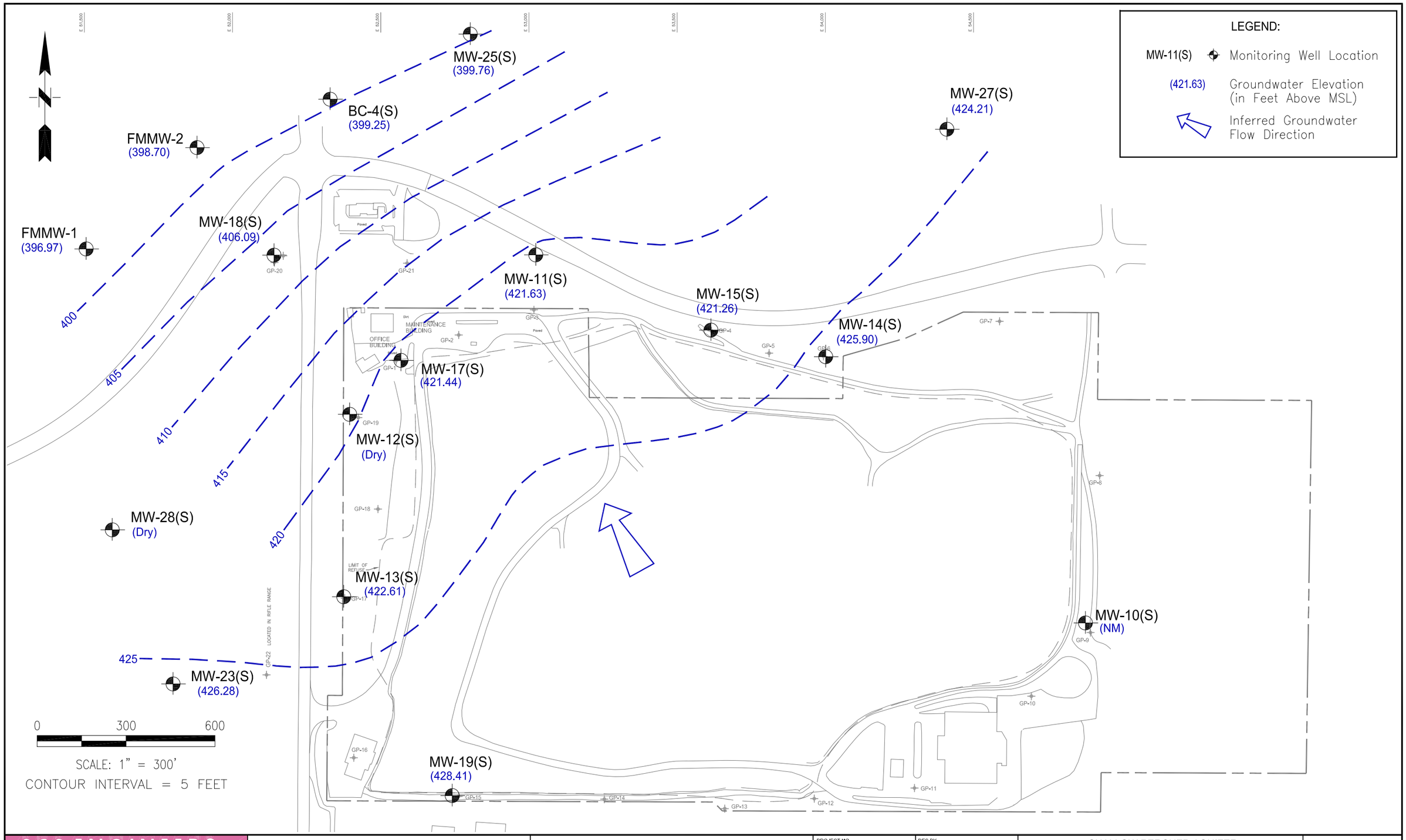
Water Level Measurements
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	04/16/09	07/09/09	10/29/09	01/28/10	04/08/10	07/15/10	10/14/10	01/06/11	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
MW-10S	435.81	432.63	428.51	436.03	436.53	434.81						NM					
MW-10D	433.37	428.97	424.31	433.40	435.08	431.80	431.80	433.13	438.59	434.89	427.08	429.64	435.29	431.89	425.34	432.96	434.69
MW-11S	425.90	422.45	418.70	421.84	426.40	424.64	420.33	425.99	439.94	426.99	420.44	424.08	427.21	424.31	419.24	426.02	426.89
MW-11D	425.83	422.37	418.63	425.89	426.29	424.98	420.24	425.57		426.87	420.36	423.92	427.06	424.16	419.16	425.85	427.61
MW-11D(2)	425.62	421.34	416.91	425.12	425.91	423.95	418.26	425.12	430.73	427.83	419.03	422.03	427.27	423.77	417.64	425.38	426.58
MW-12S	427.09			426.12	427.57	447.94		426.83	430.74	428.05		425.27	428.27	425.87	424.39	427.14	427.73
MW-12D	425.39	421.36	416.99	425.05	426.23	423.77	418.34	424.98	430.97	426.80	419.51	422.20	427.19	424.05	417.36	425.02	426.16
MW-13S	426.75	422.59	418.68	426.92	427.13	425.06	420.00	426.07	431.11	427.91	421.27	423.90	428.38	425.74	418.78	426.20	427.26
MW-13D	426.58	422.47	418.50	426.73	426.92	424.88	419.73	426.21	430.92	427.65	421.07	423.69	428.79	425.44	418.59	425.98	427.19
MW-14S	431.29	426.75	423.62	431.34	432.26	429.93	424.64	431.29	437.49	433.33	424.75	428.94	433.25	429.47	423.21	431.40	432.84
MW-14D	429.45	424.96	420.31	429.20	429.85	427.91	422.51	428.70	435.03	431.36	422.72	425.72	431.43	428.18	420.98	429.35	430.98
MW-14R	364.57	355.98	354.34	359.90	362.73	356.73	358.48	359.76	362.68	362.71	356.39	357.34	362.73	355.53	351.39	358.93	361.72
MW-15S	426.16	422.11	418.51	426.24	426.91	424.79	420.05	426.08	431.56	427.99	420.24	423.86	427.88	424.57	418.77	426.33	427.65
MW-15D	421.20	416.80	412.07	420.91	421.50	419.47	414.28	420.71	426.63	423.43		417.12	423.17	420.02	412.56	421.08	422.12
MW-16S																	
MW-16D																	
MW-17S	425.30	422.33	418.25	425.41	425.64	424.14	420.28	425.15	428.94	426.19	420.39	423.30	426.41	423.99	419.44	425.44	426.09
MW-18S	409.13	406.63	403.75	409.42	409.53	408.14	405.00	409.08	412.37	409.96	405.09	406.83	410.15	407.87	404.69	409.43	409.41
MW-18D	409.93	406.99	403.83	409.87	410.50	409.13	404.88	409.62	414.67	412.11	405.15	407.34	411.34	408.97	404.59	410.13	410.68
MW-19S	432.12	428.13	425.61	432.46	432.53	430.20	426.67	432.10	435.63	432.64	426.96	431.25	433.59	429.13	425.31	432.40	432.84
MW-19D	427.71	424.29	419.98	430.51	431.67	425.29	414.40	426.03	434.34	423.97	424.97	426.29	432.47	428.82	413.1	427.16	431.82
MW-20R	372.20	360.80	358.55	364.03	367.05	359.84	365.51	365.03	364.26	366.50	360.18	360.47	365.47	360.16	353.18	363.58	365.12
MW-22U	408.61	408.63	408.62	408.49	408.46	408.55	408.47	408.52		408.59	408.58	408.55	408.53	408.59	410.72	408.67	407.52
MW-22L	405.97	403.27	400.42	405.88	406.56	405.19	401.33	405.71		408.30	401.69	403.42	407.40	405.2	401.18	406.22	406.57
MW-23S	430.26	427.99	424.66	430.57	427.64	429.01	426.85	428.60	433.36	430.65	427.04	428.54	429.91	427.39	424.23	448.34	
MW-23D	427.34	423.39	418.20	427.19	430.65	425.72	421.05	425.28	431.53	431.51	421.34	423.14	426.84	423.84	419.35	426.05	426.45
MW-25S	402.73	399.34	398.60	402.62	403.99	402.02	398.86	403.64	410.32	406.94	397.98	401.60	406.43	403.1	398.56	404.35	405.68
MW-25D	405.16	402.10	399.77	404.93	406.04	404.43	399.05	400.66	411.06	408.46	400.34	403.42	407.77	405.22	400.45	406.21	407.27
MW-26R	423.97	418.88	413.99	422.47	423.20		416.44	421.15		423.31	414.36	416.29	422.11	418.41	411.81	421.61	
MW-27S	427.87	423.46	418.19	427.68	428.89	426.90	420.24	427.77	434.21	430.81	420.43	424.02	430.11	426.56	418.93	428.23	429.31
MW-27D	428.09	423.75	418.77	427.73	428.97	426.83	420.75	427.81	433.82	430.84	421.07	424.15	430.02	426.79	419.64	428.23	429.02
MW-28S	426.91	423.73		427.12	427.21	426.05	422.12	426.83	429.44	427.4	422.19	424.67	427.77	NM	422.07	421.75	
BC-4S	402.94	400.94	397.50	403.68	404.21	402.97	399.19	403.27	408.19	405.68	399.08	400.62	404.73	402.68	398.69	403.71	403.88
BC-4D	371.11	366.80	363.75			368.16						367.04	371.79	383.51	382.23	369.29	370.94
FM-1	400.76	398.56	395.01	408.44	401.49	400.27	395.53	400.45	407.24	404.19	395.63	404.79	402.84	400.23	395.59	400.93	402.29
FM-2	402.25	399.71	396.36	394.49	402.89	401.76	397.37	401.98	408.19	404.75	397.45	390.61	403.65	401.73	397.31	402.47	402.53

Water Level Measurements
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

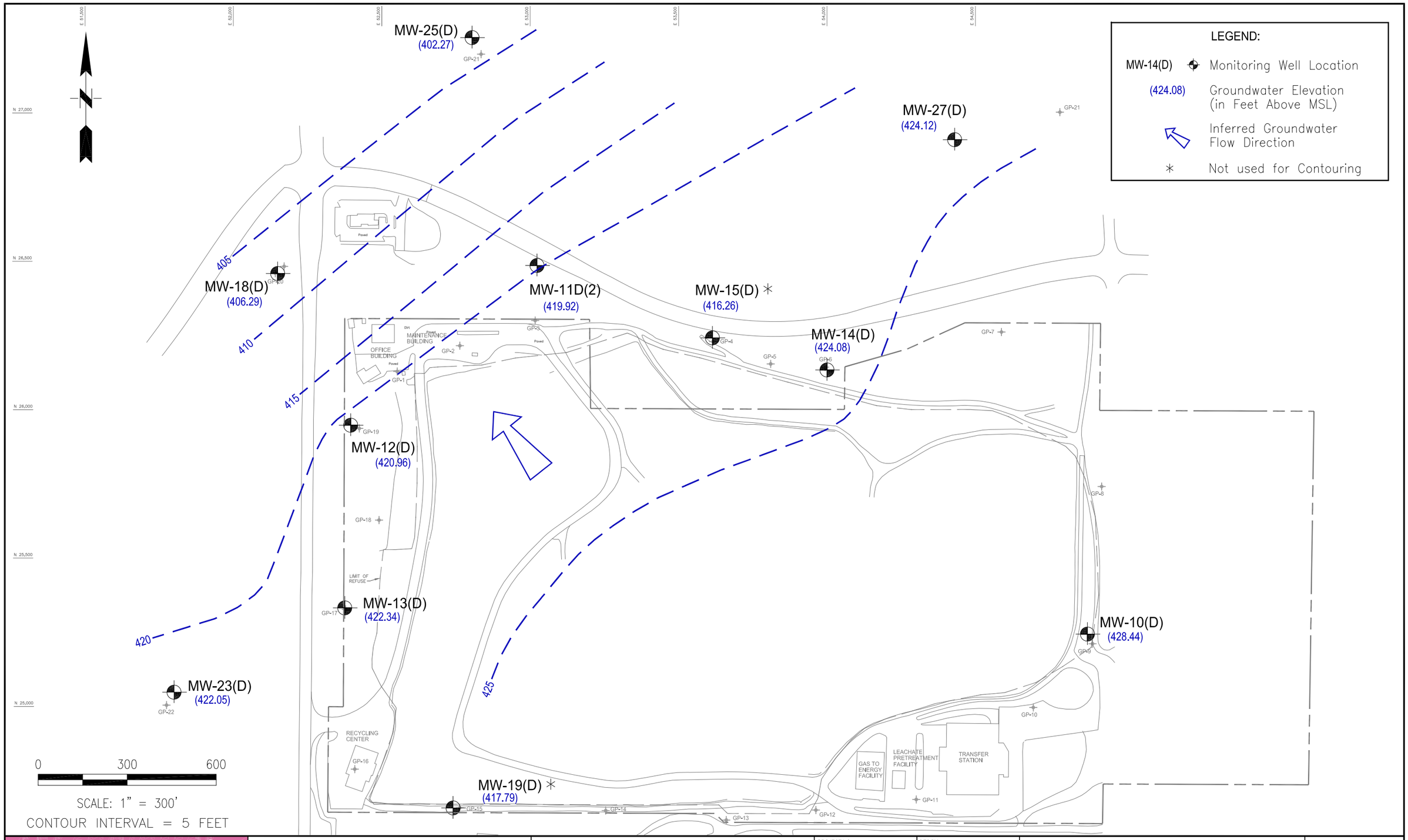
WELL	07/25/13	10/10/13	01/06/14	04/09/14	07/07/14	10/29/14
MW-10S						
MW-10D	428.83	429.93	428.44	438.39	432.16	426.71
MW-11S	422.45	423.53	421.63	429.57	425.14	420.59
MW-11D	422.36	423.00	421.46	426.41	421.30	415.65
MW-11D(2)	421.10	422.28	419.92	429.89	424.78	418.93
MW-12S		429.72		431.44		
MW-12D	420.88	422.63	420.96	431.00	424.79	419.07
MW-13S	422.06	423.81	422.61	431.26	425.29	420.94
MW-13D	421.90	423.69	422.34	431.15	425.34	420.74
MW-14S	427.06	428.05	425.90	436.85	430.66	425.29
MW-14D	424.81	425.68	424.08	434.58	428.73	422.53
MW-14R	350.22	356.52	361.20	365.59	355.06	354.03
MW-15S	422.49	424.26	421.26	431.45	425.66	420.33
MW-15D	416.60	417.52	416.26	426.12	420.52	414.27
MW-16S						
MW-16D						
MW-17S	422.34	423.23	421.44	428.61	424.66	419.74
MW-18S	404.55	408.55	406.09	413.40	408.57	404.80
MW-18D	404.95	408.89	406.29	414.68	410.23	405.08
MW-19S	428.38	430.49	428.41	436.80	433.39	426.51
MW-19D		417.79	422.87	435.79	433.79	413.86
MW-20R	351.28	358.18	368.18	369.16	357.48	359.32
MW-22U	402.40	415.56	404.42	411.57	406.91	400.37
MW-22L	401.44	405.98	401.85	410.52	406.07	399.47
MW-23S	426.52	427.77	426.28	427.29	427.45	
MW-23D	421.45	423.18	422.05	430.98	424.81	420.99
MW-25S	400.97	401.44	399.76	408.85	405.19	399.10
MW-25D	403.32	403.66	402.27	410.54	408.36	401.15
MW-26R	415.23	415.50	414.80	423.73	354.16	
MW-27S	423.86	422.84	424.21	433.28	429.46	421.79
MW-27D	423.92	424.08	424.12	433.00	428.92	421.85
MW-28S		424.77				
BC-4S	401.18	402.62	399.25	407.92	404.80	393.68
BC-4D				374.59	386.54	
FM-1	398.94	396.69	396.97	406.29	401.84	395.37
FM-2	400.03	398.58	398.70	406.80	402.90	396.93

First Quarter 2014



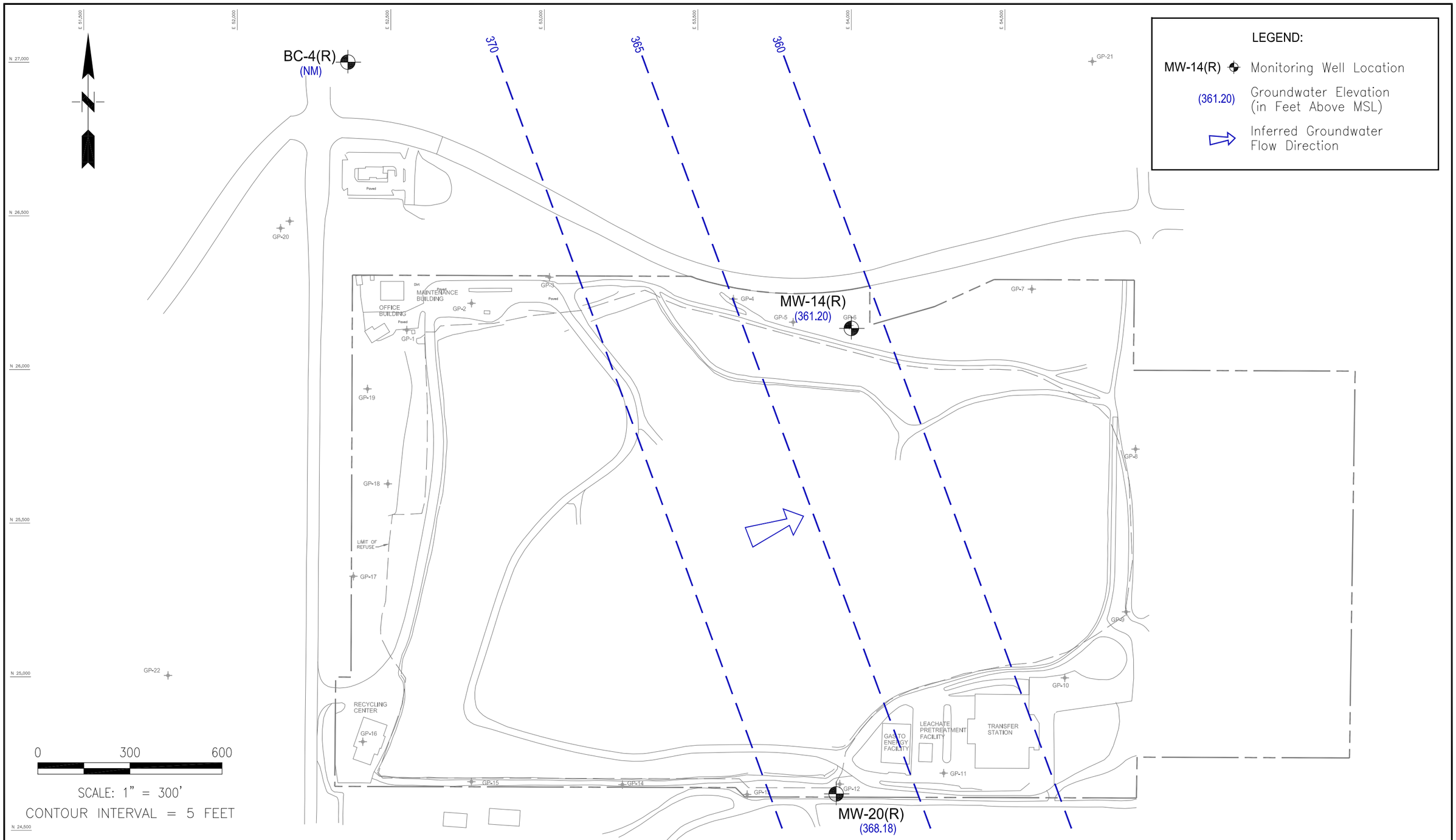
SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04214002.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP JANUARY 10, 2014 HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE APRIL 2014
SCALE AS SHOWN	CHK BY ER		FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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

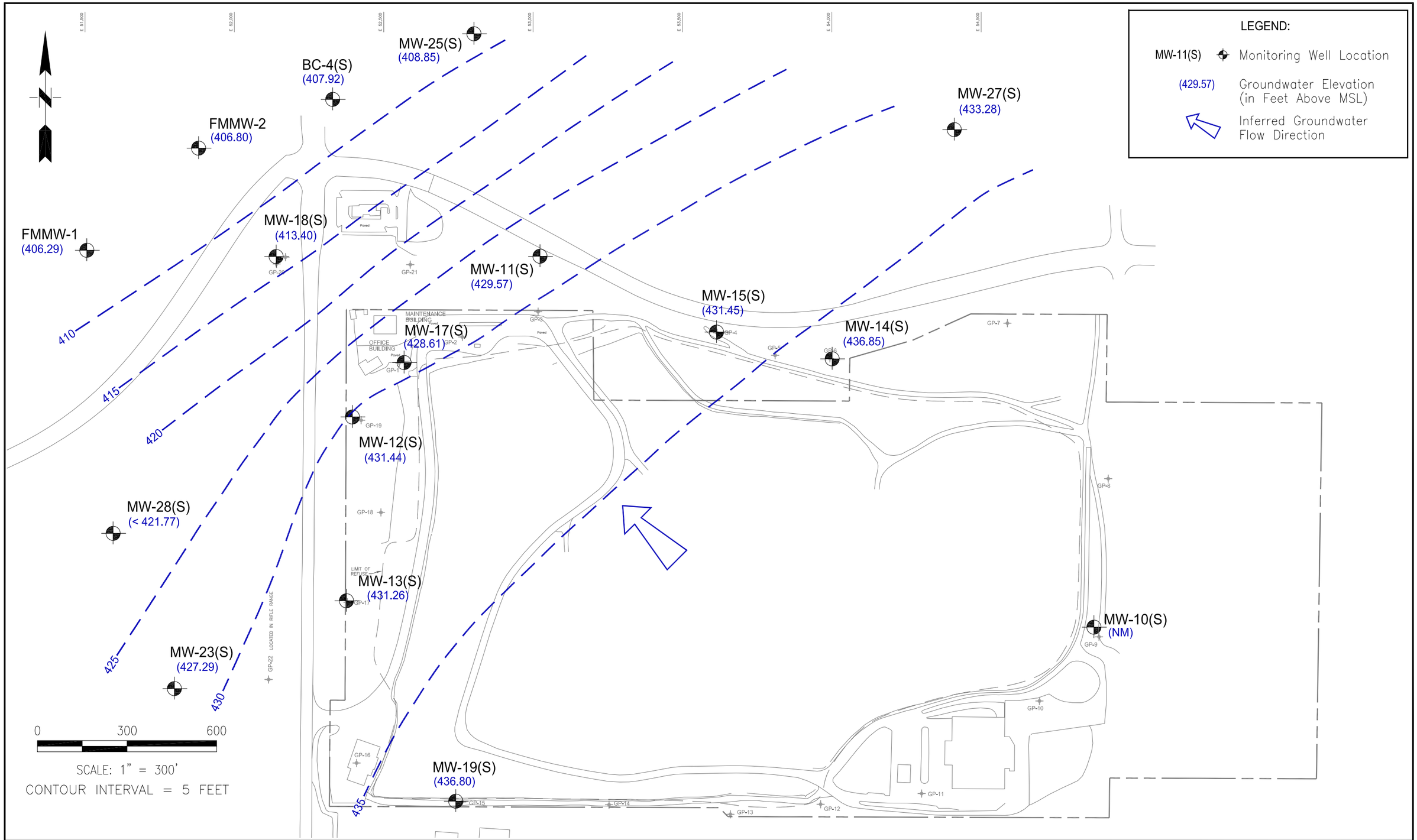
PROJECT NO. 04214002.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP JANUARY 10, 2014	DATE APRIL 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		



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

PROJECT NO. 04214002.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP JANUARY 10, 2014	DATE APRIL 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

Second Quarter 2014



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

PROJECT NO. 04214002.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP APRIL 7, 2014	DATE JULY 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		

LEGEND:

MW-14(D) — Monitoring Well Location

(434.58) — Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

* Not used for Contouring

MW-25(D) (410.54)

MW-27(D) (433.00)

MW-18(D) (414.68)

MW-11D(2) (429.89)

MW-15(D) * (426.12)

MW-14(D) (434.58)

MW-12(D) (431.00)

MW-13(D) (431.15)

MW-23(D) (430.98)

MW-19(D) (435.79)

MW-10(D) (438.39)

410 415 420 425 430 435

MAINTENANCE BUILDING

OFFICE BUILDING

LIMIT OF REFUSE

RECYCLING CENTER

GAS TO ENERGY FACILITY

LEACHATE PRETREATMENT FACILITY

TRANSFER STATION

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. 04214002.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP APRIL 7, 2014	DATE JULY 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		

LEGEND:

MW-14(R) — Monitoring Well Location

(365.59) — Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

BC-4(R)
(374.59)

MW-14(R)
(365.59)

MW-20(R)
(369.16)

375

370

365

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

OFFICE BUILDING

MAINTENANCE BUILDING

LIMIT OF REFUSE

RECYCLING CENTER

GAS TO ENERGY FACILITY

LEACHATE PRETREATMENT FACILITY

TRANSFER STATION

E 51,500 E 52,000 E 52,500 E 53,000 E 53,500 E 54,000 E 54,500

N 27,000 N 26,500 N 26,000 N 25,500 N 25,000 N 24,500

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. 04214002.03	DES BY MO
SCALE AS SHOWN	CHK BY ER
CAD FILE FIGURE 3	APP BY KGL

LOWER REGIONAL AQUIFER
WATER LEVEL MAP
APRIL 7, 2014

HIDDEN VALLEY LANDFILL
PIERCE COUNTY, WASHINGTON

DATE JULY 2014

FIGURE 3

Third Quarter 2014

LEGEND:

MW-11S — Monitoring Well Location

(425.14) — Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

MW-25S (405.19)

BC-4S (404.80)

FMMW-2 (402.90)

MW-27S (429.46)

FMMW-1 (401.84)

MW-18S (408.57)

MW-11S (425.14)

MW-15S (425.66)

MW-17S (424.66)

MW-14S (430.66)

MW-12S (< 424.54)

MW-28S (< 421.77)

MW-13S (425.29)

MW-23S (427.45)

MW-10S (NM)

MW-19S (433.39)

405 410 415 420 425 430

MAINTENANCE BUILDING

OFFICE BUILDING

PAINT OF REFUSE

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 LOCATED IN RIFLE RANGE

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

SCS ENGINEERS

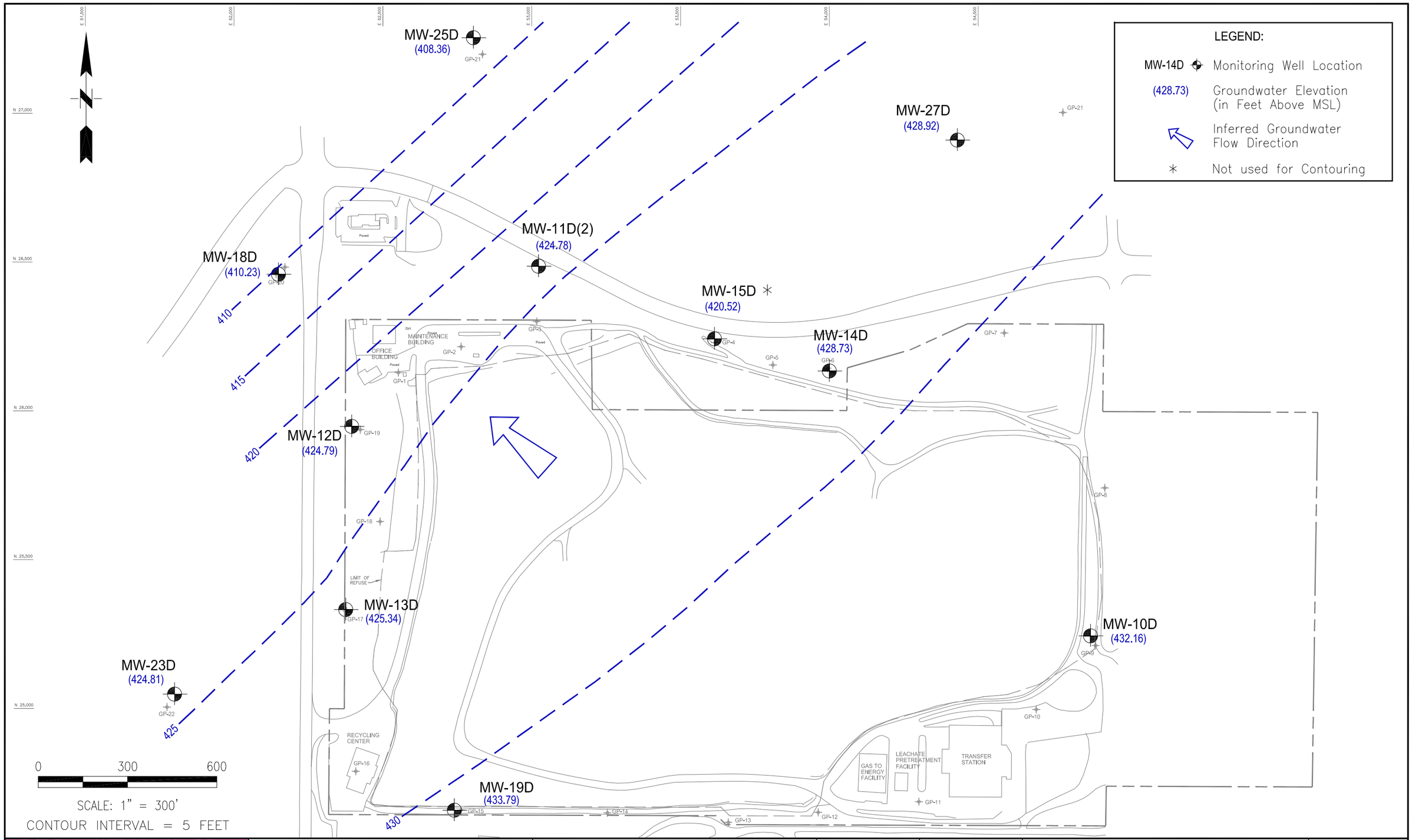
Environmental Consultants and Contractors

2405 140th Avenue NE, Suite 107

Bellevue, Washington 98005

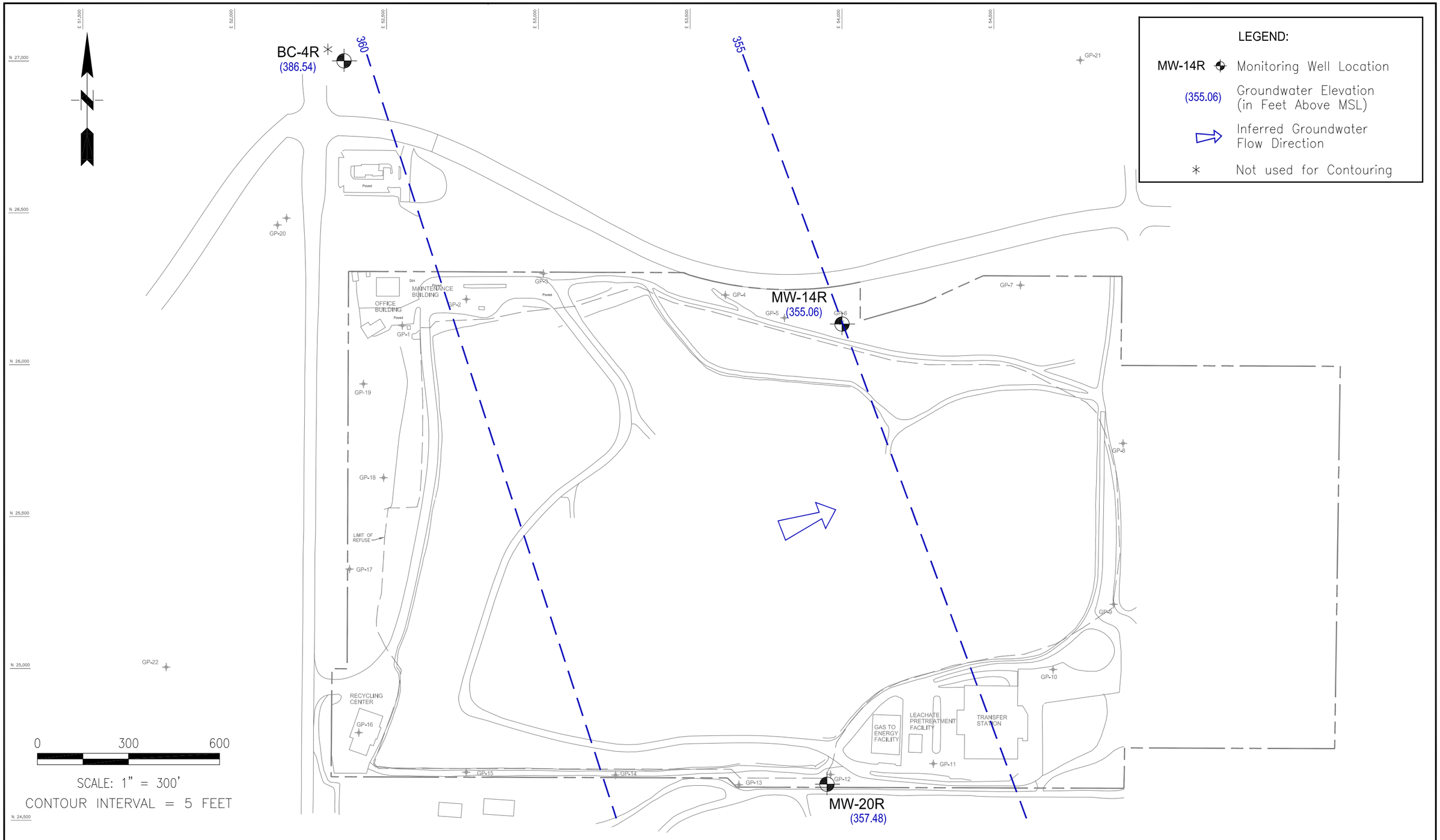
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04214002.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP JULY 7, 2014	DATE OCTOBER 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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

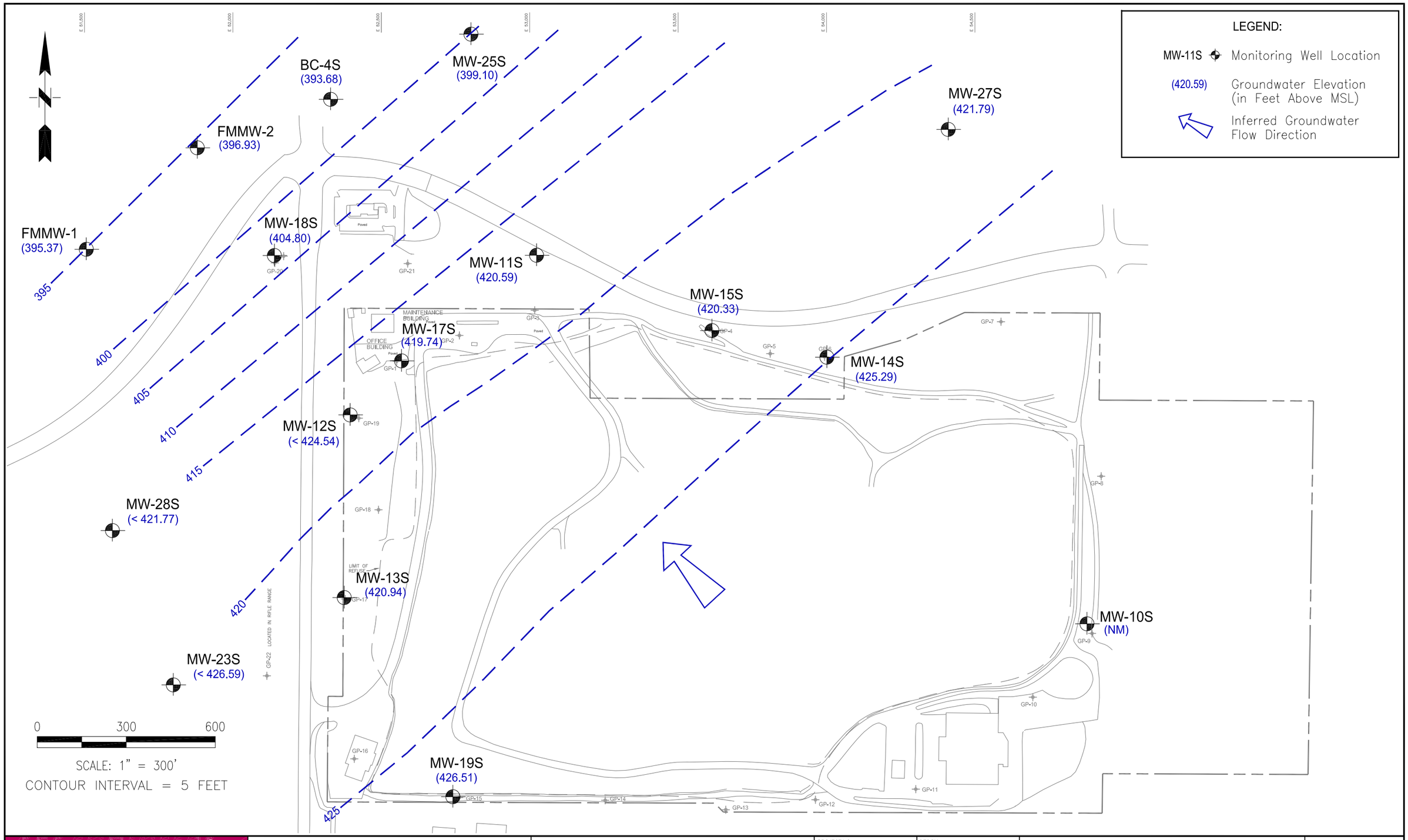
PROJECT NO. 04214002.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP JULY 7, 2014	DATE OCTOBER 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		



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

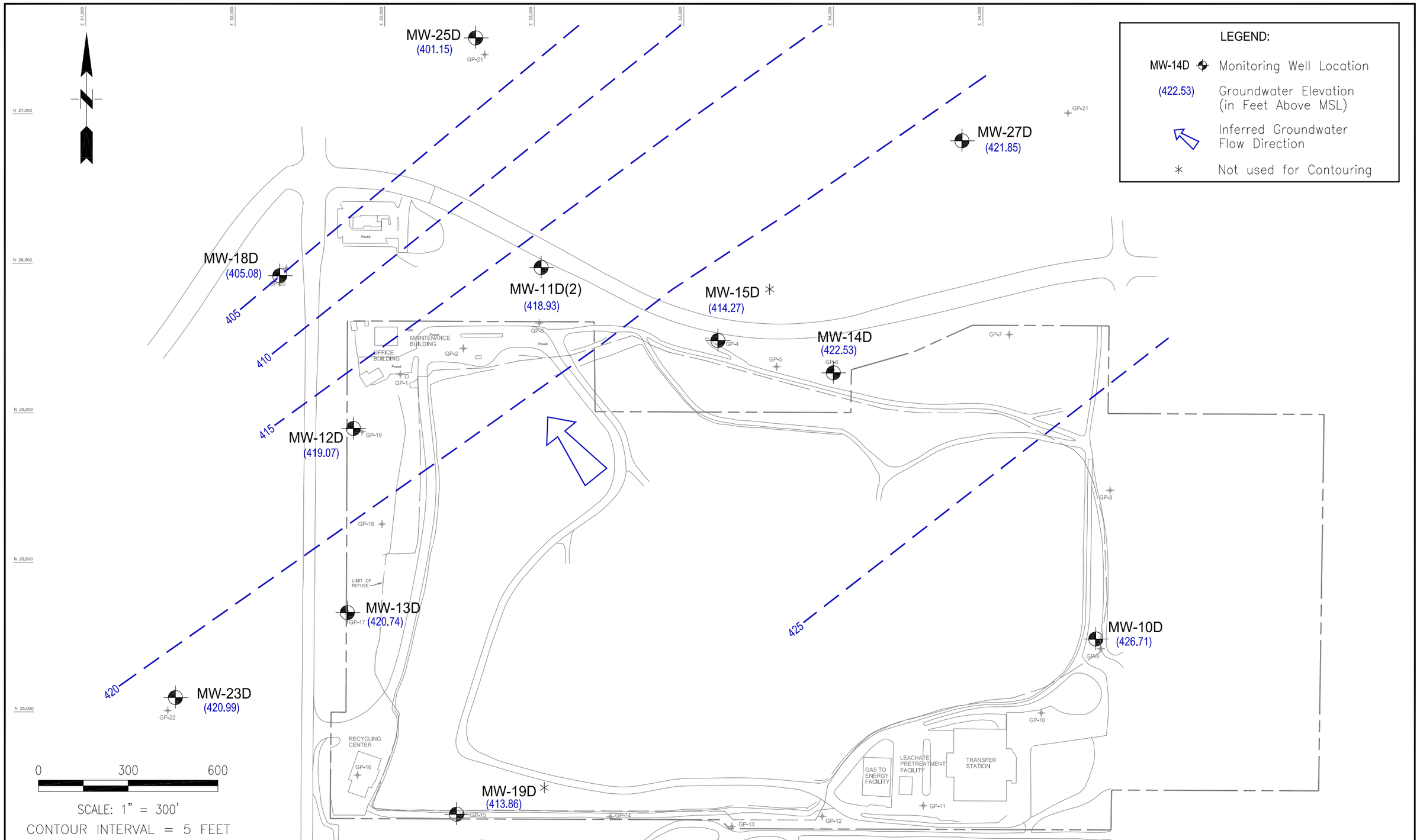
PROJECT NO. 04214002.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP JULY 7, 2014	DATE OCTOBER 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

Fourth Quarter 2014



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

PROJECT NO. 04215002.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP OCTOBER 29, 2014 HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2015
SCALE AS SHOWN	CHK BY ER		FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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

PROJECT NO. 04215002.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP OCTOBER 29, 2014	DATE MARCH 2015
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		

LEGEND:

MW-14R — Monitoring Well Location

(354.03) — Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

* Not used for Contouring

BC-4R
(< 382.44)

MW-14R
(354.03)

MW-26(R)
(NM)

MW-20R
(359.32)

360

355

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

OFFICE BUILDING

MAINTENANCE BUILDING

LIMIT OF REFUSE

RECYCLING CENTER

GAS TO ENERGY FACILITY

LEACHATE PRETREATMENT FACILITY

TRANSFER STATION

Paved

Dirt

E 51,500 E 52,000 E 52,500 E 53,000 E 53,500 E 54,000 E 54,500

N 27,000 N 26,500 N 26,000 N 25,500 N 25,000 N 24,500

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. 04215002.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP OCTOBER 29, 2014	DATE MARCH 2015
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

Appendix E
Time Series Plots

Figure E-1

Specific Conductivity

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

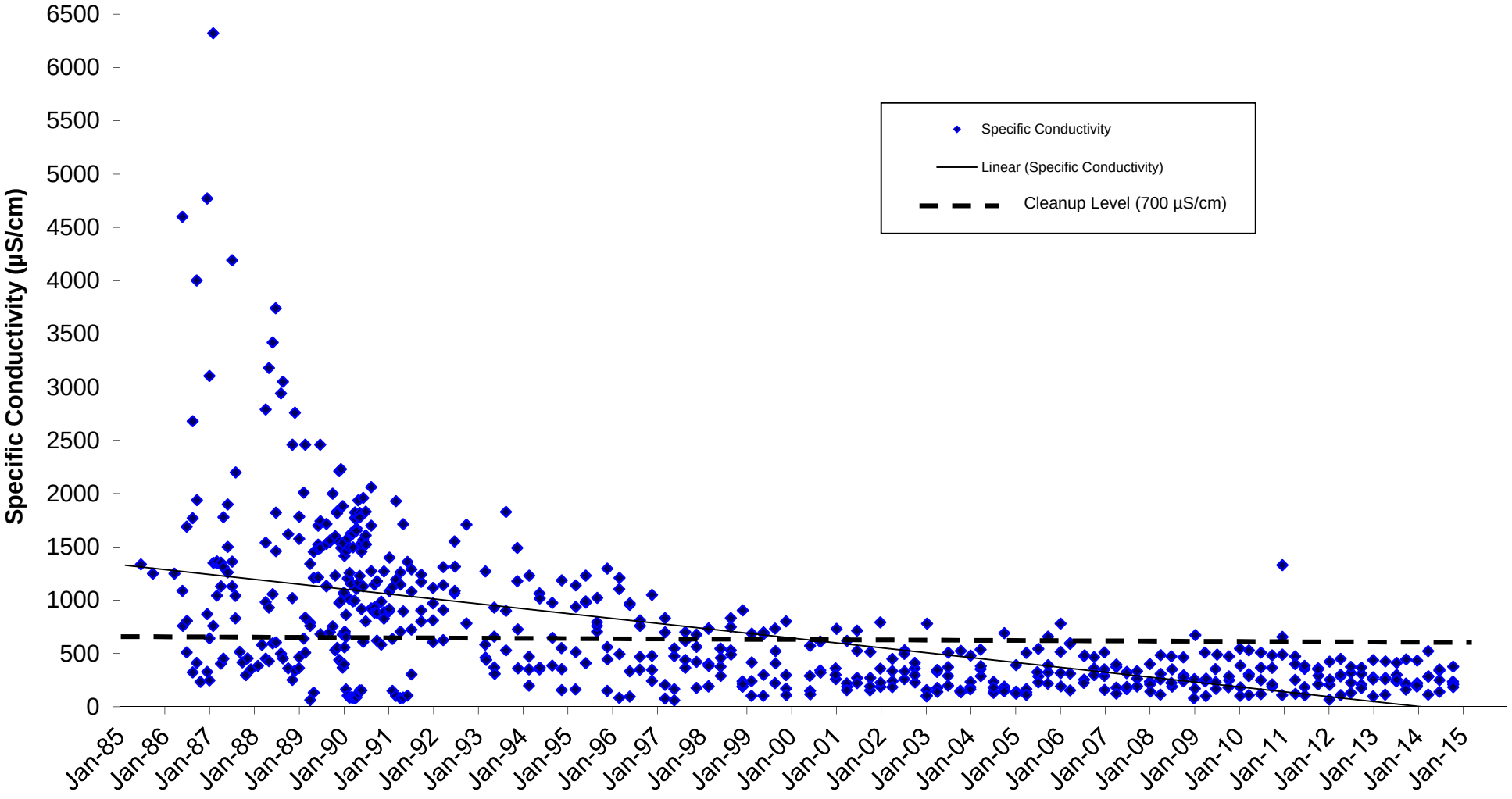


Figure E-2

Ammonia

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

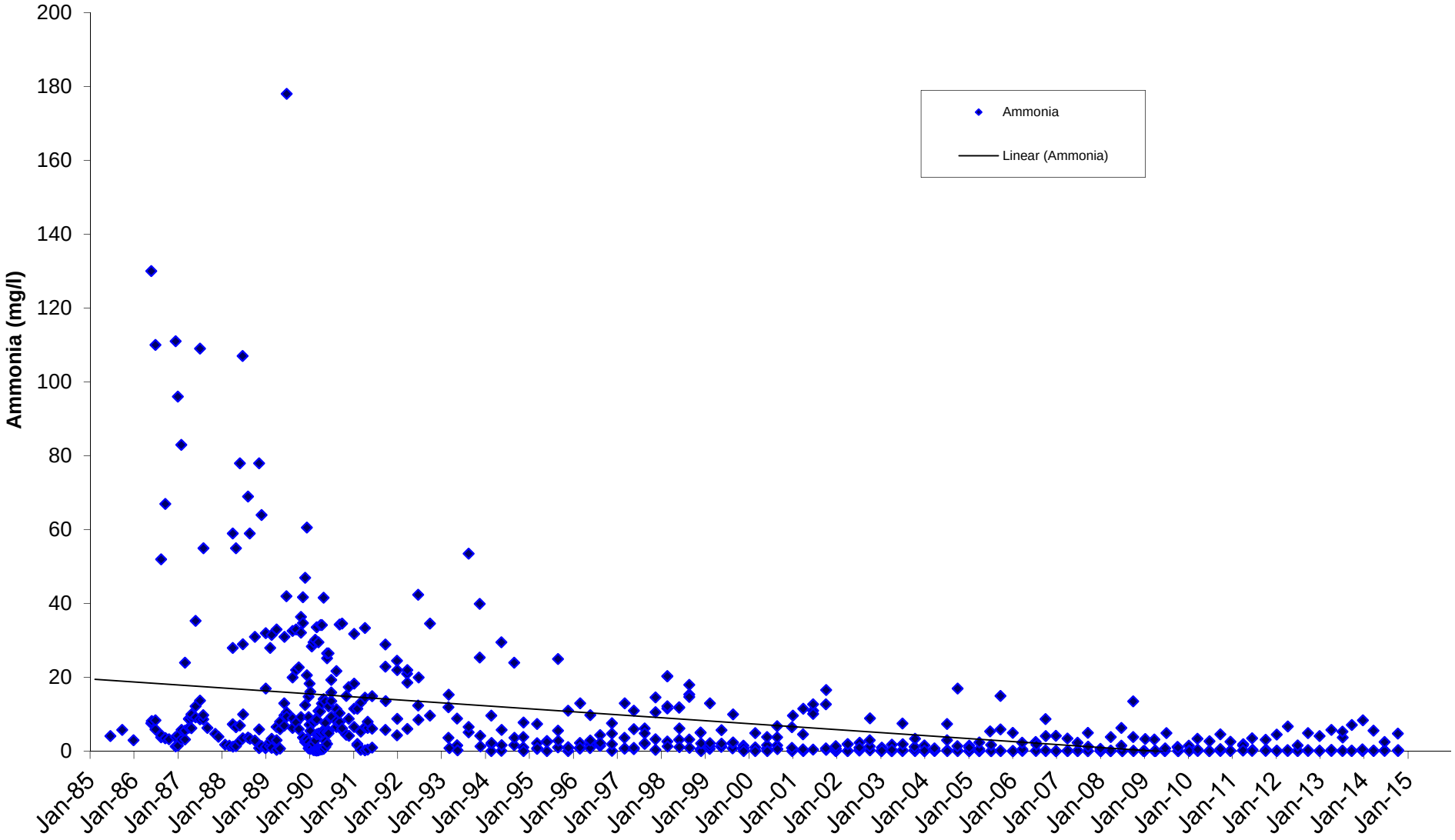


Figure E-3

Nitrate

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

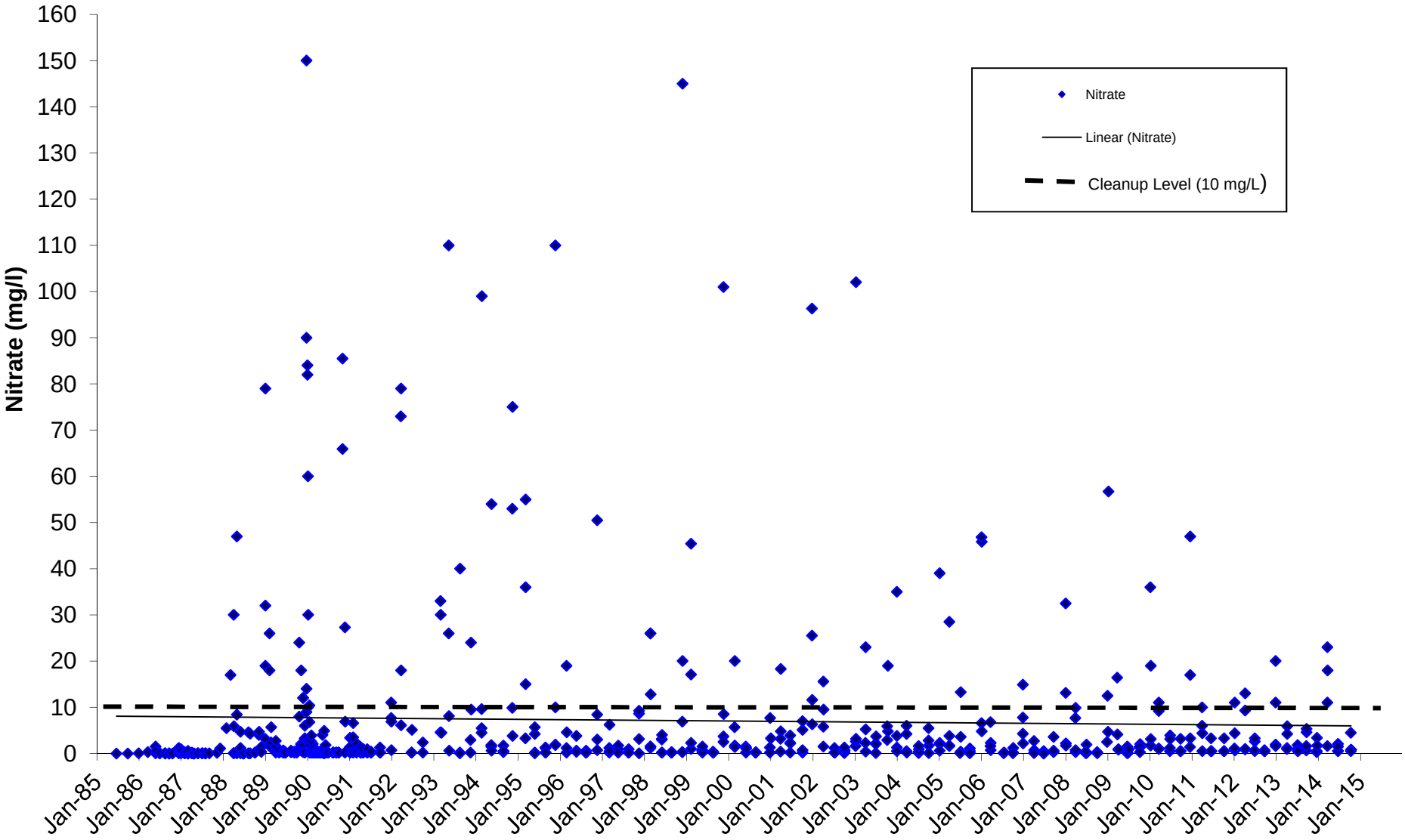


Figure E-4

Dissolved Iron

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

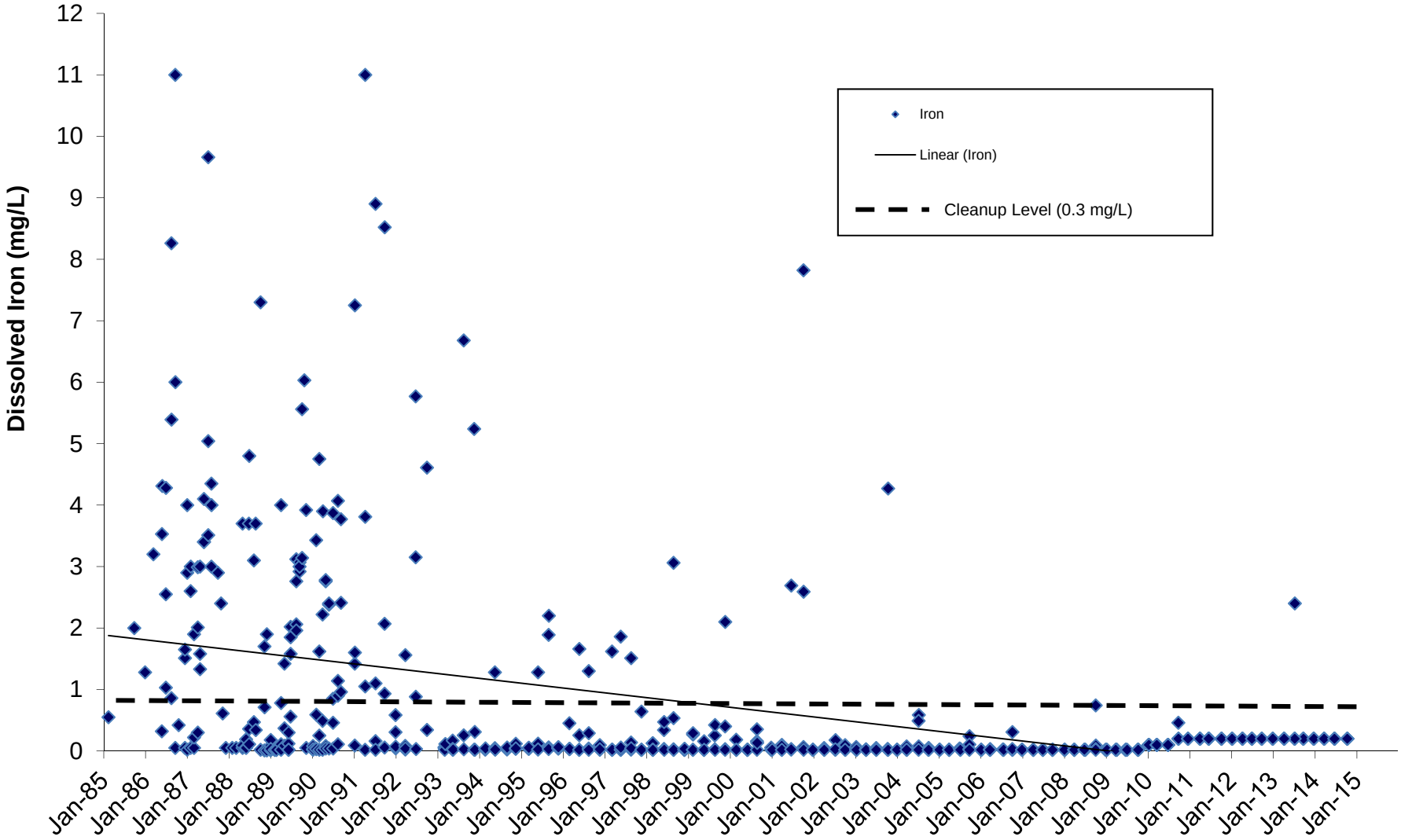


Figure E-5

Dissolved Manganese

Shallow Perched Aquifer, Hidden Valley Landfill
Wells MW-11D(2), MW-13D, MW-14D

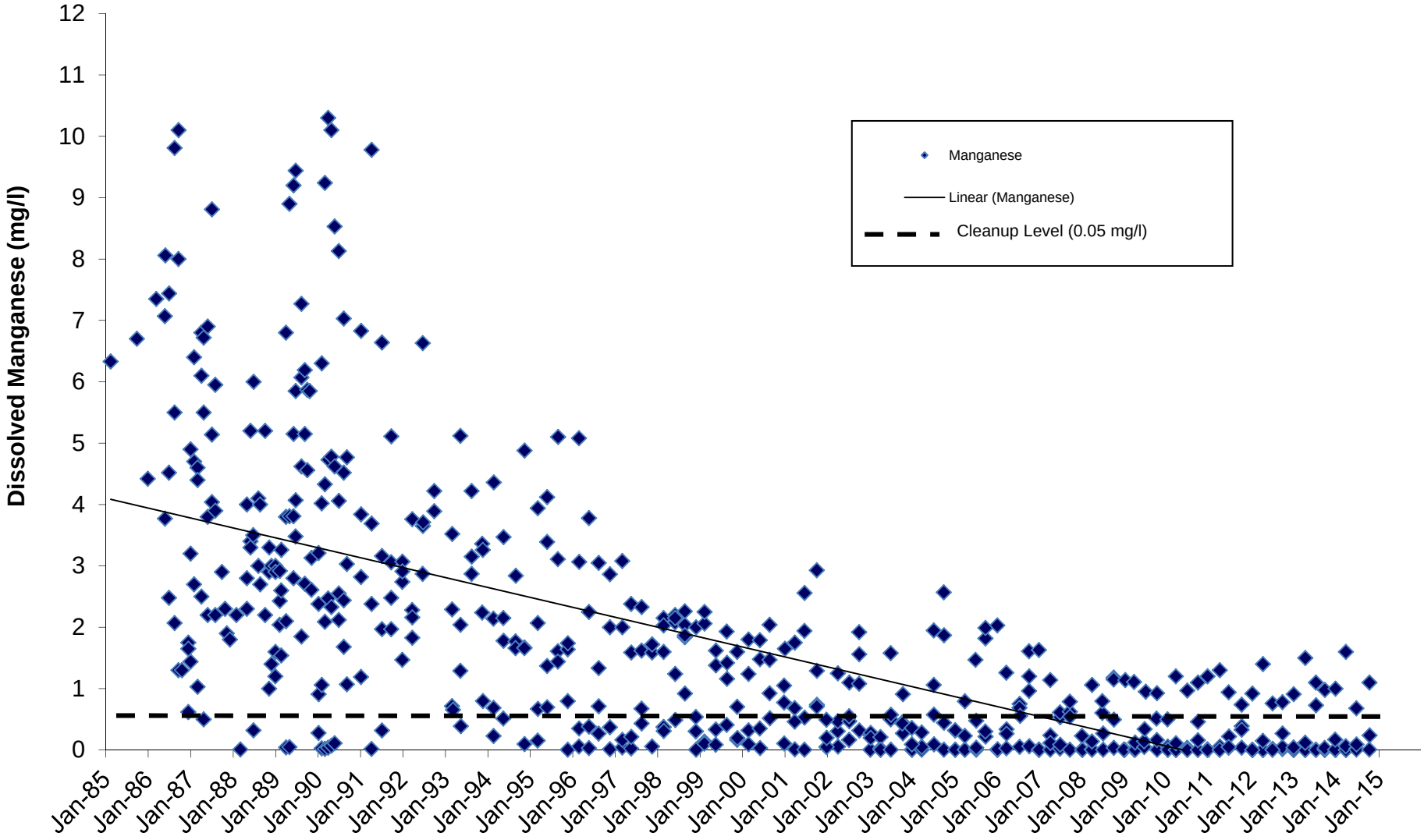


Figure E-6

Specific Conductivity

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

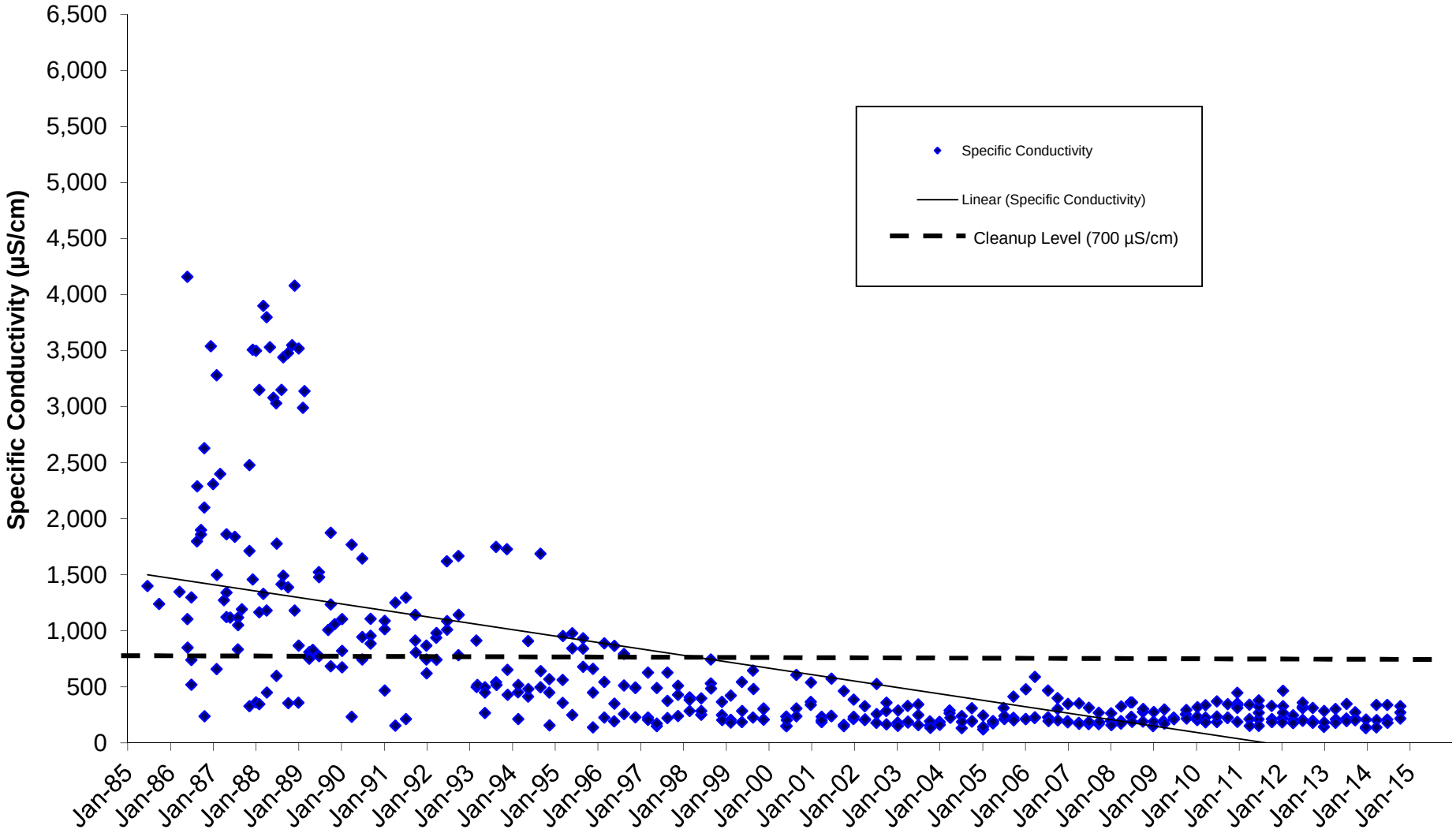


Figure E-7

Ammonia

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

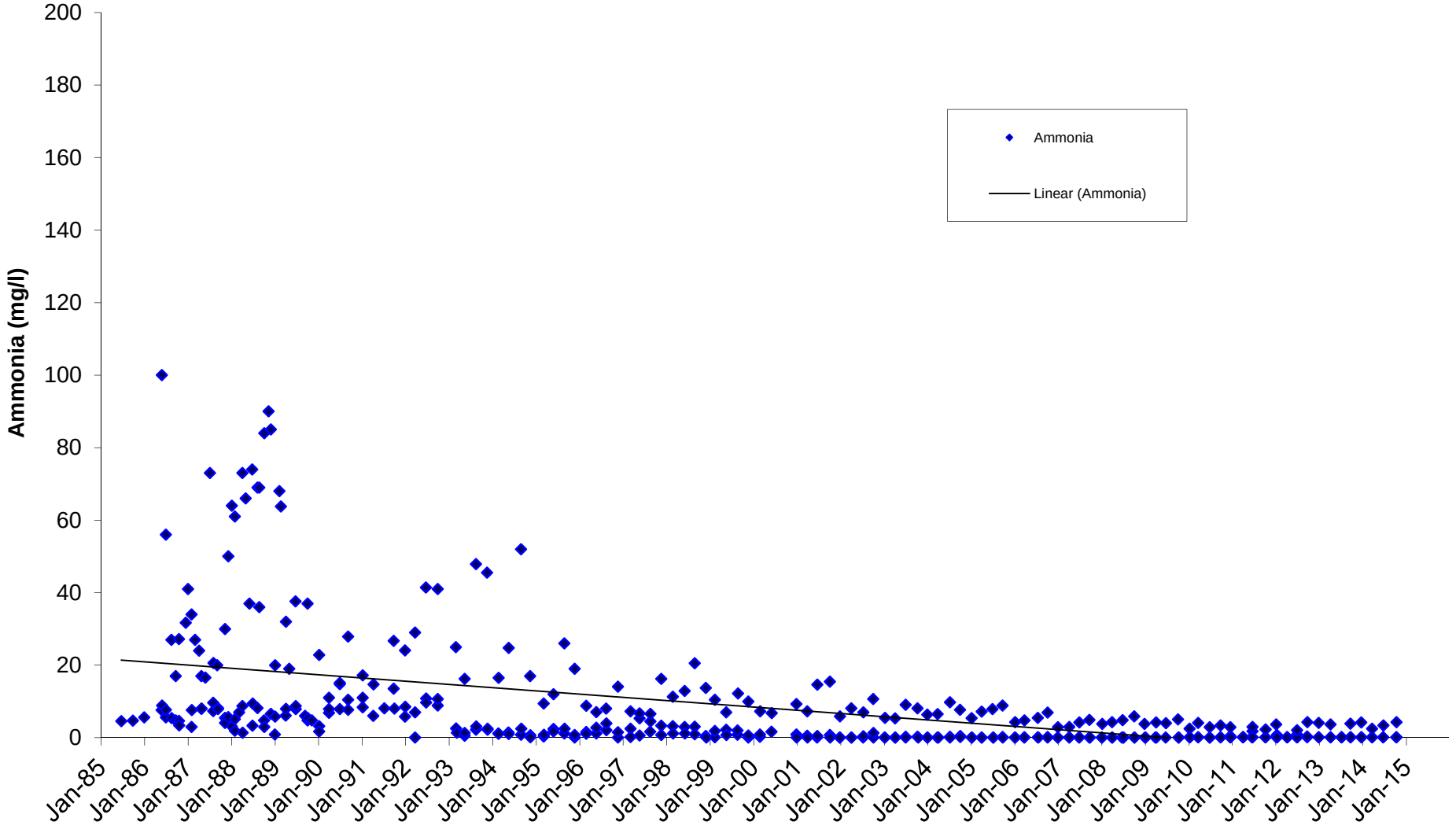


Figure E-8

Nitrate

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

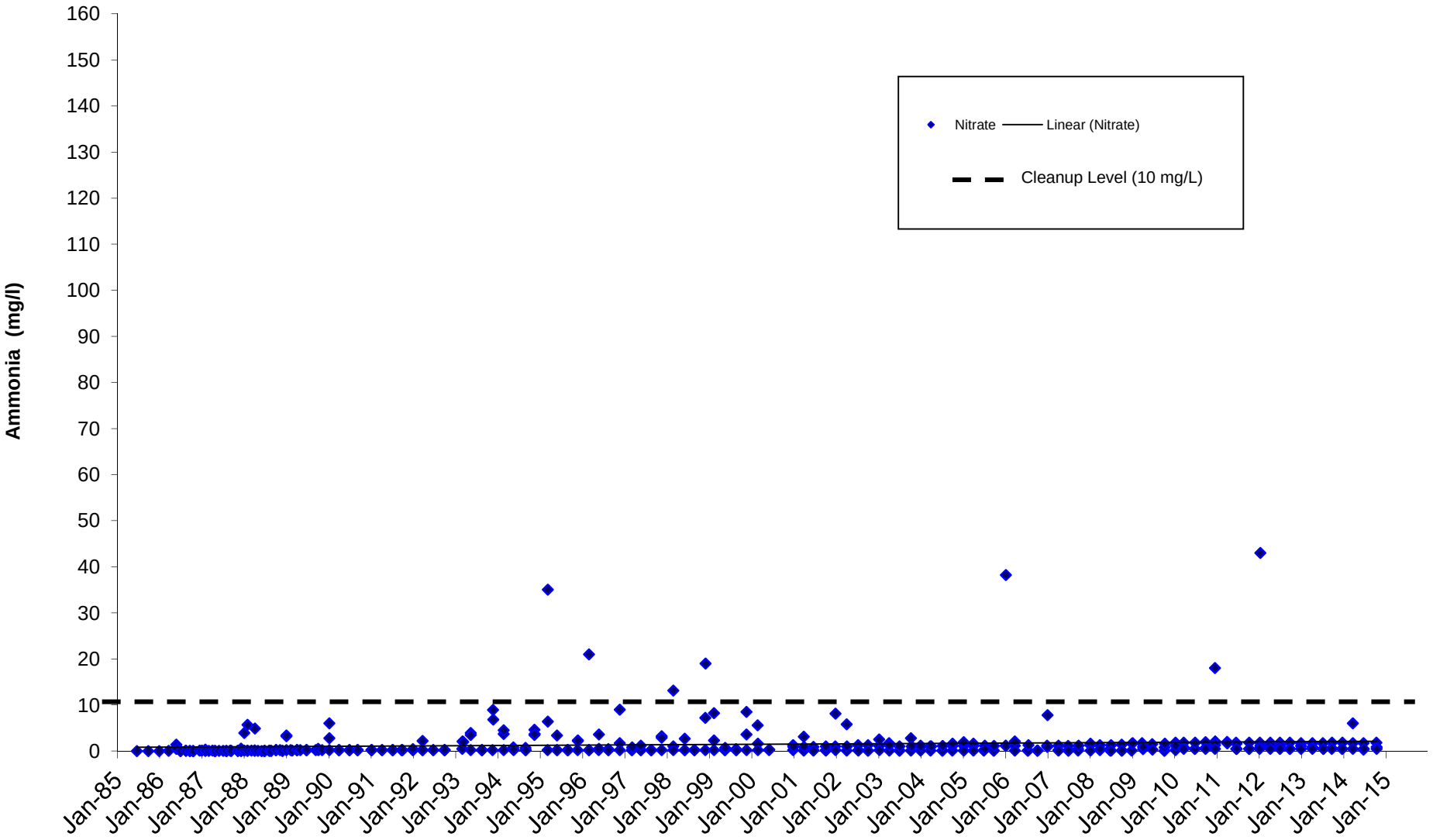


Figure E-9

Dissolved Iron

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

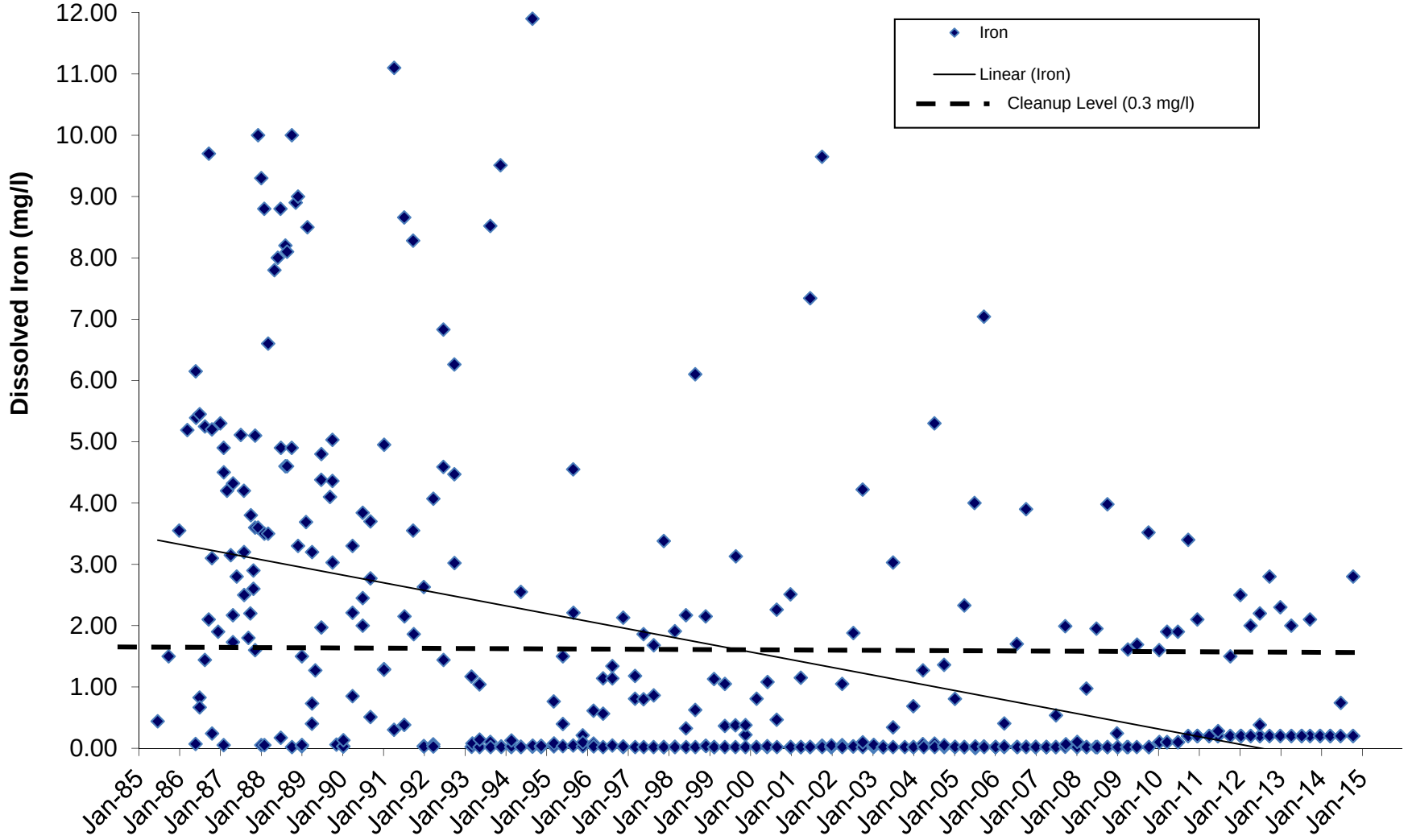
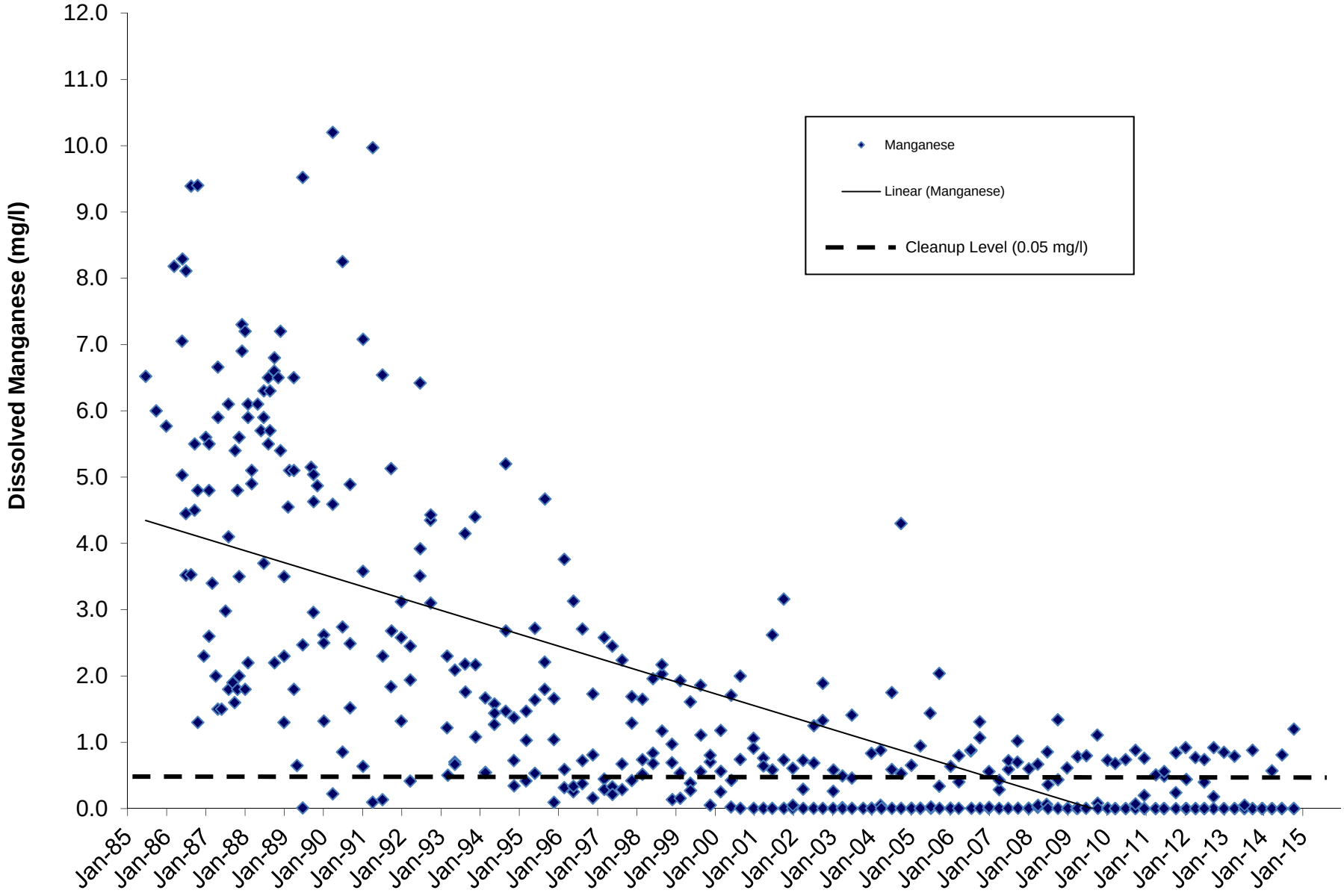


Figure E-10

Dissolved Manganese

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



Appendix F
Statistical Calculations

Statistical Summary of Groundwater Data - Inorganics
2014 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	1/27/2010	223	223	96	96	4.5	4.5	0.11	0.11	1.7	1.7	5	5	150	150	1 L	0.5
MW-10D	4/7/2010	230	230	110	110	4.5	4.5	0.1 L	0.05	1.7	1.7	5 L	2.5	140	140	1.2	1.2
MW-10D	7/14/2010	187	187	79	79	4.4	4.4	0.05 L	0.025	1.2	1.2	5.8	5.8	130	130	1 L	0.5
MW-10D	10/14/2010	151	151	53	53	6.8	6.8	0.1 L	0.05	0.5 L	0.25	10.4	10.4	100	100	1.1	1.1
MW-10D	1/4/2011	241	241	140	140	5.1	5.1	0.1 L	0.05	1.7	1.7	7.8	7.8	160	160	1 L	0.5
MW-10D	4/20/2011	151	151	54	54	6	6	0.1 L	0.05	1.1	1.1	9.9	9.9	99	99	1 L	0.5
MW-10D	7/6/2011	201	201	81	81	6.2	6.2	0.1 L	0.05	1.4	1.4	16.5	16.5	150	150	1 L	0.5
MW-10D	10/25/2011	131	131	57	57	4.9	4.9	0.1 L	0.05	0.5 L	0.25	7.9	7.9	91	91	1 L	0.5
MW-10D	1/24/2012	130	130	66	66	11.7	11.7	0.1 L	0.05	0.57	0.57	9.9	9.9	96	96	1.4	1.4
MW-10D	4/24/2012	199	199	87	87	4.4	4.4	0.1 L	0.05	1.7	1.7	10.2	10.2	140	140	1 L	0.5
MW-10D	7/16/2012	173	173	69	69	5	5	0.1 L	0.05	1.1	1.1	7.5	7.5	110	110	1 L	0.5
MW-10D	10/11/2012	113	113	66	66	4.9	4.9	0.1 L	0.05	0.5 L	0.25	4.6	4.6	83	83	1 L	0.5
MW-10D	1/15/2013	139	139	78	78	5.8	5.8	0.1 L	0.05	1.6	1.6	8.2	8.2	120	120	1 L	0.5
MW-10D	4/23/2013	184	184	73	73	4.9	4.9	0.1 L	0.05	1.7	1.7	9.3	9.3	120	120	1 L	0.5
MW-10D	7/26/2013	133	133	49	49	4.8	4.8	0.1 L	0.05	0.5 L	0.25	4.9	4.9	87	87	1 L	0.5
MW-10D	10/8/2013	161	161	63	63	8.1	8.1	0.1 L	0.05	0.9	0.9	8.8	8.8	110	110	1 L	0.5
MW-10D	1/6/2014	100	100	65	65	8.6	8.6	0.1 L	0.05	0.8 H	0.8	13	13	120	120	1 L	0.5
MW-10D	4/7/2014	152	152	65	65	7	7	0.1 L	0.05	0.97	0.97	9.3	9.3	110	110	1 L	0.5
MW-10D	7/10/2014	210	210	83	83	5.5	5.5	0.1 L	0.05	1.8 J	1.8	8.1	8.1	140	140	1 L	0.5
MW-10D	10/29/2014	160	160	74	74	6.3	6.3	0.1 L	0.05	0.69	0.69	7.8	7.8	120	120	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		1		14		19		20		3	
Minimum conc.			100		49		4		0		0		3		83		1
Maximum conc.			241		140		12		0		2		17		160		1
Average conc.			168		75		6		0		1		8		119		1
Distribution			Lognormal		Lognormal		Neither		NC		Neither		Lognormal		Lognormal		NC
UCL 95			186		84		6.6***		NC		1.8**		9.83		129		NC

Statistical Summary of Groundwater Data - Inorganics
2014 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	1/27/2010	165	165	53	53	4.6	4.6	0.1 L	0.05	2.1	2.1	9.3	9.3	100	100	1 L	0.5
MW-10S	4/7/2010	129	129	50	50	3.9	3.9	0.1 L	0.05	0.93	0.93	7.4	7.4	90	90	1.7	1.7
MW-10S	7/14/2010	135	135	53	53	4.3	4.3	0.05 L	0.025	0.54	0.54	7.1	7.1	98	98	1 L	0.5
MW-10S	10/14/2010	152	152	50	50	7.1	7.1	0.1 L	0.05	0.5 L	0.25	11	11	100	100	1.2	1.2
MW-10S	1/4/2011	164.3	164.3	49	49	6.4	6.4	0.1 L	0.05	1.9	1.9	14.8	14.8	110	110	1 L	0.5
MW-10S	4/20/2011	134	134	47	47	5.6	5.6	0.1 L	0.05	0.96	0.96	8.6	8.6	88	88	1 L	0.5
MW-10S	7/6/2011	127	127	53	53	5.4	5.4	0.1 L	0.05	0.5 L	0.25	8.3	8.3	84	84	1	1
MW-10S	10/25/2011	139	139	58	58	5.3	5.3	0.1 L	0.05	0.67	0.67	9.6	9.6	99	99	1 L	0.5
MW-10S	1/24/2012	155	155	72	72	10.6	10.6	0.1 L	0.05	0.8	0.8	9	9	110	110	1.5	1.5
MW-10S	4/24/2012	133	133	53	53	5.4	5.4	0.036	0.036	0.93	0.93	6.5	6.5	85	85	1 L	0.5
MW-10S	7/16/2012	133	133	53	53	5.3	5.3	0.1 L	0.05	0.5 L	0.25	4.7	4.7	80	80	1 L	0.5
MW-10S	10/11/2012	116	116	55	55	5.1	5.1	0.1 L	0.05	0.5 L	0.25	4.7	4.7	83	83	1	1
MW-10S	1/15/2013	149	149	60	60	8.1	8.1	0.1 L	0.05	1.3	1.3	7	7	89	89	1 L	0.5
MW-10S	4/23/2013	127	127	48	48	5	5	0.1 L	0.05	1.1	1.1	5.9	5.9	69	69	1.2	1.2
MW-10S	7/26/2013	133	133	52	52	5	5	0.1 L	0.05	0.5 L	0.25	5.1	5.1	88	88	1 L	0.5
MW-10S	10/8/2013	169	169	65	65	6.9	6.9	0.1 L	0.05	0.91	0.91	7.8	7.8	100	100	1 L	0.5
MW-10S	1/6/2014	160	160	65	65	9.4	9.4	0.1 L	0.05	0.82 H	0.82	12	12	120	120	2 L	1
MW-10S	4/7/2014	145	145	55	55	8.8	8.8	0.1 L	0.05	1.2	1.2	9.7	9.7	99	99	1	1
MW-10S	7/10/2014	160	160	62	62	6.3	6.3	0.1 L	0.05	0.59 J	0.59	8.7	8.7	100	100	1 L	0.5
MW-10S	10/29/2014	166	166	76	76	6	6	0.1 L	0.05	0.81	0.81	7.2	7.2	110	110	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		1		13		20		20		7	
Minimum conc.			116		47		3.9		0.03		0.3		4.7		69		0.5
Maximum conc.			169		76		10.6		0.05		2.1		14.8		120		1.7
Average conc.			145		56		6.2		0.05		0.8		8.2		95		0.8
Distribution			Lognormal		Lognormal		Lognormal		NC		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			151		60		6.9		NC		2.1**		9.4		100		NC

Statistical Summary of Groundwater Data - Inorganics
2014 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-11D(2)																	
MW-11D(2)	1/28/2010	237	237	100	100	6	6	0.11	0.11	1.8	1.8	5 L	2.5	140	140	1 L	0.5
MW-11D(2)	4/8/2010	227	227	98	98	5.8	5.8	0.1 L	0.05	1.8	1.8	5 L	2.5	150	150	1 L	0.5
MW-11D(2)	7/15/2010	236	236	100	100	5.8	5.8	0.05 L	0.025	1.8	1.8	5 L	2.5	150	150	1 L	0.5
MW-11D(2)	10/13/2010	223	223	100	100	6.7	6.7	0.1 L	0.05	1.9	1.9	5.2	5.2	160	160	1 L	0.5
MW-11D(2)	1/5/2011	447.9	447.9	100	100	10.1	10.1	0.1 L	0.05	2.1	2.1	5.1	5.1	150	150	1 L	0.5
MW-11D(2)	4/19/2011	214	214	110	110	5.9	5.9	0.12	0.12	2	2	5.4	5.4	140	140	1 L	0.5
MW-11D(2)	7/5/2011	211	211	100	100	5.5	5.5	0.1 L	0.05	1.8	1.8	5	5	160	160	1 L	0.5
MW-11D(2)	10/26/2011	213	213	110	110	5.5	5.5	0.1 L	0.05	1.8	1.8	5.8	5.8	150	150	1 L	0.5
MW-11D(2)	1/25/2012	224	224	100	100	5.7	5.7	0.1 L	0.05	1.8	1.8	5.5	5.5	140	140	1 L	0.5
MW-11D(2)	4/25/2012	209	209	100	100	5.7	5.7	0.1 L	0.05	1.8	1.8	6.5	6.5	150	150	1 L	0.5
MW-11D(2)	7/17/2012	207	207	100	100	5.7	5.7	0.1 L	0.05	1.8	1.8	6.1	6.1	150	150	1 L	0.5
MW-11D(2)	10/10/2012	199	199	100	100	5.2	5.2	0.13	0.13	1.8	1.8	6	6	150	150	1 L	0.5
MW-11D(2)	1/14/2013	144	144	89	89	5.5	5.5	0.1 L	0.05	1.7	1.7	6.2	6.2	140	140	1 L	0.5
MW-11D(2)	4/24/2013	212	212	88	88	5.3	5.3	0.1 L	0.05	1.7	1.7	6.6	6.6	140	140	1 L	0.5
MW-11D(2)	7/23/2013	219	219	89	89	5.3	5.3	0.1 L	0.05	1.7	1.7	6.5	6.5	160	160	1 L	0.5
MW-11D(2)	10/9/2013	218	218	95	95	4.9	4.9	0.1 L	0.05	1.8	1.8	6.7	6.7	140	140	1 L	0.5
MW-11D(2)	1/8/2014	210	210	99	99	6.2	6.2	0.1 L	0.05	1.8	1.8	6.9	6.9	140	140	1 L	0.5
MW-11D(2)	4/8/2014	204	204	94	94	6.8	6.8	0.1 L	0.05	1.7	1.7	7	7	150	150	1 L	0.5
MW-11D(2)	7/8/2014	210	210	85	85	6.5	6.5	0.1 L	0.05	1.7 J	1.7	6.9	6.9	140	140	1 L	0.5
MW-11D(2)	10/27/2014	329	329	88	88	6.5	6.5	0.1 L	0.05	1.8	1.8	7.7	7.7	140	140	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		3		19		17		20		0	
Minimum conc.			144		85		4.9		0.03		1.7		2.5		140		0.5
Maximum conc.			448		110		10.1		0.13		2.1		7.7		160		0.5
Average conc.			230		97		6.0		0.06		1.8		5.6		147		0.5
Distribution			Neither		Neither		Neither		NC		Neither		Lognormal		Neither		NC
UCL 95			249***		105***		6.4***		NC		1.8***		6.3		150***		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	1/28/2010	386	386	53	53	15	15	0.12	0.12	19	19	27	27	250	250	1	1
MW-11S	4/8/2010	306	306	66	66	14	14	0.1 L	0.05	9.2	9.2	24	24	220	220	1.9	1.9
MW-11S	7/15/2010	250	250	72	72	9.5	9.5	0.05 L	0.025	3.9	3.9	18	18	160	160	1 L	0.5
MW-11S	10/13/2010	188	188	61	61	9.9	9.9	0.1 L	0.05	3.2	3.2	11.4	11.4	140	140	1.1	1.1
MW-11S	1/5/2011	656.2	656.2	54	54	14.4	14.4	0.1 L	0.05	17	17	24.4	24.4	220	220	1 L	0.5
MW-11S	4/19/2011	252	252	45	45	13.2	13.2	0.17	0.17	10	10	23.3	23.3	180	180	1.2	1.2
MW-11S	7/5/2011	184	184	51	51	10	10	0.22	0.22	3.3	3.3	19	19	160	160	1.1	1.1
MW-11S	10/25/2011	209	209	59	59	18.7	18.7	0.16	0.16	3.3	3.3	11.8	11.8	150	150	1.1	1.1
MW-11S	1/25/2012	206	206	48	48	16.7	16.7	0.1 L	0.05	4.4	4.4	11.6	11.6	130	130	1 L	0.5
MW-11S	4/25/2012	285	285	68	68	16.2	16.2	0.1 L	0.05	9.3	9.3	22.5	22.5	210	210	1.5	1.5
MW-11S	7/17/2012	227	227	100	100	12	12	0.14	0.14	2.6	2.6	17	17	170	170	1.5	1.5
MW-11S	10/10/2012	207	207	80	80	11	11	0.1 L	0.05	0.73	0.73	14	14	150	150	1.3	1.3
MW-11S	1/14/2013	275	275	63	63	14	14	0.13	0.13	11	11	20	20	200	200	1.1	1.1
MW-11S	4/24/2013	270	270	66	66	17	17	0.1 L	0.05	5.9	5.9	20	20	170	170	1.5	1.5
MW-11S	7/23/2013	238	238	69	69	15	15	0.1 L	0.05	1.8	1.8	15	15	1100	1100	1 L	0.5
MW-11S	10/9/2013	207	207	51	51	11	11	0.1 L	0.05	4.6	4.6	13	13	140	140	1 L	0.5
MW-11S	1/8/2014	221	221	69	69	15	15	0.1 L	0.05	3.4	3.4	12	12	150	150	1.1	1.1
MW-11S	4/8/2014	283	283	57	57	17	17	0.1 L	0.05	11	11	19	19	210	210	1.2	1.2
MW-11S	7/8/2014	250	250	67	67	20	20	0.29	0.29	2.1 J	2.1	15	15	170	170	1.2	1.2
MW-11S	10/27/2014	236	236	65	65	21	21	0.1 L	0.05	4.5	4.5	11	11	170	170	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		7		19		20		20		14	
Minimum conc.			184		45		9.5		0.03		0.7		11.0		130		0.5
Maximum conc.			656		100		21.0		0.29		19.0		27.0		1100		1.9
Average conc.			267		63		14.5		0.09		6.5		17.5		223		1.0
Distribution			Neither		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal		Neither		Lognormal
UCL 95			306***		68		16		0.29**		10.5		19.8		299***		4.10

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-12S																	
MW-12S	1/29/2010	334	334	48	48	18	18	0.1 L	0.05	17	17	11	11	240	240	1.6	1.6
MW-12S	7/14/2010	362	362	160	160	15	15	1.3	1.3	0.5 L	0.25	5 L	2.5	240	240	2.7	2.7
MW-12S	1/4/2011	337.3	337.3	57	57	18.5	18.5	0.44	0.44	18	18	9.5	9.5	250	250	1.7	1.7
MW-12S	7/8/2011	326	326	160	160	19.4	19.4	1.8	1.8	0.5 L	0.25	1.2	1.2	230	230	3.9	3.9
MW-12S	1/30/2012	466	466	30	30	10.9	10.9	0.76	0.76	43	43	5.9	5.9	350	350	1.5	1.5
MW-12S	7/16/2012	324	324	140	140	13	13	0.86	0.86	1.1	1.1	1.3	1.3	200	200	2.9	2.9
MW-12S	1/16/2013	250	250	48	48	9.8	9.8	0.48	0.48	12	12	6.1	6.1	180	180	1.8	1.8
No. Analyzed		7		7		7		7		7		7		7		7	
No. Detect		7		7		7		6		5		6		7		7	
Minimum conc.			250		30		9.8		0.05		0.3		1.2		180		1.5
Maximum conc.			466		160		19.4		1.80		43.0		11.0		350		3.9
Average conc.			343		92		14.9		0.81		13.1		5.4		241		2.3
Distribution			Neither		Neither		Lognormal		Lognormal		Normal		Normal		Neither		Neither
UCL 95			383***		128***		18.9		1.62		23.9		8.44		275***		2.9
MW-12D																	
MW-12D	1/29/2010	380	380	170	170	14	14	0.1 L	0.05	1.1	1.1	5 L	2.5	220	220	1 L	0.5
MW-12D	7/14/2010	334	334	160	160	12	12	0.05 L	0.025	1.3	1.3	5.4	5.4	220	220	1 L	0.5
MW-12D	1/4/2011	352.5	352.5	160	160	11.7	11.7	0.1 L	0.05	1.3	1.3	5.3	5.3	220	220	1 L	0.5
MW-12D	7/8/2011	270	270	130	130	9.5	9.5	0.1 L	0.05	1.6	1.6	5.1	5.1	190	190	1 L	0.5
MW-12D	1/30/2012	329	329	160	160	9.8	9.8	0.1 L	0.05	1.1	1.1	5.1	5.1	190	190	1 L	0.5
MW-12D	7/16/2012	310	310	150	150	10	10	0.1 L	0.05	1.3	1.3	5.4	5.4	200	200	1 L	0.5
MW-12D	1/16/2013	327	327	140	140	9.6	9.6	0.1 L	0.05	1.2	1.2	5.5	5.5	190	190	1	1
MW-12D	7/26/2013	299	299	120	120	8.7	8.7	0.1 L	0.05	1.3	1.3	5.7	5.7	190	190	1 L	0.5
MW-12D	1/7/2014	310	310	150	150	10	10	0.1 L	0.05	1.1	1.1	5.7	5.7	200	200	1 L	0.5
MW-12D	7/11/2014	270	270	120	120	9	9	0.1 L	0.05	1.4 J	1.4	6	6	180	180	1 L	0.5
MW-12D	10/30/2014	294	294	150	150	13	13	0.1 L	0.05	1.1	1.1	6	6	190	190	1 L	0.5
No. Analyzed		11		11		11		11		11		11		11		11	
No. Detect		11		11		11		0		10		10		11		1	
Minimum conc.			270		120		8.7		0.03		1.1		2.5		180		0.5
Maximum conc.			380		170		14.0		0.05		1.6		6.0		220		1.0
Average conc.			316		146		10.7		0.05		1.3		5.2		199		0.5
Distribution			Lognormal		Lognormal		Lognormal		NC		Neither		Lognormal		Neither		NC
UCL 95			335		157		11.7		NC		1.3		5.7		206		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	1/29/2010	319	319	130	130	12	12	0.1 L	0.05	1.2	1.2	11	11	190	190	1 L	0.5
MW-13D	4/8/2010	338	338	140	140	14	14	0.1 L	0.05	0.81	0.81	12	12	220	220	1.5	1.5
MW-13D	7/14/2010	372	372	160	160	15	15	0.05 L	0.025	0.5 L	0.25	15	15	230	230	1 L	0.5
MW-13D	10/14/2010	346	346	140	140	13.7	13.7	0.1 L	0.05	0.7	0.7	15.1	15.1	210	210	1.2	1.2
MW-13D	1/4/2011	313.2	313.2	130	130	13.1	13.1	0.1 L	0.05	1.7	1.7	14.1	14.1	200	200	1 L	0.5
MW-13D	4/19/2011	342	342	150	150	17.4	17.4	0.1 L	0.05	1.7	1.7	15.4	15.4	210	210	1	1
MW-13D	7/6/2011	380	380	170	170	21.1	21.1	0.1 L	0.05	0.5 L	0.25	17.5	17.5	260	260	1.8	1.8
MW-13D	10/25/2011	331	331	150	150	15.9	15.9	0.12	0.12	0.5 L	0.25	19.4	19.4	220	220	1.4	1.4
MW-13D	1/30/2012	270	270	120	120	10.1	10.1	0.1 L	0.05	0.73	0.73	12.6	12.6	170	170	1 L	0.5
MW-13D	4/25/2012	247	247	94	94	12.8	12.8	0.1 L	0.05	1.3	1.3	19.8	19.8	190	190	1.5	1.5
MW-13D	7/16/2012	361	361	150	150	13	13	0.1 L	0.05	0.53	0.53	15	15	220	220	1.2	1.2
MW-13D	10/10/2012	313	313	140	140	13	13	0.33	0.33	0.5 L	0.25	20	20	230	230	1.5	1.5
MW-13D	1/15/2013	285	285	140	140	12	12	0.1 L	0.05	1.1	1.1	13	13	190	190	1	1
MW-13D	4/23/2013	304	304	130	130	12	12	0.1 L	0.05	0.87	0.87	13	13	190	190	1.2	1.2
MW-13D	7/26/2013	350	350	140	140	12	12	0.1 L	0.05	0.5 L	0.25	17	17	220	220	1.3	1.3
MW-13D	10/8/2013	275	275	120	120	9.2	9.2	0.1 L	0.05	0.66	0.66	12	12	180	180	1 L	0.5
MW-13D	1/6/2014	133	133	140	140	10	10	0.1 L	0.05	0.52 H	0.52	18	18	220	220	2 L	1
MW-13D	4/7/2014	340	340	140	140	17	17	0.1 L	0.05	6	6	16	16	240	240	1 L	0.5
MW-13D	7/8/2014	340	340	140	140	21	21	0.1 L	0.05	0.33 J	0.33	14	14	240	240	1.1	1.1
MW-13D	10/29/2014	272	272	120	120	9.9	9.9	0.1 L	0.05	0.83	0.83	12	12	180	180	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		2		13		20		20		12	
Minimum conc.			133		94		9.2		0.03		0.3		11.0		170		0.5
Maximum conc.			380		170		21.1		0.33		6.0		20.0		260		1.8
Average conc.			312		137		13.7		0.07		1.0		15.1		211		1.0
Distribution			Neither		Normal		Lognormal		NC		Neither		Lognormal		Lognormal		Lognormal
UCL 95			331***		144		15.1		NC		6.0**		16.3		220		8.7

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-13S																	
MW-13S	1/28/2010	182	182	61	61	5	5	0.11	0.11	3.1	3.1	10	10	130	130	1 L	0.5
MW-13S	4/8/2010	287	287	110	110	13	13	0.1 L	0.05	1.1	1.1	19	19	210	210	1.8	1.8
MW-13S	7/14/2010	367	367	150	150	15	15	0.12	0.12	0.5 L	0.25	18	18	230	230	1.1	1.1
MW-13S	10/14/2010	365	365	130	130	17.4	17.4	0.1 L	0.05	0.5 L	0.25	21.7	21.7	210	210	1.6	1.6
MW-13S	1/5/2011	488.7	488.7	86	86	11.1	11.1	0.1 L	0.05	3.3	3.3	17.5	17.5	160	160	1 L	0.5
MW-13S	4/19/2011	401	401	120	120	31.4	31.4	0.24	0.24	6	6	25.7	25.7	270	270	1.6	1.6
MW-13S	7/5/2011	383	383	160	160	26.3	26.3	0.11	0.11	0.5 L	0.25	17.7	17.7	270	270	2.1	2.1
MW-13S	10/25/2011	351	351	150	150	20	20	0.15	0.15	0.5 L	0.25	21.8	21.8	240	240	1.9	1.9
MW-13S	1/27/2012	255	255	87	87	13	13	0.1 L	0.05	0.65	0.65	11.2	11.2	140	140	1.1	1.1
MW-13S	4/24/2012	300	300	140	140	11.5	11.5	0.1 L	0.05	0.86	0.86	12.2	12.2	190	190	1 L	0.5
MW-13S	7/17/2012	318	318	150	150	13	13	0.1 L	0.05	0.5 L	0.25	19	19	220	220	1.4	1.4
MW-13S	10/10/2012	309	309	140	140	13	13	0.1 L	0.05	0.5 L	0.25	17	17	210	210	1.2	1.2
MW-13S	1/15/2013	257	257	93	93	10	10	0.1 L	0.05	1.9	1.9	15	15	160	160	1.2	1.2
MW-13S	4/23/2013	257	257	92	92	11	11	0.1 L	0.05	1.2	1.2	19	19	170	170	1.5	1.5
MW-13S	7/26/2013	300	300	110	110	12	12	0.1 L	0.05	1	1	20	20	190	190	1.2	1.2
MW-13S	10/8/2013	217	217	89	89	6.4	6.4	0.1 L	0.05	0.64	0.64	11	11	140	140	1.2	1.2
MW-13S	1/6/2014	190	190	120	120	9.7	9.7	0.1 L	0.05	0.33 H	0.33	20	20	210	210	2.3	2.3
MW-13S	4/9/2014	286	286	58	58	20	20	0.1 L	0.05	18	18	19	19	230	230	1.1	1.1
MW-13S	7/8/2014	340	340	130	130	22	22	0.1 L	0.05	0.5 L	0.25	16	16	230	230	1.6	1.6
MW-13S	10/29/2014	209	209	99	99	7.1	7.1	0.1 L	0.05	0.8	0.8	8.4	8.4	150	150	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		5		12		20		20		16	
Minimum conc.			182		58		5		0.05		0.3		8		130		1
Maximum conc.			489		160		31		0.24		18.0		26		270		2
Average conc.			303		114		14		0.07		2.0		17		198		1
Distribution			Lognormal		Lognormal		Lognormal		Neither		Neither		Lognormal		Lognormal		Lognormal
UCL 95			342		129		17.9		0.24**		18.0**		19.3		217		3.2

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-14D																	
MW-14D	1/27/2010	205	205	71	71	7.8	7.8	2.5	2.5	0.2 L	0.1	11	11	110	110	2.3	2.3
MW-14D	4/8/2010	184	184	68	68	6	6	4.1	4.1	0.5 L	0.25	11	11	120	120	2.8	2.8
MW-14D	7/14/2010	188	188	68	68	5.2	5.2	2.9	2.9	0.5 L	0.25	11	11	120	120	1.3	1.3
MW-14D	10/14/2010	228	228	82	82	10.1	10.1	3.4	3.4	0.5 L	0.25	11.5	11.5	130	130	1.9	1.9
MW-14D	1/4/2011	188.2	188.2	71	71	6	6	2.9	2.9	0.5 L	0.25	10.1	10.1	120	120	1.9	1.9
MW-14D	4/21/2011	153	153	56	56	6.4	6.4	1.6	1.6	0.5 L	0.25	9.4	9.4	99	99	1.4	1.4
MW-14D	7/8/2011	154	154	64	64	5.5	5.5	3	3	0.5 L	0.25	11.1	11.1	110	110	1.7	1.7
MW-14D	10/26/2011	187	187	71	71	9.5	9.5	2.3	2.3	0.5 L	0.25	12.6	12.6	120	120	1.4	1.4
MW-14D	1/24/2012	185	185	80	80	10.2	10.2	3.7	3.7	0.5 L	0.25	10.5	10.5	120	120	1.7	1.7
MW-14D	4/24/2012	177	177	67	67	6.6	6.6	0.1 L	0.05	0.5 L	0.25	10.6	10.6	110	110	1.6	1.6
MW-14D	7/16/2012	198	198	72	72	6.4	6.4	2.1	2.1	0.5 L	0.25	12	12	120	120	1.5	1.5
MW-14D	10/11/2012	180	180	74	74	8.7	8.7	4.3	4.3	0.5 L	0.25	11	11	130	130	1.6	1.6
MW-14D	1/15/2013	185	185	78	78	9.4	9.4	4.1	4.1	0.5 L	0.25	10	10	110	110	1.9	1.9
MW-14D	4/23/2013	181	181	65	65	6.8	6.8	3.7	3.7	0.5 L	0.25	10	10	100	100	1.9	1.9
MW-14D	7/26/2013	196	196	74	74	23	23	0.16	0.16	0.5 L	0.25	7.4	7.4	150	150	2	2
MW-14D	10/8/2013	202	202	72	72	11	11	3.9	3.9	0.5 L	0.25	11	11	120	120	1.6	1.6
MW-14D	1/6/2014	142	142	88	88	10	10	4.2	4.2	0.2 L	0.1	11	11	150	150	1.7	1.7
MW-14D	4/7/2014	139	139	58	58	8.7	8.7	2.5	2.5	0.5 L	0.25	8.9	8.9	100	100	1.4	1.4
MW-14D	7/10/2014	180	180	63	63	7.8	7.8	3.4	3.4	0.5 L	0.25	11	11	120	120	1.3	1.3
MW-14D	10/29/14	218	218	76	76	16.0	16.0	4.30	4.30	0.5 L	0.3	12.0	12.0	150	150	1.3	1.3
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		19		0		20		20		20	
Minimum conc.			139		56		5.2		0.05		0.1		7.4		99		1.3
Maximum conc.			228		88		23		4.3		0.25		12.6		150		2.8
Average conc.			184		71		9		3		0		11		120		2
Distribution			Lognormal		Lognormal		Lognormal		Normal		NC		Neither		Lognormal		Lognormal
UCL 95			195		74.1		10.6		3.45		NC		11.1***		127		1.86
MW-14R																	
MW-14R	1/26/2010	96	96	48	48	3 L	1.5	0.15	0.15	0.2 L	0.1	5 L	2.5	92	92	1 L	0.5
MW-14R	1/5/2011	107.9	107.9	48	48	1.8	1.8	0.1 L	0.05	0.5 L	0.25	3.8	3.8	110	110	1 L	0.5
MW-14R	1/27/2012	128	128	49	49	1.7	1.7	0.1 L	0.05	0.5 L	0.25	3.8	3.8	98	98	1 L	0.5
MW-14R	1/15/2013	105	105	49	49	1.7	1.7	0.1 L	0.05	0.5 L	0.25	3.5	3.5	93	93	1 L	0.5
MW-14R	1/7/2014	98	98	47	47	1.7	1.7	0.1 L	0.05	0.21	0.21	3.6	3.6	95	95	1 L	0.5
MW-14R	7/11/2014	100	100	45	45	1.7	1.7	0.1 L	0.05	0.2 J	0.2	3.6	3.6	99	99	1 L	0.5
MW-14R	10/28/2014	92	92	47	47	2.1	2.1	0.1 L	0.05	0.5 L	0.25	3.6	3.6	97	97	1 L	0.5
No. Analyzed		7		7		7		7		7		7		7		7	
No. Detect		7		7		6		1		1		6		7		0	
Minimum conc.			92		45		1.5		0.05		0.1		2.5		92		0.5
Maximum conc.			128		49		2.1		0.15		0.3		3.8		110		0.5
Average conc.			104		48		1.7		0.06		0.2		3.5		98		0.5
Distribution			Neither		Neither		Neither		NC		NC		Neither		Neither		NC
UCL 95			111***		48.4***		2.3***		NC		NC		4.2***		101***		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	1/27/2010	101	101	29	29	3.5	3.5	0.22	0.22	1.7	1.7	6.6	6.6	72	72	1.9	1.9
MW-14S	4/8/2010	110	110	37	37	3.3	3.3	0.44	0.44	1	1	8.2	8.2	86	86	2.6	2.6
MW-14S	7/14/2010	119	119	38	38	4.3	4.3	0.05 L	0.025	1.2	1.2	8.6	8.6	92	92	1 L	0.5
MW-14S	10/14/2010	209	209	69	69	16.3	16.3	0.56	0.56	0.5 L	0.25	9.4	9.4	130	130	1.9	1.9
MW-14S	1/4/2011	108.4	108.4	36	36	4	4	0.1 L	0.05	1.4	1.4	6.5	6.5	86	86	1.6	1.6
MW-14S	4/21/2011	122	122	37	37	6.6	6.6	0.18	0.18	1.7	1.7	8.4	8.4	85	85	1.2	1.2
MW-14S	7/8/2011	107	107	38	38	4.9	4.9	0.39	0.39	0.51	0.51	9.9	9.9	81	81	1.1	1.1
MW-14S	10/26/2011	292	292	69	69	21.5	21.5	0.44	0.44	0.5 L	0.25	10	10	140	140	1.6	1.6
MW-14S	1/24/2012	67	67	25	25	2.1	2.1	0.1 L	0.05	1.1	1.1	4.6	4.6	56	56	2.1	2.1
MW-14S	4/24/2012	109	109	40	40	0.2 L	0.1	0.34	0.34	0.96	0.96	0.5 L	0.25	69	69	1.4	1.4
MW-14S	7/16/2012	130	130	43	43	6.1	6.1	0.1 L	0.05	0.64	0.64	9.2	9.2	86	86	1.1	1.1
MW-14S	10/11/2012	175	175	78	78	16	16	0.33	0.33	0.5 L	0.25	8.7	8.7	120	120	1.8	1.8
MW-14S	1/14/2013	98	98	37	37	4.1	4.1	0.13	0.13	1.6	1.6	5.9	5.9	73	73	1.7	1.7
MW-14S	4/23/2013	114	114	38	38	4.8	4.8	0.39	0.39	0.99	0.99	7.3	7.3	64	64	1.8	1.8
MW-14S	7/26/2013	254	254	66	66	6.6	6.6	3.7	3.7	0.5 L	0.25	12	12	120	120	1.3	1.3
MW-14S	10/8/2013	160	160	56	56	9.3	9.3	0.1	0.1	1.6	1.6	6.6	6.6	110	110	2.3	2.3
MW-14S	1/6/2014	200	200	86	86	16	16	0.51	0.51	0.2 L	0.1	8.8	8.8	150	150	2	2
MW-14S	4/7/2014	114	114	39	39	7.1	7.1	0.18	0.18	1.6	1.6	7.7	7.7	83	83	1.3	1.3
MW-14S	7/9/2014	140	140	43	43	8.8	8.8	0.2	0.2	0.56 J	0.56	9.5	9.5	98	98	1.1	1.1
MW-14S	10/29/2014	185	185	63	63	12	12	0.35	0.35	0.78	0.78	7.1	7.1	120	120	2	2
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		19		16		14		19		20		19	
Minimum conc.			67		25		0.1		0.025		0.1		0.25		56		0.5
Maximum conc.			292		86		21.5		3.7		1.7		12		150		2.6
Average conc.			146		48		8		0.432		1		8		96		1.6
Distribution			Lognormal		Lognormal		Neither		Lognormal		Lognormal		Neither		Lognormal		Lognormal
UCL 95			174		56		9.9***		2.31		12.7		8.7***		108		1.8
MW-15D																	
MW-15D	1/26/2010	338	338	170	170	16	16	0.12	0.12	0.35	0.35	8.5	8.5	210	210	1.3	1.3
MW-15D	7/15/2010	334	334	140	140	12	12	0.05 L	0.025	0.51	0.51	8.6	8.6	190	190	1 L	0.5
MW-15D	1/5/2011	653	653	150	150	15.7	15.7	0.1 L	0.05	0.5 L	0.25	10.4	10.4	200	200	1.3	1.3
MW-15D	7/6/2011	280	280	140	140	10.4	10.4	1.9	1.9	0.57	0.57	8.6	8.6	200	200	1.6	1.6
MW-15D	1/26/2012	318	318	160	160	12.7	12.7	0.1 L	0.05	0.59	0.59	8.2	8.2	200	200	1	1
MW-15D	7/17/2012	282	282	140	140	9.9	9.9	0.1 L	0.05	0.61	0.61	9.3	9.3	190	190	1.1	1.1
MW-15D	1/14/2013	212	212	150	150	11	11	0.1 L	0.05	0.5 L	0.25	9.2	9.2	190	190	1.3	1.3
MW-15D	7/25/2013	293	293	120	120	9.3	9.3	0.1 L	0.05	0.54	0.54	9.4	9.4	170	170	1 L	0.5
MW-15D	1/7/2014	272	272	120	120	8.8	8.8	0.1 L	0.05	0.79 H	0.79	9.2	9.2	180	180	1 L	0.5
MW-15D	7/9/2014	270	270	140	140	11	11	0.1	0.1	0.52 J	0.52	9.5	9.5	180	180	1.2	1.2
MW-15D	10/28/2014	291	291	140	140	13	13	0.1 L	0.05	0.53	0.53	9.3	9.3	200	200	1 L	0.5
No. Analyzed		11		11		11		11		11		11		11		11	
No. Detect		11		11		11		3		7		11		11		7	
Minimum conc.			212		120		8.8		0.03		0.25		8.2		170		0.5
Maximum conc.			653		170		16.0		1.90		0.79		10.4		210		1.6
Average conc.			322		143		11.8		0.23		0.50		9.1		192		1.0
Distribution			Neither		Lognormal		Lognormal		NC		Neither		Lognormal		Lognormal		Neither
UCL 95			379		151.2		13.3		NC		0.79**		9.5		199		1.6**

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-15S																	
MW-15S	1/26/2010	288	288	79	79	21	21	2	2	6.6	6.6	11	11	190	190	2.2	2.2
MW-15S	7/15/2010	271	271	100	100	13	13	3	3	0.5 L	0.25	10	10	150	150	1.9	1.9
MW-15S	1/5/2011	526.7	526.7	83	83	18.3	18.3	2.9	2.9	3.6	3.6	10.8	10.8	160	160	2	2
MW-15S	7/6/2011	154	154	60	60	6.8	6.8	1.4	1.4	0.5 L	0.25	11.6	11.6	110	110	1.5	1.5
MW-15S	1/25/2012	299	299	78	78	18	18	3.2	3.2	9.8	9.8	11.3	11.3	210	210	1.7	1.7
MW-15S	7/17/2012	217	217	88	88	10	10	1.9	1.9	0.5 L	0.25	12	12	130	130	1.6	1.6
MW-15S	1/14/2013	253	253	95	95	16	16	4.3	4.3	1.6	1.6	10	10	160	160	1.9	1.9
MW-15S	7/25/2013	208	208	65	65	12	12	3.7	3.7	0.5 L	0.25	14	14	120	120	1.2	1.2
MW-15S	1/7/2014	257	257	100	100	14	14	4.3	4.3	0.2 L	0.1	11	11	160	160	1.7	1.7
MW-15S	7/9/2014	230	230	67	67	20	20	2.9	2.9	0.5 L	0.25	9.9	9.9	140	140	1.8	1.8
MW-15S	10/28/2014	271	271	81	81	17	17	3.9	3.9	6.1	6.1	8.8	8.8	170	170	1.9	1.9
No. Analyzed		11		11		11		11		11		11		11		11	
No. Detect		11		11		11		11		5		11		11		11	
Minimum conc.			154		60		6.8		1.40		0.1		9		110		1.2
Maximum conc.			527		100		21.0		4.30		9.8		14		210		2.2
Average conc.			270		81		15.1		3.05		2.6		11		155		1.8
Distribution			Neither		Lognormal		Lognormal		Lognormal		Normal		Lognormal		Lognormal		Lognormal
UCL 95			317***		90.0		18.9		3.9		3.7		11.7		173		1.9
MW-17S																	
MW-17S	1/25/2010	546	546	84	84	18	18	1.5	1.5	36	36	8.3	8.3	370	370	1.6	1.6
MW-17S	4/7/2010	528	528	200	200	26	26	3.4	3.4	11	11	9.4	9.4	330	330	3.2	3.2
MW-17S	7/15/2010	508	508	210	210	20	20	2.7	2.7	3.1	3.1	6.7	6.7	290	290	2	2
MW-17S	10/14/2010	481	481	220	220	15.4	15.4	4.6	4.6	0.5 L	0.25	3.7	3.7	260	260	2.7	2.7
MW-17S	1/5/2011	1329	1329	110	110	20.8	20.8	2.6	2.6	47	47	9.8	9.8	440	440	1.7	1.7
MW-17S	4/20/2011	473	473	180	180	25.1	25.1	1.9	1.9	4.4	4.4	9	9	280	280	2.8	2.8
MW-17S	7/5/2011	356	356	170	170	18.9	18.9	3.5	3.5	0.5 L	0.25	6.8	6.8	260	260	2.6	2.6
MW-17S	10/25/2011	360	360	180	180	16.2	16.2	3.1	3.1	0.5 L	0.25	4.9	4.9	220	220	2.6	2.6
MW-17S	1/25/2012	424	424	150	150	14.5	14.5	4.5	4.5	11	11	4.8	4.8	260	260	1.9	1.9
MW-17S	4/25/2012	449	449	160	160	18.8	18.8	6.7	6.7	13	13	6.9	6.9	300	300	2.5	2.5
MW-17S	7/17/2012	375	375	160	160	17	17	1.6	1.6	3.3	3.3	7.3	7.3	240	240	2	2
MW-17S	10/10/2012	368	368	190	190	12	12	4.9	4.9	0.5 L	0.25	3.7	3.7	250	250	2.3	2.3
MW-17S	1/15/2013	438	438	120	120	16	16	4.1	4.1	20	20	7.1	7.1	290	290	1.8	1.8
MW-17S	4/24/2013	426	426	180	180	17	17	5.8	5.8	4.2	4.2	5.6	5.6	260	260	2.6	2.6
MW-17S	7/25/2013	411	411	180	180	15	15	5.3	5.3	0.5 L	0.25	3.8	3.8	220	220	1.7	1.7
MW-17S	10/10/2013	445	445	180	180	13	13	7	7	3.6	3.6	3.8	3.8	240	240	2	2
MW-17S	1/9/2014	434	434	200	200	13	13	8.4	8.4	1.7	1.7	4.4	4.4	240	240	2.1	2.1
MW-17S	4/8/2014	523	523	140	140	27	27	5.6	5.6	23	23	10	10	350	350	2	2
MW-17S	7/8/2014	350	350	120	120	23	23	2.5	2.5	1.5 J	1.5	8.2	8.2	220	220	1.8	1.8
MW-17S	10/28/2014	377	377	170	170	20	20	4.8	4.8	0.5 L	0.25	4.1	4.1	230	230	2.4	2.4
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		20		13		20		20		20	
Minimum conc.			350		84		12		1.50		0.3		3.7		220		1.6
Maximum conc.			1329		220		27		8.40		47.0		10.0		440		3.2
Average conc.			480		165		18		4.23		9.2		6.4		278		2.2
Distribution			Neither		Normal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			559***		179		20.2		5.4		47.0**		7.5		300		2.4

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-18D																	
MW-18D	1/29/2010	313	313	130	130	11	11	0.1 L	0.05	1.8	1.8	5 L	2.5	190	190	1 L	0.5
MW-18D	7/13/2010	273	273	140	140	11	11	0.05 L	0.025	1.7	1.7	5	5	210	210	1 L	0.5
MW-18D	1/7/2011	307.7	307.7	130	130	11.1	11.1	0.1 L	0.05	1.6	1.6	5.1	5.1	190	190	1 L	0.5
MW-18D	7/6/2011	275	275	130	130	10.5	10.5	0.1 L	0.05	1.6	1.6	4.6	4.6	220	220	1 L	0.5
MW-18D	1/25/2012	280	280	130	130	10	10	0.1 L	0.05	1.7	1.7	5	5	180	180	1 L	0.5
MW-18D	7/17/2012	259	259	130	130	8.5	8.5	0.1 L	0.05	1.8	1.8	5.3	5.3	200	200	1 L	0.5
MW-18D	1/14/2013	212	212	130	130	8.8	8.8	0.1 L	0.05	1.7	1.7	5.1	5.1	170	170	1 L	0.5
MW-18D	7/23/2013	275	275	120	120	8.1	8.1	0.1 L	0.05	1.7	1.7	5.3	5.3	180	180	1 L	0.5
MW-18D	1/9/2014	268	268	120	120	8.4	8.4	0.1 L	0.05	1.7	1.7	5.4	5.4	180	180	1 L	0.5
MW-18D	7/9/2014	260	260	110	110	9.6	9.6	0.1 L	0.05	1.6 J	1.6	5.5	5.5	170	170	1 L	0.5
MW-18D	10/27/2014	247	247	110	110	9.2	9.2	0.1 L	0.05	1.7	1.7	5.8	5.8	180	180	1 L	0.5
No. Analyzed		11		11		11		11		11		11		11		11	
No. Detect		11		11		11		0		10		10		11		0	
Minimum conc.			212		110		8.1		0.03		1.6		2.5		170		0.5
Maximum conc.			313		140		11.1		0.05		1.8		5.8		220		0.5
Average conc.			270		125		9.7		0.05		1.7		5.0		188		0.5
Distribution			Neither		Neither		Lognormal		NC		Neither		Lognormal		Lognormal		NC
UCL 95			289***		130***		10.3		NC		1.7***		5.4		197		NC
MW-18S																	
MW-18S	1/29/2010	404	404	150	150	14	14	0.1 L	0.05	8.1	8.1	13	13	240	240	1.4	1.4
MW-18S	7/13/2010	310	310	140	140	15	15	0.05 L	0.025	1.7	1.7	8.6	8.6	230	230	1.5	1.5
MW-18S	1/7/2011	408.8	408.8	140	140	13.4	13.4	0.1 L	0.05	9.5	9.5	10.1	10.1	240	240	1.5	1.5
MW-18S	7/6/2011	312	312	150	150	20	20	0.1 L	0.05	0.5 L	0.25	5.1	5.1	240	240	2.4	2.4
MW-18S	1/25/2012	369	369	120	120	14.9	14.9	0.1 L	0.05	11	11	6.2	6.2	240	240	1.3	1.3
MW-18S	7/18/2012	306	306	130	130	13	13	0.1 L	0.05	2.6	2.6	7.3	7.3	220	220	1.3	1.3
MW-18S	1/14/2013	347	347	130	130	13	13	0.1 L	0.05	9.8	9.8	8.3	8.3	250	250	1.4	1.4
MW-18S	7/23/2013	304	304	130	130	12	12	0.1 L	0.05	0.61	0.61	5.5	5.5	190	190	1.5	1.5
MW-18S	1/9/2014	327	327	130	130	12	12	0.1 L	0.05	5 H	5	5.2	5.2	220	220	1.1	1.1
MW-18S	7/9/2014	310	310	120	120	20	20	0.1 L	0.05	0.84 J	0.84	6.2	6.2	210	210	1.4	1.4
MW-18S	10/27/2014	295	295	130	130	17	17	0.1 L	0.05	0.2	0.2	4.5	4.5	190	190	1.1	1.1
No. Analyzed		11		11		11		11		11		11		11		11	
No. Detect		11		11		11		0		8		11		11		11	
Minimum conc.			295		120		12.0		0.03		0.2		4.5		190		1.1
Maximum conc.			409		150		20.0		0.05		11.0		13.0		250		2.4
Average conc.			336		134		14.9		0.05		4.5		7.3		225		1.4
Distribution			Neither		Neither		Lognormal		NC		Normal		Lognormal		Neither		Neither
UCL 95			356		139***		16.6		NC		6.83		8.9		235***		1.6***

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-20R																	
MW-20R	1/27/2010	104	104	45	45	3 L	1.5	0.11	0.11	0.2 L	0.1	0.5 L	0.25	95	95	1 L	0.5
MW-20R	1/7/2011	99.42	99.42	47	47	1.8	1.8	0.1 L	0.05	0.5 L	0.25	3.2	3.2	90	90	1 L	0.5
MW-20R	1/24/2012	259	259	48	48	1.6	1.6	0.1 L	0.05	0.5 L	0.25	2.9	2.9	85	85	1 L	0.5
MW-20R	1/16/2013	91	91	45	45	1.6	1.6	0.1 L	0.05	0.5 L	0.25	2.9	2.9	80	80	1 L	0.5
MW-20R	1/10/2014	97	97	48	48	1.8	1.8	0.1 L	0.05	0.2 L	0.1	3	3	91	91	1 L	0.5
MW-20R	7/11/2014	99	99	44	44	1.7	1.7	0.1 L	0.05	0.5 L	0.25	2.9	2.9	200	200	1 L	0.5
MW-20R	10/30/2014	91	91	46	46	2	2	0.1 L	0.05	0.5 L	0.25	3	3	94	94	1 L	0.5
No. Analyzed		7		7		7		7		7		7		7		7	
No. Detect		7		7		6		1		0		6		7		0	
Minimum conc.			91		44		1.5		0.05		0.1		0.3		80		0.5
Maximum conc.			259		48		2.0		0.11		0.3		3.2		200		0.5
Average conc.			120		46		1.7		0.06		0.2		2.6		105		0.5
Distribution			Neither		Lognormal		Neither		NC		NC		Neither		Neither		NC
UCL 95			259**		47		2.2***		NC		NC		3.2**		131***		NC
MW-23S																	
MW-23S	1/28/2010	185	185	58	58	13	13	0.11	0.11	0.39	0.39	13	13	120	120	1 L	0.5
MW-23S	7/15/2010	220	220	78	78	11	11	0.05 L	0.025	0.5 L	0.25	14	14	140	140	1 L	0.5
MW-23S	1/6/2011	209	209	74	74	8.8	8.8	0.1 L	0.05	0.5 L	0.25	14.6	14.6	130	130	1 L	0.5
MW-23S	7/7/2011	204	204	82	82	12.1	12.1	0.1 L	0.05	0.5 L	0.25	13.5	13.5	150	150	1 L	0.5
MW-23S	1/26/2012	209	209	78	78	11.9	11.9	0.1 L	0.05	0.93	0.93	16.7	16.7	150	150	1 L	0.5
MW-23S	7/19/2012	287	287	55	55	5.6	5.6	0.1 L	0.05	0.78	0.78	4.9	4.9	84	84	1 L	0.5
MW-23S	1/7/2014	190	190	76	76	8.2	8.2	0.1 L	0.05	1.1 H	1.1	14	14	140	140	1.3	1.3
MW-23S	7/10/2014	210	210	69	69	12	12	0.1 L	0.05	1.6 J	1.6	15	15	140	140	1.3	1.3
No. Analyzed		8		8		8		8		8		8		8		8	
No. Detect		8		8		8		1		3		8		8		2	
Minimum conc.			185		55		6		0		0.25		5		84		1
Maximum conc.			287		82		13		0		1.60		17		150		1
Average conc.			214		71		10		0		0.69		13		132		1
Distribution			Neither		Neither		Neither		NC		Normal		Neither		Neither		NC
UCL 95			233***		77***		11.8***		NC		0.97		15.3***		144***		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-25S																	
MW-25S	1/26/2010	269	269	120	120	11	11	0.1 L	0.05	1.5	1.5	6.1	6.1	170	170	1 L	0.5
MW-25S	7/15/2010	296	296	120	120	10	10	0.05 L	0.025	1.5	1.5	5.9	5.9	180	180	1 L	0.5
MW-25S	1/6/2011	300.5	300.5	120	120	9.8	9.8	0.1 L	0.05	1.7	1.7	7.4	7.4	170	170	1 L	0.5
MW-25S	7/6/2011	196	196	88	88	7.4	7.4	0.1 L	0.05	1.5	1.5	6.1	6.1	160	160	1 L	0.5
MW-25S	1/25/2012	74	74	120	120	8.2	8.2	0.1 L	0.05	1.8	1.8	6.4	6.4	170	170	1 L	0.5
MW-25S	7/17/2012	252	252	120	120	8.8	8.8	0.1 L	0.05	1.7	1.7	6.4	6.4	180	180	1 L	0.5
MW-25S	1/17/2013	260	260	110	110	8	8	0.1 L	0.05	1.8	1.8	6.7	6.7	160	160	1 L	0.5
MW-25S	7/25/2013	263	263	110	110	8	8	0.1 L	0.05	1.4	1.4	6.6	6.6	150	150	1 L	0.5
MW-25S	1/9/2014	257	257	110	110	9.9	9.9	0.1 L	0.05	1.6	1.6	6.9	6.9	170	170	1 L	0.5
MW-25S	7/8/2014	150	150	57	57	6.5	6.5	0.1 L	0.05	1.2 J	1.2	6.2	6.2	110	110	1 L	0.5
MW-25S	10/28/2014	234	234	110	110	10	10	0.1 L	0.05	1.4	1.4	7.1	7.1	160	160	1 L	0.5
No. Analyzed		11		11		11		11		11		11		11		11	
No. Detect		11		11		11		0		10		11		11		0	
Minimum conc.			74		57		7		0.03		1.2		5.9		110		0.5
Maximum conc.			301		120		11		0.05		1.8		7.4		180		0.5
Average conc.			232		108		9		0.05		1.6		6.5		162		0.5
Distribution			Neither		Neither		Lognormal		NC		Lognormal		Lognormal		Neither		NC
UCL 95			266***		117***		9.7		NC		1.7		6.8		171***		NC
MW-26R																	
MW-26R	1/27/2010	146	146	61	61	3.3	3.3	0.14	0.14	0.2 L	0.1	7	7	100	100	1 L	0.5
MW-26R	1/7/2011	134.6	134.6	61	61	3.8	3.8	0.10 L	0.05	0.5 L	0.25	7.3	7.3	110	110	1 L	0.5
MW-26R	1/30/2012	69	69	42	42	2.3	2.3	0.30	0.3	0.5 L	0.25	0.5 L	0.25	52	52	1	1
MW-26R	1/17/2013	174	174	77	77	3.9	3.9	0.10 L	0.05	0.5 L	0.25	9.1	9.1	110	110	1 L	0.5
MW-26R	1/10/2014	141	141	66	66	3.9	3.9	0.10 L	0.05	0.2 L	0.1	7.9	7.9	110	110	1 L	0.5
MW-26R	7/10/2014	160	160	69	69	3.9	3.9	0.10 L	0.05	0.5 L	0.25	8.5	8.5	120	120	1 L	0.5
MW-26R	10/30/2014	156	156	75	75	4.6	4.6	0.10 L	0.05	0.5 L	0.25	9.3	9.3	140	140	1 L	0.5
No. Analyzed		7		7		7		7		7		7		7		7	
No. Detect		7		7		7		2		0		6		7		1	
Minimum conc.			69		42		2.3		0.05		0		0.3		52		0.5
Maximum conc.			174		77		4.6		0.30		0		9.3		140		1.0
Average conc.			140		64		3.7		0.10		0		7.1		106		0.6
Distribution			Neither		Neither		Neither		NC		NC		Neither		Neither		NC
UCL 95			161***		72***		4.1***		NC		NC		8.9***		123***		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-28S																	
MW-28S	1/28/2010	205	205	69	69	9.1	9.1	0.11	0.11	1.3	1.3	15	15	130	130	1 L	0.5
MW-28S	4/8/2010	156	156	68	68	3.6	3.6	0.1 L	0.05	0.1 L	0.05	6.2	6.2	110	110	1 L	0.5
MW-28S	7/15/2010	150	150	80	80	4.2	4.2	0.05 L	0.025	0.5 L	0.25	5 L	2.5	110	110	1 L	0.5
MW-28S	1/6/2011	194.1	194.1	74	74	6.3	6.3	0.1 L	0.05	0.62	0.62	8.4	8.4	120	120	1 L	0.5
MW-28S	4/21/2011	161	161	65	65	7.6	7.6	0.1	0.1	0.99	0.99	3.8	3.8	110	110	1 L	0.5
MW-28S	7/7/2011	212	212	64	64	16.6	16.6	0.1 L	0.05	4	4	9.2	9.2	160	160	1 L	0.5
MW-28S	1/26/2012	233	233	14	14	15.4	15.4	0.1 L	0.05	3	3	17.2	17.2	160	160	1 L	0.5
MW-28S	4/26/2012	116	116	57	57	3.6	3.6	0.1 L	0.05	0.5 L	0.25	5.6	5.6	90	90	1 L	0.5
MW-28S	7/19/2012	127	127	55	55	5.6	5.6	0.1 L	0.05	0.78	0.78	4.9	4.9	84	84	1 L	0.5
MW-28S	10/9/2013	173	173	58	58	7	7	0.1 L	0.05	0.91	0.91	9.5	9.5	130	130	1	1
No. Analyzed		10		10		10		10		10		10		10		10	
No. Detect		10		10		10		2		7		9		10		1	
Minimum conc.			116		14		3.6		0.03		0.1		3		84		0.5
Maximum conc.			233		80		16.6		0.11		4.0		17		160		1.0
Average conc.			173		60		7.9		0.06		1.2		8		120		0.6
Distribution			Lognormal		Neither		Lognormal		NC		Lognormal		Lognormal		Lognormal		NC
UCL 95			200		70***		12.0		NC		4.0**		12.3		138		NC

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
FMMW-1																	
FMMW-1	1/26/2010	487	487	150	150	15	15	0.11	0.11	20	20	17	17	340	340	1.3	1.3
FMMW-1	4/7/2010	242	242	94	94	12	12	0.1 L	0.05	2	2	17	17	160	160	1.7	1.7
FMMW-1	7/13/2010	250	250	110	110	12	12	0.05 L	0.025	1	1	15	15	190	190	1.1	1.1
FMMW-1	10/13/2010	275	275	110	110	13.6	13.6	0.21	0.21	0.84	0.84	15.7	15.7	180	180	1 L	0.5
FMMW-1	1/5/2011	553.9	553.9	110	110	13.9	13.9	0.1 L	0.05	1.7	1.7	15.8	15.8	180	180	1.2	1.2
FMMW-1	4/19/2011	282	282	100	100	19.1	19.1	0.13	0.13	3.4	3.4	17.9	17.9	180	180	1.2	1.2
FMMW-1	7/5/2011	302	302	120	120	20.2	20.2	0.1 L	0.05	2.1	2.1	12.8	12.8	210	210	1.4	1.4
FMMW-1	10/25/2011	305	305	120	120	21.2	21.2	0.1 L	0.05	1.5	1.5	16.3	16.3	190	190	1.2	1.2
FMMW-1	1/27/2012	342	342	120	120	19.4	19.4	0.1 L	0.05	1.4	1.4	15.8	15.8	190	190	1 L	0.5
FMMW-1	4/25/2012	259	259	95	95	15.8	15.8	0.1 L	0.05	2.5	2.5	15.6	15.6	180	180	1.5	1.5
FMMW-1	7/18/2012	259	259	98	98	13	13	0.1 L	0.05	1.6	1.6	15	15	180	180	1 L	0.5
FMMW-1	10/10/2012	244	244	89	89	13	13	0.1 L	0.05	1.2	1.2	15	15	180	180	1.1	1.1
FMMW-1	1/16/2013	270	270	94	94	11	11	0.1 L	0.05	1.9	1.9	15	15	160	160	1.3	1.3
FMMW-1	4/24/2013	261	261	110	110	12	12	0.1 L	0.05	1.3	1.3	16	16	160	160	1.5	1.5
FMMW-1	7/24/2013	271	271	99	99	12	12	0.1 L	0.05	0.87	0.87	15	15	160	160	1 L	0.5
FMMW-1	10/9/2013	281	281	110	110	12	12	0.1 L	0.05	0.55	0.55	15	15	170	170	1	1
FMMW-1	1/8/2014	270	270	110	110	11	11	0.1 L	0.05	1.1 H	1.1	15	15	180	180	1.1	1.1
FMMW-1	4/8/2014	229	229	90	90	11	11	0.1 L	0.05	1.7	1.7	15	15	170	170	1	1
FMMW-1	7/9/2014	300	300	100	100	21	21	0.1 L	0.05	3.1 J	3.1	13	13	200	200	1 L	0.5
FMMW-1	10/27/2014	293	293	100	100	23	23	0.1 L	0.05	2.5	2.5	17	17	200	200	1 L	0.5
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		3		18		20		20		14	
Minimum conc.			229		89		11.0		0.03		0.6		12.8		160		0.5
Maximum conc.			554		150		23.0		0.21		20.0		17.9		340		1.7
Average conc.			299		106		15.1		0.06		2.6		15.5		188		1.0
Distribution			Neither		Neither		Neither		NC		Neither		Normal		Neither		Lognormal
UCL 95			324***		112***		16.5***		NC		4.14***		15.9		202***		5.2

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		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
FMMW-2																	
FMMW-2	1/26/2010	263	263	100	100	13	13	0.1 L	0.05	1.8	1.8	16	16	170	170	1.1	1.1
FMMW-2	4/7/2010	377	377	140	140	19	19	0.1 L	0.05	6.7	6.7	12	12	250	250	1.6	1.6
FMMW-2	7/13/2010	344	344	160	160	16	16	0.05 L	0.025	2.6	2.6	10	10	270	270	1.8	1.8
FMMW-2	10/13/2010	395	395	170	170	16.7	16.7	0.25	0.25	5.6	5.6	6.5	6.5	260	260	2	2
FMMW-2	1/5/2011	951	951	130	130	15	15	0.23	0.23	24	24	16.5	16.5	320	320	1.4	1.4
FMMW-2	4/20/2011	478	478	160	160	23.1	23.1	0.11	0.11	9.2	9.2	19.1	19.1	300	300	1.7	1.7
FMMW-2	7/5/2011	286	286	120	120	17.6	17.6	0.11	0.11	1	1	14.6	14.6	230	230	1.7	1.7
FMMW-2	10/25/2011	330	330	140	140	18.3	18.3	0.23	0.23	3.1	3.1	7.3	7.3	220	220	2.1	2.1
FMMW-2	1/27/2012	408	408	110	110	17	17	0.28	0.28	13	13	8.9	8.9	250	250	1.5	1.5
FMMW-2	4/25/2012	259	259	100	100	14.3	14.3	0.1 L	0.05	13	13	10.8	10.8	260	260	1.9	1.9
FMMW-2	7/18/2012	315	315	140	140	14	14	0.11	0.11	1.7	1.7	8.5	8.5	220	220	1.5	1.5
FMMW-2	10/10/2012	309	309	140	140	13	13	0.22	0.22	2.6	2.6	5.3	5.3	230	230	1.9	1.9
FMMW-2	1/16/2013	400	400	110	110	12	12	0.12	0.12	15	15	11	11	270	270	1.6	1.6
FMMW-2	4/24/2013	333	333	120	120	13	13	0.1 L	0.05	3.9	3.9	13	13	210	210	1.8	1.8
FMMW-2	7/24/2013	339	339	140	140	15	15	0.11	0.11	1	1	7.6	7.6	200	200	1.3	1.3
FMMW-2	10/9/2013	402	402	120	120	15	15	0.34	0.34	13	13	8.8	8.8	260	260	1.5	1.5
FMMW-2	1/8/2014	345	345	140	140	14	14	0.31	0.31	5.2 H	5.2	5.9	5.9	240	240	1.6	1.6
FMMW-2	4/8/2014	467	467	150	150	21	21	0.1 L	0.05	15	15	19	19	330	330	1.5	1.5
FMMW-2	7/9/2014	300	300	110	110	20	20	0.11	0.11	0.84 J	0.84	12	12	210	210	1.3	1.3
FMMW-2	10/28/2014	344	344	130	130	22	22	0.33	0.33	5.1	5.1	6.1	6.1	230	230	1.4	1.4
No. Analyzed		16		16		16		16		16		16		16		16	
No. Detect		16		16		16		10		14		16		16		16	
Minimum conc.			259		100		12.0		0.03		0.8		5.3		170		1.1
Maximum conc.			951		170		23.1		0.34		24.0		19.1		330		2.1
Average conc.			382		132		16.5		0.16		7.2		10.9		247		1.6
Distribution			Neither		Lognormal		Lognormal		Normal		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			421***		140		17.8		0.19		14.4		13.1		263		1.7

Notes:
L indicates below the given method reporting limit (MRL)
ND indicates not detected
NC indicates not calculated due to less than 50 percent detection frequency or historically no detections
NS = insufficient samples
[a] 1/2 MRL used for censored data.
* Assumed distribution as calcuated by the W-test.
** UCL represents maximum concentration detected.
*** = based on Z-statistic
Statistical calculations use one half the MRL for non-detected parameters.

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-10D					
MW-10D	01/27/10	0.100 L	0.050	0.005 L	0.0025
MW-10D	04/07/10	0.100 L	0.050	0.001 L	0.0005
MW-10D	07/14/10	0.100 L	0.050	0.002 L	0.0010
MW-10D	10/14/10	0.200 L	0.100	0.001 L	0.0005
MW-10D	01/04/11	0.200 L	0.100	0.001 L	0.0005
MW-10D	04/20/11	0.200 L	0.100	0.001 L	0.0005
MW-10D	07/06/11	0.200 L	0.100	0.001 L	0.0005
MW-10D	10/25/11	0.200 L	0.100	0.001 L	0.0005
MW-10D	01/24/12	0.200 L	0.100	0.001 L	0.0005
MW-10D	04/24/12	0.200 L	0.100	0.001 L	0.0005
MW-10D	07/16/12	0.200 L	0.100	0.001 L	0.0005
MW-10D	10/11/12	0.200 L	0.100	0.002	0.0019
MW-10D	01/15/13	0.200 L	0.100	0.001 L	0.0005
MW-10D	04/23/13	0.200 L	0.100	0.001 L	0.0005
MW-10D	07/26/13	0.200 L	0.100	0.001 L	0.0005
MW-10D	10/08/13	0.200 L	0.100	0.001 L	0.0005
MW-10D	01/06/14	0.100	0.100	0.001	0.0010
MW-10D	04/07/14	0.100 L	0.050	0.001 L	0.0005
MW-10D	07/10/14	0.100 L	0.050	0.001 L	0.0005
MW-10D	10/29/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		20		20	
No. Detect		1		2	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.003
Average conc.			NC		0.001
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-10S					
MW-10S	01/27/10	0.100 L	0.050	0.005 L	0.0025
MW-10S	04/07/10	0.100 L	0.050	0.001 L	0.0005
MW-10S	07/14/10	0.100 L	0.050	0.002 L	0.0010
MW-10S	10/14/10	0.200 L	0.100	0.001 L	0.0005
MW-10S	01/04/11	0.200 L	0.100	0.001 L	0.0005
MW-10S	04/20/11	0.200 L	0.100	0.001 L	0.0005
MW-10S	07/06/11	0.200 L	0.100	0.001 L	0.0005
MW-10S	10/25/11	0.200 L	0.100	0.001 L	0.0005
MW-10S	01/24/12	0.200 L	0.100	0.006	0.0063
MW-10S	04/24/12	0.200 L	0.100	0.001 L	0.0005
MW-10S	07/16/12	0.200 L	0.100	0.001 L	0.0005
MW-10S	10/11/12	0.200 L	0.100	0.001 L	0.0005
MW-10S	01/15/13	0.200 L	0.100	0.001 L	0.0005
MW-10S	04/23/13	0.200 L	0.100	0.001 L	0.0005
MW-10S	07/26/13	0.200 L	0.100	0.001 L	0.0005
MW-10S	10/08/13	0.200 L	0.100	0.001 L	0.0005
MW-10S	01/06/14	0.100	0.100	0.001 L	0.0005
MW-10S	04/07/14	0.100 L	0.050	0.001 L	0.0005
MW-10S	07/10/14	0.100 L	0.050	0.001 L	0.0005
MW-10S	10/29/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		20		20	
No. Detect		1		1	
Minimum conc.			0.050		0.001
Maximum conc.			0.100		0.006
Average conc.			0.085		0.001
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)	01/28/10	0.100 L	0.050	0.005 L	0.0025
MW-11D(2)	04/08/10	0.100 L	0.050	0.001 L	0.0005
MW-11D(2)	07/15/10	0.100 L	0.050	0.001 L	0.0005
MW-11D(2)	10/13/10	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	01/05/11	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	04/19/11	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	07/05/11	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	10/26/11	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	01/25/12	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	04/25/12	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	07/17/12	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	10/10/12	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	01/14/13	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	04/24/13	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	07/23/13	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	10/09/13	0.200 L	0.100	0.001 L	0.0005
MW-11D(2)	01/08/14	0.100 L	0.050	0.001 L	0.0005
MW-11D(2)	04/08/14	0.100 L	0.050	0.001 L	0.0005
MW-11D(2)	07/08/14	0.100 L	0.050	0.001 L	0.0005
MW-11D(2)	10/27/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		20		20	
No. Detect		0		0	
Minimum conc.			0.050		0.001
Maximum conc.			0.100		0.003
Average conc.			0.083		0.001
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-11S					
MW-11S	01/28/10	0.100 L	0.050	0.005 L	0.0025
MW-11S	04/08/10	0.100 L	0.050	0.001	0.0011
MW-11S	07/15/10	0.100 L	0.050	0.002	0.0019
MW-11S	10/13/10	0.460	0.460	0.001 L	0.0005
MW-11S	01/05/11	0.200 L	0.100	0.001 L	0.0005
MW-11S	04/19/11	0.200 L	0.100	0.007	0.0066
MW-11S	07/05/11	0.200 L	0.100	0.038	0.0380
MW-11S	10/25/11	0.200 L	0.100	0.038	0.0380
MW-11S	01/25/12	0.200 L	0.100	0.001 L	0.0005
MW-11S	04/25/12	0.200 L	0.100	0.001	0.0014
MW-11S	07/17/12	0.200 L	0.100	0.012	0.0120
MW-11S	10/10/12	0.200 L	0.100	0.016	0.0160
MW-11S	01/14/13	0.200 L	0.100	0.001 L	0.0005
MW-11S	04/24/13	0.200 L	0.100	0.001 L	0.0005
MW-11S	07/23/13	0.200 L	0.100	0.004	0.0043
MW-11S	10/09/13	0.200 L	0.100	0.001 L	0.0005
MW-11S	01/08/14	0.100 L	0.050	0.001 L	0.0005
MW-11S	04/08/14	0.100 L	0.050	0.001	0.0013
MW-11S	07/08/14	0.100 L	0.050	0.021	0.0210
MW-11S	10/27/14	0.100 L	0.050	0.008	0.0079
No. Analyzed		20		20	
No. Detect		1		12	
Minimum conc.			0.050		0.001
Maximum conc.			0.460		0.038
Average conc.			0.101		0.008
Distribution			NC		Lognormal
UCL 95			NC		0.679
MW-12D					
MW-12D	01/29/10	0.100 L	0.050	0.005 L	0.0025
MW-12D	07/14/10	0.100 L	0.050	0.002 L	0.0010
MW-12D	01/04/11	0.200 L	0.100	0.001 L	0.0005
MW-12D	07/08/11	0.200 L	0.100	0.001 L	0.0005
MW-12D	01/30/12	0.200 L	0.100	0.001 L	0.0005
MW-12D	07/16/12	0.200 L	0.100	0.001 L	0.0005
MW-12D	01/16/13	0.200 L	0.100	0.001 L	0.0005
MW-12D	07/26/13	0.200 L	0.100	0.001 L	0.0005
MW-12D	01/07/14	0.100 L	0.050	0.001 L	0.0005
MW-12D	07/11/14	0.100 L	0.050	0.001 L	0.0005
MW-12D	10/30/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		11		11	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			NC		0.0007
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-12S					
MW-12S	01/29/10	0.100 L	0.050	0.031	0.0310
MW-12S	07/14/10	0.100 L	0.050	0.320	0.3200
MW-12S	01/04/11	0.200 L	0.100	0.200	0.2000
MW-12S	07/08/11	0.200 L	0.100	0.490	0.4900
MW-12S	01/30/12	0.200 L	0.100	0.440	0.4400
MW-12S	07/16/12	0.200 L	0.100	0.400	0.4000
MW-12S	01/16/13	0.200 L	0.100	0.170	0.1700
No. Analyzed		7		7	
No. Detect		0		7	
Minimum conc.			ALL ND		0.0310
Maximum conc.			ALL ND		0.4900
Average conc.			ALL ND		0.293
Distribution			NC		Normal
UCL 95			NC		0.415
MW-13D					
MW-13D	01/29/10	0.100 L	0.050	0.005 L	0.0025
MW-13D	04/08/10	0.100 L	0.050	0.001 L	0.0005
MW-13D	07/14/10	0.100 L	0.050	0.002 L	0.0010
MW-13D	10/14/10	0.200 L	0.100	0.072	0.0720
MW-13D	01/04/11	0.200 L	0.100	0.001 L	0.0005
MW-13D	04/19/11	0.200 L	0.100	0.001 L	0.0005
MW-13D	07/06/11	0.200 L	0.100	0.001 L	0.0005
MW-13D	10/25/11	0.200 L	0.100	0.240	0.2400
MW-13D	01/30/12	0.200 L	0.100	0.001 L	0.0005
MW-13D	04/25/12	0.200 L	0.100	0.002	0.0019
MW-13D	07/16/12	0.380	0.380	0.001 L	0.0005
MW-13D	10/10/12	0.200 L	0.100	0.180	0.1800
MW-13D	01/15/13	0.200 L	0.100	0.001 L	0.0005
MW-13D	04/23/13	0.200 L	0.100	0.001 L	0.0005
MW-13D	07/26/13	0.200 L	0.100	0.001 L	0.0005
MW-13D	10/08/13	0.200 L	0.100	0.001 L	0.0005
MW-13D	01/06/14	0.100 L	0.050	0.001 L	0.0005
MW-13D	04/07/14	0.100 L	0.050	0.001 L	0.0005
MW-13D	07/08/14	0.100 L	0.050	0.001 L	0.0005
MW-13D	10/29/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		20		20	
No. Detect		1		4	
Minimum conc.			0.050		0.0005
Maximum conc.			0.380		0.2400
Average conc.			0.097		0.0252
Distribution			NC		NC
UCL 95			NC		NC

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		Result	Conc.	Result	Conc.
MW-13S					
MW-13S	01/28/10	0.100 L	0.050	0.005 L	0.0025
MW-13S	04/08/10	0.100 L	0.050	0.001 L	0.0005
MW-13S	07/14/10	0.100 L	0.050	0.036	0.0360
MW-13S	10/14/10	0.200 L	0.100	0.160	0.1600
MW-13S	01/05/11	0.200 L	0.100	0.003	0.0032
MW-13S	04/19/11	0.200 L	0.100	0.003	0.0033
MW-13S	07/05/11	0.200 L	0.100	0.047	0.0470
MW-13S	10/25/11	0.200 L	0.100	0.330	0.3300
MW-13S	01/27/12	0.200 L	0.100	0.002	0.0020
MW-13S	04/24/12	0.200 L	0.100	0.001 L	0.0005
MW-13S	07/17/12	0.200 L	0.100	0.020	0.0200
MW-13S	10/10/12	0.200 L	0.100	0.047	0.0470
MW-13S	01/15/13	0.200 L	0.100	0.003	0.0032
MW-13S	04/23/13	0.200 L	0.100	0.001	0.0014
MW-13S	07/26/13	0.200 L	0.100	0.003	0.0034
MW-13S	10/08/13	0.200 L	0.100	0.007	0.0067
MW-13S	01/06/14	0.100 L	0.050	0.007	0.0073
MW-13S	04/09/14	0.100 L	0.050	0.002	0.0020
MW-13S	07/08/14	0.100 L	0.050	0.007	0.0067
MW-13S	10/29/14	0.100 L	0.050	0.012	0.0120
No. Analyzed		20		20	
No. Detect		0		17	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.330
Average conc.			0.083		0.035
Distribution			NC		Lognormal
UCL 95			NC		0.993

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		Result	Conc.	Result	Conc.
MW-14D					
MW-14D	01/27/10	1.600	1.600	0.730	0.7300
MW-14D	04/08/10	1.900	1.900	0.680	0.6800
MW-14D	07/14/10	1.900	1.900	0.740	0.7400
MW-14D	10/14/10	3.400	3.400	0.880	0.8800
MW-14D	01/04/11	2.100	2.100	0.760	0.7600
MW-14D	04/21/11	0.200 L	0.100	0.510	0.5100
MW-14D	07/08/11	0.280	0.280	0.560	0.5600
MW-14D	10/26/11	1.500	1.500	0.840	0.8400
MW-14D	01/24/12	2.500	2.500	0.920	0.9200
MW-14D	04/24/12	2.000	2.000	0.770	0.7700
MW-14D	07/16/12	2.200	2.200	0.740	0.7400
MW-14D	10/11/12	2.800	2.800	0.920	0.9200
MW-14D	01/15/13	2.300	2.300	0.850	0.8500
MW-14D	04/23/13	2.000	2.000	0.790	0.7900
MW-14D	07/26/13	0.200 L	0.100	0.052	0.0520
MW-14D	10/08/13	2.100	2.100	0.880	0.8800
MW-14D	01/06/14	3.300	3.300	1.000	1.0000
MW-14D	04/07/14	0.100 L	0.050	0.570	0.5700
MW-14D	07/10/14	0.740	0.740	0.810	0.8100
MW-14D	10/29/14	2.800	2.800	1.200	1.2000
No. Analyzed		20		20	
No. Detect		17		20	
Minimum conc.			0.050		0.052
Maximum conc.			3.400		1.200
Average conc.			1.784		0.760
Distribution			Normal		Neither
UCL 95			2.24		0.844***

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-14S					
MW-14S	01/27/10	0.100 L	0.050	0.056	0.0560
MW-14S	04/08/10	0.100 L	0.050	0.110	0.1100
MW-14S	07/14/10	0.100 L	0.050	0.008	0.0080
MW-14S	10/14/10	0.200 L	0.100	0.460	0.4600
MW-14S	01/04/11	0.200 L	0.100	0.012	0.0120
MW-14S	04/21/11	0.200 L	0.100	0.056	0.0560
MW-14S	07/08/11	0.200 L	0.100	0.220	0.2200
MW-14S	10/26/11	0.200 L	0.100	0.390	0.3900
MW-14S	01/24/12	0.200 L	0.100	0.003	0.0025
MW-14S	04/24/12	0.200 L	0.100	0.150	0.1500
MW-14S	07/16/12	0.200 L	0.100	0.004	0.0040
MW-14S	10/11/12	0.200 L	0.100	0.270	0.2700
MW-14S	01/14/13	0.200 L	0.100	0.042	0.0420
MW-14S	04/23/13	0.200 L	0.100	0.120	0.1200
MW-14S	07/26/13	2.400	2.400	0.730	0.7300
MW-14S	10/08/13	0.200 L	0.100	0.034	0.0340
MW-14S	01/06/14	0.100 L	0.050	0.170	0.1700
MW-14S	04/07/14	0.100 L	0.050	0.063	0.0630
MW-14S	07/09/14	0.100 L	0.050	0.097	0.0970
MW-14S	10/29/14	0.100 L	0.050	0.240	0.2400
No. Analyzed		20		20	
No. Detect		1		20	
Minimum conc.			0.050		0.003
Maximum conc.			2.400		0.730
Average conc.			0.198		0.162
Distribution			NC		Lognormal
UCL 95			NC		0.87
MW-14R					
MW-14R	01/26/10	0.100 L	0.050	0.190	0.1900
MW-14R	01/05/11	0.200 L	0.100	0.130	0.1300
MW-14R	01/27/12	0.200 L	0.100	0.001 L	0.0005
MW-14R	01/15/13	0.200 L	0.100	0.001 L	0.0005
MW-14R	01/07/14	0.100 L	0.050	0.001 L	0.0005
MW-14R	07/11/14	0.100 L	0.050	0.001	0.0014
MW-14R	10/28/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		7		7	
No. Detect		0		3	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.190
Average conc.			0.071		0.046
Distribution			NC		NC
UCL 95			NC		NC

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		Result	Conc.	Result	Conc.
MW-15D					
MW-15D	01/26/10	0.100 L	0.050	0.360	0.3600
MW-15D	07/15/10	0.100 L	0.050	0.400	0.4000
MW-15D	01/05/11	0.200 L	0.100	0.340	0.3400
MW-15D	07/06/11	0.200 L	0.100	0.430	0.4300
MW-15D	01/26/12	0.200 L	0.100	0.079	0.0790
MW-15D	07/17/12	0.200 L	0.100	0.001 L	0.0005
MW-15D	01/14/13	0.200 L	0.100	0.260	0.2600
MW-15D	07/25/13	0.200 L	0.100	0.260	0.2600
MW-15D	01/07/14	0.100 L	0.050	0.001 L	0.0005
MW-15D	07/09/14	0.100 L	0.050	0.300	0.3000
MW-15D	10/28/14	0.100 L	0.050	0.220	0.2200
No. Analyzed		11		11	
No. Detect		0		9	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.430
Average conc.			0.077		0.241
Distribution			NC		Normal*
UCL 95			NC		0.323
MW-15S					
MW-15S	01/26/10	0.100 L	0.050	0.830	0.8300
MW-15S	07/15/10	0.200	0.200	0.700	0.7000
MW-15S	01/05/11	0.200 L	0.100	0.840	0.8400
MW-15S	07/06/11	0.200 L	0.100	0.380	0.3800
MW-15S	01/25/12	0.200 L	0.100	0.910	0.9100
MW-15S	07/17/12	0.200 L	0.100	0.630	0.6300
MW-15S	01/14/13	0.200 L	0.100	0.840	0.8400
MW-15S	07/25/13	0.200 L	0.100	0.530	0.5300
MW-15S	01/07/14	0.100 L	0.050	0.880	0.8800
MW-15S	07/09/14	0.100 L	0.050	0.640	0.6400
MW-15S	10/28/14	0.100 L	0.050	0.870	0.8700
No. Analyzed		11		11	
No. Detect		1		11	
Minimum conc.			0.050		0.380
Maximum conc.			0.200		0.910
Average conc.			0.091		0.732
Distribution			NC		Neither
UCL 95			NC		0.816***

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-17S					
MW-17S	01/25/10	0.100 L	0.050	0.500	0.5000
MW-17S	04/07/10	0.100 L	0.050	1.200	1.2000
MW-17S	07/15/10	0.100 L	0.050	0.970	0.9700
MW-17S	10/14/10	0.200 L	0.100	1.100	1.1000
MW-17S	01/05/11	0.200 L	0.100	1.200	1.2000
MW-17S	04/20/11	0.200 L	0.100	1.300	1.3000
MW-17S	07/05/11	0.200 L	0.100	0.940	0.9400
MW-17S	10/25/11	0.200 L	0.100	0.740	0.7400
MW-17S	01/25/12	0.200 L	0.100	0.920	0.9200
MW-17S	04/25/12	0.200 L	0.100	1.400	1.4000
MW-17S	07/17/12	0.200 L	0.100	0.760	0.7600
MW-17S	10/10/12	0.200 L	0.100	0.780	0.7800
MW-17S	01/15/13	0.200 L	0.100	0.910	0.9100
MW-17S	04/24/13	0.200 L	0.100	1.500	1.5000
MW-17S	07/25/13	0.200 L	0.100	1.100	1.1000
MW-17S	10/10/13	0.200 L	0.100	0.970	0.9700
MW-17S	01/09/14	0.100 L	0.050	1.000	1.0000
MW-17S	04/08/14	0.100 L	0.050	1.600	1.6000
MW-17S	07/08/14	0.100 L	0.050	0.680	0.6800
MW-17S	10/28/14	0.100 L	0.050	1.100	1.1000
No. Analyzed		20		20	
No. Detect		0		20	
Minimum conc.			ALL ND		0.500
Maximum conc.			ALL ND		1.600
Average conc.			0.083		1.034
Distribution			NC		Lognormal
UCL 95			NC		1.17

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-18D					
MW-18D	01/29/10	0.100 L	0.050	0.005 L	0.0025
MW-18D	07/13/10	0.100 L	0.050	0.002 L	0.0010
MW-18D	01/07/11	0.200 L	0.100	0.001 L	0.0005
MW-18D	07/06/11	0.200 L	0.100	0.001	0.0013
MW-18D	01/25/12	0.200 L	0.100	0.001 L	0.0005
MW-18D	07/17/12	0.200 L	0.100	0.001 L	0.0005
MW-18D	01/14/13	0.200 L	0.100	0.001 L	0.0005
MW-18D	07/23/13	0.200 L	0.100	0.001 L	0.0005
MW-18D	01/09/14	0.100 L	0.050	0.001 L	0.0005
MW-18D	07/09/14	0.100 L	0.050	0.001 L	0.0005
MW-18D	10/27/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		11		11	
No. Detect		0		1	
Minimum conc.			ALL ND		0.0005
Maximum conc.			ALL ND		0.0025
Average conc.			0.077		0.0008
Distribution			NC		NC
UCL 95			NC		NC
MW-18S					
MW-18S	01/29/10	0.100 L	0.050	0.005 L	0.0025
MW-18S	07/13/10	0.100 L	0.050	0.002 L	0.0010
MW-18S	01/07/11	0.200 L	0.100	0.001 L	0.0005
MW-18S	07/06/11	0.200 L	0.100	0.001 L	0.0005
MW-18S	01/25/12	0.200 L	0.100	0.001 L	0.0005
MW-18S	07/18/12	0.200 L	0.100	0.001 L	0.0005
MW-18S	01/14/13	0.200 L	0.100	0.001 L	0.0005
MW-18S	07/23/13	0.200 L	0.100	0.001 L	0.0005
MW-18S	01/09/14	0.100 L	0.050	0.001 L	0.0005
MW-18S	07/09/14	0.100 L	0.050	0.001 L	0.0005
MW-18S	10/27/14	0.100 L	0.050	0.001	0.0013
No. Analyzed		11		11	
No. Detect		0		1	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.003
Average conc.			0.077		0.001
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-20R					
MW-20R	01/27/10	0.100 L	0.050	0.005 L	0.0025
MW-20R	01/07/11	0.200 L	0.100	0.001 L	0.0005
MW-20R	01/24/12	0.200 L	0.100	0.001 L	0.0005
MW-20R	01/16/13	0.200 L	0.100	0.001 L	0.0005
MW-20R	01/10/14	0.100 L	0.050	0.001	0.0014
MW-20R	07/11/14	0.100 L	0.050	0.001 L	0.0005
MW-20R	10/30/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		7		7	
No. Detect		0		1	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.003
Average conc.			0.071		0.001
Distribution			NC		NC
UCL 95			NC		NC
MW-23S					
MW-23S	01/28/10	0.130	0.130	0.043	0.0430
MW-23S	07/15/10	0.100 L	0.050	0.041	0.0410
MW-23S	01/06/11	0.200 L	0.100	0.010	0.0100
MW-23S	07/07/11	0.200 L	0.100	0.068	0.0680
MW-23S	01/26/12	0.200 L	0.100	0.023	0.0230
MW-23S	07/19/12	0.200 L	0.100	0.001 L	0.0005
MW-23S	01/07/14	0.100	0.100	0.022	0.0220
MW-23S	07/10/14	0.100 L	0.050	0.013	0.0130
No. Analyzed		8		8	
No. Detect		2		7	
Minimum conc.			0.050		0.001
Maximum conc.			0.130		0.068
Average conc.			0.091		0.028
Distribution			NC		Normal
UCL 95			NC		0.042

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-25S					
MW-25S	01/26/10	0.100 L	0.050	0.005 L	0.0025
MW-25S	07/15/10	0.100 L	0.050	0.002 L	0.0010
MW-25S	01/06/11	0.200 L	0.100	0.001 L	0.0005
MW-25S	07/06/11	0.200 L	0.100	0.002	0.0020
MW-25S	01/25/12	0.200 L	0.100	0.001 L	0.0005
MW-25S	07/17/12	0.200 L	0.100	0.001 L	0.0005
MW-25S	01/17/13	0.200 L	0.100	0.001 L	0.0005
MW-25S	07/25/13	0.200 L	0.100	0.001 L	0.0005
MW-25S	01/09/14	0.100 L	0.050	0.001 L	0.0005
MW-25S	07/08/14	0.100 L	0.050	0.001 L	0.0005
MW-25S	10/28/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		11		11	
No. Detect		0		1	
Minimum conc.			0.050		0.001
Maximum conc.			0.100		0.003
Average conc.			0.077		0.001
Distribution			NC		NC
UCL 95			NC		NC
MW-26R					
MW-26R	01/27/10	0.480	0.480	0.260	0.2600
MW-26R	01/07/11	0.630	0.630	0.280	0.2800
MW-26R	01/30/12	0.750	0.750	0.260	0.2600
MW-26R	01/17/13	0.590	0.590	0.340	0.3400
MW-26R	01/10/14	0.840	0.840	0.250	0.2500
MW-26R	07/10/14	0.620	0.620	0.340	0.3400
MW-26R	10/30/14	0.680	0.680	0.370	0.3700
No. Analyzed		7		7	
No. Detect		7		7	
Minimum conc.			0.480		0.250
Maximum conc.			0.840		0.370
Average conc.			0.656		0.300
Distribution			Lognormal		Neither
UCL 95			0.759		0.330***

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-28S					
MW-28S	01/28/10	0.100 L	0.050	0.005 L	0.0025
MW-28S	04/08/10	0.100 L	0.050	0.001 L	0.0005
MW-28S	07/15/10	0.100 L	0.050	0.001 L	0.0005
MW-28S	01/06/11	0.200 L	0.100	0.010	0.0096
MW-28S	04/21/11	0.200 L	0.100	0.001 L	0.0005
MW-28S	07/07/11	0.200 L	0.100	0.001 L	0.0005
MW-28S	01/26/12	0.200 L	0.100	0.001 L	0.0005
MW-28S	04/26/12	0.490	0.490	0.001 L	0.0005
MW-28S	07/19/12	0.200 L	0.100	0.001 L	0.0005
MW-28S	10/09/13	0.200 L	0.100	0.001 L	0.0005
No. Analyzed		10		10	
No. Detect		1		1	
Minimum conc.			0.050		0.001
Maximum conc.			0.490		0.010
Average conc.			0.124		0.002
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
FMMW-1					
FMMW-1	01/26/10	0.100 L	0.050	0.081	0.0810
FMMW-1	04/07/10	0.100 L	0.050	0.001 L	0.0005
FMMW-1	07/13/10	0.100 L	0.050	0.002 L	0.0010
FMMW-1	10/13/10	0.200 L	0.100	0.001 L	0.0005
FMMW-1	01/05/11	0.200 L	0.100	0.001 L	0.0005
FMMW-1	04/19/11	0.200 L	0.100	0.001 L	0.0005
FMMW-1	07/05/11	0.200 L	0.100	0.003	0.0029
FMMW-1	10/25/11	0.200 L	0.100	0.001 L	0.0005
FMMW-1	01/27/12	0.200 L	0.100	0.001 L	0.0005
FMMW-1	04/25/12	0.200 L	0.100	0.001 L	0.0005
FMMW-1	07/18/12	0.200 L	0.100	0.001 L	0.0005
FMMW-1	10/10/12	0.200 L	0.100	0.001 L	0.0005
FMMW-1	01/16/13	0.200 L	0.100	0.001 L	0.0005
FMMW-1	04/24/13	0.200 L	0.100	0.001 L	0.0005
FMMW-1	07/24/13	0.200 L	0.100	0.001 L	0.0005
FMMW-1	10/09/13	0.200 L	0.100	0.001 L	0.0005
FMMW-1	01/08/14	0.100 L	0.050	0.001 L	0.0005
FMMW-1	04/08/14	0.100 L	0.050	0.001 L	0.0005
FMMW-1	07/09/14	0.100 L	0.050	0.001 L	0.0005
FMMW-1	10/27/14	0.100 L	0.050	0.001 L	0.0005
No. Analyzed		20		20	
No. Detect		0		2	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.081
Average conc.			0.083		0.005
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
FMMW-2					
FMMW-2	01/26/10	0.100 L	0.050	0.005 L	0.0025
FMMW-2	04/07/10	0.100 L	0.050	0.750	0.7500
FMMW-2	07/13/10	0.100 L	0.050	0.091	0.0910
FMMW-2	10/13/10	0.200 L	0.100	0.120	0.1200
FMMW-2	01/05/11	0.430	0.430	0.120	0.1200
FMMW-2	04/20/11	0.200 L	0.100	0.084	0.0840
FMMW-2	07/05/11	0.200 L	0.100	0.091	0.0910
FMMW-2	10/25/11	0.200 L	0.100	0.090	0.0900
FMMW-2	01/27/12	0.200 L	0.100	0.110	0.1100
FMMW-2	04/25/12	0.200 L	0.100	0.100	0.1000
FMMW-2	07/18/12	0.200 L	0.100	0.096	0.0960
FMMW-2	10/10/12	0.200 L	0.100	0.093	0.0930
FMMW-2	01/16/13	0.200 L	0.100	0.089	0.0890
FMMW-2	04/24/13	0.200 L	0.100	0.075	0.0750
FMMW-2	07/24/13	0.200 L	0.100	0.081	0.0810
FMMW-2	10/09/13	0.200 L	0.100	0.110	0.1100
FMMW-2	01/08/14	0.100 L	0.050	0.081	0.0810
FMMW-2	04/08/14	0.100 L	0.050	0.084	0.0840
FMMW-2	07/09/14	0.100 L	0.050	0.072	0.0720
FMMW-2	10/28/14	0.100 L	0.050	0.090	0.0900
No. Analyzed		20		20	
No. Detect		1		19	
Minimum conc.			0.050		0.003
Maximum conc.			0.430		0.750
Average conc.			0.099		0.121
Distribution			NC		Neither
UCL 95			NC		0.177***

Notes:
L = below the method reporting limit (MRL)
ND = not detected
NC = not calculated due to less than 50 percent detection frequency or historically no detections
* Assumed distribution as calcuated by the W-test (n<50).
Calculations use half the MRL for non-detected parameters

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Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-11S					
MW-11S	01/28/10	0.5 L	0.25	0.5 L	0.25
MW-11S	04/08/10	0.5 L	0.25	0.5 L	0.25
MW-11S	07/15/10	0.5 L	0.25	0.5 L	0.25
MW-11S	10/13/10	0.5 L	0.25	0.5 L	0.25
MW-11S	01/05/11	0.5 L	0.25	0.5 L	0.25
MW-11S	04/19/11	0.5 L	0.25	0.5 L	0.25
MW-11S	07/05/11	0.5 L	0.25	0.5 L	0.25
MW-11S	10/25/11	0.5 L	0.25	0.5 L	0.25
MW-11S	01/25/12	0.5 L	0.25	0.5 L	0.25
MW-11S	04/25/12	0.5 L	0.25	0.5 L	0.25
MW-11S	07/17/12	0.5 L	0.25	0.5 L	0.25
MW-11S	10/10/12	0.5 L	0.25	0.5 L	0.25
MW-11S	01/14/13	0.5 L	0.25	0.5 L	0.25
MW-11S	04/24/13	0.5 L	0.25	0.5 L	0.25
MW-11S	07/23/13	0.5 L	0.25	0.5 L	0.25
MW-11S	10/09/13	0.5 L	0.25	0.5 L	0.25
MW-11S	01/08/14	0.5 L	0.25	0.5 L	0.25
MW-11S	04/08/14	0.5 L	0.25	0.5 L	0.25
MW-11S	07/08/14	0.5 L	0.25	0.5 L	0.25
MW-11S	10/27/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		20		20	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-12S					
MW-12S	01/29/10	0.5 L	0.25	0.5 L	0.25
MW-12S	07/14/10	0.9	0.93	0.5 L	0.25
MW-12S	01/04/11	0.5 L	0.25	0.5 L	0.25
MW-12S	07/08/11	1.2	1.20	0.5 L	0.25
MW-12S	01/30/12	0.5 L	0.25	0.5 L	0.25
MW-12S	07/16/12	0.6	0.63	0.5 L	0.25
MW-12S	01/16/13	0.5 L	0.25	0.5 L	0.25
No. Analyzed		7		7	
No. Detect		3		0	
Minimum conc.			0.25		0.25
Maximum conc.			1.20		0.25
Average conc.			0.54		0.25
Distribution			NC		NC
UCL 95			1.2**		NC
MW-12D					
MW-12D	01/29/10	0.5 L	0.25	0.5 L	0.25
MW-12D	07/14/10	0.5 L	0.25	0.5 L	0.25
MW-12D	01/04/11	0.5 L	0.25	0.5 L	0.25
MW-12D	07/08/11	0.5 L	0.25	0.5 L	0.25
MW-12D	01/30/12	0.5 L	0.25	0.5 L	0.25
MW-12D	07/16/12	0.5 L	0.25	0.5 L	0.25
MW-12D	01/16/13	0.5 L	0.25	0.5 L	0.25
MW-12D	07/26/13	0.5 L	0.25	0.5 L	0.25
MW-12D	01/07/14	0.5 L	0.25	0.5 L	0.25
MW-12D	07/11/14	0.5 L	0.25	0.5 L	0.25
MW-12D	10/30/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		11		11	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

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Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-13D					
MW-13D	01/29/10	0.5 L	0.25	0.5 L	0.25
MW-13D	04/08/10	0.5 L	0.25	0.5 L	0.25
MW-13D	07/14/10	0.5 L	0.25	0.5 L	0.25
MW-13D	10/14/10	0.5 L	0.25	0.5 L	0.25
MW-13D	01/04/11	0.5 L	0.25	0.5 L	0.25
MW-13D	04/19/11	0.5 L	0.25	0.5 L	0.25
MW-13D	07/06/11	0.5 L	0.25	0.5 L	0.25
MW-13D	10/25/11	0.5 L	0.25	0.5 L	0.25
MW-13D	01/30/12	0.5 L	0.25	0.5 L	0.25
MW-13D	04/25/12	0.5 L	0.25	0.5 L	0.25
MW-13D	07/16/12	0.5 L	0.25	0.5 L	0.25
MW-13D	10/10/12	0.5 L	0.25	0.5 L	0.25
MW-13D	01/15/13	0.5 L	0.25	0.5 L	0.25
MW-13D	04/23/13	0.5 L	0.25	0.5 L	0.25
MW-13D	07/26/13	0.5 L	0.25	0.5 L	0.25
MW-13D	10/08/13	0.5 L	0.25	0.5 L	0.25
MW-13D	01/06/14	0.5 L	0.25	0.5 L	0.25
MW-13D	04/07/14	0.5 L	0.25	0.5 L	0.25
MW-13D	07/08/14	0.5 L	0.25	0.5 L	0.25
MW-13D	10/29/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		20		20	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-13S					
MW-13S	01/28/10	0.5 L	0.25	0.5 L	0.25
MW-13S	04/08/10	0.5 L	0.25	0.5 L	0.25
MW-13S	07/14/10	0.5 L	0.25	0.5 L	0.25
MW-13S	10/14/10	0.5 L	0.25	0.5 L	0.25
MW-13S	01/05/11	0.5 L	0.25	0.5 L	0.25
MW-13S	04/19/11	0.5 L	0.25	0.5 L	0.25
MW-13S	07/05/11	0.5 L	0.25	0.5 L	0.25
MW-13S	10/25/11	0.5 L	0.25	0.5 L	0.25
MW-13S	01/27/12	0.5 L	0.25	0.5 L	0.25
MW-13S	04/24/12	0.5 L	0.25	0.5 L	0.25
MW-13S	07/17/12	0.5 L	0.25	0.5 L	0.25
MW-13S	10/10/12	0.5 L	0.25	0.5 L	0.25
MW-13S	01/15/13	0.5 L	0.25	0.5 L	0.25
MW-13S	04/23/13	0.5 L	0.25	0.5 L	0.25
MW-13S	07/26/13	0.5 L	0.25	0.5 L	0.25
MW-13S	10/08/13	0.5 L	0.25	0.5 L	0.25
MW-13S	01/06/14	0.5 L	0.25	0.5 L	0.25
MW-13S	04/09/14	0.5 L	0.25	0.5 L	0.25
MW-13S	07/08/14	0.5 L	0.25	0.5 L	0.25
MW-13S	10/29/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		20		20	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-15S					
MW-15S	01/26/10	0.5 L	0.25	0.5 L	0.25
MW-15S	07/15/10	0.5 L	0.25	0.5 L	0.25
MW-15S	01/05/11	0.5 L	0.25	0.5 L	0.25
MW-15S	07/06/11	0.5 L	0.25	0.5 L	0.25
MW-15S	01/25/12	0.5 L	0.25	0.5 L	0.25
MW-15S	07/17/12	0.5 L	0.25	0.5 L	0.25
MW-15S	01/14/13	0.5 L	0.25	0.5 L	0.25
MW-15S	07/25/13	0.5 L	0.25	0.5 L	0.25
MW-15S	01/07/14	0.5 L	0.25	0.5 L	0.25
MW-15S	07/09/14	0.5 L	0.25	0.5 L	0.25
MW-15S	10/28/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		11		11	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-17S					
MW-17S	01/25/10	0.5 L	0.25	0.5 L	0.25
MW-17S	04/07/10	0.5 L	0.25	0.5 L	0.25
MW-17S	07/15/10	0.5 L	0.25	0.5 L	0.25
MW-17S	10/14/10	0.5 L	0.25	0.5 L	0.25
MW-17S	01/05/11	0.5 L	0.25	0.5 L	0.25
MW-17S	04/20/11	0.5 L	0.25	0.5 L	0.25
MW-17S	07/05/11	0.5 L	0.25	0.5 L	0.25
MW-17S	10/25/11	0.5 L	0.25	0.5 L	0.25
MW-17S	01/25/12	0.5 L	0.25	0.5 L	0.25
MW-17S	04/25/12	0.5 L	0.25	0.5 L	0.25
MW-17S	07/17/12	0.5 L	0.25	0.5 L	0.25
MW-17S	10/10/12	0.5 L	0.25	0.5 L	0.25
MW-17S	01/15/13	0.5 L	0.25	0.5 L	0.25
MW-17S	04/24/13	0.5 L	0.25	0.5 L	0.25
MW-17S	07/25/13	0.5 L	0.25	0.5 L	0.25
MW-17S	10/10/13	0.5 L	0.25	0.5 L	0.25
MW-17S	01/09/14	0.5 L	0.25	0.5 L	0.25
MW-17S	04/08/14	0.5 L	0.25	0.5 L	0.25
MW-17S	07/08/14	0.5 L	0.25	0.5 L	0.25
MW-17S	10/28/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		20		20	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

Statistical Summary of Groundwater Data - Volatile Organic Compounds
2014 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-18S					
MW-18S	01/29/10	0.5 L	0.25	0.5 L	0.25
MW-18S	07/13/10	0.5 L	0.25	0.5 L	0.25
MW-18S	01/07/11	0.5 L	0.25	0.5 L	0.25
MW-18S	07/06/11	0.5 L	0.25	0.5 L	0.25
MW-18S	01/25/12	0.5 L	0.25	0.5 L	0.25
MW-18S	07/18/12	0.5 L	0.25	0.5 L	0.25
MW-18S	01/14/13	0.5 L	0.25	0.5 L	0.25
MW-18S	07/23/13	0.5 L	0.25	0.5 L	0.25
MW-18S	01/09/14	0.5 L	0.25	0.5 L	0.25
MW-18S	07/09/14	0.5 L	0.25	0.5 L	0.25
MW-18S	10/27/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		11		11	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		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		Chlorobenzene	
		Result	Conc.	Result	Conc.
FMMW-2					
FMMW-2	01/26/10	0.5 L	0.25	0.5 L	0.25
FMMW-2	04/07/10	0.5 L	0.25	0.5 L	0.25
FMMW-2	07/13/10	0.5 L	0.25	0.5 L	0.25
FMMW-2	10/13/10	0.5 L	0.25	0.5 L	0.25
FMMW-2	01/05/11	0.5 L	0.25	0.5 L	0.25
FMMW-2	04/20/11	0.5 L	0.25	0.5 L	0.25
FMMW-2	07/05/11	0.5 L	0.25	0.5 L	0.25
FMMW-2	10/25/11	0.5 L	0.25	0.5 L	0.25
FMMW-2	01/27/12	0.5 L	0.25	0.5 L	0.25
FMMW-2	04/25/12	0.5 L	0.25	0.5 L	0.25
FMMW-2	07/18/12	0.5 L	0.25	0.5 L	0.25
FMMW-2	10/10/12	0.5 L	0.25	0.5 L	0.25
FMMW-2	01/16/13	0.5 L	0.25	0.5 L	0.25
FMMW-2	04/24/13	0.5 L	0.25	0.5 L	0.25
FMMW-2	07/24/13	0.5 L	0.25	0.5 L	0.25
FMMW-2	10/09/13	0.5 L	0.25	0.5 L	0.25
FMMW-2	01/08/14	0.5 L	0.25	0.5 L	0.25
FMMW-2	04/08/14	0.5 L	0.25	0.5 L	0.25
FMMW-2	07/09/14	0.5 L	0.25	0.5 L	0.25
FMMW-2	10/28/14	0.5 L	0.25	0.5 L	0.25
No. Analyzed		20		20	
No. Detect		0		0	
Minimum conc.			ALL ND		ALL ND
Maximum conc.			ALL ND		ALL ND
Average conc.			ALL ND		ALL ND
Distribution			NC		NC
UCL 95			NC		NC

Notes:
L = below the method reporting limit (MRL)
ND = not detected
NC = not calculated due to less than 50 percent detection frequency or historically no detections
Calculations use half the MRL for non-detected parameters

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene		Tetrachloroethene (PCE)	
		Result	Conc.	Result	Conc.	Result	Conc.
MW-11D(2)							
MW-11D(2)	01/28/10	0.5 L	0.25	0.5 L	0.25	1.0	0.99
MW-11D(2)	04/08/10	0.5 L	0.25	0.5 L	0.25	0.7	0.71
MW-11D(2)	07/15/10	0.5 L	0.25	0.5 L	0.25	0.9	0.89
MW-11D(2)	10/13/10	0.5 L	0.25	0.5 L	0.25	1.3	1.30
MW-11D(2)	01/05/11	0.5 L	0.25	0.5 L	0.25	0.9	0.91
MW-11D(2)	04/19/11	0.5 L	0.25	0.5 L	0.25	0.5	0.53
MW-11D(2)	07/05/11	0.5 L	0.25	0.5 L	0.25	0.9	0.91
MW-11D(2)	10/26/11	0.5 L	0.25	0.5 L	0.25	0.8	0.79
MW-11D(2)	01/25/12	0.5 L	0.25	0.5 L	0.25	0.5 L	0.25
MW-11D(2)	04/25/12	0.5 L	0.25	0.5 L	0.25	0.9	0.85
MW-11D(2)	07/17/12	0.5 L	0.25	0.5 L	0.25	1.1	1.10
MW-11D(2)	10/10/12	0.5 L	0.25	0.5 L	0.25	0.8	0.80
MW-11D(2)	01/14/13	0.5 L	0.25	0.5 L	0.25	0.5 L	0.25
MW-11D(2)	04/24/13	0.5 L	0.25	0.5 L	0.25	0.9	0.90
MW-11D(2)	07/23/13	0.5 L	0.25	0.5 L	0.25	0.5 L	0.25
MW-11D(2)	10/09/13	0.5 L	0.25	0.5 L	0.25	0.5 L	0.25
MW-11D(2)	01/08/14	0.5 L	0.25	0.5 L	0.25	0.9	0.88
MW-11D(2)	04/08/14	0.5 L	0.25	0.5 L	0.25	0.8	0.77
MW-11D(2)	07/08/14	0.5 L	0.25	0.5 L	0.25	0.7	0.65
MW-11D(2)	10/27/14	0.5 L	0.25	0.5 L	0.25	0.5 L	0.25
No. Analyzed		20		20		24	
No. Detect		0		0		19	
Minimum conc.			ALL ND		0.25		0.25
Maximum conc.			ALL ND		0.25		1.30
Average conc.			ALL ND		0.25		0.71
Distribution			NC		NC		Normal
UCL 95			NC		NC		0.81

Notes:
L = below the method reporting limit (MRL)
ND = indicates not detected
NC = not calculated due to less than 50 percent detection frequency or historically no detections
Calculations use half the MRL for non-detected parameters

Appendix G
Quarterly Inspection Reports

ENGINEER'S FIELD REPORT

Site:
Project Name:
Project No.:

SCS ENGINEERS

INSPECTOR: AM	DATE: 2/25/14	FIELD REPORT No.

Work in Progress: HVL LFG, indoor Air
304th LFG, indoor Air

Time	Description	Action	Inform
0800	Arrive on-site		
0830	Begin GP-1A Lock 1 showing signs of rust		
0845	2A Saved twice (button pressed twice on accident)		
0942	Begin GP-8		
1020	Begin GP-13 Spike: 3.0% CH_4, 10% CO_2; Max: 3.1 CH_4, 11.2 CO_2		
1040	LFG-1 Max: 0.3% CH_4, 13.5% CO_2		
1045	LFG-3 Spike; 5.1% CH_4, 20.4% CO_2 Max: 5.2% CH_4, 21.0% CO_2		
1050	Begin GP-15		
1100	Begin GP-16		
1135	GP-9 1st reading is a false reading		
1136	Gas Probes Complete, start indoor air monitoring		
12:30	Leave HVL Indoor Air Monitoring Complete		
13:00	Arrive at 304th		
1320	Bathroom, check in with Olivier, place caps on GP-12, 13		
1334	Start indoor Air Monitoring		
1410	Indoor Air Monitoring Complete, Begin Gas probe Monitoring		

Attachments:

Action Code:

V	-	Item to Verify	R	-	Respondent	QA	-	Quality Assurance Consultant
I	-	Information Needed	E	-	Engineer	D		Driller
CI	-	Cost Impact	EC	-	Earthwork Contractor	S	-	Supplier
SI	-	Schedule Impact	GC	-	Geosynthetic Contractor			

Inspector's Signature _____

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 2/25/14
Weather Conditions: Overcast
Instrument: FID
Measured By: AM

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**.

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

Andrew McDonald
Signature

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andrew McDonald Date: 2/26/14

Signature: Andrew McDonald Weather: Partially 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	~~X~~ AM	Black berry bushes near sump 10
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas	X		Standing Water in Culvert next to GTE Facility
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	Some visable along ungraveled road
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:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andrew McDonald

Date: 2/26/14

Signature: Andrew McDonald

Weather: Partially Sunny

Instructions: Inspect each sump for pump operation and 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)	Comments
Sump No. 1	Y	4 Bolts, Condensate + Ponded Water
Sump No. 2	N	3 Bolts, Full of Water, Air bubbled into water. Cracked Seal
Sump No. 3	Y	4 Bolts, Condensate + Ponding
Sump No. 4	Y	4 Bolts, Condensate + Ponding, Seal Broken
Sump No. 5	Y	4 Bolts, slight smell, ponding, Seal Broken
Sump No. 6	Y	8 Bolts, Ponding, slight smell, Broken Seal
Sump No. 7	Y	8 Bolts, Ponding + Condensate
Sump No. 8	Y	6 Bolts, Ponding + Condensate, Slight smell
Sump No. 9	Y ? Pressure Issue	7 Bolts, Pressure Rapidly Escaping While Opening, Ponding + Condensate
Sump No. 10	N Pump Removed	8 Bolts, smell, Ponding + Condensate, Failing Seal

Other Remarks: Arrive on-site: 11:10; Surface Inspection: 11:10-12:10; 12:10-15:10 Talk w/Paul, Bathroom, Sump Inspection, 15:10-15:20 tell Paul about Sump 2. 15:30 Leave site

SCS ENGINEERS

SHEET 1 OF 2

CLIENT	PROJECT	JOB NO.
WCI/LRI	HIDDEN VALLEY LANDFILL	64214002.02/04
SUBJECT	BY	DATE
JUNE MONTHLY PROBES & Q2 MONITORING	CA	6/16/2014
	CHECKED	DATE

Time	COMMENT
0730	ARRIVE ON SITE. WEATHER ~50°F, OVERCAST RAIN PREDICTED
	BEGIN GEM CALIBRATION.

	PRE	POST	STD
LOW CH4	0.0	0.0	0.0
HIGH O2	21.1	20.9	20.9
HIGH CH4	50.6	50.1	50.0
HIGH CO2	34.7	34.9	35.0
LOW O2	0.2	0.0	0.0
AMBIENT	0.1/20.6	—	0.0/20.9

0745 CALIBRATION COMPLETE SEE RESULTS.

NOTES:

LFG-1 : SIGNIFICANT BEND IN MONITORING PIPE AT SURFACE

LFG-3 : CH4 SPIKE @ 10.5%

GP-19 : PATH NEARLY OBSTRUCTED BY VEGITATION CLEARING REQUIRED BEFORE NEXT MONITORING.

1030 GP MONITORING COMPLETE. BEGIN FID CALIBRATION AT RECYCLING CENTER.

	PRE	POST	STD
BACKGROUND	1.7	0.4	0.0 ppm
SPAN	462.7	504.3	500 ppm

1040 CALIBRATION COMPLETE. BEGIN INDOOR AIR MONITORING

RECYCLING CENTER: 223.9 ppm, BREAK ROOM HEATER.

LEACHATE PLANT : ND

TRANSFER STATION : ND, MEETING IN CONFERENCE ROOM

IN-SCALE : 3.5, WAX ROOM DEODORIZOR

OUT-SCALE : 1.2, "

OFFICE: ND

SHOP: 20.7 ppm. O2/ACETYLENE TORCH HANDEL ON TABLE

1120 INDOOR AIR MONITORING COMPLETE. BEGIN COVER INSPECTION

E-63 LEAKING OVER (DISCONNECTED) MISSING FROM VALVE

FORM #101

SCS ENGINEERS

SHEET 2 OF 2

CLIENT	PROJECT	JOB NO.
WCI/LRI	HIDDEN VALLEY LANDFILL	04214002.02/04

SUBJECT	BY	DATE
JUNE MONTHLY PROBES & Q2 MONITORING	SA	6/16/2014
	CHECKED	DATE

TIME	COMMENT
1145	COVER INSPECTION COMPLETE. INCORRECT WRENCH BROUGHT TO OPEN SUMPS. WILL COMPLETE TOMORROW (6/17/2014)
1200	LEAVE SITE FOR DAY.

FORM #101

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04214004.02

Date: JUNE 16, 2014
Weather Conditions: OVERCAST ~50°F, RAIN PREDICTED
Instrument: PHOTOVAC MICRO FID, SN C2J5325
Measured By: SAM ADLINGTON

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**.

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

NOTE: UNABLE TO MONITOR CONFERENCE ROOM ON THREE ATTEMPTS.

Signature

EQUIPCO

PHOTOVAC MICROFID
CALIBRATION DATA

DATE: 6/13/14 CALIBRATED BY: [illegible]

SERIAL#: [redacted] CZJ1325

ZERO CHECK ✓ YES__

CALIBRATION GAS: 100 PPM Methane LOT#: 914905

SCALE DURING CALIBRATION: LOW

CALIBRATION RESULTS: 100 PPM _____

[illegible] 151st Pl NE, Redmond, WA 98052 Phone (888)234-5678 Fax (925)305-1300

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADLINGTON Date: 6/16/2014

Signature: Weather: OVERCAST, ~50°F

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	REPAIRS TO SOUTH SINKHOLE COMPLETED
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock		X	
Standing Water		X	NO SIGNIFICANT RAIN PRIOR TO INSPECTION
Vegetation			
Bare or Sparsely Vegetated Areas		X	COVER BEING MOWED AT TIME OF INSPECTION
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas	X		SOME SETTLEMENT IN SW DITCHES
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt	X		LIGHT DEBRIS NEAR TRANSFER STATION
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:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADLINGTON Date: 6/17/2014

Signature: [signature] Weather: OVERCAST/CLEAR

Instructions: Inspect each sump for pump operation and 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)	Comments
Sump No. 1	Y	
Sump No. 2	Y	
Sump No. 3	Y	
Sump No. 4	Y	
Sump No. 5	N	PUMP REMOVED
Sump No. 6	Y	
Sump No. 7	Y	
Sump No. 8	Y	
Sump No. 9	N	HIGH VACUUM
Sump No. 10	N	Pump REMOVED

Other Remarks:

SCS ENGINEERS

SHEET 1 OF 2

CLIENT	PROJECT	JOB NO.
LRI/WCI	HIDDEN VALLEY LANDFILL	04214002.02/04

SUBJECT	BY	DATE
Q3 2014 QUARTERY GP MONITORING & INSPECTION	SA	8/12/14
	CHECKED	DATE

Time	Comment
0720	ARRIVE ONSITE, BEGIN SET UP & CALIBRATION AT OFFICE

	PRE	POST	STD
LOW CH4	0.0	0.0	0.0
HIGH O2	20.7	20.9	20.9
HIGH CH4	48.6	49.9	50.0
HIGH CO2	33.4	35.0	35.0
LOW O2	1.1	0.0	0.0

0735 CALIBRATION COMPLETE BEGIN MONITORING SEE RESULTS AND COMMENTS BELOW-

Location	Comment
GP-3S	CH4↑ = 0.3%
FLARE	FLOW = 331 scfm @ 08:10
GP-13A	CH4↑ = 5.3%
N-64	TEMP-01, CL, OPENED FOR MONITORING. STA +0.17
N-64A	TEMP-02, T
N-64B	TEMP-03, CR(-0.05 in H_2O), -0.60 in H_2O AT OTHER SIDE OF ROAD
N-64C	TEMP-04, T(-4.6 in H_2O), -4.6 in H_2O "
N-63	LATERAL DAMMAGED BY MOWER, OFF LINE, CL@VALVE.

0935 CALCHECK (TEMP-40) TO CONFIRM GP-13A READING.

0940 GEM CAL WITHIN REASONABLE LIMITS MONITOR SURROUNDING WELLS

0945 OPENED ~~N-63~~ N-64 TO WO, WILL RE-MONITOR AT END OF DAY

0955 OPEN N-64B TO WO, WILL RE-MONITOR AT END OF DAY.

1100 UNABLE TO MONITOR GP-19 DUE TO OBSTRUCTED ACCESS TRAIL (VEGITATION + DOWNED TREES). MONITORING ROUTE COMPLETED. BEGIN MONITORING BFS STATION.

Location	Comment
Comp-1	TEMP-05 IGNOOR 1ST READING
Comp-2	TEMP-06
BL-IN	TEMP-07 YG@ 7.1 in H_2O
FL-IN	TEMP-07 YG@ FLOW = 342 scfm

1115 RE-MONITOR GP-13A/B & ASSOCIATED GAS WELLS USING @ ID'S PREVIOUSLY LISTED.

FORM #101

SCS ENGINEERS

CLIENT	PROJECT	JOB NO.
LRI/WCI	HIDDEN VALLEY LANDFILL	

SUBJECT	BY	DATE
Q3 2014 GP MONITORING & INSPECTION	SA	8/12/2014
	CHECKED	DATE

Time		comment			
1140		ADDITIONAL MONITORING COMPLETE. NO CHANGE IN GP-13A AFTER 2+ hr of EXTRACTION. BEGIN INDOOR AIR MONITORING AT TRANSFER STATION (1500 psi)			
			PRE	POST	STD
	AMBIENT		13.0	0.0	0.0
	SPAN GAS		377.8	498.8	500
1230		INDOOR MONITORING COMPLETE. POST CAL CHECK (0.0/509.3) 1300 psi H_2 REMAINING			
1240		BEGIN CONDENSATE SUMP INSPECTION AT CS-1 PROGRESSING IN ORDER. SEE MONITORING REPORT			
1440		SUMP INSPECTION COMPLETE. BEGIN PACKING UP.			
1430		LEAVE SITE FOR DAY.			

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADLINGTON Date: 8/12/2014

Signature: Weather: OVERCAST, INT RAIN

Instructions: Inspect each sump for pump operation and 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)	Comments
Sump No. 1	Y	
Sump No. 2	Y	
Sump No. 3	Y	
Sump No. 4	Y	
Sump No. 5	Y	
Sump No. 6	NM	UNABLE TO INSPECT. WASP NEST (ACTIVE) ON FLANGE RING
Sump No. 7	Y	
Sump No. 8	Y	
Sump No. 9	Y	
Sump No. 10	Y	

Other Remarks:

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADDINGTON Date: 8/12/2014

Signature: Weather: OVERCAST, INT. RAIN

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock	X		REPAIR ON S. SLOPE NOT VEGITATED
Standing Water		X	NO SIGNIFICANT RAIN PRIOR TO INSPECTION.
Vegetation			
Bare or Sparsely Vegetated Areas	X		REPAIR ON S. SLOPE NOT VEGITATED
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	MAINTENANCE IN PROGRESS AT TIME OF INSPECTION
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas	X		
Culvert Obstructions		X	MAINTENANCE IN PROGRESS AT TIME OF INS.
Catch Basin Debris or Silt Accumulation	X		SOME DEBRIS OUTSIDE TRANSFER STATION
Stormwater Basin Debris or Silt		X	~~CLEAN~~ RECENTLY MOWED NO DEBRIS
Cover Erosion			
Gullies and/or Erosion Scars	X		MINOR ERROSION ON S. SLOPE REPAIR
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues	X		N-63 LATERAL DAMMAGED
Pump or Meter Issues		X	
Foaming at Pump		X	NOT PUMPING AT TIME OF INSPECTION

Other Remarks:

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 8/12/2014
Weather Conditions: CLOUDY, INTERMITTANT RAIN
Instrument: MICRO FID
Measured By: SAM ADLINGTON

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**.

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

Signature

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADLINGTON

Date: 11/17/2014

Signature: Sma

Weather: CLEAR & COLD

Instructions: Inspect each sump for pump operation and 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)	Comments
Sump No. 1	Y	
Sump No. 2	Y	
Sump No. 3	Y	
Sump No. 4	Y	
Sump No. 5	N	PUMP REMOVED
Sump No. 6	Y	
Sump No. 7	—	TOO DARK TO SEE INTO SUMP, ALL APPORTENANCES APPEARED INPLACE
Sump No. 8	Y	
Sump No. 9	—	UNABLE TO OPEN, HIGH VACUUM
Sump No. 10	—	UNABLE TO OPEN, HIGH VACUUM

Other Remarks: PHOTOS TAKEN OF ALL SUMPS AT TIME OF INSPECTIONS

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADLINGTON

Date: 11/17/2014

Signature:

Weather: CLEAR ¾ COLD

Items	Yes	No	Comments
Cover System			
Settlement Depressions (sinkholes)		X	S. SLOPE SINKHOLE REPAIRED
Cracking of Cover Soils		X	
Inadequate Cover Soil or Rock		X	
Standing Water		X	NO RAIN FOR 4-DAYS BEFORE INSPECTION
Vegetation			
Bare or Sparsely Vegetated Areas	X		S. SLOPE REPAIR VEG. STILL ESTABLISING
Areas of Dying Vegetation		X	
Large Root Vegetation (ex. Bushes)		X	RECENTLY MOWED/MAINTAINED
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas	X		LONG TERM CAP SETTLEMENT
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt	X		WATER ¾ SILT IN BASIN ADJ. TO GP-10
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		SOME SETTLEMENT OF LATERALS KINKING FLEX PIPE
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 11/17/2014
Weather Conditions: CLEAR & COLD
Instrument: MICRO FID
Measured By: SAM ADLINGTON

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**.

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

Signature

Appendix H

O & M Reports

Hidden Valley Landfill
LFG System Monitoring & Maintenance
January 14, 15, 29 & 30 2014

Maintenance items completed this month:

- Rerouted 340 feet of 10-inch PVC header pipe between Extraction Wells N-33 and N -36.
- Repaired damaged 3-inch PVC Coupler at Extraction Well E-39.
- Repaired 8-inch header pipe damaged by a vehicle

Photo Log

Header between N-33 & N-36. 10-inch diameter header relocation between N-33 & N-36.

E-39. PVC Coupling and flex hose repair.

8-Inch Header Pipe damaged by a vehicle

8-Inch Header Pipe repaired

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
1/14/2014 09:42	28.7	22.2	3.9	45.2	347	347	30.04

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
1/15/2014 08:35	31.5	23.4	3.1	42.0	340	340	29.93

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
January 15, 2014

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-Jan	9:25	0.03	1.6	5.3	0.0			
GP-1B	15-Jan	9:29	0.00	0.0	12.3	7.5			
GP-1C	15-Jan	9:32	0.00	0.0	5.2	14.9			
GP-2A	15-Jan	9:45	0.03	4.4	17.0	0.5			
GP-2B	15-Jan	9:59	0.05	0.0	0.3	20.7			
GP-3S	15-Jan	10:07	-0.02	0.0	2.9	15.4			
GP-3M	15-Jan	10:11	0.00	0.0	3.6	6.5			
GP-3D	15-Jan	10:13	0.00	0.0	12.6	5.0			
GP-4A	15-Jan	10:23	0.01	0.0	0.3	20.8			
GP-4B	15-Jan	10:26	0.05	0.0	0.2	20.7			
GP-5A	15-Jan	10:33	0.00	0.0	0.1	20.7			
GP-5B	15-Jan	10:36	-9.52	0.0	0.1	20.8			
GP-6	15-Jan	10:45	0.02	0.0	0.1	20.6			
GP-7S	15-Jan	10:51	0.02	0.0	0.2	20.4			
GP-7D	15-Jan	10:54	0.02	0.0	0.2	20.6			
GP-8A	15-Jan	11:01	0.02	0.0	0.4	20.7			
GP-8B	15-Jan	11:05	0.41	0.0	0.2	20.8			
GP-9	15-Jan	11:11	0.00	0.0	1.9	16.9			
GP-10	15-Jan	11:20	0.00	0.0	0.1	20.8			
GP-11	15-Jan	11:27	0.01	0.0	0.7	20.0			
GP-12	15-Jan	11:36	0.01	0.0	2.4	16.8			
GP-13A	15-Jan	11:44	0.03	3.1	12.7	0.0	3.1	12.1	
GP-13B	15-Jan	11:47	0.02	0.0	0.3	20.8			
GP-14S	15-Jan	11:53	0.02	0.0	13.1	10.3			
GP-14D	15-Jan	11:56	0.01	0.0	16.6	1.3			
GP-15A	15-Jan	12:28	0.03	0.0	1.6	19.0			
GP-15B	15-Jan	12:31	0.08	0.0	9.2	2.3			
GP-16A	15-Jan	12:39	0.03	0.0	1.8	19.3			
GP-16B	15-Jan	12:42	0.04	0.0	2.0	19.2			
GP-17	15-Jan	12:52	-0.10	0.0	3.3	18.6			
GP-18	15-Jan	13:02	0.02	0.0	0.8	20.4			
GP-19	15-Jan	13:08	0.03	0.0	3.1	18.9			
LFG-1	15-Jan	12:00	0.02	0.4	14.9	3.4			*Note 2*
LFG-2	15-Jan	12:04	0.02	0.1	12.1	6.1			*Note 2*
LFG-3	15-Jan	12:12	0.05	15.2	23.1	<<<<	10	20.0	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	15-Jan-14	Temperature (^oF):	42

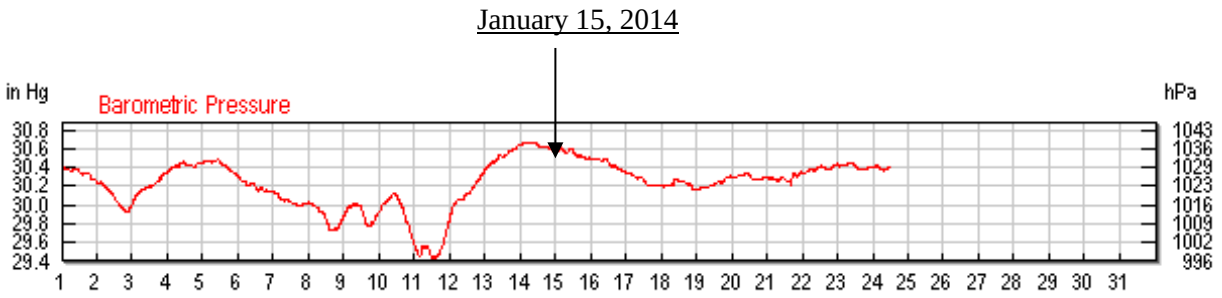
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring

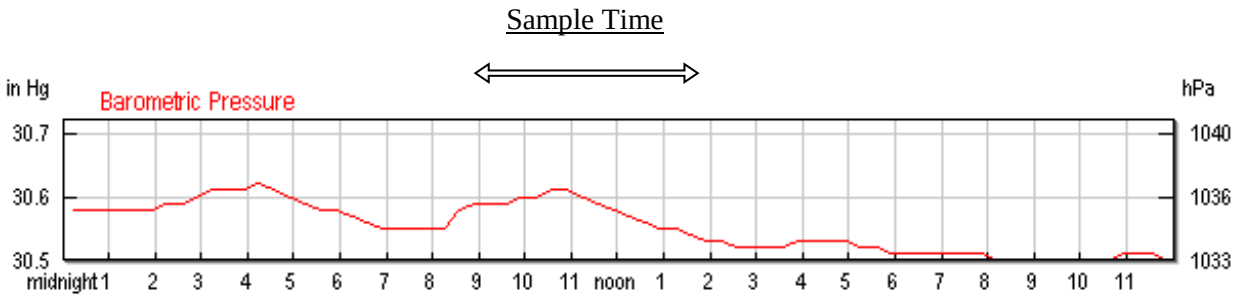
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
January 2014

Barometric Pressure Trend for January 2014



Barometric Pressure Trend for January 15, 2014



Source : KPLU Airport

Hidden Valley Landfill
LFG System Monitoring & Maintenance
February 26, 2014

Maintenance items completed this month:

- Repaired the lateral connection piping at E-39
- Replaced flex hosing at E-41
- Replaced Flex hosing on header pipes near E-26, E-42 and N-11
- Replaced a broken coupler near N-66

Photo Log

E-39 Lateral Line Repair

E-39 Lateral Line Repair

E-41 Flex Hose Repair

E-41 Flex Hose Repair

Header Pipe Repair, East of E-26

Header Pipe Repair, East of N-11

Header Pipe Repair, West of E-42

N-66 Coupler Repair

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
2/26/2014 09:08	30.6	24.4	1.9	43.1	333	333	29.26

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
2/26/2014 12:23	45.6	29.4	0.1	24.9	443	443	29.27

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
February 25, 2014

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	25-Feb	8:34	0.01	0.4	5.2	0.0			
GP-1B	25-Feb	8:37	0.00	0.0	11.3	10.6			
GP-1C	25-Feb	8:40	-0.01	0.0	7.4	13.3			
GP-2A	25-Feb	8:47	-0.02	1.2	12.9	3.9			
GP-2B	25-Feb	8:51	0.00	0.0	0.3	21.2			
GP-3S	25-Feb	8:56	-0.03	0.0	3.3	16.3			
GP-3M	25-Feb	8:59	-0.02	0.0	3.5	6.8			
GP-3D	25-Feb	9:02	-0.02	0.0	6.7	15.6			
GP-4A	25-Feb	9:09	-0.03	0.0	0.2	21.3			
GP-4B	25-Feb	9:12	0.03	0.0	0.2	21.2			
GP-5A	25-Feb	9:19	-0.03	0.0	0.1	21.2			
GP-5B	25-Feb	9:21	-0.03	0.0	0.1	21.2			
GP-6	25-Feb	9:28	-0.03	0.0	0.1	21.2			
GP-7S	25-Feb	9:37	-0.02	0.0	0.4	20.8			
GP-7D	25-Feb	9:34	-0.03	0.0	0.2	20.9			
GP-8A	25-Feb	9:46	-0.02	0.0	0.4	20.7			
GP-8B	25-Feb	9:49	-0.02	0.0	0.3	20.1			
GP-9	25-Feb	9:55	-0.02	0.0	2.0	18.4			
GP-10	25-Feb	10:01	-0.01	0.0	0.2	21.2			
GP-11	25-Feb	10:07	0.03	0.0	2.1	19.0			
GP-12	25-Feb	10:14	-0.01	0.0	3.6	12.3			
GP-13A	25-Feb	10:22	0.01	3.0	11.2	0.0	3.0	10.0	
GP-13B	25-Feb	10:25	0.00	0.0	0.4	21.1			
GP-14S	25-Feb	10:32	-0.01	0.0	11.5	11.1			
GP-14D	25-Feb	10:36	-0.01	0.0	16.2	2.1			
GP-15A	25-Feb	10:55	0.00	0.0	2.0	15.8			
GP-15B	25-Feb	10:58	0.00	0.0	9.7	3.7			
GP-16A	25-Feb	11:06	0.00	0.0	0.9	20.4			
GP-16B	25-Feb	11:09	0.03	0.0	0.9	20.4			
GP-17	25-Feb	11:17	-0.02	0.0	0.9	20.5			
GP-18	25-Feb	11:22	0.00	0.0	0.7	20.5			
GP-19	25-Feb	11:29	0.00	0.0	0.8	20.7			
LFG-1	25-Feb	10:40	0.00	0.2	14.0	5.9	0.3	13.5	*Note 2*
LFG-2	25-Feb	10:44	0.00	0.0	9.9	9.7			*Note 2*
LFG-3	25-Feb	10:48	0.04	4.9	20.9	0.0	5.1	20.4	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	25-Feb-14	Temperature (^{o}F):	43

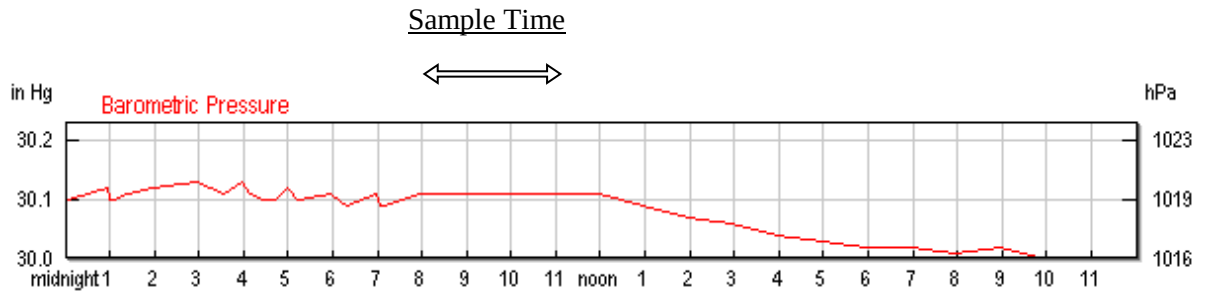
Notes
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area

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

Barometric Pressure Trend
HVL Landfill
February 2014

Barometric Pressure Trend for February 2014

Barometric Pressure Trend for February 25, 2014



Source : KPLU Airport

Hidden Valley Landfill
LFG System Monitoring & Maintenance
March 11, 20, 27 & 31, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on March 11, 20, 27, and 31
- Tightened the band clamps on E-41A to stop minor air leak.
- Drained condensate from header pipe near N-27.

Photo Log – No photographs taken this month

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
3/20/2014 07:36	24.9	19.8	3.9	51.4	414	414	29.66
3/27/2014 06:49	37.8	25.3	3.7	33.2	227	227	29.00

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
3/20/2014 10:39	36.1	25.7	2.7	35.5	242	242	29.65
3/27/2014 09:40	42.3	27.3	2.3	28.1	257	257	29.06

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
March 27, 2014

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	27-Mar	13:18	0.09	0.0	5.0	0.0			
GP-1B	27-Mar	13:20	-0.04	0.0	10.2	12.6			
GP-1C	27-Mar	13:23	0.00	0.0	3.4	17.5			
GP-2A	27-Mar	13:29	-0.02	0.0	6.2	14.2			
GP-2B	27-Mar	13:31	0.04	0.0	0.4	20.5			
GP-3S	27-Mar	13:36	-0.02	0.0	3.6	14.9			
GP-3M	27-Mar	13:38	0.00	0.0	3.3	6.5			
GP-3D	27-Mar	13:41	0.01	0.0	7.9	9.6			
GP-4A	27-Mar	13:48	0.04	0.0	0.3	20.6			
GP-4B	27-Mar	13:51	0.09	0.0	0.2	20.6			
GP-5A	27-Mar	13:56	0.03	0.0	0.1	20.9			
GP-5B	27-Mar	13:59	0.03	0.0	0.1	20.9			
GP-6	27-Mar	14:11	0.05	0.0	0.1	21.1			
GP-7S	27-Mar	14:20	0.00	0.0	0.7	20.5			
GP-7D	27-Mar	14:17	0.05	0.0	0.3	20.9			
GP-8A	27-Mar	14:27	0.00	0.0	0.8	20.6			
GP-8B	27-Mar	14:30	0.00	0.0	0.3	21.2			
GP-9	27-Mar	14:35	0.01	0.0	1.5	19.5			
GP-10	27-Mar	14:40	0.03	0.0	0.2	21.2			
GP-11	27-Mar	14:45	0.01	0.0	0.8	18.0			
GP-12	27-Mar	14:51	0.00	0.0	0.4	20.8			
GP-13A	27-Mar	14:58	0.06	6.2	9.9	0.0	5.7	9.1	
GP-13B	27-Mar	15:02	0.09	0.0	0.4	21.1			
GP-14S	27-Mar	15:07	0.01	0.0	10.0	12.6			
GP-14D	27-Mar	15:10	0.00	0.0	17.2	0.7			
GP-15A	27-Mar	15:39	-4.00	0.0	3.5	8.2			
GP-15B	27-Mar	15:40	-0.01	0.0	3.5	8.2			
GP-16A	27-Mar	16:06	-0.02	0.0	0.6	20.4			
GP-16B	27-Mar	16:09	0.04	0.0	0.5	20.5			
GP-17	27-Mar	16:24	0.00	0.0	0.1	21.1			
GP-18	27-Mar	16:30	0.00	0.0	1.0	20.7			
GP-19	27-Mar	16:36	-0.03	0.0	0.1	21.2			
LFG-1	27-Mar	15:14	0.00	0.7	12.6	6.0			*Note 2*
LFG-2	27-Mar	15:18	-4.88	0.0	1.7	19.2			*Note 2*
LFG-3	27-Mar	15:25	0.01	4.4	18.8	0.0	12.5	20.6	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain/Wind
Calibration Date:	27-Mar-14	Temperature (^oF):	50

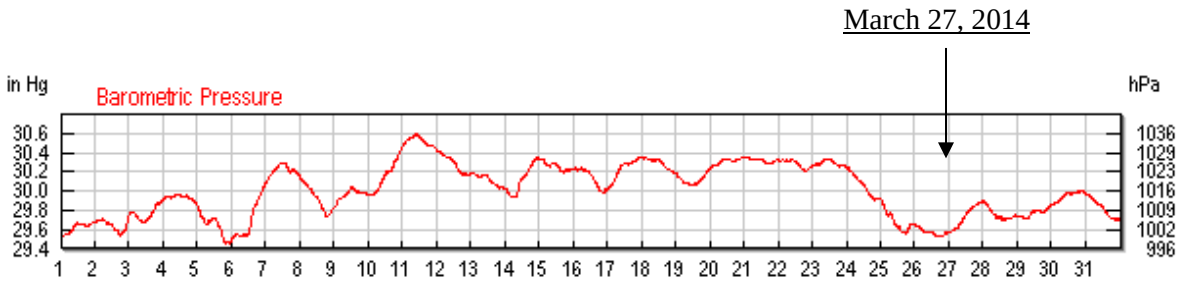
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring

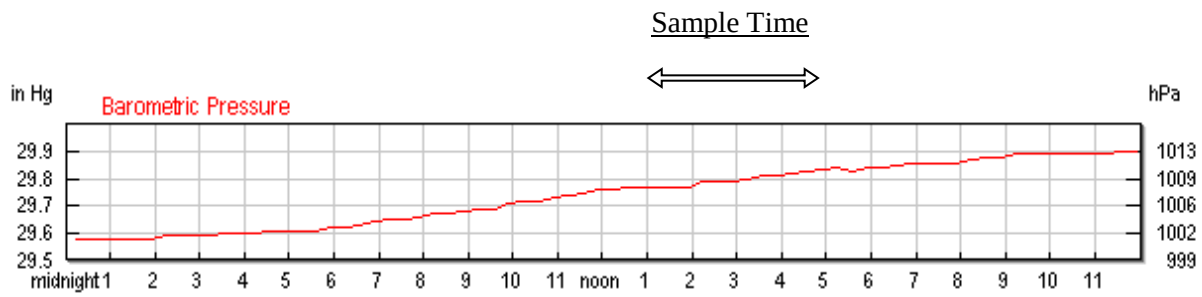
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
March 2014

Barometric Pressure Trend for March 2014



Barometric Pressure Trend for March 27, 2014



Source : KPLU Airport

Hidden Valley Landfill
LFG System Monitoring & Maintenance
April 8, 10, 15 & 16, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on April 8, 10, 15 and 16.
- Repaired well E-18 where mower damaged the well.
- Investigated wells N-60 and N-39 for repair. Wells to be repaired in May.
- Repaired 10-inch diameter PVC header between wells N-27 and N-39.
- Rebuild wellhead at wells N-27 and N-28.

Photo Log


Before header repair between wells N-27 & N-28


Before header repair between wells N-27 & N-28

After header repair between wells N-27 & N-28

Wells N-27 & N-28 wellhead repairs

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
4/15/2014 09:43	36.9	26.0	3.3	33.8	202	202	29.75

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
4/16/2014 06:34	35.1	25.2	3.2	36.5	215	215	29.60

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
April 10, 2014

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	10:22	0.00	0.1	4.9	0.0			
GP-1B	10-Apr	10:26	0.00	0.0	9.8	11.8			
GP-1C	10-Apr	10:30	0.00	0.0	2.5	16.9			
GP-2A	10-Apr	10:36	0.00	0.0	1.1	18.0			
GP-2B	10-Apr	10:39	0.00	0.0	0.3	19.1			
GP-3S	10-Apr	10:46	0.00	0.0	2.8	14.9			
GP-3M	10-Apr	10:48	0.00	0.0	3.3	4.9			
GP-3D	10-Apr	10:50	0.00	0.0	7.8	8.5			
GP-4A	10-Apr	10:58	0.00	0.0	0.2	19.7			
GP-4B	10-Apr	11:01	0.00	0.0	0.2	19.6			
GP-5A	10-Apr	11:09	0.00	0.0	0.1	19.4			
GP-5B	10-Apr	11:11	0.00	0.0	0.1	19.7			
GP-6	10-Apr	11:19	0.00	0.0	0.1	19.6			
GP-7S	10-Apr	11:25	0.00	0.0	0.7	18.8			
GP-7D	10-Apr	11:28	0.00	0.0	0.3	19.3			
GP-8A	10-Apr	11:40	0.00	0.0	1.1	18.5			
GP-8B	10-Apr	11:43	0.00	0.0	0.7	18.4			
GP-9	10-Apr	11:50	0.00	0.0	1.4	17.7			
GP-10	10-Apr	11:56	0.00	0.0	0.1	19.4			
GP-11	10-Apr	12:01	0.00	0.0	1.1	18.2			
GP-12	10-Apr	12:12	0.00	0.0	0.3	18.9			
GP-13A	10-Apr	12:16	0.00	9.6	10.0	0.0	9.6	9.6	
GP-13B	10-Apr	12:22	0.00	0.1	0.2	19.6			
GP-14S	10-Apr	12:31	0.00	0.1	8.9	11.2			
GP-14D	10-Apr	12:35	0.00	0.1	16.4	0.5			
GP-15A	10-Apr	13:26	0.00	0.1	2.8	13.7			
GP-15B	10-Apr	13:28	0.00	0.1	10.5	1.2			
GP-16A	10-Apr	13:37	0.00	0.1	2.0	16.4			
GP-16B	10-Apr	13:40	0.00	0.1	1.7	16.7			
GP-17	10-Apr	13:48	0.00	0.1	0.1	20.0			
GP-18	10-Apr	13:53	0.00	0.1	0.6	19.9			
GP-19	10-Apr	14:02	0.00	0.1	2.1	18.0			
LFG-1	10-Apr	12:42	0.00	0.6	13.8	3.9			*Note 2*
LFG-2	10-Apr	12:48	0.00	0.9	14.2	2.3			*Note 2*
LFG-3	10-Apr	12:54	0.00	12.2	21.3	0.0	4.9	18.8	*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Wind
Calibration Date:	10-Apr-14	Temperature (^{o}F):	55

Notes

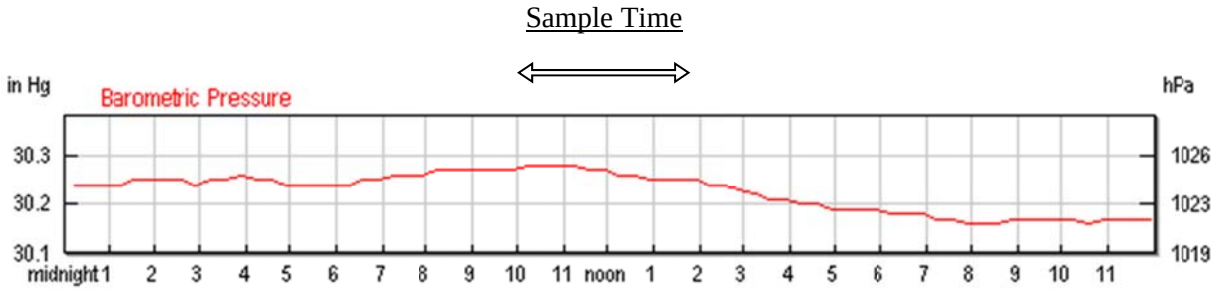
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. GEM O2 sensor failed on SCS GEM. HVL GEM used. Readings taken in GEM mode.

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
Hidden Valley Landfill
April 2014

Barometric Pressure Trend for April 2014

Barometric Pressure Trend for April 10, 2014



Source : KPLU Airport

Hidden Valley Landfill
LFG System Monitoring & Maintenance
May 12 & 13, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on May 12 and 13, 2014.
- Repaired air leaks along LFG Header at N-43 and N-37.
- Replaced flexible PVC coupler and piping at N-39 and N-56.
- Repaired damaged header pipe and condensate leak at E-42.

Photo Log

Before header repair at well E-42

Before flexible PVC replacement at wells N-39 & N-56

After header repair at well E-42

After flexible PVC replacement at wells N-39 & N-56

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
5/12/2014 6:50	22.7	17.0	8.1	51.9	376	376	29.84

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
5/13/2014 11:22	38.6	26.8	1.3	33.3	287	287	29.77

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
May 15, 2014

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-May	7:24	0.11	0.3	4.7	0.1			
GP-1B	15-May	7:28	0.15	0.0	9.5	12.1			
GP-1C	15-May	7:30	0.12	0.0	2.3	19.3			
GP-2A	15-May	7:36	0.17	0.0	1.1	19.7			
GP-2B	15-May	7:39	0.12	0.0	0.3	21.2			
GP-3S	15-May	7:50	0.00	0.0	1.8	17.6			
GP-3M	15-May	7:52	0.16	0.0	3.2	6.3			
GP-3D	15-May	7:55	0.21	0.0	8.2	8.0			
GP-4A	15-May	8:05	0.01	0.0	0.5	20.8			
GP-4B	15-May	8:08	0.02	0.0	0.2	21.3			
GP-5A	15-May	8:13	0.00	0.0	0.4	20.9			
GP-5B	15-May	8:17	0.00	0.0	0.2	21.1			
GP-6	15-May	8:22	0.00	0.0	0.4	20.7			
GP-7S	15-May	8:27	0.16	0.0	0.7	20.3			
GP-7D	15-May	8:29	0.01	0.0	0.4	20.6			
GP-8A									*Note 2*
GP-8B									*Note 2*
GP-9	15-May	8:42	0.27	0.0	0.9	19.8			
GP-10	15-May	8:48	0.15	0.0	0.2	21.1			
GP-11	15-May	8:53	0.12	0.0	1.2	19.7			
GP-12	15-May	8:58	0.00	0.0	0.3	19.3			
GP-13A	15-May	9:03	0.01	5.4	10.1	1.2			
GP-13B	15-May	9:06	0.03	0.0	0.2	21.1			
GP-14S	15-May	9:14	0.02	0.0	8.7	12.7			
GP-14D	15-May	9:16	0.14	0.0	15.8	1.6			
GP-15A	15-May	9:33	0.01	0.0	4.1	12.6			
GP-15B	15-May	9:36	0.00	0.0	8.9	5.0			
GP-16A	15-May	9:43	0.00	0.0	0.9	19.8			
GP-16B	15-May	9:45	0.00	0.0	0.2	21.2			
GP-17	15-May	9:51	0.14	0.0	0.6	20.6			
GP-18	15-May	9:55	0.02	0.0	0.5	21.2			
GP-19	15-May	10:01	0.00	0.0	2.3	19.5			
LFG-1	15-May	9:20	0.15	0.2	12.5	4.7			*Note 3*
LFG-2	15-May	9:24	0.00	0.0	7.6	10.1			*Note 3*
LFG-3	15-May	9:27	0.10	6.2	17.6	1.7			*Note 3*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear, Lt. Clouds
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	15-May-14	Temperature (^{o}F):	69

Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to monitor, monument full of wasps
3. Located adjacent to southern sinkhole area, repair under construction durring monitoring

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

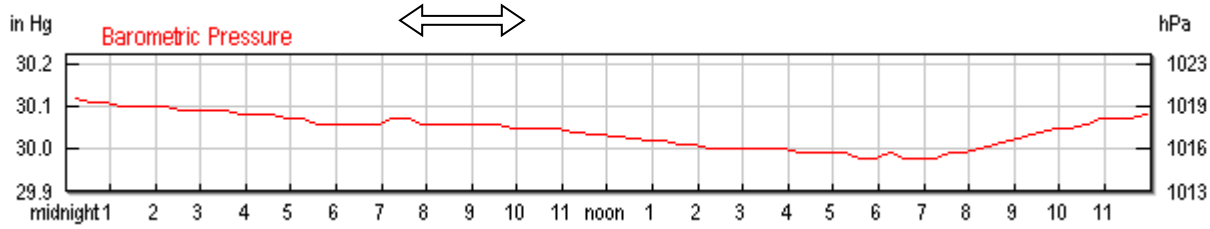
Barometric Pressure Trend
Hidden Valley Landfill
May 2014

Barometric Pressure Trend for May 2014

May 15, 2014

Barometric Pressure Trend for May 15, 2014

Sample Time



Source : KPLU Airport

Hidden Valley Landfill
LFG System Monitoring & Maintenance
June 16, 25, & 26, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on June 16, 25, and 26, 2014.
- Repaired collapsed 8-inch PVC header between Wells N-29 and N-30.
- Replaced oxygen (O_2) leaks at N-54 and N-56.

Photo Log

Before collapsed header repair between wells N-29 and N-30

After collapsed header repair between wells N-29 and N-30

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
6/25/2014 09:49	31.9	22.4	5.3	40.4	295	295	29.35

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
6/26/2014 13:18	49.0	30	0.5	18.6	388	38	29.19

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
June 16, 2014

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Spike CO2 *Note 1* (% vol.)	Other
Gas Probes									
GP-1A	16-Jun	7:48	0.12	0.5	4.8	0.0			
GP-1B	16-Jun	7:51	0.14	0.0	10.0	11.3			
GP-1C	16-Jun	7:54	0.24	0.0	2.4	19.0			
GP-2A	16-Jun	7:58	0.40	0.0	1.5	19.1			
GP-2B	16-Jun	8:01	0.10	0.0	0.4	21.0			
GP-3S	16-Jun	8:06	0.09	0.0	1.5	18.1			
GP-3M	16-Jun	8:08	0.16	0.0	3.2	6.5			
GP-3D	16-Jun	8:11	0.11	0.0	6.6	13.9			
GP-4A	16-Jun	8:19	0.00	0.0	0.3	21.1			
GP-4B	16-Jun	8:22	0.08	0.0	0.3	21.0			
GP-5A	16-Jun	8:30	0.00	0.0	0.3	21.0			
GP-5B	16-Jun	8:35	0.00	0.0	0.4	21.1			
GP-6	16-Jun	8:40	0.24	0.0	0.9	20.4			
GP-7S	16-Jun	8:43	0.02	0.0	0.6	20.0			
GP-7D	16-Jun	8:47	0.03	0.0	0.3	21.2			
GP-8A	16-Jun	8:53	0.13	0.0	3.2	18.7			
GP-8B	16-Jun	8:55	0.12	0.0	1.0	20.6			
GP-9	16-Jun	9:01	0.12	0.0	1.8	18.3			
GP-10	16-Jun	9:07	0.02	0.0	0.2	21.3			
GP-11	16-Jun	9:12	0.04	0.0	1.4	19.6			
GP-12	16-Jun	9:17	0.00	0.0	0.3	21.1			
GP-13A	16-Jun	9:23	0.29	0.5	11.4	0.8			
GP-13B	16-Jun	9:26	0.10	0.0	0.4	21.1			
GP-14S	16-Jun	9:32	0.11	0.0	9.7	12.4			
GP-14D	16-Jun	9:36	0.00	0.0	16.5	0.6			
GP-15A	16-Jun	9:50	0.01	0.0	4.2	15.7			
GP-15B	16-Jun	9:53	0.06	0.0	5.7	13.0			
GP-16A	16-Jun	9:59	0.00	0.0	0.4	20.7			
GP-16B	16-Jun	10:02	0.08	0.0	0.3	20.8			
GP-17	16-Jun	10:08	-0.04	0.0	5.4	14.8			
GP-18	16-Jun	10:12	0.01	0.0	8.3	11.6			
GP-19	16-Jun	10:20	0.00	0.0	0.1	21.4			
LFG-1	16-Jun	9:39	0.02	0.2	12.9	3.6			*Note 2*
LFG-2	16-Jun	9:42	0.01	0.1	11.8	5.2			*Note 2*
LFG-3	16-Jun	9:46	0.06	9.7	19.4	0.0			*Note 2*

General Data

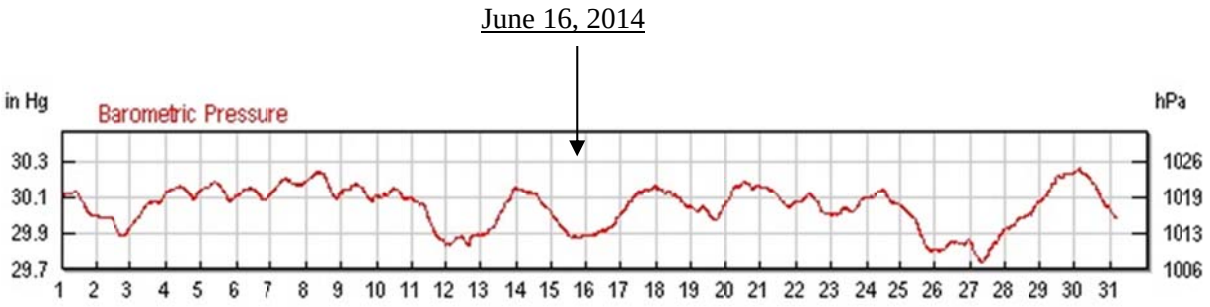
		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	16-Jun-14	Temperature (^{o}F):	54

Notes
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located adjacent to southern sinkhole area, repair completed at time of monitoring

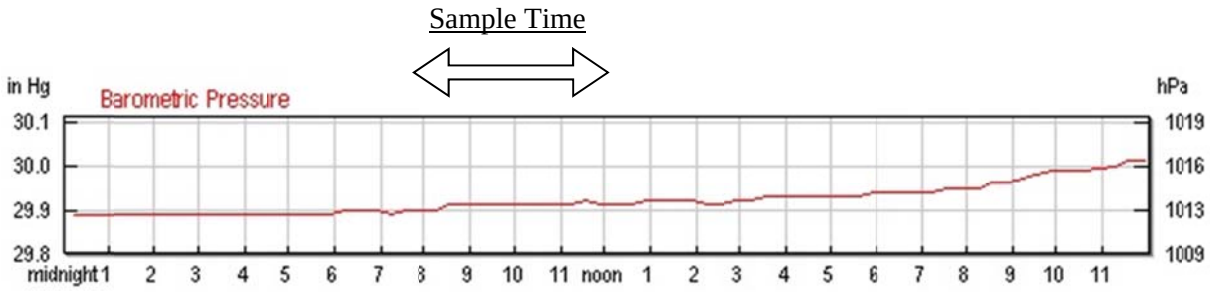
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
Hidden Valley Landfill
June 2014

Barometric Pressure Trend for June 2014



Barometric Pressure Trend for June 16, 2014



Source : KPLU Airport - http://www.wunderground.com/history/airport/KPLU/2014/6/16/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA

Hidden Valley Landfill
LFG System Monitoring & Maintenance
July 9 & 10, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on July 9 and 10, 2014.
- Replaced valves on wells N-20, N-27, N-34, N-35, N-57, N-59, and N-66.
- Replaced sample ports on wells N-35, N-37, N-71.
- Repaired flexible PVC pipe and couplers at wells N-27, N-54, and N-63.

Photo Log – No photographs taken this month

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
7/9/2014 06:35	25.9	18.0	7.0	49.1	443	443	29.52

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
7/10/2014 08:11	37.8	25.6	1.7	34.9	323	323	29.47

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill — 04213004.02

PCRCD dba LRI — July 10, 2014

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-Jul	7:24	0.10	0.3	4.8	0.0			
GP-1B	10-Jul	7:27	0.08	0.0	10.0	10.9			
GP-1C	10-Jul	7:29	0.10	0.0	1.1	20.0			
GP-2A	10-Jul	7:34	0.20	0.0	0.5	20.5			
GP-2B	10-Jul	7:36	0.18	0.0	0.3	21.0			
GP-3S	10-Jul	7:41	0.04	0.0	1.1	19.1			
GP-3M	10-Jul	7:44	0.21	0.0	3.0	9.6			
GP-3D	10-Jul	7:47	0.18	0.0	6.2	14.4			
GP-4A	10-Jul	7:54	0.01	0.0	1.0	20.0			
GP-4B	10-Jul	7:57	0.10	0.0	0.4	20.2			
GP-5A	10-Jul	8:02	0.01	0.0	0.6	19.7			
GP-5B	10-Jul	8:06	0.02	0.0	0.4	20.3			
GP-6	10-Jul	8:11	0.01	0.0	0.7	20.2			
GP-7S	10-Jul	8:17	0.11	0.0	0.9	19.5			
GP-7D	10-Jul	8:20	0.00	0.0	0.6	19.7			
GP-8A	10-Jul	8:33	0.21	0.0	2.8	17.8			
GP-8B	10-Jul	8:36	0.09	0.0	2.1	19.1			
GP-9	10-Jul	8:41	0.14	0.0	1.4	18.3			
GP-10	10-Jul	8:47	0.06	0.0	0.3	20.7			
GP-11	10-Jul	8:51	0.10	0.0	0.8	20.2			
GP-12	10-Jul	8:57	0.02	0.0	4.2	13.6			
GP-13A	10-Jul	9:02	0.14	2.0	11.6	0.0			
GP-13B	10-Jul	9:05	0.08	0.0	0.3	20.7			
GP-14S	10-Jul	9:12	0.03	0.0	8.3	13.6			
GP-14D	10-Jul	9:14	0.12	0.0	15.7	0.7			
GP-15A	10-Jul	10:04	0.01	0.0	3.3	17.2			
GP-15B	10-Jul	10:07	0.00	0.0	4.2	16.3			
GP-16A	10-Jul	10:12	0.01	0.0	0.4	20.3			
GP-16B	10-Jul	10:15	0.31	0.0	0.4	20.3			
GP-17	10-Jul	10:21	0.22	0.0	5.2	14.4			
GP-18	10-Jul	10:26	0.03	0.0	10.4	5.4			
GP-19	10-Jul	10:33	0.02	0.0	2.1	19.5			
LFG-1	10-Jul	9:18	0.01	0.0	10.5	5.6			*Note 2*
LFG-2	10-Jul	9:23	0.00	0.0	8.1	8.8			*Note 2*
LFG-3	10-Jul	9:27	0.06	6.3	17.3	1.0			*Note 2*

General Data

Monitored by:	S. Adlington	Weather Conditions	
Instruments:	GEM 2000	Sky Cover:	Clear
Calibration Date:	10-Jul-14	Wind / Rain / Snow:	None
		Temperature (^{o}F):	66

Notes

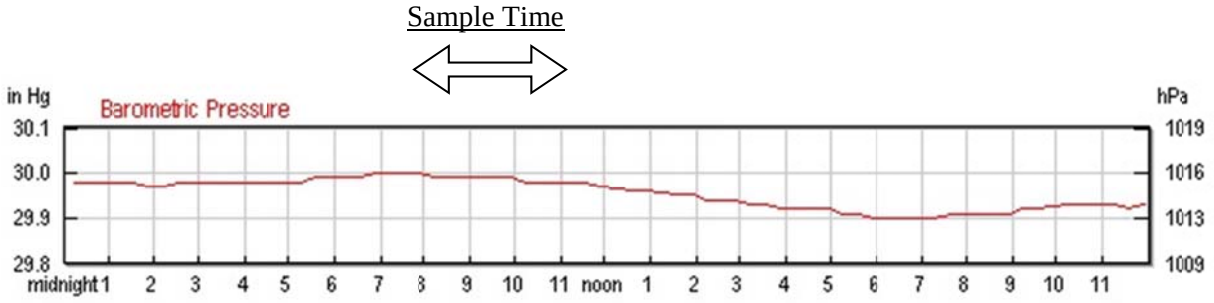
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located adjacent to southern sinkhole area, repair completed at time of monitoring

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

Barometric Pressure Trend
Hidden Valley Landfill
July 2014

Barometric Pressure Trend for July 2014

Barometric Pressure Trend for July 10, 2014



Source : KPLU Airport - http://www.wunderground.com/history/airport/KPLU/2014/6/16/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA

Hidden Valley Landfill
LFG System Monitoring & Maintenance
August 21 & 22, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on August 21 and 22, 2014.
- Replaced valves on wells E27, N37, N63, and N66.
- Repaired lateral extension at well N27.

Photo Log

E27 before valve replacement.

E27 after valve replacement.

N63 before pipe replacement.

N63 after pipe replacement.

N37 before valve repair.

N37 after valve replacement.

N66 before valve replacement.

N66 after valve replacement.

N27 pre-repair of lateral.

N27 after repair of lateral.

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
8/21/2014 06:39	30.4	23.0	4.1	42.5	343	343	29.52

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
8/22/2014 6:29	28.1	20.0	7.1	44.8	280	280	29.51

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

August 12, 2014

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	12-Aug	7:38	-0.03	0.7	5.1	0.0			
GP-1B	12-Aug	7:45	-0.06	0.0	11.8	8.1			
GP-1C	12-Aug	7:48	-0.03	0.0	1.1	19.5			
GP-2A	12-Aug	7:52	-0.03	0.0	0.4	20.0			
GP-2B	12-Aug	7:56	0.04	0.0	0.2	20.4			
GP-3S	12-Aug	8:00	-0.06	0.0	0.5	19.7	0.3		
GP-3M	12-Aug	8:03	-0.05	0.0	2.5	15.6			
GP-3D	12-Aug	8:06	-0.03	0.0	2.8	18.6			
GP-4A	12-Aug	8:16	-0.03	0.0	0.8	19.6			
GP-4B	12-Aug	8:19	0.06	0.0	0.5	19.8			
GP-5A	12-Aug	8:24	0.00	0.0	1.2	19.1			
GP-5B	12-Aug	8:27	0.00	0.0	0.6	19.4			
GP-6	12-Aug	8:32	0.00	0.0	0.9	19.3			
GP-7S	12-Aug	8:37	0.01	0.0	1.3	19.0			
GP-7D	12-Aug	8:40	0.00	0.0	0.7	19.5			
GP-8A	12-Aug	8:49	0.00	0.0	6.1	12.0			
GP-8B	12-Aug	8:52	0.00	0.0	4.9	14.5			
GP-9	12-Aug	8:57	0.00	0.0	1.5	18.3			
GP-10	12-Aug	9:03	0.00	0.0	0.4	18.9			
GP-11	12-Aug	9:08	0.00	0.0	1.1	19.5			
GP-12	12-Aug	9:13	0.00	0.0	6.8	9.3			
GP-13A	12-Aug	9:24	0.31	5.2	11.4	0.0	5.3		
GP-13B	12-Aug	9:30	0.11	0.0	0.4	20.3			
GP-14S	12-Aug	9:58	0.11	0.0	9.6	12.0			
GP-14D	12-Aug	10:00	0.12	0.0	16.2	0.0			
GP-15A	12-Aug	10:19	0.00	0.0	4.0	16.3			
GP-15B	12-Aug	10:21	0.01	0.0	3.6	17.2			
GP-16A	12-Aug	10:27	0.06	0.0	1.2	19.2			
GP-16B	12-Aug	10:30	0.37	0.0	1.3	19.1			
GP-17	12-Aug	10:36	0.23	0.0	5.9	14.2			
GP-18	12-Aug	10:41	0.05	0.0	10.9	6.2			
GP-19									*Note 3*
LFG-1	12-Aug	10:05	0.01	0.2	12.0	3.4			*Note 2*
LFG-2	12-Aug	10:10	0.00	0.0	9.9	6.1			*Note 2*
LFG-3	12-Aug	10:13	0.05	9.3	17.6	0.8			*Note 2*

General Data

Monitored by:	S. Adlington	Weather Conditions	
Instruments:	GEM 2000	Sky Cover:	Overcast
Calibration Date:	12-Aug-14	Wind / Rain / Snow:	Lt. Rain
		Temperature (^{o}F):	68

Notes

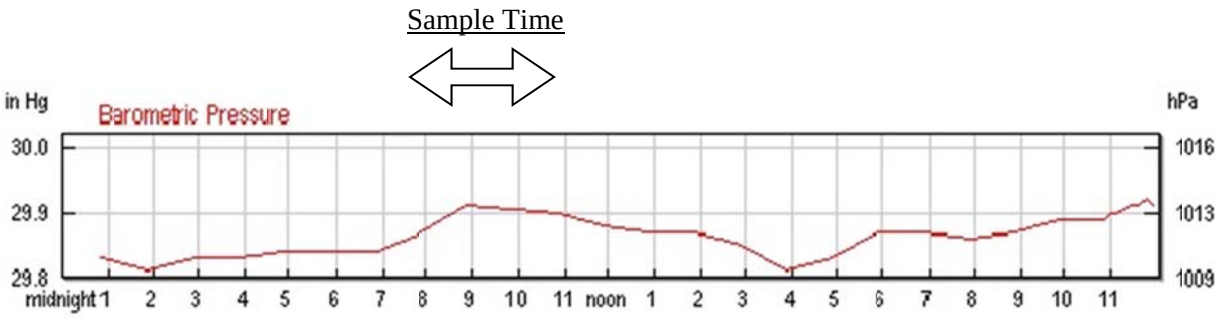
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located adjacent to southern sinkhole area, repair completed at time of monitoring
3. Access trail impassable.

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
Hidden Valley Landfill
August 2014

Barometric Pressure Trend for August 2014

Barometric Pressure Trend for August 12, 2014



Source : Tacoma Narows, WA -
http://www.wunderground.com/history/airport/KTIW/2014/8/12/DailyHistory.html?req_city=Tacoma&req_state=WA&req_statename=Washington
KPLU Airport could not be used as data was not available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
September 25 & 26, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring
- Replaced sample ports on wells around HZ-1 and HZ-2.

Photo Log – No photographs taken this month

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
9/25/2014 7:07	38.3	25.9	3.8	32	212	212	29.33

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
9/26/2014 08:11	37.5	24.4	3.9	34.2	252	252	29.42

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

September 26, 2014

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	26-Sep-14	8:52	6.42	1.4	5.6	0.0			
GP-1B	26-Sep-14	8:54	4.78	0.0	4.9	15.8			
GP-1C	26-Sep-14	8:56	6.15	0.0	1.6	20.4			
GP-2A	26-Sep-14	9:09	-5.19	0.0	0.8	20.4			
GP-2B	26-Sep-14	9:11	>>>>	0.0	0.4	21.0			
GP-3S	26-Sep-14	9:15	8.27	0.0	0.2	21.3			
GP-3M	26-Sep-14	9:17	-0.38	0.0	0.1	21.3			
GP-3D	26-Sep-14	9:18	8.36	0.0	0.1	21.4			
GP-4A	26-Sep-14	9:21	8.39	0.0	0.1	21.4			
GP-4B	26-Sep-14	9:23	8.44	0.0	0.1	21.5			
GP-5A	26-Sep-14	9:26	8.46	0.0	0.1	21.4			
GP-5B	26-Sep-14	9:28	3.37	0.0	0.1	21.4			
GP-6	26-Sep-14	9:33	4.65	0.0	0.1	21.3			
GP-7S	26-Sep-14	9:37	8.55	0.0	0.6	20.5			
GP-7D	26-Sep-14	9:38	-1.78	0.0	0.2	21.4			
GP-8A	26-Sep-14	9:49	8.52	0.0	4.3	17.1			
GP-8B	26-Sep-14	9:52	7.57	0.0	1.2	20.5			
GP-9	26-Sep-14	9:58	8.63	0.0	2.3	17.6			
GP-10	26-Sep-14	10:05	9.23	0.0	0.5	20.3			
GP-11	26-Sep-14	10:17	8.03	0.0	1.2	19.8			
GP-12	26-Sep-14	10:23	8.07	0.0	0.1	21.6			
GP-13A	26-Sep-14	10:30	8.14	0.0	0.0	21.5			
GP-13B	26-Sep-14	10:32	-2.10	0.0	0.0	21.5			
GP-14S	26-Sep-14	10:41	5.81	0.0	13.3	9.8			
GP-14D	26-Sep-14	10:39	-4.38	0.0	16.5	1.3			
GP-15A	26-Sep-14	10:58	6.75	0.0	9.0	9.8			
GP-15B	26-Sep-14	11:05	6.18	0.0	10.3	2.7			
GP-16A	26-Sep-14	11:15	6.55	0.0	0.2	21.3			
GP-16B	26-Sep-14	11:18	6.58	0.0	0.2	21.3			
GP-17	26-Sep-14	11:24	6.72	0.0	8.0	10.8			
GP-18	26-Sep-14	11:35	7.18	0.0	1.0	20.8			
GP-19	26-Sep-14	11:49	3.11	0.0	0.0	21.5			
LFG-1	26-Sep-14	10:45	7.34	0.4	14.6	0.7			*Note 3*
LFG-2	26-Sep-14	10:51	6.63	0.2	14.8	1.0			*Note 3*
LFG-3	26-Sep-14	10:53	6.52	0.2	14.8	1.7			*Note 3*

General Data

		Weather Conditions	
Monitored by:	M. O'Hare	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Scattered Showers
Calibration Date:	26-Sep-14	Temperature (^oF):	58

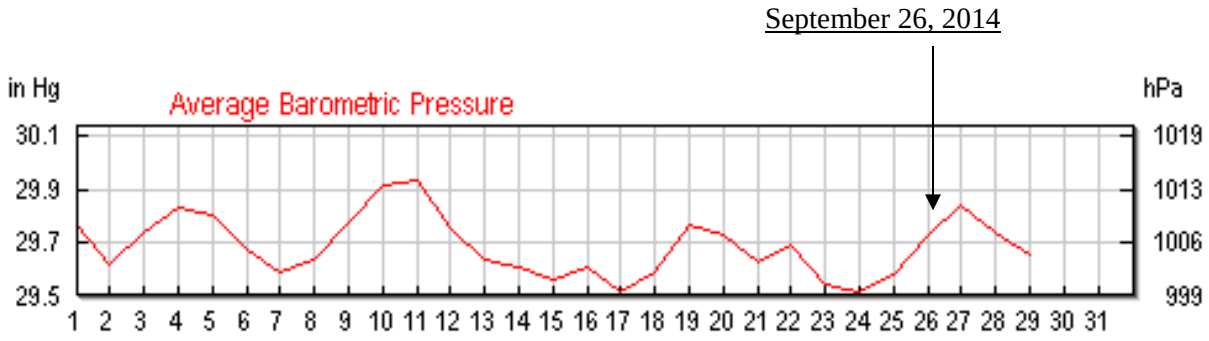
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to measure pressure due to equipment failure.
3. Located adjacent to southern sinkhole area, repair completed at time of monitoring

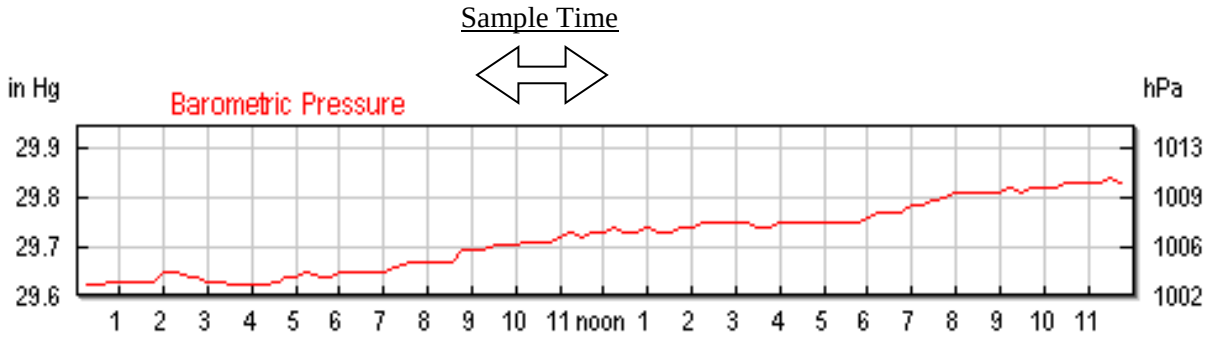
GP = Gas Probe
NM = Not measured - equipment malfunction
CH_4 = Methane
CO_2 = Carbon Dioxide
O_2 = Oxygen
S = shallow
M = medium
D = deep
A= shallow
B = medium
C = deep

Barometric Pressure Trend
Hidden Valley Landfill
September 26, 2014

Barometric Pressure Trend for September 2014



Barometric Pressure Trend for September 26, 2014



Source: KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=26&year=2014&month=9&graphspan=day
KPLU Airport could not be used as data was not available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
October 22 and 23, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well monitoring and repairs on October 22 and 23, 2014.
- Replaced replace several sample ports along the west header.

Photo Log – No photographs taken this month

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
10/22/2014 08:39	38.2	24.8	3.2	33.8	256	256	29.17

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
10/23/2014 06:48	37.7	24.4	3.5	34.4	291	291	29.25

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill — 04213004.02

PCRCD dba LRI — October 22, 2014

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	22-Oct-14	9:09	-0.02	1.9	5.6	0.0			
GP-1B	22-Oct-14	9:12	0.00	0.0	8.1	11.2			
GP-1C	22-Oct-14	9:15	0.05	0.0	3.8	17.7			
GP-2A	22-Oct-14	9:20	0.10	0.2	3.4	16.1			
GP-2B	22-Oct-14	9:39	0.19	0.0	0.3	21.4			
GP-3S	22-Oct-14	9:44	0.10	0.0	1.0	20.3			
GP-3M	22-Oct-14	9:46	0.02	0.0	2.5	16.0			
GP-3D	22-Oct-14	9:49	0.03	0.0	6.4	9.2			
GP-4A	22-Oct-14	9:56	0.00	0.0	1.7	18.3			
GP-4B	22-Oct-14	10:00	0.03	0.0	0.2	21.4			
GP-5A	22-Oct-14	10:05	0.00	0.0	0.7	20.7			
GP-5B	22-Oct-14	10:08	0.00	0.0	0.6	20.6			
GP-6	22-Oct-14	10:12	0.00	0.0	0.1	21.4			
GP-7S	22-Oct-14	10:17	0.09	0.0	1.7	19.8			
GP-7D	22-Oct-14	10:19	-0.03	0.0	1.1	20.0			
GP-8A	22-Oct-14	10:30	-0.02	0.0	4.4	16.8			
GP-8B	22-Oct-14	10:33	-0.03	0.0	1.0	20.1			
GP-9	22-Oct-14	10:38	0.02	0.0	2.0	15.9			
GP-10	22-Oct-14	10:43	0.37	0.0	0.5	20.7			
GP-11	22-Oct-14	10:49	0.32	0.0	1.7	19.3			
GP-12	22-Oct-14	10:54	0.08	0.0	7.9	4.8			
GP-13A	22-Oct-14	11:00	0.04	1.4	14.4	0.0			
GP-13B	22-Oct-14	11:03	0.02	0.0	0.4	21.2			
GP-14S	22-Oct-14	11:09	0.10	0.0	12.4	9.9			
GP-14D	22-Oct-14	11:11	-0.05	0.0	16.6	0.0			
GP-15A	22-Oct-14	11:26	0.00	0.0	4.8	14.6			
GP-15B	22-Oct-14	11:29	-0.06	0.0	8.3	10.6			
GP-16A	22-Oct-14	11:36	-0.05	0.0	0.7	20.6			
GP-16B	22-Oct-14	11:38	-0.02	0.0	0.2	21.4			
GP-17	22-Oct-14	11:43	-0.26	0.0	6.7	11.8			
GP-18	22-Oct-14	11:48	0.02	0.0	7.4	14.7			
GP-19									*Note 3*
LFG-1	22-Oct-14	11:14	0.12	0.2	10.9	5.5			*Note 4*
LFG-2	22-Oct-14	11:20	-0.23	0.2	11.0	5.2			*Note 4*
LFG-3	22-Oct-14	11:17	-0.13	15.2	20.7	0.1			*Note 4*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain
Calibration Date:	22-Oct-14	Temperature (°F):	47

Notes

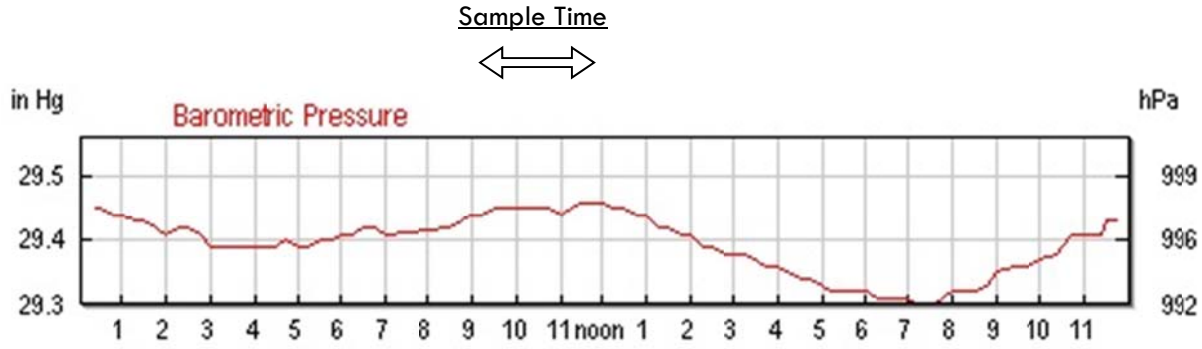
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to measure pressure due to equipment failure.
3. Unable to access at time of monitoring. Access trail not cleared of vegitation
4. Located adjacent to southern sinkhole area, repair completed at time of monitoring

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

Barometric Pressure Trend - October 2014
Hidden Valley Landfill, Pierce County, Washington

Barometric Pressure Trend for October 2014

Barometric Pressure Trend for October 22, 2014



Source : KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=25&year=2014&month=10&graphspan=month
KPLU Airport could not be used as data was not available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
November 21, 22, and 24, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well and flare monitoring and repairs performed on November 21, 22, and 24 2014.
- Reconnected 2-inch line at E-25A and 4-inch line at N-21. Confirmed sealed.

Photo Log – No photographs taken this month

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
11/21/2014 06:58	30.3	23.2	4.6	39.3	391	391	29.17

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
11/21/2014 10:23	40.4	28.2	0.6	30.8	440	440	29.04

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
November 17, 2014

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	17-Nov-14	7:40	0.03	2.0	5.8	0.0	2.2		
GP-1B	17-Nov-14	7:44	0.00	0.0	10.7	8.2			
GP-1C	17-Nov-14	7:48	0.00	0.0	8.2	11.3			
GP-2A	17-Nov-14	7:53	0.01	0.7	13.5	3.4			
GP-2B	17-Nov-14	7:56	0.01	0.0	0.2	20.8			
GP-3S	17-Nov-14	8:01	0.01	0.0	2.6	15.8			
GP-3M	17-Nov-14	8:03	0.00	0.0	2.8	14.8			
GP-3D	17-Nov-14	8:06	0.00	0.0	7.0	10.7			
GP-4A	17-Nov-14	8:12	0.00	0.0	1.1	19.3			
GP-4B	17-Nov-14	8:15	0.01	0.0	0.2	20.8			
GP-5A	17-Nov-14	8:20	-0.01	0.0	0.1	20.9			
GP-5B	17-Nov-14	8:24	0.00	0.0	0.3	20.2			
GP-6	17-Nov-14	8:29	0.00	0.0	0.1	20.9			
GP-7S	17-Nov-14	8:34	0.16	0.0	0.3	20.7			
GP-7D	17-Nov-14	8:37	0.00	0.0	1.0	19.9			
GP-8A	17-Nov-14	8:46	0.00	0.0	2.2	19.6			
GP-8B	17-Nov-14	8:49	-0.01	0.0	0.6	20.5			
GP-9	17-Nov-14	8:55	0.00	0.0	1.9	14.1			
GP-10	17-Nov-14	9:00	0.00	0.0	0.2	20.9			
GP-11									*Note 2*
GP-12	17-Nov-14	9:11	0.01	0.0	0.9	19.4			
GP-13A	17-Nov-14	9:17	0.04	4.1	14.0	0.3			
GP-13B	17-Nov-14	9:21	0.03	0.0	0.2	20.6			
GP-14S	17-Nov-14	9:26	0.01	0.0	10.8	10.7			
GP-14D	17-Nov-14	9:28	0.02	0.0	16.6	0.0			
GP-15A	17-Nov-14	9:44	0.02	0.0	4.0	14.8			
GP-15B	17-Nov-14	9:47	0.02	0.0	10.3	5.9			
GP-16A	17-Nov-14	9:54	0.00	0.0	2.9	16.8			
GP-16B	17-Nov-14	9:57	0.26	0.0	3.6	16.1			
GP-17	17-Nov-14	10:03	1.61	0.0	0.6	20.1			
GP-18	17-Nov-14	10:07	0.01	0.0	0.9	20.0			
GP-19	17-Nov-14	10:13	0.08	0.0	3.4	17.0			
LFG-1	17-Nov-14	9:32	0.03	0.2	14.2	4.3			
LFG-2	17-Nov-14	9:35	0.02	0.0	13.4	3.3			
LFG-3	17-Nov-14	9:40	0.08	9.3	20.0	0.0			

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	17-Nov-14	Temperature (^{o}F):	38

Notes
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Unable to measure due to frozen blockage in probe casing.

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

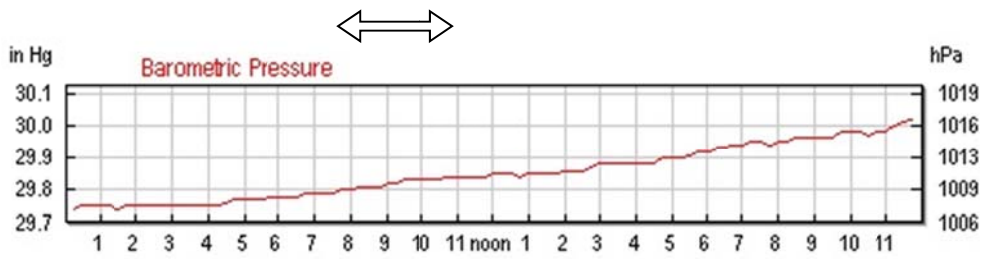
Barometric Pressure Trend - November 2014
Hidden Valley Landfill, Pierce County, Washington

Barometric Pressure Trend for November 2014

November 17, 2014

Barometric Pressure Trend for November 17, 2014

Sample Time



Source : KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=17&year=2014&month=11&graphspan=day
KPLU Airport could not be used as data was not available.

Hidden Valley Landfill
LFG System Monitoring & Maintenance
December 9 and10, 2014

Maintenance items completed this month:

- Performed monthly LFG extraction well and flare monitoring on December 9 and 10, 2014.

Photo Log – No photographs taken this month

Flare Station Summary – Flare Inlet

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
12/9/2014 06:58	29.7	22.0	1.9	46.4	399	399	29.21

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
12/9/201 15:45	39.3	28.2	1.8	30.7	350	350	29.27

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

December 23, 2014

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	23-Dec-14	9:02	0.10	0.7	5.7	0.0			
GP-1B	23-Dec-14	9:05	-12.28	0.0	11.1	9.5			
GP-1C	23-Dec-14	9:11	-11.60	0.0	12.1	7.5			
GP-2A	23-Dec-14	9:19	0.55	2.4	16.5	0.0			
GP-2B	23-Dec-14	9:26	-11.36	0.0	0.1	21.6			
GP-3S	23-Dec-14	9:31	0.00	0.0	0.1	21.6			
GP-3M	23-Dec-14	9:33	-8.90	0.0	0.1	21.6			
GP-3D	23-Dec-14	9:40	0.00	0.0	0.1	21.5			
GP-4A	23-Dec-14	9:44	0.00	0.0	0.1	20.8			
GP-4B	23-Dec-14	9:50	0.00	0.0	0.2	20.7			
GP-5A	23-Dec-14	9:53	0.00	0.0	0.1	20.6			
GP-5B	23-Dec-14	9:58	0.00	0.0	0.1	20.6			
GP-6	23-Dec-14	10:00	0.01	0.0	0.1	20.6			
GP-7S	23-Dec-14	10:04	0.01	0.0	0.1	20.6			
GP-7D	23-Dec-14	10:07	0.01	0.0	0.1	20.5			
GP-8A	23-Dec-14	10:10	0.01	0.0	0.1	20.5			
GP-8B	23-Dec-14	10:13	0.02	0.0	0.1	20.6			
GP-9	23-Dec-14	10:16	0.02	0.0	0.1	20.6			
GP-10	23-Dec-14	10:19	-1.87	0.0	0.1	20.6			
GP-11	23-Dec-14	10:23	0.18	0.0	1.1	19.5			
GP-12	23-Dec-14	10:28	0.02	0.0	2.5	15.9			
GP-13A	23-Dec-14	7:55	-9.90	4.7	11.4	1.9			
GP-13B	23-Dec-14	7:57	-12.70	0.0	0.4	21.0			
GP-14S	23-Dec-14	8:00	-0.01	0.0	12.4	10.2			
GP-14D	23-Dec-14	8:01	-13.32	0.0	16.0	0.5			
GP-15A	23-Dec-14	8:05	-0.01	0.0	3.6	14.0			
GP-15B	23-Dec-14	8:07	-0.03	0.0	10.5	4.5			
GP-16A	23-Dec-14	8:13	-0.02	0.0	3.3	18.0			
GP-16B	23-Dec-14	8:14	-7.91	0.0	0.3	21.5			
GP-17	23-Dec-14	8:44	-1.70	0.0	2.4	18.4			
GP-18	23-Dec-14	8:51	-0.01	0.0	0.4	21.0			
GP-19	23-Dec-14	8:56	-0.01	0.0	0.5	21.1			
LFG-1	23-Dec-14	10:33	0.01	0.1	11.3	6.4			
LFG-2	23-Dec-14	10:39	0.01	0.0	10.3	7.0			
LFG-3	23-Dec-14	10:42	0.01	9.4	21.2	0.0			

General Data

		Weather Conditions	
Monitored by:	M. O'Hare	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Lt. Rain
Calibration Date:	23-Dec-14	Temperature (^{o}F):	46

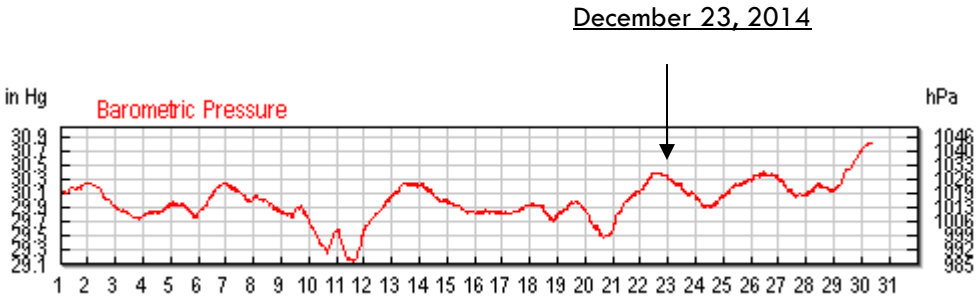
Notes

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded if observed during sampling

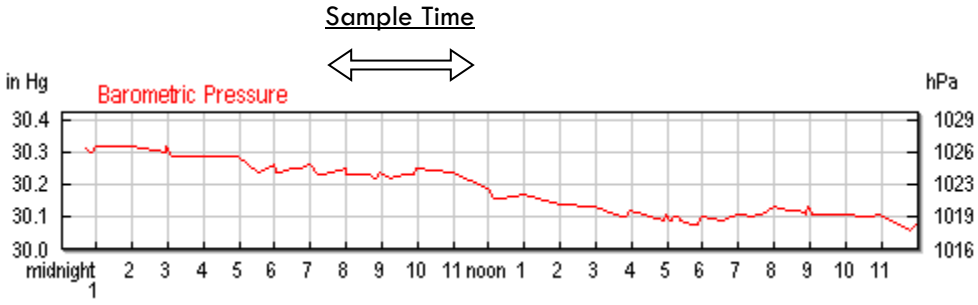
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend - December 2014
Hidden Valley Landfill, Pierce County, Washington

Barometric Pressure Trend for December 2014



Barometric Pressure Trend for December 23, 2014



Source : KWAPUYAL23
http://classic.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWAPUYAL23&day=25&year=2014&month=10&graphspan=month
KPLU Airport could not be used as data was not available.