SCS ENGINEERS







Report

Hidden Valley Landfill
Annual Report for 2013

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, 2014
File No. 04214002.03

Offices Nationwide
www.scsengineers.com

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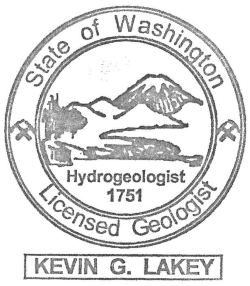

Elena Ramirez, LG
Project Geologist
SCS ENGINEERS

Kevin Lakey, PE, LHG
Project Director
SCS ENGINEERS

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1.0 INTRODUCTION

This document is the 2013 Annual Monitoring Report for the Hidden Valley Landfill (HVLF) 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.

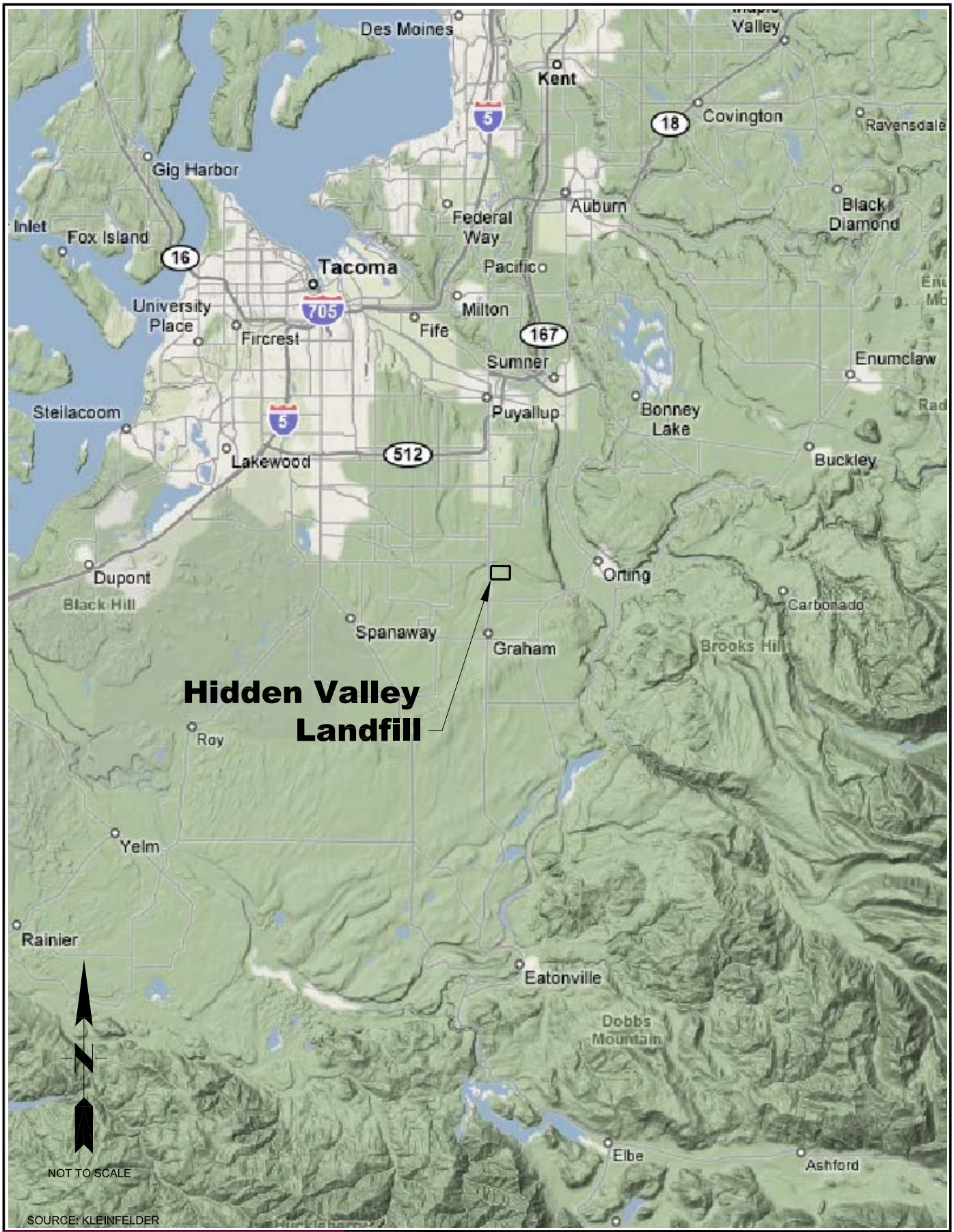
In January 2004, Consent Decree No. 032146876 was finalized and signed. The Consent Decree and associated Cleanup Action Plan address long-term maintenance and monitoring activities at the landfill and establish groundwater cleanup levels.

1.4 2013 MONITORING ACTIVITIES

Groundwater monitoring was performed quarterly in January, April, July, and October in accordance with the Groundwater Compliance Monitoring Plan, Hidden Valley Landfill, (February 2001). Leachate monitoring was performed in January. Landfill gas monitoring was conducted monthly.

Monitoring results for the first three quarters of 2013 were previously submitted to the TPCHD and Ecology in quarterly reports. Fourth Quarter 2013 groundwater data were previously submitted to the TPCHD in a separate data transmittal. This report includes 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 2013 were validated and input into Ecology's Environmental Information Management (EIM) system.

In September, the TPCHD and Ecology met to discuss the potential applicability of new WAC 173-351 requirements at the Hidden Valley Landfill. Most of the discussion during the meeting was related to Appendix I total metals testing. As was discussed during the meeting and after further consultation with Pierce County (also party to the 2003 Consent Decree), LRI believes the 2003 Consent Decree completed under terms of the Model Toxics Control Act (MTCA) requires implementation of the agency approved clean-up action at the landfill, specifically including the approved Groundwater Monitoring Plan (February 2001) and that any changes to this plan would constitute amendment of the Consent Decree requiring agreement of the parties and Court approval. The Consent Decree further precludes new testing requirements associated with future changes in regulation unless new, previously unknown, threats to human health and the environment are discovered. To date, all elements of the Cleanup Action Plan have been implemented and no new threats have been discovered. Ecology is currently reviewing the issue and will inform the TPCHD of their position.



SOURCE: KLEINFELDER

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Environmental Consultants and Contractors
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Bellevue, Washington 98005
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PROJECT NO.	DES BY
04214002.03	LEL
SCALE	CHK BY
NOT TO SCALE	E.R.
CAD FILE	APP BY
FIGURE 1	KGL

SITE LOCATION MAP

HIDDEN VALLEY LANDFILL
PIERCE COUNTY, WASHINGTON

DATE: MARCH 2014

FIGURE: 1

2.0 LANDFILL GAS MONITORING

Perimeter soil gas probes were monitored for landfill gas monthly during 2013. 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 2013 (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 any 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. In addition, LFG system repairs were completed in July and September to increase the vacuum to extraction wells N-64A, B, and C located near gas probe GP-13. July activities included replacing damaged gate valves and flex hosing and installing pipe risers to reduce the potential for the formation of LFG condensate blockages. September activities included excavation and regarding of the lateral connection piping that crosses the south perimeter road to further reduce the potential for condensate blockages. The piping was sloped back toward the extraction wells and additional pipe bracing was added to support the pipes north of the perimeter road. Monthly gas probe monitoring results as well as system maintenance documentation are included in Appendix A.

Gas monitoring of building interiors was performed on February 24, May 24, September 21, and December 20. 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.

Table 1. 2013 Landfill Gas Data

2013 Landfill Gas Data Perimeter Probe Readings Greater than 5 Percent Methane by Volume Hidden Valley Landfill, Pierce County, Washington		
Month	**Gas Probe**	**Methane Reading (%)**
February	GP-2A	7.5
February	GP-3D	5.1
February	GP-13A	6.4
March	GP-2A	7.6
March	GP-3D	7.4
March	GP-13A	10.6
April	GP-13A	16.7
May	GP-13A	13.4
June	GP-13A	6.6
July	GP-13A	7.0
August	GP-13A	12.8
September	GP-13A	5.1
October	GP-13A	10.9

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

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 E2 E2A E3A 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 E42 E43

LFG-1 LFG-2 LFG-3

LIMIT OF REFUSE

RECYCLING CENTER

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

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.)

CONDENSATE DISPOSAL TRENCH

LEACHATE COLLECTION PIPE CLEANOUT

LEACHATE PRETREATMENT FACILITY

GAS TO ENERGY FACILITY

TRANSFER STATION

PROPERTY LINE

UNDERGROUND AIR SUPPLY & CONDENSATE DISCHARGE PIPE

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

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

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 KGL	GAS SYSTEM HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2014
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 2013 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 early September the PLC system could not be reached through the phone modem. It was determined that the modem connection had failed due to a break or short in the phone line. Upon repair of the phone line in October, the PLC system was restored and data for August and the first 6 days of September were recovered. For the remainder of September, weekly measurements of leachate depth and the volume were collected by HVL personnel. Leachate levels at the main cell were generally less than 24 inches in 2013, except for some sporadic exceedances during the first four months of the year, and one reading in each of August and September (see attached PLC system data and site measurements). The variable nature of the data during the first four months of the year indicated a faulty transducer, which was subsequently replaced on May 1, 2013. 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 PLC reports are included in Appendix B.

3.4 SUMMARY OF LEAK DETECTION MONITORING DATA

An attempt to sample fluids in the leak detection system for the side-slope liner was performed on January 16; however, no fluids were present. As shown on the PLC data record in Appendix B, and as summarized on Table 2, the volume of fluids removed from the side slope leak detection sump was greatly reduced in 2013.

Table 2. 2013 Side Slope Liner Performance Data

2013 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	68,707	10,150	0	3.30
February	26,207	289	0	2.60
March	2,621	9,838	0	5.00
April	15,191	2,546	0	4.65
May	3,930	18	0	3.65
June	12,297	6,231	0	1.65
July	0	0	0	0.00
August	3,000	364	65	1.60
September	7,882	0	600	6.90
October [c]	6,033	4,103	0	6.05
November	0	6,227	0	4.00
December	0	710	143	1.40
Totals	**145,868**	**40,476**	**808**	**40.80**

[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 February and March 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 2013, the hydraulic gradient control system beneath the main leachate collection sump did not accumulate fluids and require pumping, therefore, fluids from this system were 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 26, April 27, July 19, and October 11, 2013. The water level database and water level contour maps are presented in Appendix D.

Groundwater flow in both the shallow perched aquifer and the upper regional aquifer was generally toward the northwest during all the 2013 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 in April; 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

Groundwater monitoring has been conducted at the Hidden Valley Landfill on at least a quarterly basis since mid-1985. During 2013, groundwater samples were collected from 21 wells in January (annual monitoring), 11 wells in April (quarterly monitoring), 17 wells in July (semi-annual monitoring), and 12 wells in October (quarterly monitoring). Monitoring well MW-28S was not sampled during the January, April, and July monitoring event due to insufficient water. Monitoring well MW-23S was not sampled in 2013 due to a bridge of sand or bentonite within the well casing (see Section 7.2). Groundwater samples from water supply wells located at Corliss Sand and Gravel and Paul Bunyan Rifle Range were collected in January, April, July, and October 2013. 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 2013 were validated and input into the EIM data 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 2013. Water quality results for the two water supply wells in 2013 were generally typical of previous results. Low concentrations of total metals and inorganic parameters were reported. The 2013 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 2013, 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 2013. No VOCs were detected in samples collected from the background wells in 2013.

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 2013 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 2013 include nitrate (MW-11S, MW-12S, MW-17S, and FM-2), TDS (MW-11s), dissolved iron (MW-14S), and dissolved manganese (MW-12S, MW-14S, MW-15S, MW-17S, and FM-2). Upper regional aquifer water quality results that exceeded cleanup levels on one or more occasions in 2013 include dissolved iron (MW-14D) and dissolved manganese (MW-14D and MW-15D). Lower regional aquifer water quality results that exceeded cleanup levels in 2013 are dissolved iron (MW-26R) and dissolved manganese (MW-14R and 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).

5.4 STATISTICAL ANALYSES

Groundwater quality data for the five-year period of January 2009 through October 2013 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 5 provides a summary of UCL 95 values. Shallow perched aquifer UCL 95 values that exceed cleanup levels include nitrate (MW-11S, MW-12S, MW-15S, MW-17S, MW-18S, and FMW-02) and dissolved manganese (MW-12S, MW-13S, MW-14S, MW-15S, MW-17S, and FMW-02). 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. 2013 Water Supply Well Data Summary

Parameters	MRL	Corliss				Paul Bunyan			
		January-13	April-13	July-13	October-13	January-13	April-13	July-13	October-13
Volatile Organics (µg/L)									
No Detections		*	*	*	*	*	*	*	*
Total Metals (mg/L)									
Arsenic	0.005	*	*	*	*	*	*	*	*
Iron	0.200	*	*	*	*	*	*	*	*
Manganese	0.001	0.003	0.0036	0.004	0.015	0.011	0.0028	0.003	0.002
Zinc	0.010	0.024	0.013	0.120	0.170	0.061	0.085	0.200	0.050
Inorganic Parameters (mg/L)									
Chloride	0.2-4.0	5.5	4.8	4.8	5.5	4.6	4.9	5.0	4.9
Ammonia as Nitrogen	0.10	*	*	*	*	*	*	*	*
Nitrate as Nitrogen	0.50	1.2	1.2	1.2	1.9	1.9	1.8	1.9	1.8 H
Nitrite as Nitrogen	0.50	*	*	*	*	*	*	*	*
Sulfate	0.5	12.4	9.4	9.6	9.4	9.3	9.7	9.9	9.6
Chemical Oxygen Demand	5.0	6.3	*	*	*	24.0	5.1	*	*
Total Organic Carbon	1.0	*	*	*	*	3.4	1.3	*	*
Color	5.0	*	*	*	*	*	*	*	*
Field Parameters									
pH		7.17	5.93	6.12	6.91	7.26	6.85	6.52	6.79
Conductance (µS)		222	185	231	179	245	242	255	301
Temperature (^{0}C)		7.0	12.8	25.0	14.0	6.4	12.3	17.5	11.8

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 2013 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	FM-1	FM-2
Inorganics (mg/L)														
Chloride	250	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfate	250	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrate	10	—	Q1	Q1	—	—	—	Q1		—	—	—	—	Q1,4
Specific Conductance	700	—	—	—	—	—	—	—	—	—	—	—	—	—
TDS	500	—	Q3	—	—	—	—	—	—	—	—	—	—	—
Metals (mg/L)														
Iron	0.30	—	—	—	—	Q3	—	—	—	—	—	—	—	—
Manganese	0.05	—	—	Q1	—	Q2,3	Q1,3	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	—	—	—		Q1,2,4	—	—	—	—	Q1
Manganese	0.05	—	—	—		Q1,2,4	Q1,3	—	Q1	—	Q1
VOCs (g/L)											
1,4-Dichlorobenzene	1.8	—	—	—	—	—	—	—	—	—	—

Notes:

Evaluated data are from 2013
— 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 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	6.2	17.2	18.0	17.3	15.5	17.4	19.9	15.7	14.0	9.9	11.0	16.2	17.1
Sulfate	250	250	8.9	19.9	8.1	18.8	12.4	12.3	7.7	11.4	15.1	6.8	11.8	16.6	12.9
Nitrate	10	10	1.4	**10.9**	**26.2**	3.2	1.50	**22.2****	**56.7****	**11****	0.8	2.0	2.9	4.0	**15.1**
Specific Conductance	700	700	145	304	391	341	165	339	579	370	247	274	195	329	442
TDS	500	500	98	300	295	214	104	187	322	241	144	172	136	203	260
Alkalinity	–	–	56.5	68.1	227	130	53.3	88.0	186	142	77.2	119	81.9	153	144
Ammonia	–	–	NC	NC	8.76	0.24**	1.14	3.57	4.94	NC	NC	NC	NC	NC	0.34**
TOC	–	–	NC	3.00	2.97	1.53	1.95	1.96	2.67	1.85	NC	NC	NC	1.35	1.99
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	NC	**0.38**	**0.62**	**1.46**	**0.83**	**1.14**	NC	0.048	NC	NC	NC	**0.18**
VOCs (ug/L)															
1,4-Dichlorobenzene	1.82	75	NC	NC	1.2**	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	6.10	6.33	13.2	14.7	10.1	15.1	11.3	2.85	1.8**	4.15
Sulfate	250	250	9.28	5.66	5.39	16.0	11.1	9.31	5.14	NC	3.2**	8.90***
Nitrate	10	10	1.7**	1.82	1.33	1.15	NC	0.555	1.72	NC	NC	NC
Specific Conductance	700	700	192	244	356	219	199	411	303	122	182	166
TDS	500	500	131	153	219	218	128	209	204	106	94.6	NC
Alkalinity	–	–	88.3	101	167	144	75.8	163	136	48.8	51.5	110***
Ammonia	–	–	NC	NC	NC	NC	3.58	NC	NC	NC	NC	NC
TOC	–	–	NC	NC	NC	1.80	2.00	1.55	NC	NC	NC	NC
Metals (mg/L)												
Iron	0.30	0.30	NC	NC	NC	NC	**2.16**	NC	NC	NC	NC	**0.74**
Manganese	0.05	0.05	NC	NC	NC	NC	**0.82**	**0.36**	NC	NC	NC	**0.32**
VOCs (ug/L)												
Tetrachloroethene		5	NC	1.39	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)

FMMW-2

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

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)

MW-20(R)

PROPERTY BOUNDARY

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 KGL	GROUNDWATER MONITORING WELL LOCATIONS HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2014
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
04214002.03	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 2014

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 16, 2013. The sample was analyzed for the parameters specified in WAC 173-351, Appendix IV. Leachate quality for 2013 is typical of previous results. A summary of the analytical data for the leachate samples are provided in Table 6.

Table 6. Leachate Data Summary

Parameters	Leachate- Main Sump
Volatile Organics (µg/L)	
Acetone	*
Benzene	*
Carbon disulfide	2.1
1,4-Dichlorobenzene	*
cis-1,2-Dichloroethene	*
Ethylbenzene	*
m,p-Xylenes	5.5
o-Xylenes	2.6
Toluene	3.4
Total Metals (mg/L)	
Antimony	0.011
Arsenic	0.069
Barium	0.69
Calcium	110
Chromium	0.21
Cobalt	0.019
Copper	0.0087
Iron	4.7
Lead	0.0034
Magnesium	54
Manganese	1.7
Nickel	0.52
Potassium	390
Sodium	3900
Vanadium	0.17
Zinc	0.12
Inorganic Parameters (mg/L)	
Alkalinity	6300
Bicarbonate Alkalinity	6300
Chloride	2900
Ammonia as Nitrogen	580
Nitrate as Nitrogen	*
Nitrite as Nitrogen	*
Sulfate	110
Chemical Oxygen Demand	2400
Total Dissolved Solids	12000
Total Organic Carbon	810
Biochemical Oxygen Demand	97
Cyanide, total	0.018
Coliform, total	300
Field Parameters	
pH	7.66
Specific Conductance (µS/cm)	19,900
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

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 2013. 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 landfill (described 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 pump was removed from condensate sump 10 prior to the Third Quarter 2013 inspection. Condensate sump 10 is under vacuum, and therefore the pump was not operating. LRI staff removed the pump. Replacement of the pump is not necessary, as the state of vacuum prevents fluid accumulation. Quarterly inspection of sump 10 will continue to ensure proper working order.

A sinkhole, indicative of subsurface combustion due to the presence of oxygen, began forming on the south slope of the landfill during the summer of 2008. The sinkhole was located near the south perimeter of the landfill in an area that does not include a bottom liner. This area has been repaired to correct differential settlement on two previous occasions; the last time in September 2006. The appearance of the sinkhole in 2008 coincided with off-site excavation which exposed the slope just south of the property boundary at the Corliss Resources Puyallup Plant. The oxidation may have been ongoing for a number of years; however, excavation activity south of the property boundary in 2008 appears to have allowed additional oxygen intrusion which accelerated the subsurface activity.

In September 2009, several gas extraction wells near the sinkhole were shut down as a precaution to limit the vacuum which may draw oxygen in from the south slope. These wells include N-42, N-43, N-54, N-60, N-61, and N-62. Also in September 2009, three temporary monitoring probes (LFG-1, LFG-2, and LFG-3) were installed to investigate subsurface conditions and to serve as additional monitoring locations. Summary plots, and a summary table of the gas quality data obtained from the temporary probes are included in Appendix G.

In 2009 and during the First Quarter of 2010, the sinkhole was observed to slowly increase in size. On March 30, 2010 a second sinkhole rapidly formed on the south slope of the landfill. Both sinkholes were filled with soil and covered with plastic sheeting. The temporary repairs were conducted between March 31 and April 3, 2010. A summary memorandum describing the repair activities was provided to the TPCHD on April 7, 2010.

During the first week of July 2010, the exposed soil slope south of the landfill was repaired by Corliss Resources, Inc. The repair activity consisted of removing approximately 2 feet of soil from the bank and replacing it with approximately 2 feet of silty clay soil. The soil was placed in lifts using an excavator and a bulldozer. The finished grade was track-walked parallel to the slope with a bulldozer. The landfill perimeter fence was temporarily removed to allow soil

placement at the top of the slope. The slope was hydroseeded with a mulch/grass seed mixture in September 2010.

SCS and LRI have monitored the sinkhole area for ongoing settlement and subsurface conditions since the temporary repairs were made in 2010. Indications of an extinguished subsurface fire include increasing concentrations of methane and carbon dioxide, and decreasing concentrations of carbon monoxide in landfill gas, a lack of differential settlement in the general sinkhole area, and an absence of burning odors. Although the temporary gas probes have not displayed a clear trend of increasing concentrations of methane and carbon dioxide, the absence of burning odors and lack of differential settlement, combined with low-level concentrations of carbon monoxide and down-hole temperature measurements that are normal for municipal solid waste facilities, suggest the subsurface fire is likely extinguished. Therefore, in September 2013 SCS prepared a work plan for repair of the cover system. The work plan was subsequently approved by the TPCHD and the repair is scheduled for the spring or summer of 2014. One final round of subsurface monitoring for temperature, methane, carbon dioxide, and carbon monoxide is recommended before proceeding with the repair. If subsurface temperatures or carbon monoxide concentrations show a sharp increase, additional discussions should occur prior to completing the repair.

7.2 GROUNDWATER WELL MAINTENANCE

The dedicated pump air-line in MW-26R was determined to be faulty during the First Quarter monitoring event. The air-line was subsequently replaced.

The well casing for MW-23S was blocked with a bridge of sand or bentonite approximately three feet below the ground surface. The problem occurred during the removal of a tight-fitting well casing screw cap and a section of well casing pipe twisted as well. The first section of casing was lifted up resulting in a bridge. The well casing was subsequently fitted together and a groundwater sample was obtained during the first quarter monitoring event in 2014.

No other significant well maintenance activities were performed in 2013.

Appendix A
Landfill Gas Monitoring Data

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04212004.02

PCRCD dba LRI

January 16, 2013

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-Jan	10:40	0.04	0.0	5.4	0.0			
GP-1B	16-Jan	10:43	0.00	0.0	13.3	6.6			
GP-1C	16-Jan	10:46	0.02	0.0	8.3	12.0			
GP-2A	16-Jan	10:54	0.04	2.5	14.2	4.0			
GP-2B	16-Jan	10:58	0.02	0.0	0.2	21.0			
GP-3S	16-Jan	11:03	0.03	0.0	4.4	13.8			
GP-3M	16-Jan	11:06	0.04	0.0	3.8	4.7			
GP-3D	16-Jan	11:09	0.02	4.7	13.3	2.6			
GP-4A	16-Jan	11:15	0.01	0.0	0.3	21.0			
GP-4B	16-Jan	11:18	0.02	0.0	0.2	21.0			
GP-5A	16-Jan	11:24	-0.04	0.0	0.2	21.1			
GP-5B	16-Jan	11:27	-0.05	0.0	0.3	20.4			
GP-6	16-Jan	11:31	0.00	0.0	0.2	20.9			
GP-7S	16-Jan	11:38	0.00	0.0	0.2	20.9			
GP-7D	16-Jan	11:41	0.00	0.0	0.7	20.2			
GP-8A	16-Jan	11:52	0.00	0.0	0.4	20.8			
GP-8B	16-Jan	11:55	0.00	0.0	0.2	20.9			
GP-9	16-Jan	12:01	0.01	0.0	2.3	16.0			
GP-10	16-Jan	12:06	-0.04	0.0	0.1	20.9			
GP-11	16-Jan	12:12	-2.28	0.0	1.2	20.1			
GP-12	16-Jan	12:17	0.01	0.0	1.2	19.7			
GP-13A	16-Jan	12:23	0.01	2.8	10.4	0.0			
GP-13B	16-Jan	12:29	0.08	0.0	0.3	20.7			
GP-14S	16-Jan	12:35	-0.01	0.0	13.4	8.9			
GP-14D	16-Jan	12:38	0.06	0.0	16.8	0.6			
GP-15A	16-Jan	12:58	0.00	0.0	4.3	7.8			
GP-15B	16-Jan	13:00	0.04	0.0	11.6	0.2			
GP-16A	16-Jan	13:07	0.00	0.0	1.7	19.6			
GP-16B	16-Jan	13:10	0.49	0.0	1.9	19.7			
GP-17	16-Jan	13:16	0.03	0.0	3.0	18.6			
GP-18	16-Jan	13:20	0.00	0.0	0.8	20.4			
GP-19	16-Jan	13:26	0.01	0.0	4.0	18.5			
LFG-1	16-Jan	12:52	0.02	0.2	19.1	0.5			
LFG-2	16-Jan	12:42	0.02	0.0	15.2	3.1			
LFG-3	16-Jan	12:46	0.09	11.1	23.2	0.0			

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	16-Jan-13	Temperature (^{o}F):	30

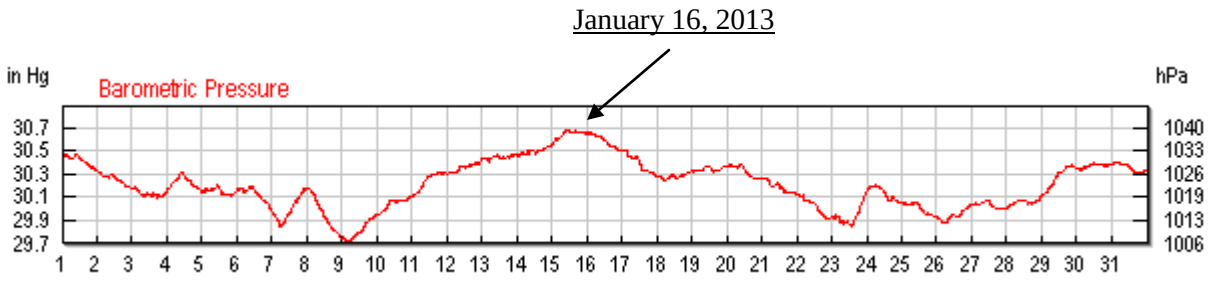
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling

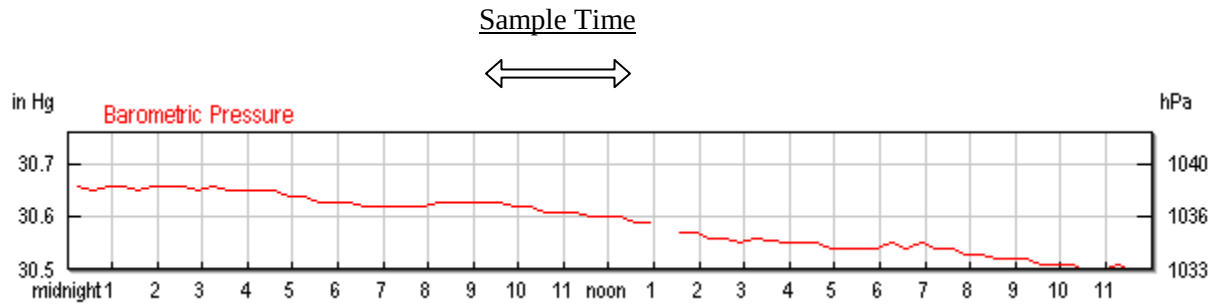
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
January 2013

Barometric Pressure Trend for February 2013



Barometric Pressure Trend for January 16, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

February 14, 2013

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	14-Feb	10:03	0.00	0.0	5.5	<<<<	7.7		Note 2
GP-1B	14-Feb	10:08	-0.05	0.0	14.8	4.4			
GP-1C	14-Feb	10:19	-0.03	0.0	15.6	3.0			
GP-2A	14-Feb	10:31	-0.02	7.5	18.9	<<<<	7.5		Note 2
GP-2B	14-Feb	10:44	0.00	0.0	0.1	20.8			
GP-3S	14-Feb	10:51	0.00	0.5	7.2	8.9	1.6		
GP-3M	14-Feb	10:55	0.01	1.4	5.6	<<<<			Note 2
GP-3D	14-Feb	11:05	0.00	5.1	15.2	<<<<	5.5		Note 2
GP-4A	14-Feb	11:15	-0.01	0.0	0.3	20.6			
GP-4B	14-Feb	11:19	0.02	0.0	0.2	20.7			
GP-5A	14-Feb	11:25	-0.01	0.0	0.3	20.6			
GP-5B	14-Feb	11:28	-0.01	0.0	0.2	20.7			
GP-6	14-Feb	11:34	-0.01	0.0	0.2	20.7			
GP-7S	14-Feb	11:42	0.00	0.0	0.4	20.6			
GP-7D	14-Feb	11:44	0.00	0.0	0.6	20.1			
GP-8A	14-Feb	11:53	-0.01	0.0	0.5	20.5			
GP-8B	14-Feb	11:56	0.00	0.0	0.1	20.9			
GP-9	14-Feb	12:01	-0.01	0.0	2.2	17.2			
GP-10	14-Feb	12:06	0.00	0.0	0.1	20.8			
GP-11	14-Feb	12:19	0.00	0.0	1.4	18.7			
GP-12	14-Feb	12:24	0.00	0.0	2.0	17.0			
GP-13A	14-Feb	12:40	0.00	6.4	11.4	<<<<	16.8		Note 2
GP-13B	14-Feb	12:45	0.09	0.0	0.3	20.5			
GP-14S	14-Feb	12:54	0.01	0.0	5.6	16.6			
GP-14D	14-Feb	12:57	0.00	0.0	18.3	<<<<			Note 2
GP-15A	14-Feb	13:20	0.00	0.0	3.1	16.2			
GP-15B	14-Feb	13:23	0.03	0.0	10.7	1.4			
GP-16A	14-Feb	13:30	-0.02	0.0	0.4	20.3			
GP-16B	14-Feb	13:36	0.00	0.0	0.9	19.6			
GP-17	14-Feb	13:43	-0.03	0.0	3.2	17.4			
GP-18	14-Feb	13:47	0.00	0.0	1.2	19.7			
GP-19	14-Feb	13:52	0.00	0.0	0.2	20.8			
LFG-1	14-Feb	13:06	0.00	0.0	16.4	<<<<			Note 2
LFG-2	14-Feb	13:10	0.07	11.9	24.7	<<<<	12		Note 2
LFG-3	14-Feb	13:15	0.01	0.2	17.1	0.9	0.2		

General Data

Monitored by:	W. Chang	Weather Conditions	
Instruments:	GEM 2000	Sky Cover:	Overcast
Calibration Date:	14-Feb-13	Wind / Rain / Snow:	None
		Temperature (^{o}F):	44

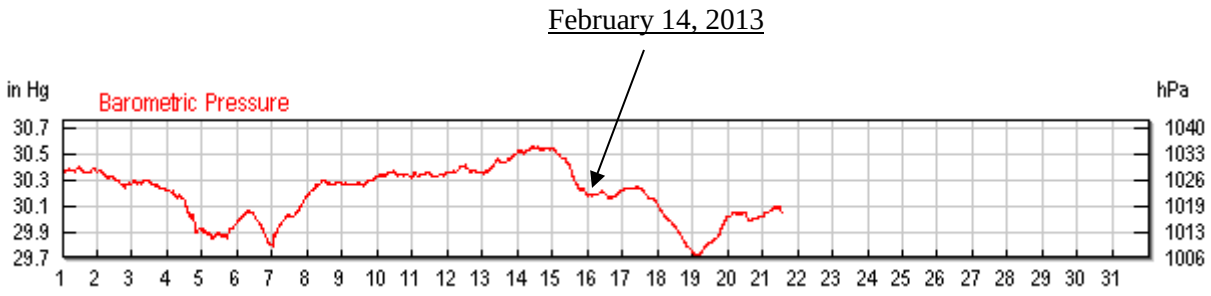
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. <<<< Indicates oxygen sensor malfunction on the GEM 2000

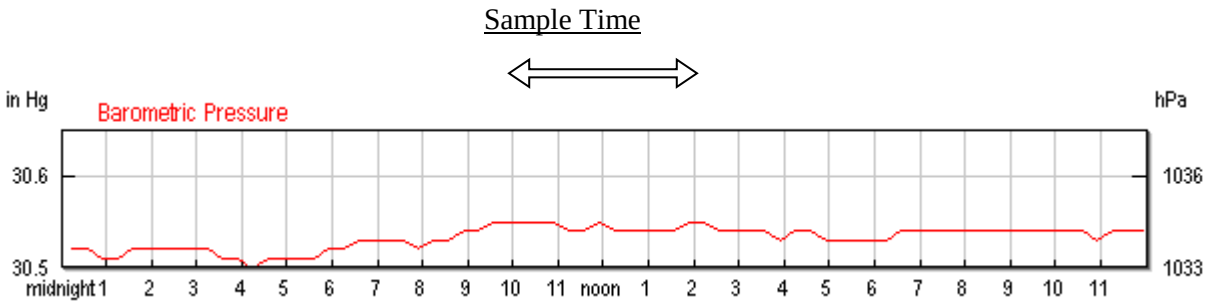
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
February 2013

Barometric Pressure Trend for February 2013



Barometric Pressure Trend for February 14, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill — 04213004.02

PCRCD dba LRI — March 18, 2013

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	18-Mar	8:01	0.06	0.0	5.2	0.0			*Note 3*
GP-1B	18-Mar	8:04	0.00	0.0	14.7	5.4			*Note 3*
GP-1C	18-Mar	8:07	0.02	0.0	4.9	16.5			*Note 3*
GP-2A	18-Mar	8:18	0.02	7.6	18.3	0.0	8.0		*Note 3, 4*
GP-2B	18-Mar	8:22	0.01	0.0	0.5	22.6			*Note 3, 4*
GP-3S	18-Mar	8:27	0.00	0.5	4.2	14.9			*Note 3, 4*
GP-3M	18-Mar	8:30	0.05	3.4	6.1	0.0			*Note 3, 4*
GP-3D	18-Mar	8:36	0.00	7.4	14.6	1.2			*Note 3, 4*
GP-4A	18-Mar	10:08	-0.04	0.0	0.6	21.1			
GP-4B	18-Mar	10:11	0.00	0.0	0.3	21.1			
GP-5A	18-Mar	10:17	0.00	0.0	0.1	21.5			
GP-5B	18-Mar	10:19	0.00	0.0	0.2	21.5			
GP-6	18-Mar	10:23	0.00	0.0	0.3	21.4			
GP-7S	18-Mar	10:29	0.02	0.0	0.7	21.2			
GP-7D	18-Mar	10:31	0.01	0.0	0.5	21.0			
GP-8A	18-Mar	10:43	0.39	0.0	0.6	21.3			
GP-8B	18-Mar	10:45	0.11	0.0	0.3	21.6			
GP-9	18-Mar	10:51	0.16	0.0	2.5	18.5			
GP-10	18-Mar	10:56	0.02	0.0	0.2	21.7			
GP-11	18-Mar	11:04	0.01	0.0	2.0	19.6			
GP-12	18-Mar	11:09	0.00	0.0	0.4	21.6			
GP-13A	18-Mar	11:20	0.02	10.6	12.0	0.0			*Note 3, 4*
GP-13B	18-Mar	11:24	0.02	0.0	0.5	21.6			*Note 3, 4*
GP-14S	18-Mar	11:30	0.03	0.0	15.4	8.6			
GP-14D	18-Mar	11:32	0.03	0.0	17.4	0.1			
GP-15A	18-Mar	11:48	0.00	0.0	5.0	13.4			
GP-15B	18-Mar	11:51	0.02	0.0	10.3	3.5			
GP-16A	18-Mar	11:57	0.00	0.0	0.8	21.3			
GP-16B	18-Mar	11:59	0.27	0.0	0.6	21.5			
GP-17	18-Mar	12:05	0.16	0.0	2.5	18.6			
GP-18	18-Mar	12:09	0.00	0.0	1.5	20.6			
GP-19	18-Mar	12:13	0.00	0.0	0.3	22.0			
LFG-1	18-Mar	11:35	0.02	0.6	16.0	0.0			*Note 2*
LFG-2	18-Mar	11:39	0.21	0.2	14.5	1.3			*Note 2*
LFG-3	18-Mar	11:43	0.04	14.8	23.4	0.0	19.7		*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Lt. Rain
Calibration Date:	18-Mar-13	Temperature (^{o}F):	42

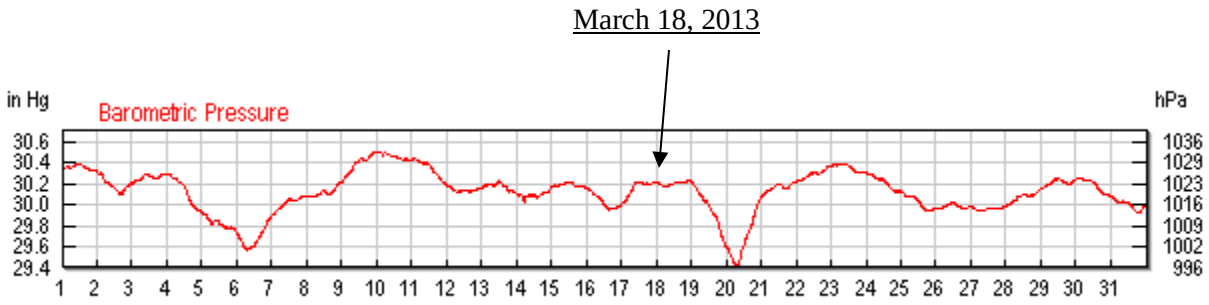
Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Readings verified with on-site GEM 2NAV
4. Adjacent gas extraction wells opened and location was monitored later same day

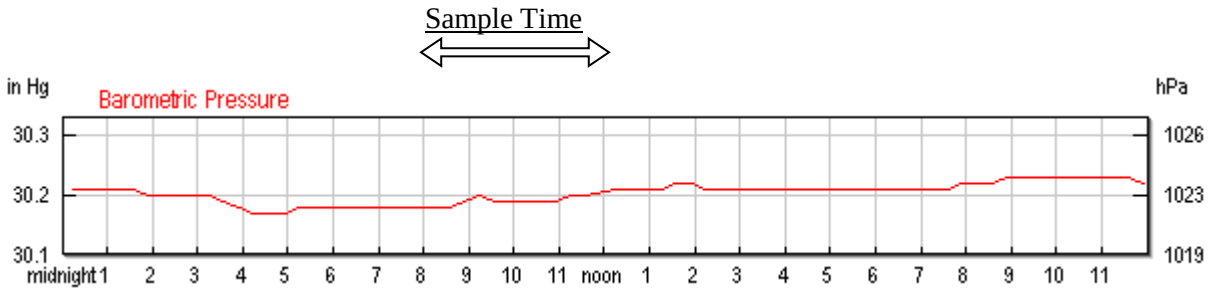
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
March 2013

Barometric Pressure Trend for March 2013



Barometric Pressure Trend for March 18, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
March 22, 2013

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-Mar	7:46	0.16	0.0	5.2	0.0			
GP-1B	22-Mar	7:49	-0.03	0.0	16.0	4.2			
GP-1C	22-Mar	7:55	0.14	0.0	14.7	5.1			
GP-2A	22-Mar	13:50	0.13	2.7	16.2	1.3	8.4		*Note 3*
GP-2B	22-Mar	13:54	0.13	0.0	0.4	21.5			
GP-3S	22-Mar	13:37	-0.03	0.9	14.3	0.0			
GP-3M	22-Mar	13:41	0.00	7.5	12.6	0.0	7.9		*Note 3*
GP-3D	22-Mar	13:45	-0.02	0.0	13.5	6.2			
GP-4A	22-Mar	9:15	-0.01	0.0	0.2	20.9			
GP-4B	22-Mar	9:18	0.21	0.0	0.3	20.6			
GP-5A	22-Mar	9:23	0.00	0.0	0.4	20.5			
GP-5B	22-Mar	9:26	0.00	0.0	0.3	20.5			
GP-6	22-Mar	9:30	0.00	0.0	0.2	20.6			
GP-7S	22-Mar	9:36	0.01	0.0	0.5	20.6			
GP-7D	22-Mar	9:38	0.01	0.0	0.6	20.0			
GP-8A	22-Mar	9:48	0.17	0.0	0.5	20.9			
GP-8B	22-Mar	9:51	0.01	0.0	0.2	21.1			
GP-9	22-Mar	9:56	0.01	0.0	2.4	18.5			
GP-10	22-Mar	10:01	0.00	0.0	0.2	21.2			
GP-11	22-Mar	10:06	-0.64	0.0	1.8	19.8			
GP-12	22-Mar	10:12	0.01	0.0	0.7	20.6			
GP-13A	22-Mar	13:08	0.01	12.5	11.8	0.1			*Note 3*
GP-13B	22-Mar	13:12	0.05	0.0	0.4	21.3			
GP-14S	22-Mar	10:31	0.29	0.0	10.8	13.1			*Note 5*
GP-14D	22-Mar	10:35	0.00	0.0	15.0	4.1			*Note 5*
GP-15A	22-Mar	10:55	0.00	0.0	4.2	15.7			*Note 5*
GP-15B	22-Mar	10:58	0.01	0.0	9.9	4.1			*Note 5*
GP-16A	22-Mar	11:05	0.00	0.0	0.7	20.4			
GP-16B	22-Mar	11:08	0.20	0.0	0.7	20.1			
GP-17	22-Mar	11:14	0.00	0.0	3.1	17.7			
GP-18	22-Mar	11:18	0.00	0.0	1.1	20.6			
GP-19	22-Mar	11:23	-0.02	0.0	0.2	21.5			
LFG-1	22-Mar	10:39	0.03	1.6	16.1	0.8			*Note 2*
LFG-2	22-Mar	10:42	0.02	0.8	14.6	2.4			*Note 2*
LFG-3	22-Mar	10:46	0.05	12.3	21.2	0.4			*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	22-Mar-13	Temperature (^{o}F):	39

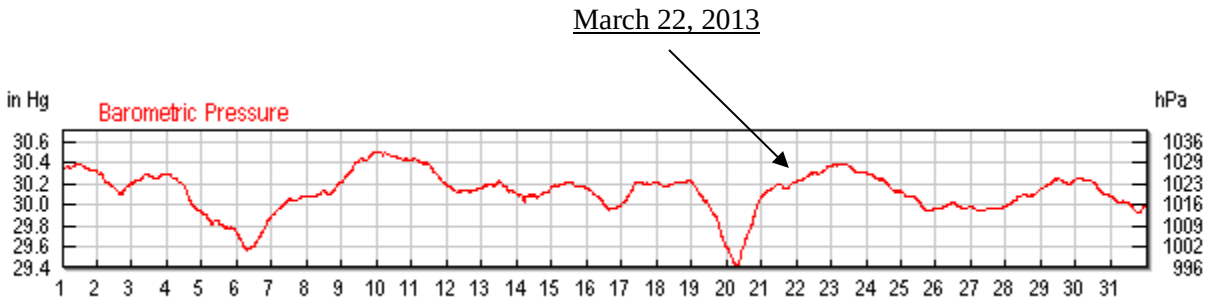
Notes

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
4. Buildings adjacent to gas probes with methane detections above 5% by vol. were monitored the same day using an FID
5. Monitoring port was repared/replaced prior to monitoring

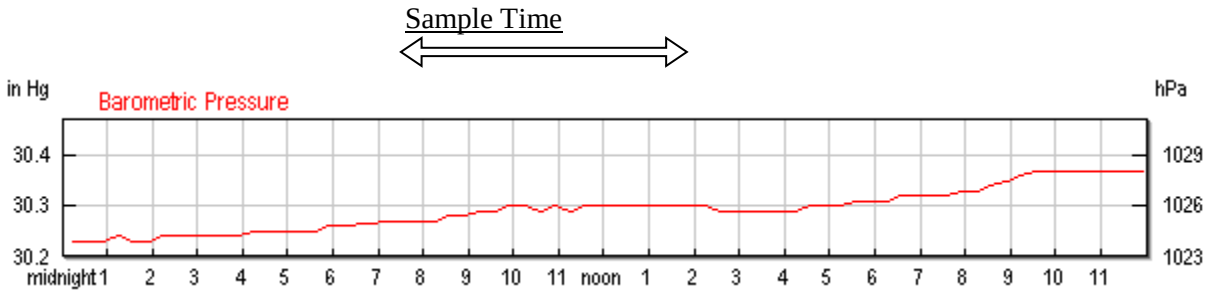
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
March 2013

Barometric Pressure Trend for March 2013



Barometric Pressure Trend for March 22, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
April 25, 2013

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-Apr	7:07	0.00	0.0	4.9	0.0			
GP-1B	25-Apr	7:11	-0.02	0.0	9.0	15.4			
GP-1C	25-Apr	7:14	-0.02	0.0	5.7	15.9			
GP-2A	25-Apr	7:20	-0.03	0.0	4.9	15.8			
GP-2B	25-Apr	7:23	0.17	0.0	0.5	21.1			
GP-3S	25-Apr	7:28	-0.05	0.0	6.2	16.1			
GP-3M	25-Apr	7:32	0.01	0.3	7.0	0.0	0.3		
GP-3D	25-Apr	7:35	0.00	0.0	6.6	16.4	0.2		
GP-4A	25-Apr	7:42	0.00	0.0	0.5	21.1			
GP-4B	25-Apr	7:45	0.15	0.0	0.3	21.3			
GP-5A	25-Apr	7:50	0.00	0.0	0.5	20.8			
GP-5B	25-Apr	7:54	-0.01	0.0	0.3	20.9			
GP-6	25-Apr	7:58	0.00	0.0	0.4	20.9			
GP-7S	25-Apr	8:04	0.16	0.0	0.4	20.9			
GP-7D	25-Apr	8:07	-0.01	0.0	0.4	20.6			
GP-8A	25-Apr	8:17	0.13	0.0	0.5	20.6			
GP-8B	25-Apr	8:20	0.00	0.0	0.4	20.6			
GP-9	25-Apr	8:26	0.00	0.0	1.8	19.4			
GP-10	25-Apr	8:34	0.00	0.0	0.2	21.1			
GP-11	25-Apr	8:40	0.00	0.0	1.1	19.9	0.4		
GP-12	25-Apr	8:48	0.00	0.0	0.7	18.1			
GP-13A	25-Apr	8:56	0.01	16.7	12.0	0.0	16.8		
GP-13B	25-Apr	8:59	0.05	0.0	0.5	20.7	0.2		
GP-14S	25-Apr	9:05	0.01	0.0	13.0	10.3			
GP-14D	25-Apr	9:08	0.01	0.0	16.3	0.6			
GP-15A	25-Apr	9:26	0.01	0.0	4.1	13.4			
GP-15B	25-Apr	9:28	0.02	0.0	7.6	7.5			
GP-16A	25-Apr	9:35	0.01	0.0	0.8	19.8	0.1		
GP-16B	25-Apr	9:37	0.35	0.0	0.7	19.9			
GP-17	25-Apr	9:43	-0.04	0.0	2.0	19.2			
GP-18	25-Apr	9:47	0.00	0.0	1.7	18.9			
GP-19	25-Apr	9:52	0.00	0.0	0.4	20.8			
LFG-1	25-Apr	9:12	0.01	0.4	12.8	5.2	0.4		*Note 2*
LFG-2	25-Apr	9:16	0.02	0.0	10.6	6.1	0.5		*Note 2*
LFG-3	25-Apr	9:19	0.03	15.2	22.0	0.2	14.8		*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	25-Apr-13	Temperature (^{o}F):	53

Notes

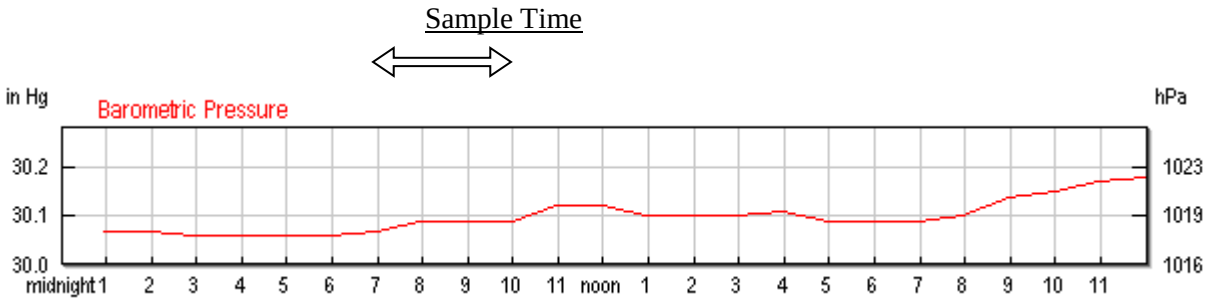
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring
4. Buildings adjacent to gas probes with methane detections above 5% by vol. were monitored the same day using an FID

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
April 2013

Barometric Pressure Trend for April 2013

Barometric Pressure Trend for April 25, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
May 23, 2013

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-May	12:11	-7.08	0.0	4.8	0.0			*Note 4*
GP-1B	23-May	12:15	-3.50	0.0	8.2	16.4			*Note 4*
GP-1C	23-May	12:24	-5.21	0.0	10.9	13.5			*Note 4*
GP-2A	23-May	9:04	-1.24	0.0	1.6	19.5			*Note 4*
GP-2B	23-May	9:07	-3.90	0.0	0.2	21.7			*Note 4*
GP-3S	23-May	9:11	0.35	0.0	0.5	21.3			*Note 4*
GP-3M	23-May	9:15	0.39	0.0	5.6	1.8			*Note 4*
GP-3D	23-May	9:19	-0.01	0.0	6.1	12.8			*Note 4*
GP-4A	23-May	9:25	-0.01	0.0	0.2	21.8			
GP-4B	23-May	9:27	-0.93	0.0	0.2	21.6			
GP-5A	23-May	9:32	-0.01	0.0	0.1	22.0			
GP-5B	23-May	9:34	-6.08	0.0	0.1	22.0			
GP-6	23-May	9:38	0.00	0.0	0.1	21.9			
GP-7S	23-May	9:42	0.27	0.0	0.5	21.4			
GP-7D	23-May	9:46	0.00	0.0	0.6	20.6			
GP-8A	23-May	9:57	0.34	0.0	1.3	20.5			
GP-8B	23-May	10:01	-1.97	0.0	0.4	21.7			
GP-9	23-May	10:08	0.39	0.0	1.7	20.2			
GP-10	23-May	10:12	0.01	0.0	0.2	22.1			
GP-11	23-May	10:17	0.01	0.0	1.3	20.2			*Note 4*
GP-12	23-May	10:22	0.02	0.0	0.4	21.7			
GP-13A	23-May	10:33	0.02	13.4	11.6	0.0			
GP-13B	23-May	10:39	0.02	0.0	0.3	22.0			
GP-14S	23-May	10:46	0.42	0.0	8.5	15.5			
GP-14D	23-May	10:52	0.43	0.0	15.2	2.3			
GP-15A	23-May	11:14	0.12	0.0	3.9	16.2			
GP-15B	23-May	11:17	-2.98	0.0	6.4	12.4			
GP-16A	23-May	11:32	0.02	0.0	0.8	21.2			*Note 4*
GP-16B	23-May	11:34	-0.74	0.0	0.6	21.3			*Note 4*
GP-17	23-May	11:45	0.22	0.0	4.1	17.1			
GP-18	23-May	11:51	0.00	0.0	3.2	20.1			
GP-19	23-May	11:58	0.00	0.0	0.2	22.6			
LFG-1	23-May	10:56	0.01	0.5	15.9	0.0			*Note 2*
LFG-2	23-May	11:03	0.02	0.3	15.6	0.1			*Note 2*
LFG-3	23-May	11:09	0.02	4.7	18.6	0.0			*Note 2*

General Data

		Weather Conditions	
Monitored by:	M. O'Hare	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Lt. Rain
Calibration Date:	23-May-13	Temperature (^{o}F):	47

Notes

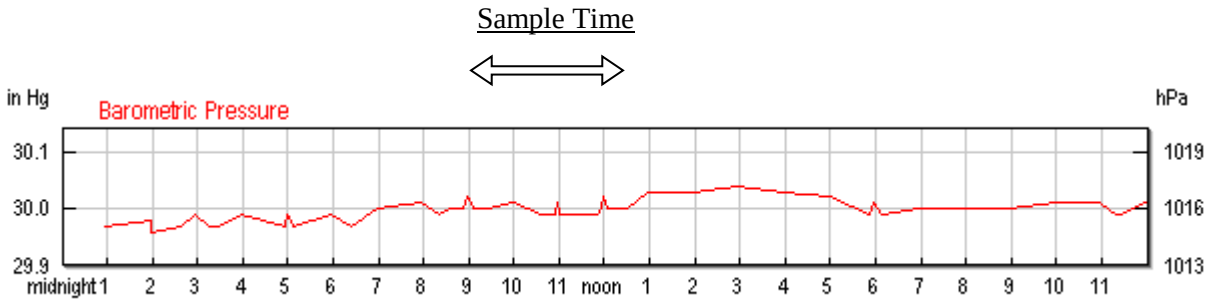
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Located in southern sinkhole area
3. Gas probe evacuated using a vacuum pump prior to monitoring
4. Buildings adjacent to gas probes were monitored the same day using an FID

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
May 2013

Barometric Pressure Trend for May 2013

Barometric Pressure Trend for May 23, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

June 19, 2013

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	19-Jun	12:42	0.00	0.0	4.8	0.0			
GP-1B	19-Jun	12:45	-0.01	0.0	10.0	10.6			
GP-1C	19-Jun	12:48	0.00	0.0	2.0	18.8			
GP-2A	19-Jun	12:52	0.00	0.0	8.3	9.1			
GP-2B	19-Jun	12:56	0.01	0.0	0.4	20.7			
GP-3S	19-Jun	13:00	-0.03	0.0	1.0	20.1			
GP-3M	19-Jun	13:03	-0.03	0.0	4.7	3.0			
GP-3D	19-Jun	13:06	-0.03	0.0	8.0	8.6			
GP-4A	19-Jun	13:11	0.00	0.0	0.9	20.0			
GP-4B	19-Jun	13:14	0.06	0.0	0.4	19.9			
GP-5A	19-Jun	13:19	0.01	0.0	0.8	19.9			
GP-5B	19-Jun	13:21	0.02	0.0	0.1	21.0			
GP-6	19-Jun	13:25	0.00	0.0	1.0	19.9			
GP-7S	19-Jun	13:30	0.03	0.0	0.6	19.8			
GP-7D	19-Jun	13:33	0.01	0.0	0.4	20.1			
GP-8A	19-Jun	13:42	0.01	0.0	2.9	17.3			
GP-8B	19-Jun	13:45	0.02	0.0	1.9	19.0			
GP-9	19-Jun	13:50	0.02	0.0	1.8	18.7			
GP-10	19-Jun	13:55	0.02	0.0	0.2	21.1			
GP-11	19-Jun	14:00	0.01	0.0	1.5	19.7			
GP-12	19-Jun	14:06	0.00	0.0	2.1	17.9			
GP-13A	19-Jun	14:13	0.02	6.6	11.5	0.0	6.7		
GP-13B	19-Jun	14:16	0.14	0.0	0.4	21.1			
GP-14S	19-Jun	14:22	0.00	0.0	12.8	11.0			
GP-14D	19-Jun	14:25	0.03	0.0	16.4	0.5			
GP-15A	19-Jun	14:41	0.00	0.0	4.5	14.1			
GP-15B	19-Jun	14:43	0.00	0.0	5.6	12.6			
GP-16A	19-Jun	14:50	0.00	0.0	1.0	19.2			
GP-16B	19-Jun	14:52	0.13	0.0	0.8	19.8			
GP-17	19-Jun	14:57	-0.26	0.0	4.4	15.7			
GP-18	19-Jun	15:01	0.00	0.0	10.1	6.5			
GP-19	19-Jun	15:06	-0.01	0.0	0.6	20.7			
LFG-1	19-Jun	14:33	0.02	0.4	12.1	4.5			*Note 2*
LFG-2	19-Jun	14:29	0.00	0.4	13.4	3.1			*Note 2*
LFG-3	19-Jun	14:35	0.05	18.4	22.7	0.3			*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Lt. Rain
Calibration Date:	19-Jun-13	Temperature (^oF):	56

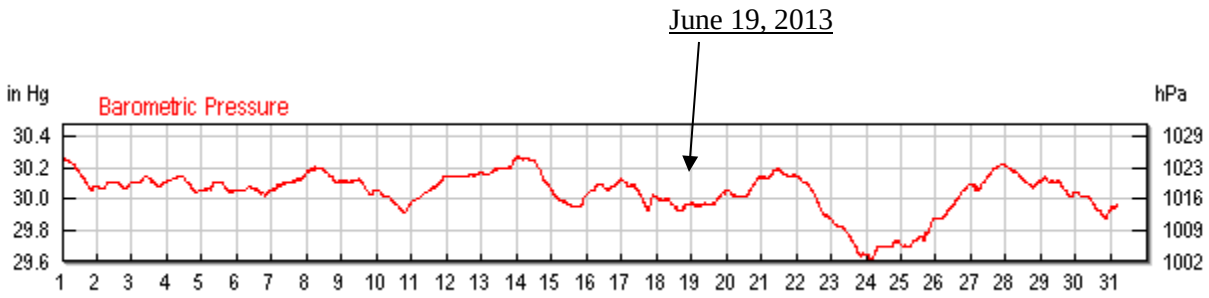
Notes

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

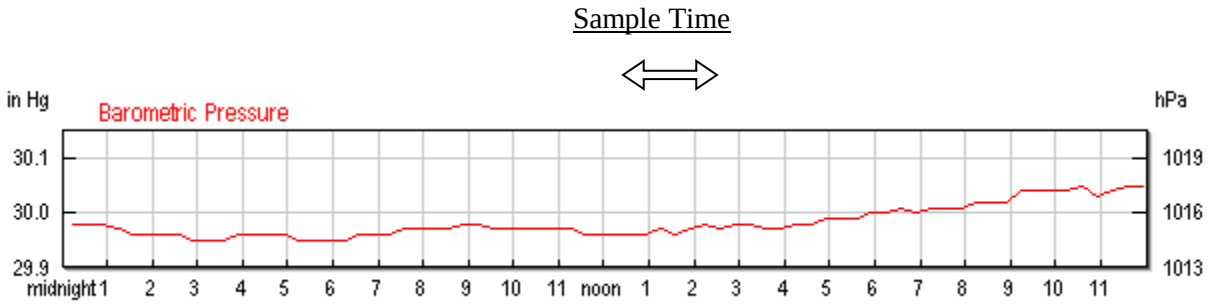
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
June 2013

Barometric Pressure Trend for June 2013



Barometric Pressure Trend for June 19, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill — 04213004.02

PCRCD dba LRI — July 15, 2013

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	15-Jul	11:18	0.03	0.2	4.8	0.0			
GP-1B	15-Jul	11:24	-0.02	0.0	10.7	9.5			
GP-1C	15-Jul	11:27	0.01	0.0	1.3	20.0			
GP-2A	15-Jul	11:49	0.49	0.0	1.0	20.3			
GP-2B	15-Jul	11:52	0.04	0.0	0.3	21.1			
GP-3S	15-Jul	11:56	0.00	0.0	1.2	19.1			
GP-3M	15-Jul	11:59	0.00	0.0	4.1	5.7			
GP-3D	15-Jul	12:02	0.01	0.0	7.9	12.2			
GP-4A	15-Jul	12:07	0.03	0.0	1.0	19.9			
GP-4B	15-Jul	12:10	0.18	0.0	0.5	20.4			
GP-5A	15-Jul	12:15	0.02	0.0	0.7	19.7			
GP-5B	15-Jul	12:18	0.02	0.0	0.4	20.1			
GP-6	15-Jul	12:22	0.02	0.0	0.9	20.2			
GP-7S	15-Jul	12:27	0.14	0.0	0.8	19.9			
GP-7D	15-Jul	12:29	0.00	0.0	0.5	20.3			
GP-8A	15-Jul	12:38	0.00	0.0	3.2	17.2			
GP-8B	15-Jul	12:41	0.02	0.0	2.6	18.2			
GP-9	15-Jul	12:46	0.20	0.0	1.5	18.9			
GP-10	15-Jul	12:51	0.01	0.0	0.2	21.4			
GP-11	15-Jul	12:56	0.00	0.0	1.0	20.5			
GP-12	15-Jul	13:01	0.02	0.0	2.4	16.3			
GP-13A	15-Jul	13:07	0.00	7.0	11.4	0.4			
GP-13B	15-Jul	13:11	0.16	0.0	0.3	21.0			
GP-14S	15-Jul	13:19	0.13	0.0	11.6	10.7			
GP-14D	15-Jul	13:22	0.01	0.0	14.8	0.9			
GP-15A	15-Jul	13:36	0.04	0.0	2.4	18.6			
GP-15B	15-Jul	13:39	0.05	0.0	4.2	18.1			
GP-16A	15-Jul	13:44	0.00	0.0	0.4	21.6			
GP-16B	15-Jul	13:47	0.44	0.0	0.2	21.8			
GP-17	15-Jul	13:52	0.10	0.0	4.1	16.1			
GP-18	15-Jul	13:56	-0.01	0.0	7.8	14.8			
GP-19	15-Jul	13:59	-0.02	0.0	0.4	21.9			
LFG-1	15-Jul	13:26	0.02	0.1	9.4	7.0			*Note 2*
LFG-2	15-Jul	13:28	0.03	8.4	17.0	2.8			*Note 2*
LFG-3	15-Jul	13:32	-0.03	0.1	9.4	7.4			*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Clear
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	15-Jul-13	Temperature (^{o}F):	62

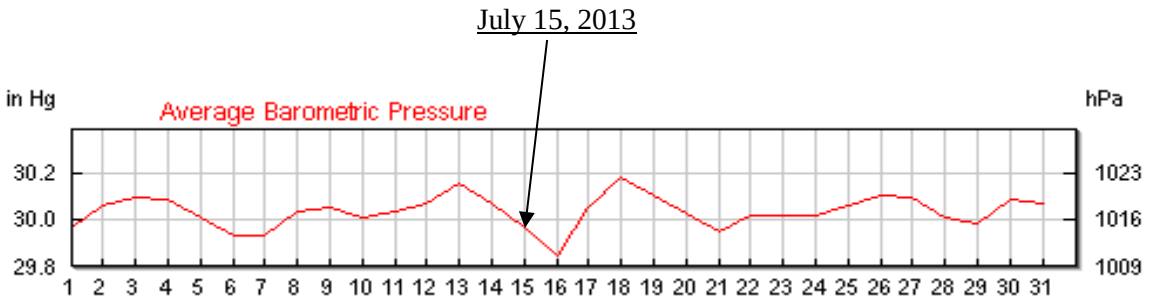
Notes

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

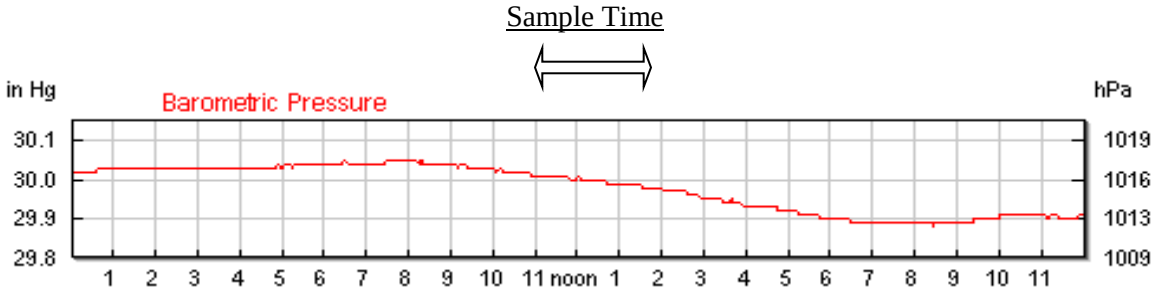
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
July 2013

Barometric Pressure Trend for July 2013



Barometric Pressure Trend for July 15, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
August 14, 2013

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	14-Aug	7:54	0.00	0.7	5.1	0.0			
GP-1B	14-Aug	8:04	-0.03	0.0	14.0	5.2			
GP-1C	14-Aug	8:07	0.01	0.0	1.4	19.5			
GP-2A	14-Aug	8:13	0.00	0.0	0.6	20.3			
GP-2B	14-Aug	8:15	0.16	0.0	0.3	20.8			
GP-3S	14-Aug	8:20	0.00	0.0	0.6	20.3			
GP-3M	14-Aug	8:24	-0.01	0.0	3.7	11.6			
GP-3D	14-Aug	8:28	0.00	0.0	6.2	13.8			
GP-4A	14-Aug	8:35	0.00	0.0	1.2	19.9			
GP-4B	14-Aug	8:39	0.02	0.0	0.6	20.4			
GP-5A	14-Aug	8:44	0.01	0.0	1.2	19.7			
GP-5B	14-Aug	8:47	0.01	0.0	0.6	19.8			
GP-6	14-Aug	8:53	0.00	0.0	0.9	20.2			
GP-7S	14-Aug	9:02	0.00	0.0	1.2	19.8			
GP-7D	14-Aug	9:06	0.00	0.0	0.7	20.0			
GP-8A	14-Aug	9:17	0.00	0.0	5.7	14.3			
GP-8B	14-Aug	9:20	0.33	0.0	3.7	17.0			
GP-9	14-Aug	9:27	0.01	0.0	2.4	18.7			
GP-10	14-Aug	9:39	0.01	0.0	0.3	20.7			
GP-11	14-Aug	9:46	0.01	0.0	1.0	19.9			
GP-12	14-Aug	9:54	0.02	0.0	5.9	10.9			
GP-13A	14-Aug	10:14	-8.94	12.8	12.7	0.0			
GP-13B	14-Aug	10:19	0.14	0.0	0.5	20.2			
GP-14S	14-Aug	11:25	0.02	0.0	3.5	17.7			
GP-14D	14-Aug	11:30	0.03	0.0	15.4	0.9			
GP-15A	14-Aug	11:50	0.00	0.0	4.4	14.8			
GP-15B	14-Aug	11:52	0.00	0.0	4.3	15.8			
GP-16A	14-Aug	11:59	0.00	0.0	0.5	20.2			
GP-16B	14-Aug	12:01	0.05	0.0	0.4	20.4			
GP-17	14-Aug	12:08	0.00	0.0	6.1	12.5			
GP-18	14-Aug	12:14	0.00	0.0	10.7	7.1			
GP-19	14-Aug	12:19	0.00	0.0	2.5	18.1			
LFG-1	14-Aug	11:44	0.04	0.4	11.6	4.7			*Note 2*
LFG-2	14-Aug	11:39	0.10	17.6	21.9	0.7			*Note 2*
LFG-3	14-Aug	11:35	0.05	0.2	10.4	6.1			*Note 2*

General Data

Monitored by:	S. Adlington	Weather Conditions	
Instruments:	GEM 2000	Sky Cover:	Mostly Sunny
Calibration Date:	14-Aug-13	Wind / Rain / Snow:	Clear
		Temperature (^{o}F):	67

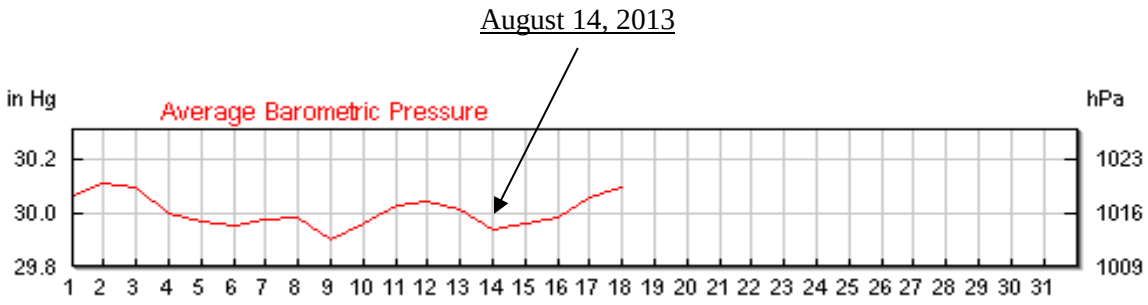
Notes

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

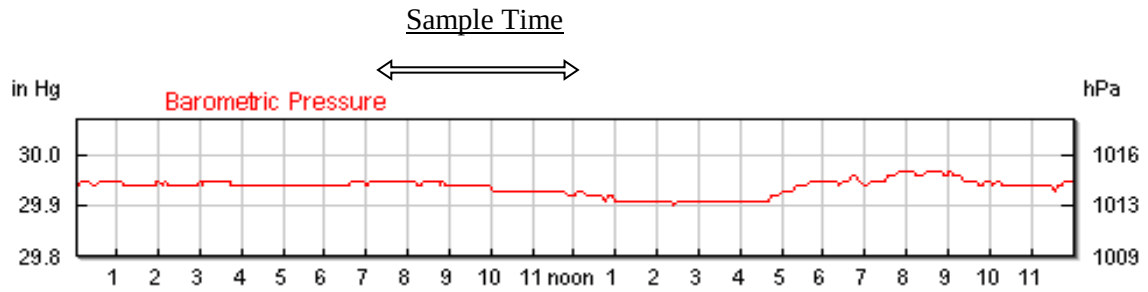
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
August 2013

Barometric Pressure Trend for August 2013



Barometric Pressure Trend for August 14, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

September 13, 2013

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	13-Sep	10:26	0.02	1.2	5.4	<<<<			
GP-1B	13-Sep	10:34	0.17	0.0	13.7	4.6			
GP-1C	13-Sep	10:38	0.01	0.0	1.6	18.3			
GP-2A	13-Sep	10:58	0.02	0.6	18.1	0.2			
GP-2B	13-Sep	11:02	0.02	0.0	0.3	19.8			
GP-3S	13-Sep	11:08	0.01	0.0	0.8	19.2			
GP-3M	13-Sep	11:11	0.01	0.0	3.2	14.7			
GP-3D	13-Sep	11:15	0.02	0.0	5.3	13.7			
GP-4A	13-Sep	11:30	0.04	0.0	1.4	18.3			
GP-4B	13-Sep	11:35	0.03	0.0	0.1	20.0			
GP-5A	13-Sep	11:44	0.03	0.0	1.5	18.3			
GP-5B	13-Sep	11:47	0.03	0.0	0.9	18.4			
GP-6	13-Sep	11:52	0.03	0.0	1.2	18.0			
GP-7S	13-Sep	12:07	0.03	0.0	1.7	18.1			
GP-7D	13-Sep	12:12	0.03	0.0	0.9	18.7			
GP-8A	13-Sep	12:22	0.03	0.0	4.8	13.9			
GP-8B	13-Sep	12:25	0.03	0.0	2.7	17.1			
GP-9	13-Sep	12:32	0.03	0.0	2.6	17.2			
GP-10	13-Sep	12:46	0.03	0.0	0.4	18.1			
GP-11	13-Sep	12:52	0.03	0.0	1.6	18.3			
GP-12	13-Sep	13:06	0.03	0.0	4.4	12.8			
GP-13A	13-Sep	13:16	0.03	5.1	16.7	0.0			
GP-13B	13-Sep	13:19	0.04	0.0	0.3	19.8			
GP-14S	13-Sep	13:25	0.03	0.0	11.9	7.9			
GP-14D	13-Sep	13:28	0.03	0.0	17.2	<<<<			
GP-15A	13-Sep	13:36	0.03	0.0	3.8	15.0			
GP-15B	13-Sep	13:40	0.04	0.0	4.5	13.0			
GP-16A	13-Sep	13:48	0.04	0.0	1.1	18.1			
GP-16B	13-Sep	13:50	0.06	0.0	1.1	18.0			
GP-17	13-Sep	13:57	0.02	0.0	7.0	10.8			
GP-18	13-Sep	14:02	0.03	0.0	8.2	12.4			
GP-19	13-Sep	14:07	0.05	0.0	2.7	17.2			
LFG-1	25-Sep	10:09	0.00	0.3	13.0	4.0			*Note 2*
LFG-2	25-Sep	10:19	0.00	0.3	14.9	1.1			*Note 2*
LFG-3	25-Sep	10:28	0.06	14.8	22.0	0.5			*Note 2*

General Data

		Weather Conditions	
Monitored by:	S. Adlington	Sky Cover:	Mostly Sunny
Instruments:	GEM 2000	Wind / Rain / Snow:	Clear
Calibration Date:	13-Sep-13	Temperature (^oF):	62

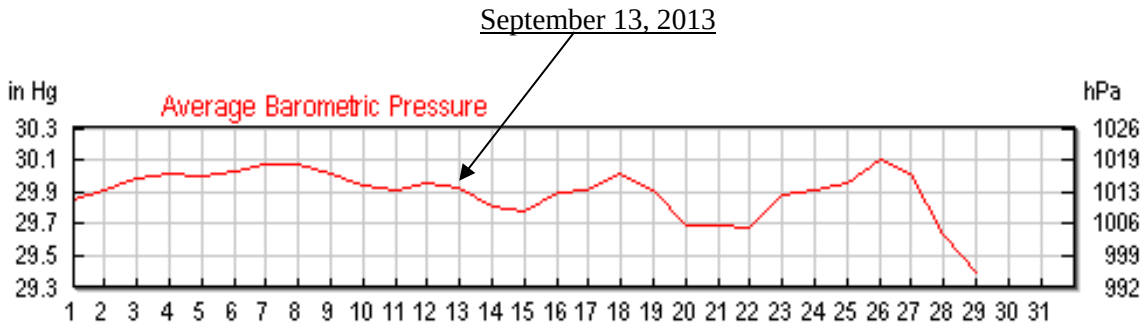
Notes

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

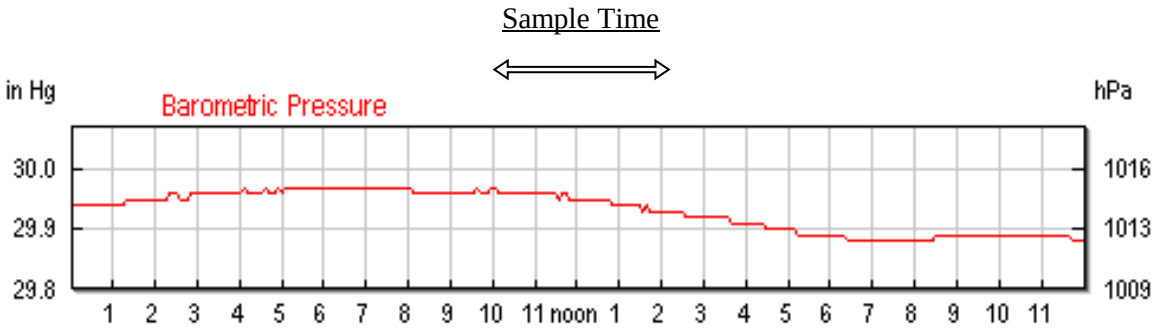
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
September 2013

Barometric Pressure Trend for September 2013



Barometric Pressure Trend for September 13, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
October 10, 2013

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-Oct	13:59	0.00	1.3	5.2	0.0			
GP-1B	10-Oct	14:05	0.00	0.0	13.1	5.2			
GP-1C	10-Oct	14:08	0.01	0.0	4.5	16.2			
GP-2A	10-Oct	9:04	0.02	0.3	16.0	1.6			
GP-2B	10-Oct	9:07	0.00	0.0	0.3	21.4			
GP-3S	10-Oct	9:17	0.00	0.0	1.7	19.8			
GP-3M	10-Oct	9:20	0.31	0.0	3.3	14.0			
GP-3D	10-Oct	9:23	0.01	0.0	7.3	11.7			
GP-4A	10-Oct	10:47	0.02	0.0	1.3	18.5			
GP-4B	10-Oct	10:52	-3.98	0.0	0.4	20.4			
GP-5A	10-Oct	11:03	0.00	0.0	1.3	19.8			
GP-5B	10-Oct	11:06	0.00	0.0	0.5	19.9			
GP-6	10-Oct	11:16	0.00	0.0	0.4	20.6			
GP-7S	10-Oct	11:27	0.01	0.0	0.6	20.5			
GP-7D	10-Oct	11:30	0.02	0.0	0.8	20.1			
GP-8A	10-Oct	11:41	0.00	0.0	4.0	16.4			
GP-8B	10-Oct	11:48	-0.59	0.0	0.5	20.7			
GP-9	10-Oct	11:55	0.00	0.0	2.4	17.7			
GP-10	10-Oct	12:02	0.00	0.0	0.3	21.1			
GP-11	10-Oct	12:09	0.00	0.0	1.7	18.5			
GP-12	10-Oct	12:29	0.01	0.0	2.2	16.8			
GP-13A	10-Oct	12:41	0.02	10.9	16.5	0.0	10.1		
GP-13B	10-Oct	14:20	0.09	0.0	0.5	20.9			
GP-14S	10-Oct	15:33	0.54	0.0	11.6	10.1			
GP-14D	10-Oct	15:36	0.00	0.0	15.8	1.3			
GP-15A	10-Oct	15:44	-0.01	0.0	2.5	16.6			
GP-15B	10-Oct	15:47	0.00	0.0	9.1	5.0			
GP-16A	10-Oct	15:55	0.00	0.0	1.2	20.3			
GP-16B	10-Oct	15:58	0.29	0.0	1.1	20.5			
GP-17	10-Oct	16:07	0.00	0.0	5.6	14.8			
GP-18	10-Oct	16:16	0.00	0.0	2.6	19.2			
GP-19	10-Oct	16:23	0.00	0.0	0.2	21.5			
LFG-1	10-Oct	15:20	-0.02	0.3	14.2	2.0			*Note 2*
LFG-2	10-Oct	15:24	-0.02	0.8	15.3	0.0			*Note 2*
LFG-3	10-Oct	15:28	0.00	5.9	18.8	0.0	20		*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain
Calibration Date:	10-Oct-13	Temperature (^{o}F):	50

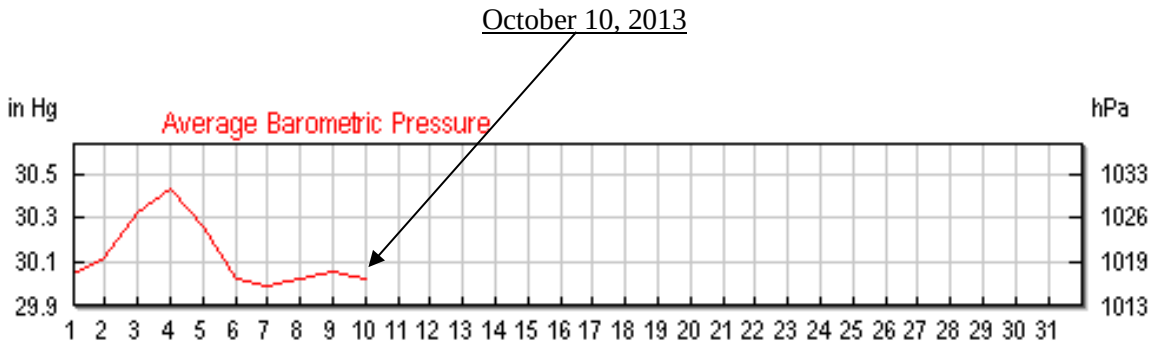
Notes

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

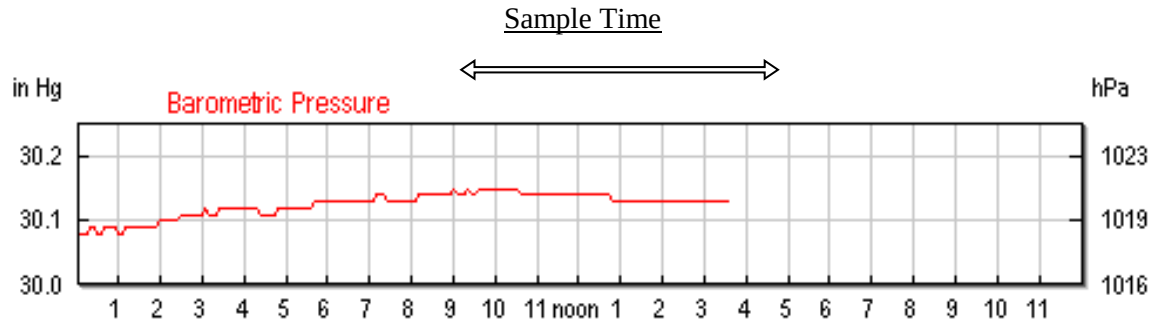
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
September 2013

Barometric Pressure Trend for October 2013



Barometric Pressure Trend for October 10, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

04213004.02

PCRCD dba LRI

November 12, 2013

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-Nov	9:33	-0.05	1.5	5.3	0.0			
GP-1B	12-Nov	9:38	-0.10	0.0	12.5	6.5			
GP-1C	12-Nov	9:41	-0.11	0.0	8.9	11.6			
GP-2A	12-Nov	9:23	-0.06	0.1	2.9	17.8			
GP-2B	12-Nov	9:27	0.01	0.0	0.3	22.3			
GP-3S	12-Nov	9:49	-0.10	0.0	2.2	19.3			
GP-3M	12-Nov	9:52	-0.08	0.0	3.3	11.0			
GP-3D	12-Nov	9:55	-0.07	0.0	7.8	11.7			
GP-4A	12-Nov	10:04	0.00	0.0	0.2	22.3			
GP-4B	12-Nov	10:07	0.01	0.0	0.1	22.3			
GP-5A	12-Nov	10:14	0.00	0.0	0.1	22.4			
GP-5B	12-Nov	10:17	0.00	0.0	0.0	22.3			
GP-6	12-Nov	10:23	-0.01	0.0	0.1	22.3			
GP-7S	12-Nov	10:30	0.00	0.0	0.4	21.7			
GP-7D	12-Nov	10:32	0.00	0.0	0.4	22.0			
GP-8A	12-Nov	10:42	0.00	0.0	1.8	20.7			
GP-8B	12-Nov	10:45	0.00	0.0	0.2	22.3			
GP-9	12-Nov	10:53	0.00	0.0	1.8	17.7			
GP-10	12-Nov	10:59	0.00	0.0	0.2	22.4			
GP-11	12-Nov	11:05	0.00	0.0	1.6	20.5			
GP-12	12-Nov	11:10	0.00	0.0	0.8	21.6			
GP-13A	12-Nov	11:18	0.02	0.0	0.1	22.4			
GP-13B	12-Nov	11:21	0.00	0.0	0.0	22.5			
GP-14S	12-Nov	11:28	0.00	0.0	11.0	12.0			
GP-14D	12-Nov	11:31	0.00	0.0	16.1	0.9			
GP-15A	12-Nov	12:12	0.83	0.0	0.2	22.1			
GP-15B	12-Nov	12:15	0.00	0.0	5.6	12.2			
GP-16A	12-Nov	12:25	0.00	0.0	0.6	21.6			
GP-16B	12-Nov	12:29	0.00	0.0	0.3	22.0			
GP-17	12-Nov	12:36	0.00	0.0	3.6	18.6			
GP-18	12-Nov	12:42	0.00	0.0	1.2	21.2			
GP-19	12-Nov	12:48	-0.05	0.0	0.1	22.4			
LFG-1	12-Nov	11:35	-0.01	0.0	0.2	22.4			*Note 2*
LFG-2	12-Nov	11:45	0.01	0.8	19.3	0.1			*Note 2*
LFG-3	12-Nov	11:58	0.02	3.3	19.7	0.0	8.6		*Note 2*

General Data

		Weather Conditions	
Monitored by:	Andy McDonald	Sky Cover:	Overcast
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain
Calibration Date:	12-Nov-13	Temperature (^oF):	55

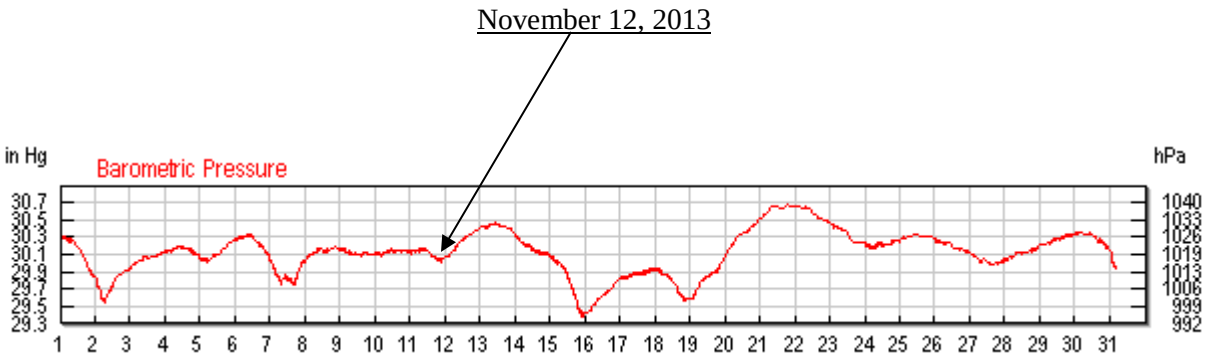
Notes

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

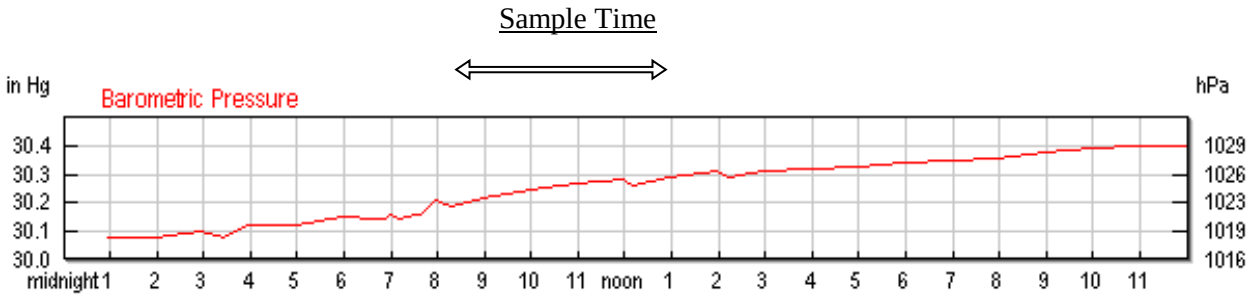
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
November 2013

Barometric Pressure Trend for November 2013



Barometric Pressure Trend for November 12, 2013



Source : KPLU Airport

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill
PCRCD dba LRI

04213004.02
December 19, 2013

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	19-Dec	11:05	0.04	1.7	5.4	0.0			
GP-1B	19-Dec	11:09	-0.03	0.0	12.3	7.5			
GP-1C	19-Dec	11:13	-0.01	0.0	7.6	12.3			
GP-2A	19-Dec	11:24	-0.03	2.5	16.6	0.8			
GP-2B	19-Dec	11:28	0.03	0.0	0.3	21.0			
GP-3S	19-Dec	11:35	0.02	0.0	3.8	15.3			
GP-3M	19-Dec	11:38	0.09	0.0	3.6	7.5			
GP-3D	19-Dec	11:41	0.03	0.0	10.0	4.8			
GP-4A	19-Dec	11:51	0.00	0.0	0.5	20.6			
GP-4B	19-Dec	11:54	0.12	0.0	0.3	20.9			
GP-5A	19-Dec	12:00	-0.01	0.0	0.2	21.1			
GP-5B	19-Dec	12:03	0.00	0.0	0.1	21.2			
GP-6	19-Dec	12:09	0.00	0.0	0.1	21.1			
GP-7S	19-Dec	12:19	0.00	0.0	0.2	21.0			
GP-7D	19-Dec	12:16	0.00	0.0	0.3	20.9			
GP-8A	19-Dec	12:30	0.00	0.0	0.5	20.7			
GP-8B	19-Dec	12:33	0.00	0.0	0.2	20.9			
GP-9	19-Dec	12:40	0.01	0.0	1.8	15.6			
GP-10	19-Dec	12:47	0.01	0.0	0.1	21.1			
GP-11	19-Dec	12:55	-0.01	0.0	0.8	20.2			
GP-12	19-Dec	13:08	0.02	0.0	2.0	18.7			
GP-13A	19-Dec	13:17	0.00	1.3	12.1	0.0		1.9	
GP-13B	19-Dec	13:20	0.03	0.0	0.3	21.1			
GP-14S	19-Dec	13:25	0.01	0.0	12.4	10.6			
GP-14D	19-Dec	13:28	0.00	0.0	17.2	0.6			
GP-15A	19-Dec	13:55	0.00	0.0	1.7	18.8			
GP-15B	19-Dec	13:58	0.03	0.0	9.2	3.0			
GP-16A	19-Dec	14:05	0.00	0.0	0.7	21.0			
GP-16B	19-Dec	14:08	0.01	0.0	0.8	20.9			
GP-17	19-Dec	14:14	0.00	0.0	2.8	18.5			
GP-18	19-Dec	14:18	0.00	0.0	0.7	21.1			
GP-19	19-Dec	14:24	-0.01	0.0	3.4	19.3			
LFG-1	19-Dec	13:34	0.01	0.8	13.5	6.1			*Note 2*
LFG-2	19-Dec	13:42	0.00	0.0	9.2	9.7			*Note 2*
LFG-3	19-Dec	13:49	0.05	4.7	20.5	0.0	15.1	21.2	*Note 2*

General Data

Monitored by: Andy McDonald
Instruments: GEM 2000
Calibration Date: 19-Dec-13

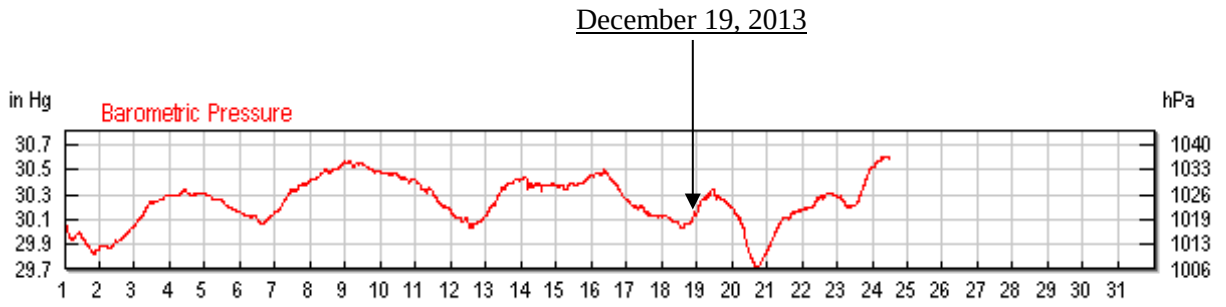
Weather Conditions
Sky Cover: Clear
Wind / Rain / Snow: None
Temperature (^oF): 37

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

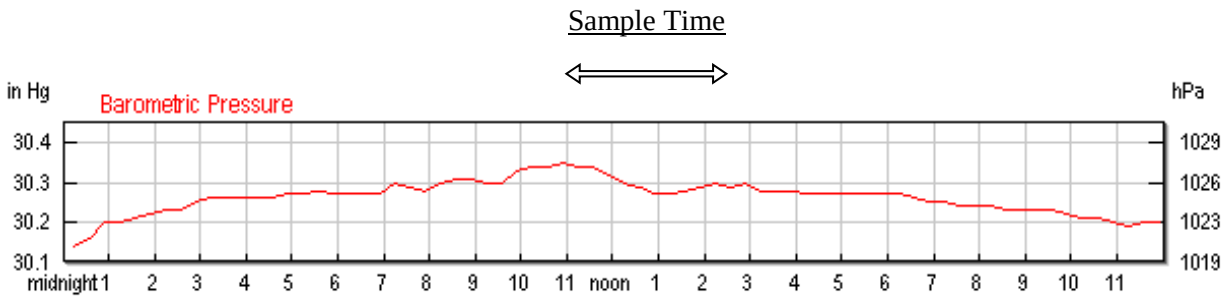
GP = Gas Probe
NM = Not measured - equipment malfunction
CH_4 = Methane
CO_2 = Carbon Dioxide
O_2 = Oxygen
S = shallow
M = medium
D = deep
A= shallow
B = medium
C = deep

Barometric Pressure Trend
HVL Landfill
December 2013

Barometric Pressure Trend for December 2013



Barometric Pressure Trend for December 19, 2013



Source : KPLU Airport

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04213004.02

Date: 2/13/2013
Weather Conditions: Clear
Instrument: FID
Measured By: Wayne Chang

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.

Wayne Chang
Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04212004.02

Date: 5/23/13
Weather Conditions: Raining
Instrument: Gem 2000
Measured By: Matt O'Hare

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.
- [ ] 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: 9/25/2013
Weather Conditions: OVERCAST/LT. 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

Project Number: ~~04212004.02~~ 04213004.02

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Date: 11/14/13
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

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

Figure 4. Monitoring Results LFG-1
Third Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

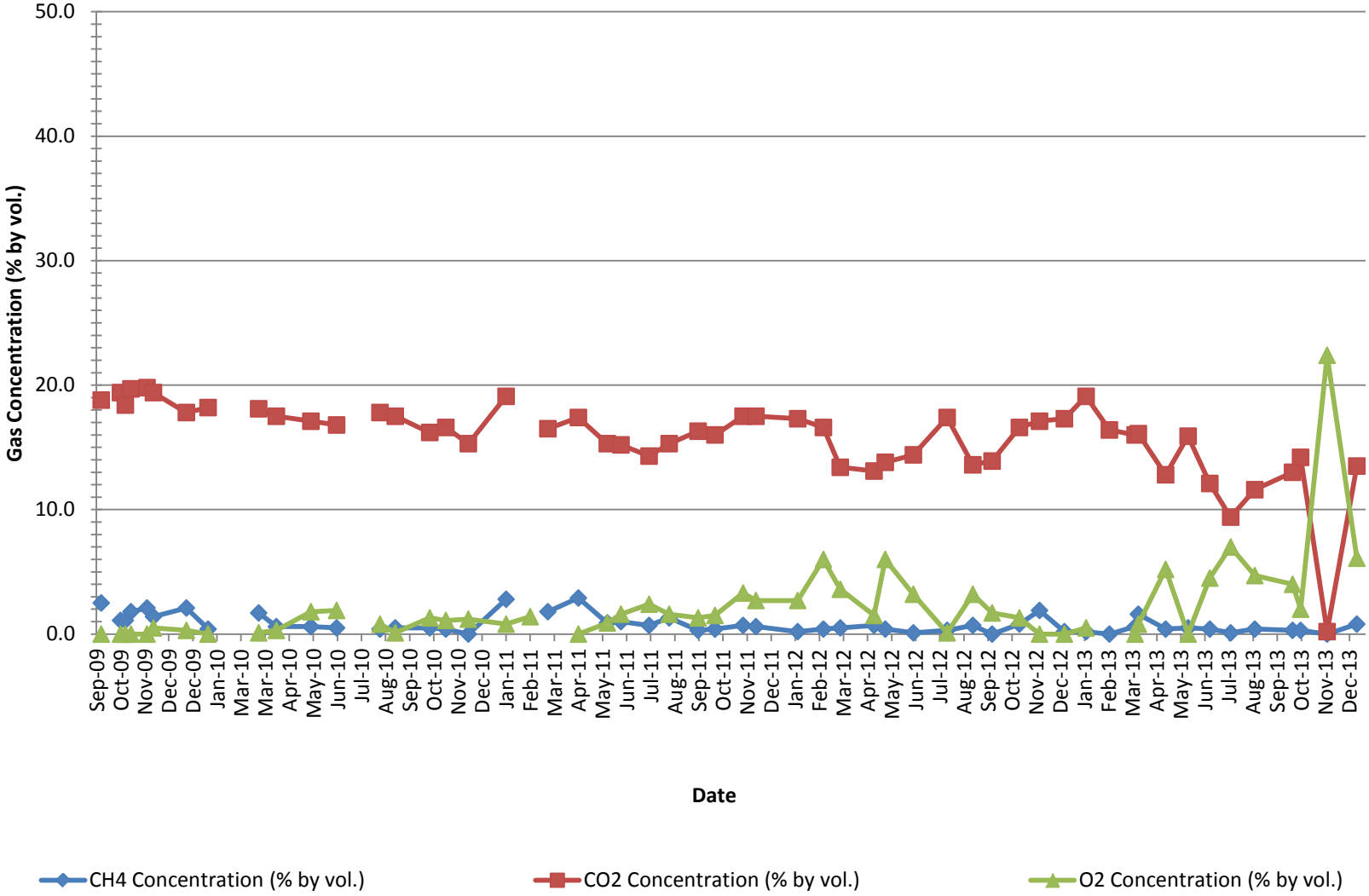


Figure 5. Monitoring Results LFG-2
Third Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

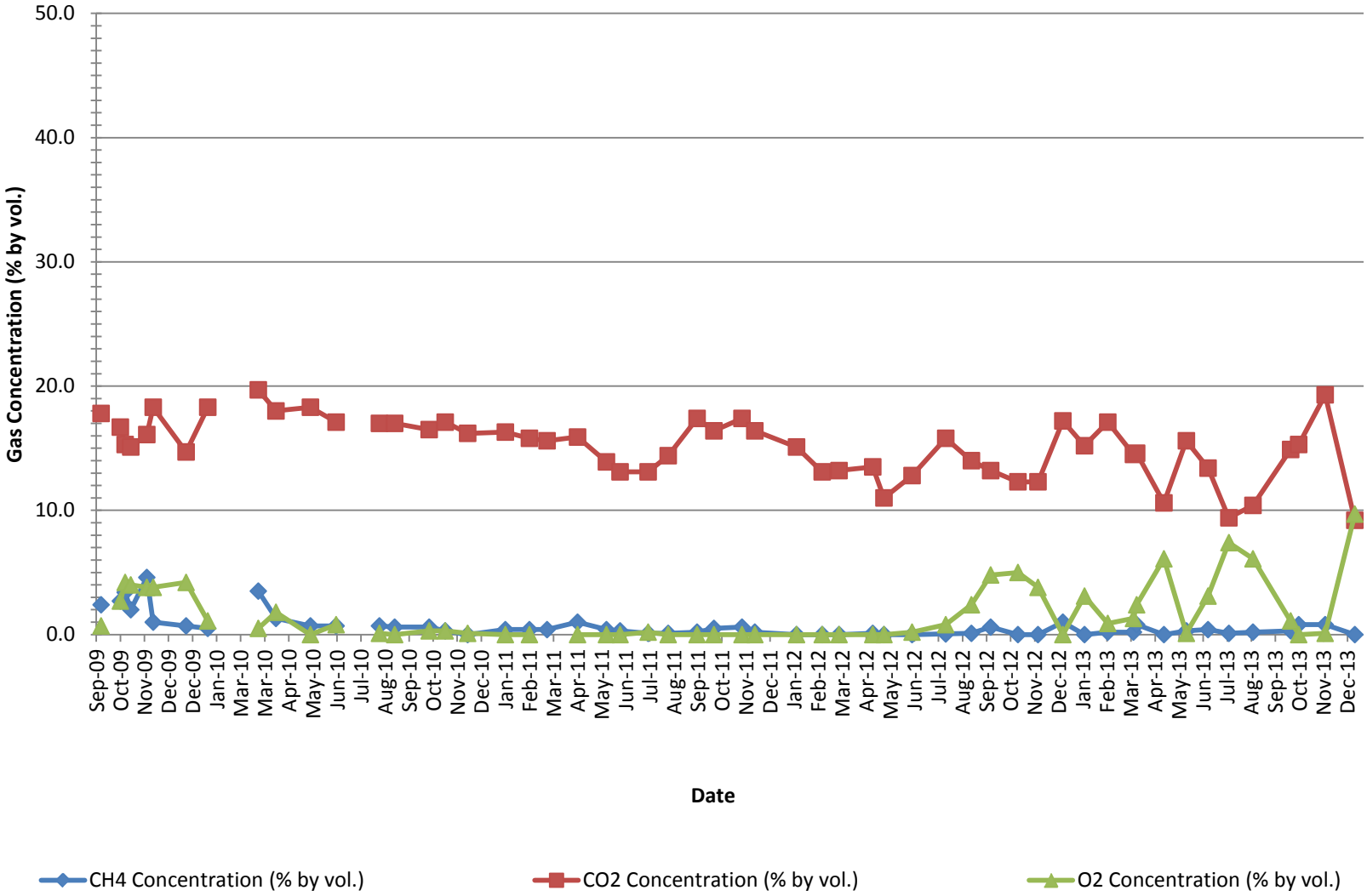


Figure 6. Monitoring Results LFG-3
Third Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

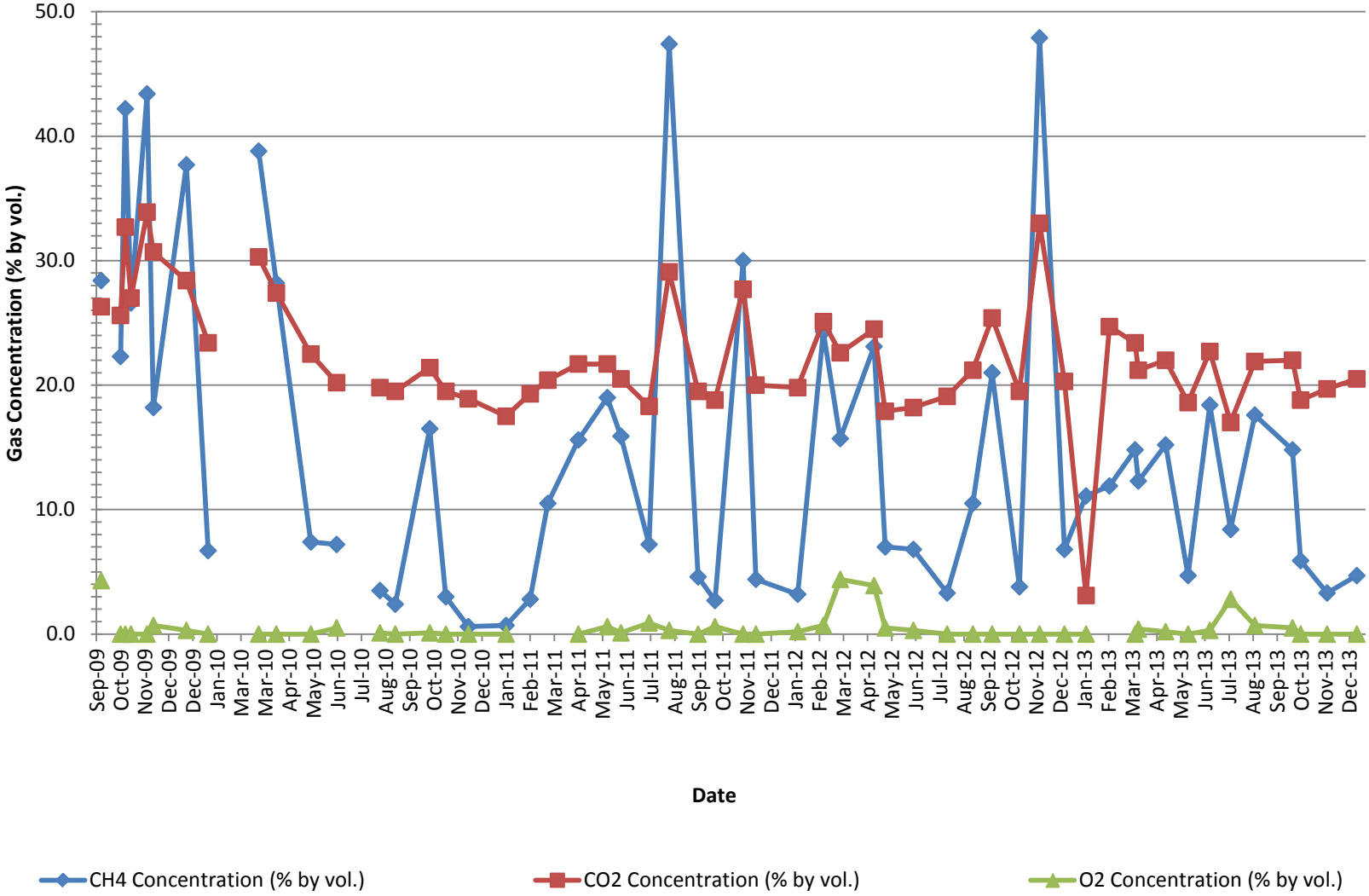


Table 1.
Carbon Monoxide (CO) Monitoring Results (ppmv)
Hidden Valley Landfill, Pierce County, Washington

	July 15, 2011	May 8, 2012	May 22 2012	March 20, 2013
LFG-1	5	300	1,000	40
LFG-2	12	12	2	<2
LFG-3	<2	2	2	<2
GP-13S	—	—	—	<2
GP-13D	—	—	—	<2
GP-14S	2	1	1	<2
GP-14D	2	2	2	<2
N-41	—	—	—	<2
N-42	20	18	18	5
N-43	35	10	10	5
N-45	—	18	18	5
N-54	10	12	12	<2
N-60	—	2	2	<2
N-61	—	—	—	<2
N-62	—	5	5	<2
N-63	—	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
LFG-1	81	78	106
LFG-2	83	57	73
LFG-3	83	57	95
N-42	—	68	65
N-43	76	67	59
N-45	—	42	—
N-54	—	69	70
N-60	90	67	57
N-61	—	77	58
N-62	69	61	60

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

Hidden Valley Landfill
LFG System Monitoring & Maintenance
July 24 and 26

Photo Log


E-40. Replaced damaged 4-inch landfill gas flex hose.


N-64A, N64B, and N64C. Replaced damaged 3-inch gate valves and damaged landfill gas flex hoses and installed risers to re-grade drainage for gas wells.

Other maintenance items completed this month:

- E-25, E-33, E-34 and E-41. Replaced damaged ¼-inch diameter GEM fittings.
- E-12. Replaced damaged 4-inch landfill gas hose. Prior to repair, oxygen was being introduced into the LFG System

Flare Station Summary

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
7/24/2013 12:08	36.6	26.7	1.8	34.9	349	349	29.41
7/26/2013 7:05	28.5	26.1	5.8	44.1	365	3	29.51

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
7/24/2013 16:43	42.8	29	0.5	27.7	351	351	29.28
7/26/2013 12:07	33.4	23	4.2	39.4	369	369	29.42

Hidden Valley Landfill
LFG System Monitoring & Maintenance
September 10, 11, and 12, 2013

Maintenance items completed this month:

- LRI excavated the lateral piping for LFG extraction wells N64B and N64C which are located south of the perimeter road and directly in-line with GP-13. The lateral pipes were found to be sloping away from the extraction wells (to the north). The lateral lines where adjusted to slope back to the extraction wells (to the south) to allow LFG condensate drainage. Additional bracings where installed to support the lateral pipes north of the perimeter road.
- During the excavation of the lateral piping to the N64 wells, the operator slightly damaged the 4-inch HDPE leachate pipe that runs parallel to the perimeter road. The pipe was repaired by SCS using LRI equipment.
- A condensate blockage was identified in a 10-inch header pipe between wells N33 and N36. SCS installed bracing along approximately 60 feet of the header pipe. However, even with bracing, the header pipe did not drain correctly and additional repair work is required in this area. Eighteen (18) extraction wells located on the south facing slope of the landfill, north (upslope) of the access road to the transfer station, are affected by the blockage.
- During bracing of the header pipe, a 10-inch by 8-inch PVC reducer located between wells N33 and N35 cracked due to the weight of the condensate.

Photo Log

N-64B and N-64C. Re-grading of lateral piping to improve drainage.

N-64B and N-64C. Trenching across the perimeter road, and final completion.


N-64B and N-64C. Pipe supports north of the perimeter road to improve drainage.


Leachate Force Main. Repaired damage to 4-inch diameter leachate force main.


N-64B and N-64C. LFG header pipe along the southwest crown of the landfill that requires additional slope adjustment.

N-64B and N-64C. Fractured PVC reducer located between wells N33 and N35.

Flare Station Summary

Before system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
9/10/2013 15:55	35.9	27.7	0.9	35.5	325	325	29.42
9/11/2013 6:36	36.0	27.1	1.4	35.5	331	331	29.39
9/12/2013 5:59	36.1	26.4	1.4	36.1	344	344	29.45

After system maintenance

Date & Time	CH_4 %	CO_2 %	O_2 %	Balance %	Init. Flow SCFM	Adj. Flow SCFM	Baro. Press. inches Hg
9/10/2013 17:26	36.5	29.4	0.6	33.5	343	343	29.43
9/11/2013 17:23	41.0	26.9	0.5	31.6	349	349	29.47
9/12/2013 6:59	36.2	26.9	1.1	35.8	335	335	29.45

Appendix B
Side Slope Liner System Monitoring Data

Hidden Valley Landfill

Month of Jan-13

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	17.68	0.00	0	0	0	0	2,895	75.16	11,274
1	18.16	0.00	0	0	0	0	1,890	77.99	7,409
2	18.98	0.00	0	0	0	0	4,567	77.47	17,740
3	19.98	0.00	0	0	0	0	4,574	77.64	17,934
4	25.63	0.00	0	0	0	0	4,258	77.85	16,737
5	18.63	0.00	0	0	0	0	8,054	78.39	31,984
6	23.63	0.00	0	0	0	0	8,062	78.46	32,012
7	19.07	0.00	0	0	0	0	6,206	78.50	24,570
8	20.20	0.00	0	0	0	0	4,979	78.32	19,502
9	25.45	0.00	0	0	0	0	5,072	78.59	19,963
10	25.37	0.00	0	0	0	0	4,112	77.88	16,277
11	23.50	0.00	0	0	0	0	7,291	77.97	28,848
12	21.94	0.00	0	0	0	0	7,999	77.89	31,624
13	19.89	0.00	0	0	0	0	7,070	77.69	27,813
14	20.02	0.00	0	0	2,418	0	5,896	76.96	23,011
15	29.45	0.00	0	0	4,376	0	6,409	77.05	25,117
16	22.80	0.00	0	7	7,721	2	6,505	76.43	25,452
17	29.49	0.00	43	0	8,026	560	7,036	76.52	27,546
18	17.55	0.00	44	0	8,269	3,858	7,673	76.27	30,050
19	16.38	0.00	44	0	811	1,441	6,907	76.38	27,191
20	14.51	0.00	0	0	0	0	7,455	75.89	29,217
21	20.24	0.00	44	0	6,836	1,794	6,942	75.52	27,036
22	24.50	0.00	33	0	9,433	33	9,231	75.22	35,954
23	13.60	0.00	43	0	7,218	2,461	7,922	74.68	30,993
24	11.60	0.00	0	0	5,795	0	8,002	74.35	31,374
25	21.94	0.00	0	0	3,117	0	8,240	74.78	31,706
26	21.37	0.00	0	0	0	0	7,882	74.75	31,098
27	18.72	0.00	0	0	0	0	7,156	74.45	28,067
28	15.94	0.00	0	0	3,367	0	8,305	74.75	32,368
29	14.73	0.00	0	0	1,320	0	7,508	74.76	29,531
30	17.20	0.00	0	0	0	0	7,781	74.76	30,653
31	20.72	0.00	0	0	0	0	7,677	74.79	30,214
			Total Gallons:	**7**	**68,707**	**10,150**	**208,660**		**818,989**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Jan-13

Day	Discharge Pump 12 (hr)	(min)	Cell 2 Influent Pump (hr)	(min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
31	43,961	18	2971	19	0.00	2.50	6411510	4,046,810	116490	94,851,353	93,484,425
1	43,962	53	2971	19	0.00	1.58	6411510	4,046,810	116490	94,853,243	93,491,834
2	43,966	42	2971	19	0.00	3.82	6411510	4,046,810	116490	94,857,810	93,509,573
3	43,970	33	2971	19	0.00	3.85	6411510	4,046,810	116490	94,862,384	93,527,507
4	43,974	8	2971	19	0.00	3.58	6411510	4,046,810	116490	94,866,641	93,544,244
5	43,980	56	2971	19	0.00	6.80	6411510	4,046,810	116490	94,874,696	93,576,229
6	43,987	44	2971	19	0.00	6.80	6411510	4,046,810	116490	94,882,757	93,608,240
7	43,992	57	2971	19	0.00	5.22	6411510	4,046,810	116490	94,888,963	93,632,810
8	43,997	6	2971	19	0.00	4.15	6411510	4,046,810	116490	94,893,943	93,652,313
9	44,001	20	2971	19	0.00	4.23	6411510	4,046,810	116490	94,899,015	93,672,275
10	44,004	49	2971	19	0.00	3.48	6411510	4,046,810	116490	94,903,127	93,688,552
11	44,010	59	2971	19	0.00	6.17	6411510	4,046,810	116490	94,910,418	93,717,400
12	44,017	45	2971	19	0.00	6.77	6411510	4,046,810	116490	94,918,417	93,749,023
13	44,023	43	2971	19	0.00	5.97	6411510	4,046,810	116490	94,925,487	93,776,837
14	44,028	42	2971	19	0.00	4.98	6413927	4,046,810	116490	94,931,383	93,799,847
15	44,034	8	2971	19	0.00	5.43	6418303	4,046,810	116490	94,937,792	93,824,964
16	44,039	41	2971	19	0.00	5.55	6426024	4,046,812	116497	94,944,297	93,850,416
17	44,045	41	2971	32	0.22	6.00	6434051	4,047,372	116497	94,951,333	93,877,962
18	44,052	15	2972	60	1.47	6.57	6442319	4,051,230	116497	94,959,006	93,908,012
19	44,058	11	2973	33	0.55	5.93	6443131	4,052,671	116497	94,965,912	93,935,203
20	44,064	36	2973	33	0.00	6.42	6443131	4,052,671	116497	94,973,367	93,964,420
21	44,070	34	2974	14	0.68	5.97	6449966	4,054,466	116497	94,980,309	93,991,456
22	44,078	32	2974	15	0.02	7.97	6459400	4,054,499	116497	94,989,540	94,027,410
23	44,085	27	2975	12	0.95	6.92	6466618	4,056,960	116497	94,997,462	94,058,402
24	44,092	29	2975	12	0.00	7.03	6472413	4,056,960	116497	95,005,464	94,089,777
25	44,099	33	2975	12	0.00	7.07	6475530	4,056,960	116497	95,013,703	94,121,483
26	44,106	29	2975	12	0.00	6.93	6475530	4,056,960	116497	95,021,586	94,152,581
27	44,112	46	2975	12	0.00	6.28	6475530	4,056,960	116497	95,028,742	94,180,648
28	44,119	59	2975	12	0.00	7.22	6478897	4,056,960	116497	95,037,047	94,213,016
29	44,126	34	2975	12	0.00	6.58	6480217	4,056,960	116497	95,044,554	94,242,547
30	44,133	24	2975	12	0.00	6.83	6480217	4,056,960	116497	95,052,336	94,273,201
31	44,140	8	2975	12	0.00	6.73	6480217	4,056,960	116497	95,060,013	94,303,414
					Total	**Gallons**	**68,707**	**10,150**	**7**	**208,660**	**818,989**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Feb-13

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	20.72	0.00	0	0	0	0	7,677	74.79	30,214
1	16.51	0.00	0	0	0	0	7,115	74.40	27,974
2	19.85	0.00	0	0	0	0	6,176	73.97	24,188
3	19.72	0.00	0	0	0	0	6,017	75.00	23,551
4	17.94	0.00	0	0	0	0	7,980	74.86	30,993
5	17.81	0.00	0	0	0	0	8,354	74.70	32,495
6	17.68	0.00	0	0	2,024	0	7,924	74.64	30,901
7	18.77	0.00	0	0	2,589	0	7,560	74.52	29,434
8	17.85	0.00	0	0	6,614	0	7,597	74.02	29,536
9	18.24	0.00	0	0	0	0	6,469	74.04	25,396
10	18.59	0.00	0	0	0	0	6,706	73.38	26,343
11	17.51	0.00	41	0	4,167	289	7,003	73.09	27,263
12	18.77	0.00	0	0	4,268	0	6,776	73.07	26,377
13	18.90	0.00	0	0	2,979	0	7,671	72.91	29,895
14	13.73	0.00	0	0	1,605	0	7,636	72.53	29,590
15	20.72	0.00	0	0	1,960	0	6,600	72.63	25,783
16	13.94	0.00	0	0	0	0	5,716	72.47	22,465
17	14.33	0.00	0	0	0	0	5,969	72.42	23,465
18	22.67	0.00	0	0	0	0	106,206	72.19	24,329
19	14.33	0.00	0	0	0	0	6,839	72.23	26,797
20	16.03	0.00	0	0	0	0	6,639	71.81	26,065
21	24.54	0.00	0	0	0	0	-93,677	71.82	24,850
22	24.32	0.00	0	0	0	0	6,475	71.67	25,516
23	40.79	0.00	0	0	0	0	5,903	71.95	23,313
24	16.29	0.00	0	0	0	0	6,423	72.10	25,164
25	15.46	0.00	0	0	0	0	6,509	71.72	25,604
26	15.94	0.00	0	0	0	0	6,583	71.76	26,050
27	16.12	0.00	0	0	1	0	5,968	71.72	23,596
28	16.07	0.00	0	0	0	0	6,743	71.53	26,536
Total Gallons:				**0**	**26,207**	**289**	**189,880**		**743,468**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Feb-13

	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	44,140	8	2975	12	0.00	6.73	6480217	4,056,960	116497	95,060,013	94,303,414
1	44,146	24	2975	12	0.00	6.27	6480217	4,056,960	116497	95,067,127	94,331,389
2	44,151	51	2975	12	0.00	5.45	6480217	4,056,960	116497	95,073,304	94,355,577
3	44,157	5	2975	12	0.00	5.23	6480217	4,056,960	116497	95,079,321	94,379,128
4	44,163	59	2975	12	0.00	6.90	6480217	4,056,960	116497	95,087,301	94,410,121
5	44,171	14	2975	12	0.00	7.25	6480217	4,056,960	116497	95,095,655	94,442,615
6	44,178	8	2975	12	0.00	6.90	6482241	4,056,960	116497	95,103,579	94,473,516
7	44,184	43	2975	12	0.00	6.58	6484830	4,056,960	116497	95,111,139	94,502,950
8	44,191	22	2975	12	0.00	6.65	6491444	4,056,960	116497	95,118,736	94,532,485
9	44,197	5	2975	12	0.00	5.72	6491444	4,056,960	116497	95,125,204	94,557,882
10	44,203	4	2975	12	0.00	5.98	6491444	4,056,960	116497	95,131,911	94,584,224
11	44,209	17	2975	19	0.12	6.22	6495610	4,057,249	116497	95,138,914	94,611,487
12	44,215	18	2975	19	0.00	6.02	6499878	4,057,249	116497	95,145,690	94,637,865
13	44,222	8	2975	19	0.00	6.83	6502857	4,057,249	116497	95,153,361	94,667,760
14	44,228	56	2975	19	0.00	6.80	6504462	4,057,249	116497	95,160,997	94,697,350
15	44,234	51	2975	19	0.00	5.92	6506422	4,057,249	116497	95,167,597	94,723,133
16	44,240	1	2975	19	0.00	5.17	6506422	4,057,249	116497	95,173,313	94,745,598
17	44,245	25	2975	19	0.00	5.40	6506422	4,057,249	116497	95,179,282	94,769,063
18	44,251	2	2975	19	0.00	5.62	6506422	4,057,249	116497	95,285,488	94,793,392
19	44,257	13	2975	19	0.00	6.18	6506422	4,057,249	116497	95,292,327	94,820,189
20	44,263	16	2975	19	0.00	6.05	6506422	4,057,249	116497	95,298,965	94,846,254
21	44,269	2	2975	19	0.00	5.77	6506422	4,057,249	116497	95,205,288	94,871,104
22	44,274	58	2975	19	0.00	5.93	6506422	4,057,249	116497	95,211,763	94,896,620
23	44,280	22	2975	19	0.00	5.40	6506422	4,057,249	116497	95,217,666	94,919,933
24	44,286	11	2975	19	0.00	5.82	6506422	4,057,249	116497	95,224,089	94,945,097
25	44,292	8	2975	19	0.00	5.95	6506422	4,057,249	116497	95,230,598	94,970,701
26	44,298	11	2975	19	0.00	6.05	6506422	4,057,249	116497	95,237,181	94,996,751
27	44,303	40	2975	19	0.00	5.48	6506423	4,057,249	116497	95,243,150	95,020,347
28	44,309	51	2975	19	0.00	6.18	6506423	4,057,249	116497	95,249,893	95,046,882
					Total	**Gallons**	**26,207**	**289**	**0**	**189,880**	**743,468**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Mar-13

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	16.07	0.00	0	0	0	0	6,743	71.53	26,536
1	16.59	0.00	0	0	0	0	5,855	71.44	23,217
2	16.59	0.00	0	0	7	0	6,120	71.69	24,446
3	16.59	0.00	0	0	0	0	5,738	72.06	22,484
4	16.98	0.00	0	0	0	0	6,740	72.78	26,129
5	17.24	0.00	0	0	0	0	6,892	73.13	26,621
6	17.59	0.00	0	0	0	0	6,406	73.41	24,814
7	20.76	0.00	0	0	0	0	7,515	71.93	29,205
8	18.11	0.00	0	0	0	0	7,292	73.47	28,506
9	18.42	0.00	0	0	0	0	6,951	73.49	27,266
10	21.50	0.00	0	0	0	0	7,170	73.35	28,018
11	26.63	0.00	0	0	0	0	7,062	73.47	27,551
12	25.37	0.00	0	0	0	0	6,817	72.87	26,599
13	19.42	0.00	0	0	0	0	6,185	73.05	24,106
14	34.53	0.00	0	0	0	0	6,899	73.44	26,953
15	31.88	0.00	0	0	385	0	6,645	73.60	25,980
16	23.63	0.00	0	0	0	0	6,006	73.54	23,532
17	24.37	0.00	0	0	0	0	7,113	73.70	27,711
18	25.80	0.00	0	0	0	0	7,086	73.35	27,580
19	22.80	0.00	0	0	0	0	6,695	73.03	26,071
20	24.80	0.00	0	0	0	0	6,647	72.81	25,848
21	21.46	0.00	0	0	0	0	1,000	71.26	3,777
22	20.63	0.00	0	0	1	0	2,479	73.39	9,687
23	20.24	0.00	0	0	0	0	7,000	73.71	27,346
24	19.98	0.00	0	0	0	0	6,774	74.47	26,438
25	21.28	0.00	0	0	0	0	7,339	74.52	28,543
26	21.76	0.00	0	0	0	0	7,094	74.74	27,506
27	23.63	0.00	44	0	231	1,108	7,140	74.66	27,699
28	11.03	0.00	44	0	1,492	8,729	7,906	74.82	30,752
29	14.42	0.00	0	0	0	0	6,443	75.21	25,195
30	18.37	0.00	0	0	0	0	7,158	74.91	28,091
31	22.63	0.00	0	0	505	0	6,981	74.87	27,329
			Total Gallons:	**0**	**2,621**	**9,838**	**201,150**		**784,998**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Mar-13

	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	44,309	51	2975	19	0.00	6.18	6506423	4,057,249	116497	95,249,893	95,046,882
1	44,315	16	2975	19	0.00	5.42	6506423	4,057,249	116497	95,255,748	95,070,100
2	44,320	57	2975	19	0.00	5.68	6506430	4,057,249	116497	95,261,867	95,094,546
3	44,326	9	2975	19	0.00	5.20	6506430	4,057,249	116497	95,267,606	95,117,030
4	44,332	8	2975	19	0.00	5.98	6506430	4,057,249	116497	95,274,346	95,143,159
5	44,338	12	2975	19	0.00	6.07	6506430	4,057,249	116497	95,281,238	95,169,779
6	44,343	50	2975	19	0.00	5.63	6506430	4,057,249	116497	95,287,644	95,194,593
7	44,350	36	2975	19	0.00	6.77	6506430	4,057,249	116497	95,295,159	95,223,798
8	44,357	4	2975	19	0.00	6.47	6506430	4,057,249	116497	95,302,451	95,252,304
9	44,363	15	2975	19	0.00	6.18	6506430	4,057,249	116497	95,309,403	95,279,569
10	44,369	37	2975	19	0.00	6.37	6506430	4,057,249	116497	95,316,573	95,307,587
11	44,375	52	2975	19	0.00	6.25	6506430	4,057,249	116497	95,323,635	95,335,139
12	44,381	57	2975	19	0.00	6.08	6506430	4,057,249	116497	95,330,452	95,361,738
13	44,387	27	2975	19	0.00	5.50	6506430	4,057,249	116497	95,336,636	95,385,844
14	44,393	34	2975	19	0.00	6.12	6506430	4,057,249	116497	95,343,535	95,412,797
15	44,399	27	2975	19	0.00	5.88	6506815	4,057,249	116497	95,350,180	95,438,777
16	44,404	47	2975	19	0.00	5.33	6506815	4,057,249	116497	95,356,186	95,462,309
17	44,411	3	2975	19	0.00	6.27	6506815	4,057,249	116497	95,363,299	95,490,020
18	44,417	19	2975	19	0.00	6.27	6506815	4,057,249	116497	95,370,385	95,517,600
19	44,423	16	2975	19	0.00	5.95	6506815	4,057,249	116497	95,377,080	95,543,672
20	44,429	11	2975	19	0.00	5.92	6506815	4,057,249	116497	95,383,728	95,569,519
21	44,430	4	2975	19	0.00	0.88	6506815	4,057,249	116497	95,384,728	95,573,296
22	44,432	16	2975	19	0.00	2.20	6506817	4,057,249	116497	95,387,207	95,582,983
23	44,438	27	2975	19	0.00	6.18	6506817	4,057,249	116497	95,394,207	95,610,329
24	44,444	22	2975	19	0.00	5.92	6506817	4,057,249	116497	95,400,981	95,636,766
25	44,450	45	2975	19	0.00	6.38	6506817	4,057,249	116497	95,408,320	95,665,309
26	44,456	53	2975	19	0.00	6.13	6506817	4,057,249	116497	95,415,414	95,692,815
27	44,463	4	2975	44	0.42	6.18	6507048	4,058,357	116497	95,422,554	95,720,514
28	44,469	55	2979	4	3.33	6.85	6508539	4,067,087	116497	95,430,461	95,751,266
29	44,475	30	2979	4	0.00	5.58	6508539	4,067,087	116497	95,436,904	95,776,461
30	44,481	45	2979	4	0.00	6.25	6508539	4,067,087	116497	95,444,062	95,804,552
31	44,487	50	2979	4	0.00	6.08	6509044	4,067,087	116497	95,451,043	95,831,881
					Total	**Gallons**	**2,621**	**9,838**	**0**	**201,150**	**784,998**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Apr-13

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	22.63	0.00	0	0	505	0	6,981	74.87	27,329
1	20.11	0.00	0	0	0	0	7,018	74.90	27,415
2	10.43	0.00	0	0	0	0	6,780	74.50	26,150
3	12.03	0.00	0	0	978	0	7,175	75.03	28,287
4	11.38	0.00	0	0	0	0	6,800	74.78	26,623
5	30.02	0.00	0	0	0	0	7,454	74.74	29,224
6	12.81	0.00	0	0	0	0	7,459	74.72	29,140
7	12.64	0.00	0	0	976	0	7,095	74.80	27,602
8	14.16	0.00	0	0	0	0	6,815	74.72	26,450
9	11.21	0.00	0	0	0	0	7,244	74.49	28,232
10	11.68	0.00	0	0	3,744	0	6,193	74.87	24,183
11	11.51	0.00	0	0	0	0	7,091	74.83	27,686
12	11.77	0.00	0	0	0	0	7,311	74.67	28,526
13	11.64	0.00	0	0	0	0	5,302	75.01	20,703
14	13.60	0.00	0	0	0	0	5,508	74.97	21,516
15	13.60	0.00	0	0	0	0	7,091	74.53	27,501
16	12.86	0.00	0	0	0	0	7,186	74.79	27,821
17	14.73	0.00	0	0	0	0	5,299	74.89	20,520
18	13.68	0.04	0	0	0	0	6,694	74.82	26,037
19	13.81	0.00	0	0	0	0	6,352	74.74	24,665
20	14.29	0.00	0	0	0	0	6,854	74.63	26,865
21	15.46	0.00	0	0	0	0	6,472	74.52	25,261
22	21.20	0.00	0	0	0	0	6,455	74.33	25,196
23	17.46	0.00	0	0	0	0	6,079	74.37	23,725
24	34.79	0.00	0	0	0	0	4,280	74.30	16,718
25	17.07	0.00	0	0	0	0	6,601	74.82	25,665
26	14.03	0.00	44	0	498	2,351	6,975	74.97	27,065
27	13.99	0.00	39	0	6,707	195	4,837	74.79	18,847
28	16.46	0.30	0	0	0	0	7,256	74.88	28,303
29	14.77	0.00	0	0	0	0	7,185	74.84	27,840
30	12.55	0.00	0	0	2,288	0	5,829	74.63	22,688
			Total Gallons:	**0**	**15,191**	**2,546**	**196,690**		**766,453**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Apr-13

Day	Discharge Pump 12 (hr)	Discharge Pump 12 (min)	Cell 2 Influent Pump (hr)	Cell 2 Influent Pump (min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
31	44,487	50	2979	4	0.00	6.08	6509044	4,067,087	116497	95,451,043	95,831,881
1	44,493	56	2979	4	0.00	6.10	6509044	4,067,087	116497	95,458,061	95,859,295
2	44,499	47	2979	4	0.00	5.85	6509044	4,067,087	116497	95,464,841	95,885,446
3	44,506	4	2979	4	0.00	6.28	6510022	4,067,087	116497	95,472,016	95,913,733
4	44,511	60	2979	4	0.00	5.93	6510022	4,067,087	116497	95,478,816	95,940,356
5	44,518	31	2979	4	0.00	6.52	6510022	4,067,087	116497	95,486,269	95,969,580
6	44,525	1	2979	4	0.00	6.50	6510022	4,067,087	116497	95,493,729	95,998,719
7	44,531	10	2979	4	0.00	6.15	6510998	4,067,087	116497	95,500,823	96,026,322
8	44,537	4	2979	4	0.00	5.90	6510998	4,067,087	116497	95,507,638	96,052,772
9	44,543	23	2979	4	0.00	6.32	6510998	4,067,087	116497	95,514,882	96,081,003
10	44,548	46	2979	4	0.00	5.38	6514742	4,067,087	116497	95,521,075	96,105,186
11	44,554	56	2979	4	0.00	6.17	6514742	4,067,087	116497	95,528,166	96,132,872
12	44,561	18	2979	4	0.00	6.37	6514742	4,067,087	116497	95,535,477	96,161,397
13	44,565	54	2979	4	0.00	4.60	6514742	4,067,087	116497	95,540,780	96,182,100
14	44,570	41	2979	4	0.00	4.78	6514742	4,067,087	116497	95,546,288	96,203,616
15	44,576	50	2979	4	0.00	6.15	6514742	4,067,087	116497	95,553,379	96,231,117
16	44,583	2	2979	4	0.00	6.20	6514742	4,067,087	116497	95,560,566	96,258,937
17	44,587	36	2979	4	0.00	4.57	6514742	4,067,087	116497	95,565,864	96,279,457
18	44,593	24	2979	4	0.00	5.80	6514742	4,067,087	116497	95,572,558	96,305,495
19	44,598	54	2979	4	0.00	5.50	6514742	4,067,087	116497	95,578,911	96,330,160
20	44,604	54	2979	4	0.00	6.00	6514742	4,067,087	116497	95,585,764	96,357,025
21	44,610	33	2979	4	0.00	5.65	6514742	4,067,087	116497	95,592,237	96,382,286
22	44,616	12	2979	4	0.00	5.65	6514742	4,067,087	116497	95,598,692	96,407,482
23	44,621	31	2979	4	0.00	5.32	6514742	4,067,087	116497	95,604,771	96,431,207
24	44,625	16	2979	4	0.00	3.75	6514742	4,067,087	116497	95,609,051	96,447,925
25	44,630	59	2979	4	0.00	5.72	6514742	4,067,087	116497	95,615,652	96,473,590
26	44,636	60	2979	58	0.90	6.02	6515241	4,069,437	116497	95,622,627	96,500,654
27	44,641	12	2980	3	0.08	4.20	6521947	4,069,633	116497	95,627,463	96,519,502
28	44,647	30	2980	3	0.00	6.30	6521947	4,069,633	116497	95,634,719	96,547,804
29	44,653	42	2980	3	0.00	6.20	6521947	4,069,633	116497	95,641,904	96,575,645
30	44,658	46	2980	3	0.00	5.07	6524235	4,069,633	116497	95,647,733	96,598,333
					Total	**Gallons**	**15,191**	**2,546**	**0**	**196,690**	**766,453**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of May-13

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	12.55	0.00	0	0	2,288	0	5,829	74.63	22,688
1	12.34	1.00	18	0	8	18	6,497	74.54	25,269
2	12.51	0.96	0	0	0	0	6,792	355.93	126,353
3	12.77	1.00	0	0	0	0	4,630	74.07	17,999
4	13.12	1.04	0	0	0	0	6,419	74.12	24,756
5	13.12	1.26	0	0	0	0	4,260	-380.41	-83,690
6	13.25	1.56	0	0	0	0	6,695	361.78	125,538
7	13.34	1.65	0	0	1,149	0	6,632	73.47	25,494
8	13.60	1.95	0	0	2,773	0	5,085	73.50	19,697
9	13.90	2.09	0	0	0	0	6,649	-211.92	-74,172
10	14.03	2.22	0	0	0	0	7,173	73.59	27,964
11	14.29	2.43	0	0	0	0	2,575	804.15	110,168
12	14.51	2.69	0	0	0	0	4,557	73.69	17,760
13	15.16	2.74	0	0	0	0	6,171	73.75	24,116
14	15.29	2.87	0	0	0	0	6,659	-213.89	-74,005
15	15.46	2.95	0	0	0	0	7,579	329.76	129,597
16	15.77	3.26	0	0	0	0	7,060	75.44	27,536
17	16.12	3.74	0	0	0	0	7,470	75.43	29,041
18	16.12	2.95	0	0	0	0	4,862	-322.03	-80,829
19	16.25	3.26	0	0	0	0	4,590	503.75	117,877
20	16.42	3.74	0	0	0	0	6,940	76.94	26,930
21	16.64	3.69	0	0	0	0	7,518	78.12	29,140
22	16.77	3.78	0	0	0	0	7,475	78.28	28,963
23	16.98	3.95	0	0	0	0	6,908	78.32	26,630
24	16.98	4.17	0	0	0	0	7,645	78.06	29,586
25	17.33	4.34	0	0	0	0	7,216	-199.32	-71,954
26	17.16	4.52	0	0	0	0	7,512	341.69	129,157
27	17.38	4.52	0	0	0	0	7,003	77.16	27,237
28	17.77	4.91	0	0	0	0	7,557	76.28	29,368
29	0.00	4.65	0	0	0	0	6,785	n/a	n/a
30	0.00	4.82	0	0	0	0	7,074	75.75	27,422
31	0.00	5.26	0	0	0	0	6,712	75.22	26,100
			Total Gallons:	**0**	**3,930**	**18**	**198,699**		**845,050**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

May-13

	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	44,658	46	2980	3	0.00	5.07	6524235	4,069,633	116497	95,647,733	96,598,333
1	44,664	25	2980	4	0.02	5.65	6524243	4,069,651	116497	95,654,230	96,623,602
2	44,670	20	2980	4	0.00	5.92	6524243	4,069,651	116497	95,661,022	96,749,955
3	44,674	23	2980	4	0.00	4.05	6524243	4,069,651	116497	95,665,653	96,767,954
4	44,679	57	2980	4	0.00	5.57	6524243	4,069,651	116497	95,672,072	96,792,710
5	44,683	37	2980	4	0.00	3.67	6524243	4,069,651	116497	95,676,333	96,709,020
6	44,689	24	2980	4	0.00	5.78	6524243	4,069,651	116497	95,683,028	96,834,558
7	44,695	11	2980	4	0.00	5.78	6525392	4,069,651	116497	95,689,660	96,860,052
8	44,699	39	2980	4	0.00	4.47	6528165	4,069,651	116497	95,694,744	96,879,750
9	44,705	29	2980	4	0.00	5.83	6528165	4,069,651	116497	95,701,393	96,805,578
10	44,711	49	2980	4	0.00	6.33	6528165	4,069,651	116497	95,708,566	96,833,542
11	44,714	6	2980	4	0.00	2.28	6528165	4,069,651	116497	95,711,141	96,943,710
12	44,718	7	2980	4	0.00	4.02	6528165	4,069,651	116497	95,715,698	96,961,471
13	44,723	34	2980	4	0.00	5.45	6528165	4,069,651	116497	95,721,869	96,985,587
14	44,729	20	2980	4	0.00	5.77	6528165	4,069,651	116497	95,728,528	96,911,582
15	44,735	53	2980	4	0.00	6.55	6528165	4,069,651	116497	95,736,107	97,041,179
16	44,741	58	2980	4	0.00	6.08	6528165	4,069,651	116497	95,743,168	97,068,715
17	44,748	23	2980	4	0.00	6.42	6528165	4,069,651	116497	95,750,637	97,097,756
18	44,752	34	2980	4	0.00	4.18	6528165	4,069,651	116497	95,755,499	97,016,927
19	44,756	28	2980	4	0.00	3.90	6528165	4,069,651	116497	95,760,089	97,134,804
20	44,762	18	2980	4	0.00	5.83	6528165	4,069,651	116497	95,767,029	97,161,734
21	44,768	31	2980	4	0.00	6.22	6528165	4,069,651	116497	95,774,547	97,190,874
22	44,774	41	2980	4	0.00	6.17	6528165	4,069,651	116497	95,782,022	97,219,837
23	44,780	21	2980	4	0.00	5.67	6528165	4,069,651	116497	95,788,930	97,246,466
24	44,786	40	2980	4	0.00	6.32	6528165	4,069,651	116497	95,796,575	97,276,052
25	44,792	41	2980	4	0.00	6.02	6528165	4,069,651	116497	95,803,791	97,204,099
26	44,798	59	2980	4	0.00	6.30	6528165	4,069,651	116497	95,811,303	97,333,256
27	44,804	52	2980	4	0.00	5.88	6528165	4,069,651	116497	95,818,305	97,360,494
28	44,811	17	2980	4	0.00	6.42	6528165	4,069,651	116497	95,825,862	97,389,861
29	44,817	4	2980	4	0.00	5.78	6528165	4,069,651	116497	95,832,647	16,197
30	44,823	6	2980	4	0.00	6.03	6528165	4,069,651	116497	95,839,721	43,620
31	44,828	53	2980	4	0.00	5.78	6528165	4,069,651	116497	95,846,433	69,719
					Total	**Gallons**	**3,930**	**18**	**0**	**198,699**	**845,050**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Jun-13

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	5.26	0	0	0	0	6,712	75.22	26,100
1	17.85	5.39	0	0	0	0	7,014	n/a	n/a
2	17.85	5.34	0	0	0	0	7,430	77.11	29,072
3	18.07	5.60	0	0	2,942	0	6,879	77.63	26,628
4	11.51	5.82	44	0	7,670	5,479	6,709	78.34	25,695
5	11.82	5.95	0	0	635	0	6,386	79.14	24,374
6	11.99	6.04	0	0	0	0	7,300	79.14	27,935
7	12.12	6.04	0	0	0	0	4,715	79.15	18,125
8	12.47	6.34	0	0	0	0	6,213	79.34	24,040
9	12.68	6.52	0	0	0	0	6,385	79.56	24,663
10	12.77	6.52	0	0	0	0	6,359	79.32	24,430
11	13.03	6.73	0	0	0	0	5,054	79.25	19,417
12	13.29	6.91	0	0	0	0	2,893	79.18	11,085
13	13.42	6.95	0	0	0	0	3,916	79.32	14,912
14	13.73	7.34	0	0	0	0	6,100	79.22	23,369
15	13.68	7.17	0	0	0	0	5,714	79.13	21,919
16	13.90	7.38	0	0	0	0	6,370	79.38	24,451
17	14.25	7.69	0	0	0	0	6,415	79.02	24,496
18	14.33	7.78	0	0	0	0	6,054	79.30	23,156
19	13.68	7.91	32	0	1,050	585	6,461	79.25	24,807
20	13.90	8.04	0	0	0	0	5,183	79.40	20,010
21	13.94	8.34	33	0	0	167	6,080	79.32	23,557
22	14.25	8.64	0	0	0	0	5,578	79.39	21,514
23	14.42	8.82	0	0	0	0	5,849	79.22	22,656
24	14.59	9.03	0	0	0	0	6,539	79.32	25,224
25	14.68	9.08	0	0	0	0	6,416	79.36	24,840
26	14.81	9.17	0	0	0	0	6,286	79.41	24,219
27	15.03	9.47	0	0	0	0	6,193	79.38	23,894
28	15.16	9.69	0	0	0	0	6,200	78.99	23,775
29	15.29	9.95	0	0	0	0	6,278	79.42	24,064
30	15.38	10.21	0	0	0	0	6,233	79.23	23,768
			Total Gallons:	**0**	**12,297**	**6,231**	**181,203**		**670,091**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Jun-13

Day	Discharge Pump 12 (hr)	Discharge Pump 12 (min)	Cell 2 Influent Pump (hr)	Cell 2 Influent Pump (min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
31	44,828	53	2980	4	0.00	5.78	6528165	4,069,651	116497	95,846,433	69,719
1	44,834	49	2980	4	0.00	5.93	6528165	4,069,651	116497	95,853,447	97,397,072
2	44,841	6	2980	4	0.00	6.28	6528165	4,069,651	116497	95,860,877	97,426,143
3	44,846	49	2980	4	0.00	5.72	6531107	4,069,651	116497	95,867,757	97,452,771
4	44,852	17	2982	9	2.08	5.47	6538777	4,075,130	116497	95,874,466	97,478,466
5	44,857	25	2982	9	0.00	5.13	6539412	4,075,130	116497	95,880,851	97,502,840
6	44,863	18	2982	9	0.00	5.88	6539412	4,075,130	116497	95,888,151	97,530,775
7	44,867	7	2982	9	0.00	3.82	6539412	4,075,130	116497	95,892,866	97,548,899
8	44,872	10	2982	9	0.00	5.05	6539412	4,075,130	116497	95,899,079	97,572,939
9	44,877	20	2982	9	0.00	5.17	6539412	4,075,130	116497	95,905,463	97,597,602
10	44,882	28	2982	9	0.00	5.13	6539412	4,075,130	116497	95,911,823	97,622,032
11	44,886	33	2982	9	0.00	4.08	6539412	4,075,130	116497	95,916,876	97,641,449
12	44,888	53	2982	9	0.00	2.33	6539412	4,075,130	116497	95,919,770	97,652,533
13	44,892	1	2982	9	0.00	3.13	6539412	4,075,130	116497	95,923,685	97,667,445
14	44,896	56	2982	9	0.00	4.92	6539412	4,075,130	116497	95,929,786	97,690,814
15	44,901	33	2982	9	0.00	4.62	6539412	4,075,130	116497	95,935,499	97,712,732
16	44,906	41	2982	9	0.00	5.13	6539412	4,075,130	116497	95,941,870	97,737,183
17	44,911	51	2982	9	0.00	5.17	6539412	4,075,130	116497	95,948,285	97,761,679
18	44,916	43	2982	9	0.00	4.87	6539412	4,075,130	116497	95,954,339	97,784,835
19	44,921	56	2982	27	0.30	5.22	6540462	4,075,715	116497	95,960,800	97,809,642
20	44,926	8	2982	27	0.00	4.20	6540462	4,075,715	116497	95,965,983	97,829,652
21	44,931	5	2982	32	0.08	4.95	6540462	4,075,882	116497	95,972,063	97,853,209
22	44,935	36	2982	32	0.00	4.52	6540462	4,075,882	116497	95,977,641	97,874,723
23	44,940	22	2982	32	0.00	4.77	6540462	4,075,882	116497	95,983,490	97,897,378
24	44,945	40	2982	32	0.00	5.30	6540462	4,075,882	116497	95,990,028	97,922,602
25	44,950	53	2982	32	0.00	5.22	6540462	4,075,882	116497	95,996,444	97,947,442
26	44,955	58	2982	32	0.00	5.08	6540462	4,075,882	116497	96,002,731	97,971,662
27	44,960	59	2982	32	0.00	5.02	6540462	4,075,882	116497	96,008,924	97,995,556
28	44,965	60	2982	32	0.00	5.02	6540462	4,075,882	116497	96,015,124	98,019,331
29	44,971	3	2982	32	0.00	5.05	6540462	4,075,882	116497	96,021,402	98,043,394
30	44,976	3	2982	32	0.00	5.00	6540462	4,075,882	116497	96,027,635	98,067,162
					Total	**Gallons**	**12,297**	**6,231**	**0**	**181,203**	**670,091**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill

Month of Jul-13

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	15.38	10.21	0	0	0	0	6,233	79.23	23,768
1	15.46	10.43	0	0	0	0	6,945	79.12	26,427
2	15.72	10.86	0	0	0	0	6,594	79.14	25,245
3	15.85	11.21	0	0	0	0	6,971	79.23	26,779
4	16.20	11.73	0	0	0	0	6,248	79.46	24,234
5	16.29	12.03	0	0	0	0	5,564	79.28	21,326
6	16.38	12.42	0	0	0	0	4,887	79.19	18,689
7	16.46	12.68	0	0	0	0	5,106	79.30	19,587
8	16.68	13.12	0	0	0	0	6,404	79.04	24,503
9	16.81	13.55	0	0	0	0	6,626	79.26	25,205
10	16.94	13.90	0	0	0	0	4,477	79.16	17,098
11	17.20	14.42	0	0	0	0	5,808	79.23	22,264
12	17.16	14.59	0	0	0	0	5,964	79.36	22,935
13	17.46	15.25	0	0	0	0	6,062	79.26	23,223
14	17.59	15.59	0	0	0	0	6,013	79.03	22,918
15	17.81	16.20	0	0	0	0	6,084	79.19	23,125
16	17.77	16.42	0	0	0	0	6,313	78.98	23,932
17	17.90	16.72	0	0	0	0	6,985	79.35	26,663
18	18.16	17.29	0	0	0	0	4,146	79.05	15,809
19	18.33	17.81	0	0	0	0	5,847	79.17	22,246
20	18.42	18.24	0	0	0	0	5,827	79.10	22,227
21	18.50	18.63	0	0	0	0	5,981	79.18	22,882
22	18.68	19.07	0	0	0	0	5,105	79.22	19,488
23	18.85	19.55	0	0	0	0	4,631	79.04	17,546
24	18.94	19.94	0	0	0	0	4,960	79.11	18,749
25	19.20	20.46	0	0	0	0	4,519	79.00	17,142
26	19.16	20.72	0	0	0	0	4,661	79.21	17,664
27	19.37	21.37	0	0	0	0	4,581	79.01	17,462
28	19.42	21.72	0	0	0	0	4,099	78.68	15,578
29	19.46	22.02	0	0	0	0	4,858	78.97	18,480
30	19.68	22.50	0	0	0	0	4,824	79.36	18,412
31	19.76	22.94	0	0	0	0	4,684	79.09	17,875
			Total Gallons:	**0**	**0**	**0**	**171,776**		**655,714**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Jul-13

	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	44,976	3	2982	32	0.00	5.00	6540462	4,075,882	116497	96,027,635	98,067,162
1	44,981	37	2982	32	0.00	5.57	6540462	4,075,882	116497	96,034,581	98,093,590
2	44,986	56	2982	32	0.00	5.32	6540462	4,075,882	116497	96,041,175	98,118,835
3	44,992	34	2982	32	0.00	5.63	6540462	4,075,882	116497	96,048,146	98,145,614
4	44,997	39	2982	32	0.00	5.08	6540462	4,075,882	116497	96,054,394	98,169,848
5	45,002	8	2982	32	0.00	4.48	6540462	4,075,882	116497	96,059,958	98,191,174
6	45,006	4	2982	32	0.00	3.93	6540462	4,075,882	116497	96,064,845	98,209,863
7	45,010	11	2982	32	0.00	4.12	6540462	4,075,882	116497	96,069,951	98,229,450
8	45,015	21	2982	32	0.00	5.17	6540462	4,075,882	116497	96,076,355	98,253,953
9	45,020	39	2982	32	0.00	5.30	6540462	4,075,882	116497	96,082,981	98,279,158
10	45,024	15	2982	32	0.00	3.60	6540462	4,075,882	116497	96,087,458	98,296,255
11	45,028	56	2982	32	0.00	4.68	6540462	4,075,882	116497	96,093,266	98,318,519
12	45,033	45	2982	32	0.00	4.82	6540462	4,075,882	116497	96,099,230	98,341,454
13	45,038	38	2982	32	0.00	4.88	6540462	4,075,882	116497	96,105,292	98,364,677
14	45,043	28	2982	32	0.00	4.83	6540462	4,075,882	116497	96,111,306	98,387,595
15	45,048	20	2982	32	0.00	4.87	6540462	4,075,882	116497	96,117,390	98,410,719
16	45,053	23	2982	32	0.00	5.05	6540462	4,075,882	116497	96,123,703	98,434,651
17	45,058	59	2982	32	0.00	5.60	6540463	4,075,882	116497	96,130,687	98,461,314
18	45,062	19	2982	32	0.00	3.33	6540463	4,075,882	116497	96,134,833	98,477,124
19	45,066	60	2982	32	0.00	4.68	6540463	4,075,882	116497	96,140,680	98,499,370
20	45,071	41	2982	32	0.00	4.68	6540463	4,075,882	116497	96,146,507	98,521,597
21	45,076	30	2982	32	0.00	4.82	6540463	4,075,882	116497	96,152,488	98,544,480
22	45,080	36	2982	32	0.00	4.10	6540463	4,075,882	116497	96,157,593	98,563,968
23	45,084	18	2982	32	0.00	3.70	6540463	4,075,882	116497	96,162,224	98,581,514
24	45,088	15	2982	32	0.00	3.95	6540463	4,075,882	116497	96,167,185	98,600,263
25	45,091	52	2982	32	0.00	3.62	6540463	4,075,882	116497	96,171,704	98,617,405
26	45,095	35	2982	32	0.00	3.72	6540463	4,075,882	116497	96,176,365	98,635,069
27	45,099	16	2982	32	0.00	3.68	6540463	4,075,882	116497	96,180,947	98,652,531
28	45,102	34	2982	32	0.00	3.30	6540463	4,075,882	116497	96,185,046	98,668,109
29	45,106	28	2982	32	0.00	3.90	6540463	4,075,882	116497	96,189,904	98,686,589
30	45,110	20	2982	32	0.00	3.87	6540463	4,075,882	116497	96,194,728	98,705,001
31	45,114	6	2982	32	0.00	3.77	6540463	4,075,882	116497	96,199,412	98,722,876
					Total	**Gallons**	**0**	**0**	**0**	**171,776**	**655,714**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill
Month of Aug-13

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	19.76	22.94	0	0	0	0	4,684	79.09	17,875
1	19.94	18.90	0	0	0	0	4,580	78.99	17,457
2	20.11	19.07	0	0	0	0	4,104	78.82	15,606
3	20.24	18.98	0	0	0	0	2,827	78.73	10,707
4	20.33	19.29	0	0	0	0	4,877	79.13	18,516
5	20.42	19.42	0	0	0	0	5,022	79.08	19,138
6	20.55	19.46	0	0	0	0	4,698	78.95	17,843
7	20.59	19.55	0	0	0	0	4,794	78.88	18,064
8	20.85	19.94	0	0	0	0	4,405	78.30	16,287
9	21.07	19.72	0	0	0	0	4,681	78.35	17,159
10	21.02	19.46	0	0	0	0	4,735	76.82	17,591
11	12.29	20.20	2	52	0	364	4,480	78.94	17,131
12	12.55	20.37	0	12	0	0	4,544	79.17	17,260
13	12.94	20.42	0	0	0	0	4,893	78.93	18,549
14	13.16	20.76	0	0	0	0	4,777	79.10	18,114
15	13.34	20.98	0	0	0	0	4,826	79.16	18,365
16	13.51	21.15	0	1	0	0	5,286	79.20	20,038
17	13.64	21.28	0	0	0	0	5,990	79.13	22,710
18	13.94	21.37	0	0	0	0	5,455	78.98	20,694
19	14.03	21.46	0	0	0	0	5,976	79.15	22,637
20	14.25	21.72	0	0	0	0	5,634	78.92	21,386
21	14.51	21.63	0	0	0	0	5,749	79.08	21,827
22	14.59	21.98	0	0	0	0	5,580	79.10	21,119
23	14.77	21.94	0	0	0	0	5,536	79.12	21,046
24	14.81	22.07	0	0	0	0	5,441	79.05	20,791
25	15.07	22.24	0	0	0	0	6,154	79.24	23,534
26	15.16	22.46	0	0	0	0	6,098	79.12	23,261
27	15.33	22.46	0	0	0	0	5,546	78.97	21,086
28	15.46	19.50	0	0	0	0	5,703	78.91	21,700
29	15.51	19.59	0	0	0	0	5,602	79.26	21,401
30	15.85	19.68	0	0	0	0	5,692	78.91	21,701
31	16.03	19.94	0	0	0	0	3,943	79.03	15,016
			Total Gallons:	**65**	**0**	**364**	**157,630**		**597,736**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill **Hour Meters** **Totalizers**

Aug-13

Day	Discharge Pump 12 (hr)	(min)	Cell 2 Influent Pump (hr)	(min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
31	45,114	6	2982	32	0.00	3.77	6540463	4,075,882	116497	96,199,412	98,722,876
1	45,117	47	2982	32	0.00	3.68	6540463	4,075,882	116497	96,203,992	98,740,333
2	45,121	5	2982	32	0.00	3.30	6540463	4,075,882	116497	96,208,096	98,755,939
3	45,123	21	2982	32	0.00	2.27	6540463	4,075,882	116497	96,210,923	98,766,647
4	45,127	15	2982	32	0.00	3.90	6540463	4,075,882	116497	96,215,800	98,785,162
5	45,131	17	2982	32	0.00	4.03	6540463	4,075,882	116497	96,220,822	98,804,301
6	45,135	3	2982	32	0.00	3.77	6540463	4,075,882	116497	96,225,520	98,822,144
7	45,138	52	2982	32	0.00	3.82	6540463	4,075,882	116497	96,230,314	98,840,208
8	45,142	20	2982	32	0.00	3.47	6540463	4,075,882	116497	96,234,719	98,856,495
9	45,145	59	2982	32	0.00	3.65	6540463	4,075,882	116497	96,239,400	98,873,654
10	45,149	48	2982	32	0.00	3.82	6540463	4,075,882	116497	96,244,135	98,891,245
11	45,153	25	2985	47	3.25	3.62	6540463	4,076,246	116548	96,248,615	98,908,376
12	45,157	3	2985	55	0.13	3.63	6540463	4,076,246	116561	96,253,160	98,925,636
13	45,160	58	2985	55	0.00	3.92	6540463	4,076,246	116561	96,258,053	98,944,185
14	45,164	47	2985	55	0.00	3.82	6540463	4,076,246	116561	96,262,830	98,962,299
15	45,168	39	2985	55	0.00	3.87	6540463	4,076,246	116561	96,267,656	98,980,664
16	45,172	52	2985	55	0.00	4.22	6540463	4,076,246	116561	96,272,943	99,000,702
17	45,177	39	2985	55	0.00	4.78	6540463	4,076,246	116561	96,278,933	99,023,412
18	45,182	1	2985	55	0.00	4.37	6540463	4,076,246	116561	96,284,388	99,044,106
19	45,186	47	2985	55	0.00	4.77	6540463	4,076,246	116561	96,290,364	99,066,743
20	45,191	18	2985	55	0.00	4.52	6540463	4,076,246	116561	96,295,998	99,088,129
21	45,195	54	2985	55	0.00	4.60	6540463	4,076,246	116561	96,301,747	99,109,956
22	45,200	21	2985	55	0.00	4.45	6540463	4,076,246	116561	96,307,327	99,131,075
23	45,204	47	2985	55	0.00	4.43	6540463	4,076,246	116561	96,312,863	99,152,122
24	45,209	10	2985	55	0.00	4.38	6540463	4,076,246	116561	96,318,303	99,172,913
25	45,214	7	2985	55	0.00	4.95	6540463	4,076,246	116561	96,324,458	99,196,446
26	45,219	1	2985	55	0.00	4.90	6540463	4,076,246	116561	96,330,556	99,219,708
27	45,223	28	2985	55	0.00	4.45	6540463	4,076,246	116561	96,336,102	99,240,794
28	45,228	3	2985	55	0.00	4.58	6540463	4,076,246	116561	96,341,805	99,262,493
29	45,232	33	2985	55	0.00	4.50	6540463	4,076,246	116561	96,347,407	99,283,894
30	45,237	8	2985	55	0.00	4.58	6540463	4,076,246	116561	96,353,099	99,305,595
31	45,240	18	2985	55	0.00	3.17	6540463	4,076,246	116561	96,357,042	99,320,612
					Total	**Gallons**	**0**	**364**	**65**	**157,630**	**597,736**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill
Month of Sep-13

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
1	16.07	20.11	0	0	0	0	6,193	79.10	23,652
2	16.20	20.20	0	0	0	0	5,773	78.78	21,980
3	16.38	20.29	0	0	0	0	5,678	78.98	21,641
4	16.68	20.37	0	0	0	0	4,851	79.11	18,511
5	16.72	20.59	0	0	0	0	6,692	79.02	25,523
6	16.85	20.85	0	600	0	0	5,754	79.21	22,020
			Total Gallons:	**600**	**0**	**0**	**28,748**		**109,676**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

No data forward due to phone line failure. Data resumes on 10/29/13

Hidden Valley Landfill **Hour Meters** **Totalizers**

Sep-13

Day	Discharge Pump 12 (hr)	(min)	Cell 2 Influent Pump (hr)	(min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
1	45,245	17	2985	55	0.00	4.98	6540463	4,076,246	116561	96,363,235	99,344,263
2	45,249	56	2985	55	0.00	4.65	6540463	4,076,246	116561	96,369,008	99,366,244
3	45,254	30	2985	55	0.00	4.57	6540463	4,076,246	116561	96,374,686	99,387,885
4	45,258	24	2985	55	0.00	3.90	6540463	4,076,246	116561	96,379,537	99,406,396
5	45,263	47	2985	55	0.00	5.38	6540463	4,076,246	116561	96,386,229	99,431,919
6	45,268	25	2986	12	0.28	4.63	6540463	4,076,246	117161	96,391,983	99,453,939

Total	**Gallons**	**0**	**0**	**600**	**28,748**	**109,676**
		Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Leachate Level and Volume Pumped
Third Quarter 2013 Monitoring Report
HIdden Valley Landfill, Pierce County, Washington

August 2013	
Date	**Leachate Level (inches)**
8/1/2013	22.97
8/7/2013	23.28
8/14/2013	23.73
8/21/2013	24.13
8/28/2013	23.19
Monthly Volume Pumped (gal)	3,000

September 2013	
Date	**Leachate Level (inches)**
9/1/2013	23.49
9/7/2013	23.38
9/14/2013	24.2
9/21/2013	21.67
9/28/2013	18.67
Monthly Volume Pumped (gal)	7,882

Data provided by Paul Thomas at HVL Leachate Plant.

Leachate Level and Volume Pumped
Fourth Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

October 2013	
Date	**Leachate Level (inches)**
10/1/2013	18.89
10/2/2013	19.12
10/3/2013	19.34
10/4/2013	19.60
10/5/2013	19.77
10/6/2013	19.96
10/7/2013	19.98
10/8/2013	20.13
10/9/2013	20.22
10/10/2013	20.29
10/11/2013	20.35
10/12/2013	20.47
10/13/2013	20.55
10/14/2013	21.33
10/15/2013	21.15
10/16/2013	21.00
10/17/2013	20.37
10/18/2013	20.20
10/19/2013	19.69
10/20/2013	19.78
10/21/2013	19.89
10/22/2013	19.97
10/23/2013	20.07
10/24/2013	20.09
10/25/2013	19.30
10/26/2013	19.43
10/27/2013	19.60
10/28/2013	19.63
10/29/2013	19.58
10/30/2013	19.68
10/31/2013	19.77
Monthly Volume Pumped (gal)	6,033

Data provided by LRI Personnel at HVL Leachate Plant.

Hidden Valley Landfill
Month of Nov-13

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	21.37	0.00	0	0	0	0	6,085	79.35	23,330
1	21.76	0.00	0	0	0	0	5,399	79.15	20,816
2	21.63	0.00	0	0	0	0	5,747	79.64	22,221
3	21.72	0.00	0	0	0	0	5,641	79.30	21,729
4	22.07	0.00	0	0	0	0	6,113	79.32	23,401
5	21.98	0.00	0	0	0	0	5,540	79.14	21,130
6	22.37	0.00	0	0	0	0	5,578	79.16	21,294
7	21.98	0.00	0	0	0	0	5,626	79.14	21,526
8	22.46	0.00	0	0	0	0	5,848	79.51	22,344
9	22.50	0.00	0	0	0	0	5,719	79.19	22,015
10	22.67	0.00	0	0	0	0	5,213	79.46	20,024
11	22.76	0.00	0	0	0	0	6,420	79.34	24,676
12	22.80	0.00	0	0	0	0	5,782	79.38	22,228
13	23.15	0.00	0	0	0	0	4,339	79.43	16,681
14	23.11	0.00	0	0	0	0	5,729	79.48	21,937
15	16.85	0.04	39	0	0	6,227	3,137	79.37	12,144
16	16.72	0.00	0	0	0	0	3,089	79.57	11,936
17	17.07	0.00	0	0	0	0	3,139	79.51	12,086
18	17.38	0.00	0	0	0	0	3,021	79.15	11,635
19	17.59	0.00	0	0	0	0	4,804	79.58	18,462
20	17.90	0.00	0	0	0	0	4,689	79.46	18,038
21	18.29	0.00	0	0	0	0	4,982	79.29	19,110
22	18.50	0.00	0	0	0	0	4,869	79.39	18,658
23	18.77	0.00	0	0	0	0	4,777	79.72	18,414
24	18.90	0.00	0	0	0	0	4,631	79.45	17,875
25	19.07	0.00	0	0	0	0	5,185	79.14	19,864
26	19.29	0.00	0	0	0	0	4,811	79.46	18,434
27	19.29	0.00	0	0	0	0	5,155	79.63	19,748
28	19.46	0.00	0	0	0	0	3,588	79.16	13,773
29	19.68	0.00	0	0	0	0	5,255	79.64	20,148
30	19.98	0.00	0	0	0	0	4,981	79.34	19,121
			Total Gallons:	**0**	**0**	**6,227**	**148,805**		**571,465**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill **Hour Meters** **Totalizers**

Nov-13

Day	Discharge Pump 12 (hr)	Discharge Pump 12 (min)	Cell 2 Influent Pump (hr)	Cell 2 Influent Pump (min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
31	45,871	10	2988	39	0.00	4.90	6552412	4,079,422	120275	96,692,797	100,635,337
1	45,875	33	2988	39	0.00	4.38	6552412	4,079,422	120275	96,698,196	100,656,153
2	45,880	12	2988	39	0.00	4.65	6552412	4,079,422	120275	96,703,943	100,678,373
3	45,884	46	2988	39	0.00	4.57	6552412	4,079,422	120275	96,709,584	100,700,102
4	45,889	41	2988	39	0.00	4.92	6552412	4,079,422	120275	96,715,697	100,723,502
5	45,894	8	2988	39	0.00	4.45	6552412	4,079,422	120275	96,721,237	100,744,632
6	45,898	37	2988	39	0.00	4.48	6552412	4,079,422	120275	96,726,815	100,765,926
7	45,903	9	2988	39	0.00	4.53	6552412	4,079,422	120275	96,732,440	100,787,452
8	45,907	50	2988	39	0.00	4.68	6552412	4,079,422	120275	96,738,288	100,809,795
9	45,912	28	2988	39	0.00	4.63	6552412	4,079,422	120275	96,744,007	100,831,811
10	45,916	40	2988	39	0.00	4.20	6552412	4,079,422	120275	96,749,220	100,851,835
11	45,921	51	2988	39	0.00	5.18	6552412	4,079,422	120275	96,755,639	100,876,511
12	45,926	31	2988	39	0.00	4.67	6552412	4,079,422	120275	96,761,421	100,898,738
13	45,930	1	2988	39	0.00	3.50	6552412	4,079,422	120275	96,765,760	100,915,419
14	45,934	37	2988	39	0.00	4.60	6552412	4,079,422	120275	96,771,490	100,937,356
15	45,937	10	2991	17	2.63	2.55	6552412	4,085,650	120275	96,774,627	100,949,500
16	45,939	40	2991	17	0.00	2.50	6552412	4,085,650	120275	96,777,716	100,961,436
17	45,942	12	2991	17	0.00	2.53	6552412	4,085,650	120275	96,780,855	100,973,521
18	45,944	39	2991	17	0.00	2.45	6552412	4,085,650	120275	96,783,876	100,985,157
19	45,948	31	2991	17	0.00	3.87	6552412	4,085,650	120275	96,788,680	101,003,619
20	45,952	18	2991	17	0.00	3.78	6552412	4,085,650	120275	96,793,369	101,021,657
21	45,956	19	2991	17	0.00	4.02	6552412	4,085,650	120275	96,798,351	101,040,767
22	45,960	14	2991	17	0.00	3.92	6552412	4,085,650	120275	96,803,220	101,059,424
23	45,964	5	2991	17	0.00	3.85	6552412	4,085,650	120275	96,807,996	101,077,839
24	45,967	50	2991	17	0.00	3.75	6552412	4,085,650	120275	96,812,628	101,095,714
25	45,972	1	2991	17	0.00	4.18	6552412	4,085,650	120275	96,817,813	101,115,578
26	45,975	53	2991	17	0.00	3.87	6552412	4,085,650	120275	96,822,623	101,134,012
27	45,980	1	2991	17	0.00	4.13	6552412	4,085,650	120275	96,827,778	101,153,760
28	45,982	55	2991	17	0.00	2.90	6552412	4,085,650	120275	96,831,366	101,167,533
29	45,987	8	2991	17	0.00	4.22	6552412	4,085,650	120275	96,836,621	101,187,681
30	45,991	9	2991	17	0.00	4.02	6552412	4,085,650	120275	96,841,602	101,206,802
					Total	**Gallons**	**0**	**6,227**	**0**	**148,805**	**571,465**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Hidden Valley Landfill
Month of Dec-13

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	19.98	0.00	0	0	0	0	4,981	79.34	19,121
1	19.98	0.00	0	0	0	0	4,888	79.49	18,759
2	20.02	0.00	0	0	0	0	5,346	79.12	20,333
3	19.11	0.00	27	0	0	710	4,880	79.34	18,566
4	19.42	0.04	0	143	0	0	4,729	79.62	17,914
5	19.63	0.04	0	0	0	0	4,302	78.97	16,347
6	19.68	0.09	0	0	0	0	5,911	79.54	22,511
7	19.89	0.09	0	0	0	0	5,170	79.11	19,700
8	19.98	0.35	0	0	0	0	5,539	79.47	21,139
9	20.20	1.35	0	0	0	0	5,837	79.28	22,197
10	20.33	0.09	0	0	0	0	5,418	79.48	20,745
11	20.46	27.93	0	0	0	0	5,369	254.44	65,645
12	20.42	30.10	0	0	0	0	4,336	56.29	11,764
13	20.68	3.48	0	0	0	0	4,199	85.64	17,299
14	20.81	1.26	0	0	0	0	3,267	-183.95	-29,064
15	20.85	6.12	0	0	0	0	3,064	79.49	11,764
16	21.20	33.27	0	0	0	0	4,538	79.35	17,299
17	21.24	18.85	0	0	0	0	5,839	79.14	22,239
18	21.20	52.04	0	0	0	0	6,117	79.17	23,198
19	21.63	17.68	0	0	0	0	5,069	79.26	19,259
20	21.55	5.30	0	0	0	0	5,201	79.02	19,596
21	21.68	0.78	0	0	0	0	5,666	79.60	21,732
22	21.85	1.35	0	0	0	0	5,642	79.45	21,609
23	21.63	11.55	0	0	0	0	5,861	79.16	22,403
24	22.07	1.13	0	0	0	0	5,540	79.36	21,188
25	22.20	0.13	0	0	0	0	2,849	79.57	10,980
26	22.33	0.17	0	0	0	0	4,011	79.48	15,340
27	22.20	0.13	0	0	0	0	22,610	79.45	21,214
28	22.50	0.13	0	0	0	0	4,324	79.34	21,819
29	22.72	32.75	0	0	0	0	-97,122	79.37	19,684
30	22.67	14.94	0	0	0	0	0	79.29	23,787
31	22.80	2.52	0	0	0	0	0	79.24	16,482
			Total Gallons:	**143**	**0**	**710**	**58,398**		**593,450**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge

Hidden Valley Landfill **Hour Meters** **Totalizers**

Dec-13

Day	Discharge Pump 12 (hr)	Discharge Pump 12 (min)	Cell 2 Influent Pump (hr)	Cell 2 Influent Pump (min)	Cell 2 Daily Hours	Pump 12 Daily Hours	Cell 1 Leachate Total Gals.	Cell 2 Leachate Total Gals.	Cell 2 Leak Total Gals.	304th Influent Total Gals.	Treatment Discharge Total Gals.
30	45,991	9	2991	17	0.00	4.02	6552412	4,085,650	120275	96,841,602	101,206,802
1	45,995	5	2991	17	0.00	3.93	6552412	4,085,650	120275	96,846,490	101,225,561
2	45,999	22	2991	17	0.00	4.28	6552412	4,085,650	120275	96,851,835	101,245,894
3	46,003	16	2991	43	0.43	3.90	6552412	4,086,359	120275	96,856,715	101,264,460
4	46,007	1	2991	46	0.05	3.75	6552412	4,086,359	120418	96,861,444	101,282,374
5	46,010	28	2991	46	0.00	3.45	6552412	4,086,359	120418	96,865,746	101,298,722
6	46,015	11	2991	46	0.00	4.72	6552412	4,086,359	120418	96,871,658	101,321,232
7	46,019	20	2991	46	0.00	4.15	6552412	4,086,359	120418	96,876,828	101,340,932
8	46,023	46	2991	46	0.00	4.43	6552412	4,086,359	120418	96,882,366	101,362,071
9	46,028	26	2991	46	0.00	4.67	6552412	4,086,359	120418	96,888,203	101,384,268
10	46,032	47	2991	46	0.00	4.35	6552412	4,086,359	120418	96,893,621	101,405,013
11	46,037	5	2991	46	0.00	4.30	6552412	4,086,359	120418	96,898,990	101,470,658
12	46,040	34	2991	46	0.00	3.48	6552412	4,086,359	120418	96,903,326	101,482,423
13	46,043	56	2991	46	0.00	3.37	6552412	4,086,359	120418	96,907,525	101,499,722
14	46,046	34	2991	46	0.00	2.63	6552412	4,086,359	120418	96,910,792	101,470,658
15	46,049	2	2991	46	0.00	2.47	6552412	4,086,359	120418	96,913,855	101,482,423
16	46,052	40	2991	46	0.00	3.63	6552412	4,086,359	120418	96,918,393	101,499,722
17	46,057	21	2991	46	0.00	4.68	6552412	4,086,359	120418	96,924,233	101,521,961
18	46,062	14	2991	46	0.00	4.88	6552412	4,086,359	120418	96,930,350	101,545,159
19	46,066	17	2991	46	0.00	4.05	6552412	4,086,359	120418	96,935,418	101,564,418
20	46,070	25	2991	46	0.00	4.13	6552412	4,086,359	120418	96,940,619	101,584,014
21	46,074	58	2991	46	0.00	4.55	6552412	4,086,359	120418	96,946,285	101,605,745
22	46,079	30	2991	46	0.00	4.53	6552412	4,086,359	120418	96,951,927	101,627,354
23	46,084	13	2991	46	0.00	4.72	6552412	4,086,359	120418	96,957,788	101,649,757
24	46,088	40	2991	46	0.00	4.45	6552412	4,086,359	120418	96,963,328	101,670,945
25	46,090	58	2991	46	0.00	2.30	6552412	4,086,359	120418	96,966,177	101,681,926
26	46,094	11	2991	46	0.00	3.22	6552412	4,086,359	120418	96,970,188	101,697,266
27	46,098	38	2991	46	0.00	4.45	6552412	4,086,359	120418	96,992,798	101,718,480
28	46,103	13	2991	46	0.00	4.58	6552412	4,086,359	120418	96,997,122	101,740,299
29	46,107	21	2991	46	0.00	4.13	6552412	4,086,359	120418	96,900,000	101,759,982
30	46,112	21	2991	46	0.00	5.00	6552412	4,086,359	120418	96,900,000	101,783,769
31	46,115	49	2991	46	0.00	3.47	6552412	4,086,359	120418	96,900,000	101,800,252
					Total	**Gallons**	**0**	**710**	**143**	**58,398**	**593,450**
							Cell 1 Leachate	Cell 2 Leachate	Cell 2 Leak	304th Influent	Treatment Discharge

Appendix C
Groundwater Monitoring Data for 2013

First Quarter 2013

Table 1
2013 Performance Monitoring Data
Main Sump and Side Slope Liner Areas
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/month)	Monthly Rainfall (inches)
January	68707	10150	0	3.30
February	26207	289	0	2.60
March	2621	9838	0	5.00

Notes:
(a) Leakage is based on the volume of fluid pumped from the leak detection sump as recorded by LRI staff.

Table 2
Water Level Elevations
January 17, 2013
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	27.73	432.96
MW-11S	516.44	90.42	426.02
MW-11D	516.56	90.71	425.85
MW-11D(2)	515.53	90.15	425.38
MW-12S	489.94	62.80	427.14
MW-12D	489.97	64.95	425.02
MW-13S	448.81	22.61	426.20
MW-13D	448.94	22.96	425.98
MW-14S	477.95	46.55	431.40
MW-14D	477.98	48.63	429.35
MW-14R	476.84	117.91	358.93
MW-15S	498.76	72.43	426.33
MW-15D	498.52	77.44	421.08
MW-17S	552.44	127.00	425.44
MW-18S	538.40	128.97	409.43
MW-18D	539.00	128.87	410.13
MW-19S	485.71	53.31	432.40
MW-19D	485.82	58.66	427.16
MW-20R	469.43	105.85	363.58
MW-22U	545.92	137.25	408.67
MW-22L	546.07	139.85	406.22
MW-23S	448.34	NM	NM
MW-23D	448.25	22.20	426.05
MW-25S	527.80	123.45	404.35
MW-25D	527.52	121.31	406.21
MW-26R	481.81	60.20	421.61
MW-27S	531.81	103.58	428.23
MW-27D	531.92	103.69	428.23
MW-28S	466.87	45.12	421.75
FMW-01	542.59	141.66	400.93
FMW-02	536.40	133.93	402.47
BC-4S	526.68	122.97	403.71
BC-4D	526.94	157.65	369.29

Notes:
(NM) = not measured

Table 3
Field Parameters
January 2013 (First Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

Sample ID	Sample Number	Sample Date	Method	pH	Conductance (µS)	Temperature (° C)
MW-10S	HVL-011513-12	01/15/13	DP	6.50	139	12.4
MW-10D	HVL-011513-11	01/15/13	DP	6.45	149	13.2
MW-11S	HVL-011413-01	01/14/13	SP	6.85	144	11.2
MW-11D(2)	HVL-011413-02	01/14/13	SP	5.74	275	14.9
MW-12S	HVL-011613-20	01/16/13	DP	6.72	327	17.5
MW-12D	HVL-011613-19	01/16/13	DP	5.68	250	19.0
MW-13S	HVL-011513-14	01/15/13	DP	6.54	285	15.6
MW-13D	HVL-011513-13	01/15/13	SP	6.29	257	16.1
MW-14S	HVL-011513-10	01/15/13	DP	6.28	185	11.2
MW-14D	HVL-011513-09	01/15/13	SP	7.30	105	8.9
MW-14R	HVL-011413-07	01/14/13	DP	6.02	98	12.2
MW-15S	HVL-011413-05	01/14/13	SP	6.81	212	13.8
MW-15D	HVL-011413-06	01/14/13	SP	6.06	253	14.9
MW-17S	HVL-011513-16	01/15/13	DP	5.98	438	17.5
MW-18S	HVL-011413-04	01/14/13	SP	6.81	212	13.8
MW-18D	HVL-011413-03	01/14/13	SP	6.23	347	13.6
MW-20R	HVL-011613-17	01/16/13	DP	6.87	91	9.7
MW-25S	HVL-011713-24	01/17/13	SP	6.69	260	12.0
MW-26R	HVL-011713-23	01/17/13	SP	7.50	174	7.7
FMW-01	HVL-011613-21	01/16/13	SP	6.45	270	12.7
FMW-02	HVL-011613-22	01/16/13	SP	6.09	400	15.0
Water Supply Well, P. Bunyan	HVL-032713-01	03/27/13	Grab	7.77	279	8.9
Water Supply Well, Corliss	HVL-011713-25	01/17/13	Grab	7.05	260	8.1
Leachate, East Area	HVL-011613-18	01/16/13	Grab	7.66	19,900	7.3

Notes:
The groundwater cleanup level for specific conductance is 700 (µS).
(µS) = microsiemens
(°C) = degrees Celcius
(Grab) = collected from sampling point
(SP) = submersible bladder-pump (non-dedicated)
(DP) = dedicated bladder-pump

Table 4
Inorganic Parameters (mg/L)
January 2013 (First Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Cleanup Levels	MW-10D	MW-10S	MW-11D(2)	MW-11S	MW-12D	MW-12S	MW-13D	MW-13S	MW-14D	MW-14R	MW-14S	MW-15D	MW-15S	MW-17S	MW-18D	MW-18S	MW-20R	MW-23S	MW-25S	MW-26R	MW-28S	FMW-01	FMW-02
			Background																						
Alkalinity	5	—	78	60	89	63	140	48	140	93	78	49	37	150	95	120	130	130	45	—	110	77	—	94	110
Bicarbonate Alkalinity	5	—	78	60	89	63	140	48	140	93	78	49	37	150	95	120	130	130	45	—	110	77	—	94	110
Chloride	0.2-4.0	250[(b)]	5.8	8.1	5.5	14	9.6	9.8	12	10	9.4	1.7	4.1	11	16	16	8.8	13	1.6	—	8	3.9	—	11	12
Ammonia as Nitrogen	0.10	—	*	*	*	0.13	*	0.48	*	*	4.10	*	0.13	*	4.30	4.10	*	*	*	—	*	*	—	*	0.12
Nitrate as Nitrogen	0.50	10[(a)]	1.6	1.3	1.7	**11**	1.2	**12**	1.1	1.9	*	*	1.6	*	1.6	**20.0**	1.7	9.8	*	—	1.8	*	—	1.9	**15.0**
Sulfate	0.5-10.0	250[(b)]	8.2	7.0	6.2	20	5.5	6.1	13	15	10	3.5	5.9	9.2	10	7.1	5.1	8.3	2.9	—	6.7	9.1	—	15	11
Total Dissolved Solids	10	500[(b)]	120	89	140	200	190	180	190	160	110	93	73	190	160	290	170	250	80	—	160	110	—	160	270
Total Organic Carbon	1.0	—	*	*	*	1.1	1.0	1.8	1.0	1.2	1.9	*	1.7	1.3	1.9	1.8	*	1.4	*	—	*	*	—	1.3	1.6

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
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) indicates Primary Drinking Water Standard
(b) indicates Secondary Drinking Water Standard

Table 5
Dissolved Metals (mg/L)
January 2013 (First Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Cleanup Levels	MW-10D (Background)	MW-10S (Background)	MW-11D(2)	MW-11S	MW-12D	MW-12S	MW-13D	MW-13S	MW-14D	MW-14R	MW-14S	MW-15D	MW-15S	MW-17S	MW-18D	MW-18S	MW-20R	MW-23S	MW-25S	MW-26R	MW-28S	FMW-01	FMW-02
Arsenic	0.015	—	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	—	*	*	—	*	*
Iron	0.200	0.30[(b)]	*	*	*	*	*	*	*	*	**2.30**	*	*	*	*	*	*	*	*	—	*	**0.59**	—	*	*
Manganese	0.001	0.05[(b)]	*	*	*	*	*	**0.170**	*	0.003	**0.850**	*	0.042	**0.260**	**0.840**	**0.910**	*	*	*	—	*	**0.340**	—	*	**0.089**

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
(b) indicates Secondary Drinking Water Standard
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 (µg/L)
January 2013 (First Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Cleanup Levels	MW-10D	MW-10S	MW-11D(2)	MW-11S	MW-12D	MW-12S	MW-13D	MW-13S	MW-14D	MW-14R	MW-14S	MW-15D	MW-15S	MW-17S	MW-18D	MW-18S	MW-20R	MW-23S	MW-25S	MW-26R	MW-28S	FMW-01	FMW-02
			Background																						
Tetrachloroethene	0.5	5.0[(a)]	*	*	1.0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	–	*	*	–	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds not listed were not present at concentrations exeeding the MRL
(a) indicates Primary Drinking Water Standard
(µg/L) = micrograms per liter
(*) indicates not reported at or above the MRL (Method Reporting Limit)

Table 7
Duplicate Samples
January 2013 (First Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	MW-15S	DUP (MW-14S)	RPD (%)
Volatile Organics (µg/L)				
No Detections	—	*	*	—
Dissolved Metals (mg/L)				
Arsenic	0.015	*	*	—
Iron	0.20	*	*	—
Manganese	0.001	0.042	0.045	7
Inorganic Parameters (mg/L)				
Alkalinity	5	37	37	0
Bicarbonate Alkalinity	5	37	37	0
Ammonia as Nitrogen	0.10	0.13	0.13	0
Total Organic Carbon	1.0	1.7	1.8	6
Chloride	4.0	4.1	4.2	2
Nitrate as Nitrogen	2.5	1.6	1.6	0
Total Dissolved Solids	10	73	69	6
Sulfate	0.5	5.9	5.8	2

Notes:
Analyses 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
January 2013 (First Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Paul Bunyan	Corliss
Volatile Organics (µg/L)			
No Detections	—	*	*
Total Metals (mg/L)			
Arsenic	0.005	*	*
Iron	0.200	*	*
Manganese	0.001	0.011	0.003
Zinc	0.010	0.061	0.024
Inorganic Parameters (mg/L)			
Chloride	0.2 - 4.0	4.6	5.5
Ammonia as Nitrogen	0.1	*	*
Nitrate as Nitrogen	0.5	1.9	1.2
Nitrite as Nitrogen	0.5	*	*
Sulfate	0.5	9.2	9.2
Chemical Oxygen Demand (COD)	5.0	*	*
Total Organic Carbon (TOC)	1.0	*	*
Color	5.0	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds 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
(—) = not applicable or not analyzed
(*) = not reported at or above the MRL (Method Reporting Limit)

Table 9
Side Slope Liner Monitoring
January 2013 (First Quarter)
Hidden Valley Landfill, Pierce County, Washington

	MRL	Leachate-East Area
Volatile Organics (µg/L)		
Acetone	10	*
Benzene	0.5	*
Carbon Disulfide	0.5	2.1
1,4-Dichlorobenzene	0.5	*
cis-1,2-dichloroethene	0.5	*
Ethylbenzene	1.0	*
m,p-Xylenes	0.5	5.5
o-Xylenes	0.5	2.6
Toluene	0.5	3.4
Total Metals (mg/L)		
Antimony	0.004	0.011
Arsenic	0.025	0.069
Barium	0.005	0.69
Calcium	0.200	110
Chromium	0.010	0.21
Cobalt	0.010	0.019
Copper	0.010	0.0087
Iron	0.200	4.7
Lead	0.005	0.0034
Magnesium	0.200	54
Manganese	0.005	1.7
Nickel	0.010	0.52
Potassium	30	390
Sodium	1.0	3900
Vanadium	0.010	0.17
Zinc	0.050	0.12
Inorganic Parameters (mg/L)		
Alkalinity	10	6300
Bicarbonate Alkalinity	10	6300
Chloride	200	2900
Ammonia as Nitrogen	10.0	580
Sulfate	5.0	110
Chemical Oxygen Demand	100	2400
Total Dissolved Solids	200	12000
Total Organic Carbon	50	810
Biochemical Oxygen Demand	50	97
Cyanide, total	0.01	0.018
Coliform, total**	2	300
Field Parameters		
pH	–	7.66
Conductance (µS)	–	19900
Temperature (°C)	–	7.26

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds not listed were not present at concentrations exceeding the MRL
(mg/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)
(**) = total coliform results are from samples taken on May 8, 2012.

Second Quarter 2013

Table 1
2013 Performance Monitoring Data
Main Sump and Side Slope Liner Areas
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/month)	Monthly Rainfall (inches)
January	68707	10150	0	3.30
February	26207	289	0	2.60
March	2621	9838	0	5.00
April	15191	2546	0	4.65
May	3930	18	0	3.65
June	12297	6231	0	1.65

Notes:
(a) Leakage is based on the volume of fluid pumped from the leak detection sump as recorded by LRI staff.

Table 2
Water Level Elevations
April 24, 2013
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	26.00	434.69
MW-11S	516.44	89.55	426.89
MW-11D	516.56	90.00	426.56
MW-11D(2)	515.53	88.95	426.58
MW-12S	489.94	62.21	427.73
MW-12D	489.97	63.81	426.16
MW-13S	448.81	21.55	427.26
MW-13D	448.94	21.75	427.19
MW-14S	477.95	45.11	432.84
MW-14D	477.98	47.00	430.98
MW-14R	476.84	115.15	361.69
MW-15S	498.76	71.11	427.65
MW-15D	498.52	76.40	422.12
MW-17S	552.44	126.35	426.09
MW-18S	538.40	128.99	409.41
MW-18D	539.00	128.32	410.68
MW-19S	485.71	52.87	432.84
MW-19D	485.82	54.00	431.82
MW-20R	469.43	104.31	365.12
MW-22U	545.92	138.40	407.52
MW-22L	546.07	139.50	406.57
MW-23S	448.34	NM	NM
MW-23D	448.25	21.80	426.45
MW-25S	527.80	122.12	405.68
MW-25D	527.52	120.25	407.27
MW-26R	481.81	132.66	349.15
MW-27S	531.81	102.50	429.31
MW-27D	531.92	102.90	429.02
MW-28S	466.87	NM	NM
FMW-01	542.59	140.30	402.29
FMW-02	536.40	133.87	402.53
BC-4S	526.68	122.80	403.88
BC-4D	526.94	156.00	370.94

Notes:
(NM) = not measured

Table 3
Field Parameters
April 2013 (Second Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

Sample ID	Sample Number	Sample Date	Method	pH	Conductance (µS)	Temperature (° C)
MW-10S	HVL-042313-04	04/23/13	SP	6.74	127	12.1
MW-10D	HVL-042313-03	04/23/13	SP	6.72	184	11.9
MW-11S	HVL-042413-11	04/24/13	DP	5.96	270	15.4
MW-11D(2)	HVL-042413-12	04/24/13	DP	6.73	212	15.4
MW-13S	HVL-042313-06	04/23/13	SP	6.32	257	16.1
MW-13D	HVL-042313-05	04/23/13	SP	6.74	304	16.1
MW-14S	HVL-042313-02	04/23/13	SP	6.25	114	11.5
MW-14D	HVL-042313-01	04/23/13	SP	6.52	181	11.7
MW-17S	HVL-042413-14	04/24/13	DP	6.47	426	20.6
MW-28S	—	—	—	—	—	—
FMW-01	HVL-042413-10	04/24/13	DP	6.04	261	14.2
FMW-02	HVL-042413-09	04/24/13	DP	5.97	333	16.7
Water Supply Well, P. Bunyan	HVL-042313-07	04/23/13	GRAB	7.09	253	11.6
Water Supply Well, Corliss	HVL-042313-08	04/23/13	GRAB	7.38	190	15.1

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

Table 4
Inorganic Parameters (mg/L)
April 2013 (Second Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Cleanup Levels	MW-10D	MW-10S	MW-11D(2)	MW-11S	MW-12D	MW-12S	MW-13D	MW-13S	MW-14D	MW-14S	MW-17S	MW-28S	FMW-01	FMW-02
			Background													
Alkalinity	5	—	73	48	88	66			130	92	65	38	180	—	110	120
Bicarbonate Alkalinity	5	—	73	48	88	66			130	92	65	38	180	—	110	120
Chloride	0.2-4.0	250[(b)]	4.9	5.0	5.3	17			12	11	6.8	4.8	17	—	12	13
Ammonia as Nitrogen	0.10	—	*	*	*	*			*	*	3.70	0.39	5.80	—	*	*
Nitrate as Nitrogen	0.50	10[(a)]	1.7 H	1.1 H	1.7	6			0.9	1.2	*	1.0 H	4.2	—	1.3	3.9
Sulfate	0.5-10.0	250[(b)]	9.3	5.9	6.6	20			13	19	10	7.3	5.6	—	16	13
Total Dissolved Solids	10	500[(b)]	120	69	140	170			190	170	100	64	260	—	160	210
Total Organic Carbon	1.0	—	*	1.2	*	1.5			1.2	1.5	1.9	1.8	2.6	—	1.5	1.8

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
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) indicates Primary Drinking Water Standard
(b) indicates Secondary Drinking Water Standard
H indicates analysis performed outside of hold time

Table 5
Dissolved Metals (mg/L)
April 2013 (Second Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Cleanup Levels	MW-10D (Background)	MW-10S (Background)	MW-11D(2)	MW-11S	MW-13D	MW-13S	MW-14D	MW-14S	MW-17S	MW-28S	FMW-01	FMW-02
Arsenic	0.015	—	*	*	*	*	*	*	*	*	*	—	*	*
Iron	0.20	0.30(b)	*	*	*	*	*	*	**2.0**	*	*	—	*	*
Manganese	0.001	0.05(b)	*	*	*	*	*	0.001	**0.79**	**0.12**	**1.50**	—	*	**0.075**

Notes:

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

(b) indicates Secondary Drinking Water Standard

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 (μg/L)
April 2013 (Second Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Cleanup Levels	MW-10D	MW-10S	MW-11D(2)	MW-11S	MW-13D	MW-13S	MW-14D	MW-14S	MW-17S	MW-28S	FMW-01	FMW-02
			Background											
Tetrachloroethene	0.5	5.0[(a)]	*	*	0.9	*	*	*	*	*	*	—	*	*
Toluene	0.5	—	*	*	*	*	*	*	*	*	0.58	—	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds not listed were not present at concentrations exeeding the MRL
(a) indicates Primary Drinking Water Standard
(μg/L) = micrograms per liter
(*) indicates not reported at or above the MRL (Method Reporting Limit)
(—) indicates not analyzed or not applicable

Table 7
Duplicate Samples
April 2013 (Second Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	MW-17S	DUP (MW-17S)	RPD (%)
Volatile Organics (µg/L)				
Toluene	0.5	0.58	*	—
Dissolved Metals (mg/L)				
Arsenic	0.015	*	*	—
Iron	0.20	*	*	—
Manganese	0.010	1.5	1.6	6
Inorganic Parameters (mg/L)				
Alkalinity	5	180	170	6
Bicarbonate Alkalinity	5	180	170	6
Ammonia as Nitrogen	0.10	5.80	5.50	5
Total Organic Carbon	1.0	2.6	2.5	4
Chloride	4.0	17.0	16.0	6
Nitrate as Nitrogen	2.5	4.2	4.1	2
Total Dissolved Solids	10	260	270	4
Sulfate	0.5	5.6	5.4	4

Notes:
Analyses 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
April 2013 (Second Quarter) Groundwater Monitoring
Hidden Valley Landfill, Pierce County, Washington

	MRL	Paul Bunyan	Corliss
Volatile Organics (µg/L)			
No Detections	—	*	*
Total Metals (mg/L)			
Arsenic	0.005	*	*
Iron	0.200	*	*
Manganese	0.001	0.0028	0.0036
Zinc	0.010	0.085	0.013
Inorganic Parameters (mg/L)			
Chloride	0.2 - 4.0	4.9	4.8
Ammonia as Nitrogen	0.1	*	*
Nitrate as Nitrogen	0.5	1.7	1.2
Nitrite as Nitrogen	0.5	*	*
Sulfate	0.5	9.5	9.0
Chemical Oxygen Demand (COD)	5.0	5.0	*
Total Organic Carbon (TOC)	1.0	*	*
Color	5.0	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds 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
(—) = not applicable or not analyzed
(*) = not reported at or above the MRL (Method Reporting Limit)

Third Quarter 2013

Table 1
2013 Main Sump and Side Slope Liner Area Performance Data
Third Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Month	Cell 1 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leakage Flow[a] (gallons/month)	Monthly Rainfall (inches)
January	68,707	10,150	0	3.30
February	26,207	289	0	2.60
March	2,621	9,838	0	5.00
April	15,191	2,546	0	4.65
May	3,930	18	0	3.65
June	12,297	6,231	0	1.65
July	0	0	0	0.00
August	3,000	0	0	1.60
September	7,882	0	0	6.90

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

Table 2
Water Level Elevations
July 25, 2013
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	31.86	428.83
MW-11S	516.44	93.99	422.45
MW-11D	516.56	94.20	422.36
MW-11D(2)	515.53	94.43	421.10
MW-12S	489.94	NM	NM
MW-12D	489.97	69.09	420.88
MW-13S	448.81	26.75	422.06
MW-13D	448.94	27.04	421.90
MW-14S	477.95	50.89	427.06
MW-14D	477.98	53.17	424.81
MW-14R	476.84	126.62	350.22
MW-15S	498.76	76.27	422.49
MW-15D	498.52	81.92	416.60
MW-17S	552.44	130.10	422.34
MW-18S	538.40	133.85	404.55
MW-18D	539.00	134.05	404.95
MW-19S	485.71	57.33	428.38
MW-19D	485.82	NM	NM
MW-20R	469.43	118.15	351.28
MW-22U	545.92	143.52	402.40
MW-22L	546.07	144.63	401.44
MW-23S	448.34	21.83	426.51
MW-23D	448.25	26.80	421.45
MW-25S	527.80	126.83	400.97
MW-25D	527.52	124.20	403.32
MW-26R	481.81	66.58	415.23
MW-27S	531.81	107.95	423.86
MW-27D	531.92	108.00	423.92
MW-28S	466.87	NM	NM
FMW-01	542.59	143.65	398.94
FMW-02	536.40	136.37	400.03
BC-4S	526.68	125.50	401.18
BC-4D	526.94	NM	NM

Notes:
NM = Not Measured

Table 3
Field Parameters
Third Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Sample ID	Sample Number	Date	Method	pH	Conductivity (µS/cm)	Temperature (°C)
MW-10S	HVL-072613-16	07/26/13	DP	6.95	133	12.0
MW-10D	HVL-072613-17	07/26/13	DP	6.94	133	12.0
MW-11S	HVL-072313-01	07/23/13	SP	5.98	238	16.7
MW-11D(2)	HVL-072313-02	07/23/13	SP	6.82	219	16.0
MW-12S	—	—	—	—	—	—
MW-12D	HVL-072613-20	07/26/13	DP	7.11	299	18.5
MW-13S	HVL-072613-18	07/26/13	SP	6.88	300	20.1
MW-13D	HVL-072613-19	07/26/13	DP	6.59	350	18.7
MW-14S	HVL-072613-14	07/26/13	DP	6.45	254	14.5
MW-14D	HVL-072613-15	07/26/13	DP	6.56	196	13.4
MW-14R	—	—	—	—	—	—
MW-15S	HVL-072513-11	07/25/13	SP	6.21	208	18.7
MW-15D	HVL-072513-10	07/25/13	SP	6.75	293	16.4
MW-17S	HVL-072513-08	07/25/13	SP	6.21	411	21.7
MW-18S	HVL-072313-03	07/23/13	SP	6.35	304	19.9
MW-18D	HVL-072313-04	07/23/13	SP	6.85	275	17.6
MW-20R	—	—	—	—	—	—
MW-23S	—	—	—	—	—	—
MW-25S	HVL-072513-07	07/25/13	SP	6.58	263	13.6
MW-26R	—	—	—	—	—	—
MW-28S	—	—	—	—	—	—
FMW-01	HVL-072413-05	07/24/13	SP	6.37	271	15.2
FMW-02	HVL-072413-06	07/24/13	SP	6.11	339	19.5
Water Supply Well, P. Bunyan	HVL-072513-12	07/25/13	Grab	6.58	269	22.9
Water Supply Well, Corliss	HVL-072513-13	07/25/13	Grab	7.04	223	27.5
Leak Detection, Side Slope	—	—	—	—	—	—
Leachate, East Area	—	—	—	—	—	—

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 Quater 2013 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-14D	MW-15D	MW-17S	MW-18S	MW-18D	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
			Background																		
Alkalinity (mg $CaCO_3$/L)	5.0	—	52	49	69	89	—	120	110	140	66	74	120	180	130	120	—	110	—	99	140
Bicarbonate Alkalinity	5.0	—	52	49	69	89	—	120	110	140	66	74	120	180	130	120	—	110	—	99	140
Chloride	0.2-4.0	250[b]	5.0	4.8	15	5.3	—	8.7	12	12	6.6	23	9.3	15	12	8.1	—	8.0	—	12	15
Ammonia as Nitrogen	0.10	—	*	*	*	*	—	*	*	*	3.7	0.16	*	5.3	*	*	—	*	—	*	0.11
Nitrate as Nitrogen	0.50	10[a]	* H	* H	1.8	1.7	—	1.3	1.0	*	*	* H	0.5	*	0.6	1.7	—	1.4	—	0.9	1.0
Sulfate	0.50-10	250[b]	5.1	4.9	15	7	—	5.7	20	17	12	7.4	9.4	3.8	5.5	5.3	—	6.6	—	15	7.6
Total Dissolved Solids	10	500[b]	88	87	**1100**	160	—	190	190	220	120	150	170	220	190	180	—	150	—	160	200
Total Organic Carbon	1.0	—	*	*	*	*	—	*	1.2	1.3	1.3	2.0	*	1.7	1.5	*	—	*	—	*	1.3

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
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
H indicates analysis performed outside of hold time

Table 5
Dissolved Metals
Third Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameters	MRL	Cleanup Levels	MW-10S	MW-10D	MW-11S	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14D	MW-15S	MW-15D	MW-17S	MW-18S	MW-18D	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
			Background																			
Arsenic	0.005	—	*	*	*	*	—	*	*	*	*	*	*	*	*	*	*	—	*	—	*	*
Iron	0.20	0.30[a]	*	*	*	*	—	*	*	*	**2.4**	*	*	*	*	*	*	—	*	—	*	*
Manganese	0.010	0.05[a]	*	*	0.004	*	—	*	0.003	*	**0.73**	0.05	**0.53**	**0.26**	**0.98**	*	*	—	*	—	*	**0.081**

Notes:

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

a = Secondary Drinking Water Standard

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
Third Quarter Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameters	Units	MRL	Cleanup Levels	MW-10S	MW-10D	MW-11S	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14D	MW-15S	MW-15D	MW-17S	MW-18S	MW-18D	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
				Background																			
Toluene	mg/L	0.5	—	*	*	*	*	—	*	*	*	*	*	*	*	*	0.58	*	—	*	—	*	0.62
Trichloroethene	mg/L	0.5	—	*	*	*	1.2	—	*	*	*	*	*	*	*	*	*	*	—	*	—	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
Volatile organic compounds not listed were not present at concentrations exeeding the MRL
(a) indicates Primary Drinking Water Standard
mg/L = micrograms per liter
* = not reported at or above the MRL (Method Reporting Limit)
— = not analyzed or not applicable

Table 7
Duplicate Sample Comparison
Third Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	MRL	MW-17S	DUP (MW-17S)	RPD (%)
Volatile Organics (mg/L)				
Toluene	0.5	*	*	—
Dissolved Metals				
Arsenic	0.015	*	*	—
Iron	0.20	*	*	—
Manganese (mg/L)	0.010	0.98	1.10	12
Inorganic Parameters				
Alkalinity (mg $CaCO_3$/L)	5	180	180	0
Bicarbonate Alkalinity (mg CaCO3/L)	5	180	180	0
Ammonia as Nitrogen (mg/L)	0.10	5.30	5.30	0
Total Organic Carbon (mg/L)	1.0	1.7	1.7	0
Chloride (mg/L)	4.0	15.0	15.0	0
Nitrate as Nitrogen	0.5	*	*	—
Total Dissolved Solids (mg/L)	10	220	220	0
Sulfate (mg/L)	0.5	3.8	3.8	0

Notes:
Analyses 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
Third Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	MRL	Paul Bunyan	Corliss
Volatile Organic Compounds			
No Detections	—	*	*
Total Metals			
Arsenic (mg/L)	0.005	*	*
Iron (mg/L)	0.020	*	*
Manganese (mg/L)	0.001	0.003	0.004
Zinc (mg/L)	0.010	0.20	0.12
Inorganic Parameters			
Chloride (mg/L)	4.0	5.00	4.80
Ammonia as Nitrogen (mg/L)	0.1	*	*
Nitrate as Nitrogen (mg/L)	0.5	1.70	1.20
Nitrite as Nitrogen (mg/L)	0.5	—	—
Sulfate (mg/L)	0.5	9.90	8.80
Chemical Oxygen Demand (mg/L)	5.0	—	—
Total Organic Carbon (mg/L)	1.0	*	*

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
VOCs not listed were not present at concentrations exceeding the MRL
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)

Fourth Quarter 2013

Table 1
2013 Main Sump and Side Slope Liner Area Performance Data
Fourth Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Month	Cell 1 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leachate Volume (gallons)	Cell 2 Monthly Leakage Flow[a] (gallons/month)	Monthly Rainfall (inches)
January	68,707	10,150	0	3.30
February	26,207	289	0	2.60
March	2,621	9,838	0	5.00
April	15,191	2,546	0	4.65
May	3,930	18	0	3.65
June	12,297	6,231	0	1.65
July*	0	0	0	0.00
August*	3,000	364	65	1.60
September*	7,882	0	600	6.90
October*	6033	4103	0	6.05
November	0	6,227	0	4.00
December	0	710	143	1.40

Notes:

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

* Technical issues with the PLC system have resulted in loss of some data. Site staff are making regular leachate/leak flow volume and height observations.

Table 2
Water Level Elevations - October 10, 2013
Fourth Quarter 2013 Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation (ft. MSL)	Depth to Water (ft.)	Water Level Elevation (ft. MSL)
MW-10S	460.17	NM	NM
MW-10D	460.69	30.76	429.93
MW-11S	516.44	92.91	423.53
MW-11D	516.56	93.56	423.00
MW-11D(2)	515.53	93.25	422.28
MW-12S	489.94	60.22	429.72
MW-12D	489.97	67.34	422.63
MW-13S	448.81	25.00	423.81
MW-13D	448.94	25.25	423.69
MW-14S	477.95	49.90	428.05
MW-14D	477.98	52.30	425.68
MW-14R	476.84	120.32	356.52
MW-15S	498.76	74.50	424.26
MW-15D	498.52	81.00	417.52
MW-17S	552.44	129.21	423.23
MW-18S	538.40	129.85	408.55
MW-18D	539.00	130.11	408.89
MW-19S	485.71	55.22	430.49
MW-19D	485.82	68.03	417.79
MW-20R	469.43	111.25	358.18
MW-22U	545.92	130.36	415.56
MW-22L	546.07	140.09	405.98
MW-23S	448.34	20.57	427.77
MW-23D	448.25	25.07	423.18
MW-25S	527.80	126.36	401.44
MW-25D	527.52	123.86	403.66
MW-26R	481.81	66.31	415.50
MW-27S	531.81	108.97	422.84
MW-27D	531.92	107.84	424.08
MW-28S	466.87	42.10	424.77
FMW-01	542.59	145.90	396.69
FMW-02	536.40	137.82	398.58
BC-4S	526.68	144.50	382.18
BC-4D	526.94	124.06	402.88

Notes:
NM = Not Measured

Table 3
Field Parameters
Fourth Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Sample ID	Sample Number	Sampling Date	Method	pH	Specific Conductivity (µS/cm)	Temperature (°C)
MW-10S	HVL-100813-03	10/08/13	DP	7.00	169	12.6
MW-10D	HVL-100813-04	10/08/13	DP	6.51	161	12.6
MW-11S	HVL-100913-09	10/09/13	SP	6.14	207	14.9
MW-11D(2)	HVL-100913-10	10/09/13	SP	6.89	218	16.2
MW-12S	—	—	—	—	—	—
MW-12D	—	—	—	—	—	—
MW-13S	HVL-100813-05	10/08/13	DP	6.57	217	17.1
MW-13D	HVL-100813-06	10/08/13	DP	6.52	275	17.1
MW-14S	HVL-100813-01	10/08/13	DP	5.83	160	13.6
MW-14D	HVL-100813-02	10/08/13	DP	6.03	202	13.2
MW-14R	—	—	—	—	—	—
MW-15S	—	—	—	—	—	—
MW-15D	—	—	—	—	—	—
MW-17S	HVL-101013-13	10/10/13	SP	6.19	445	16.5
MW-18S	—	—	—	—	—	—
MW-18D	—	—	—	—	—	—
MW-20R	—	—	—	—	—	—
MW-23S	—	—	—	—	—	—
MW-25S	—	—	—	—	—	—
MW-26R	—	—	—	—	—	—
MW-28S	HVL-100913-07	10/09/13	BAIL	6.46	173	12.8
FMW-01	HVL-100913-11	10/09/13	SP	6.72	281	15.0
FMW-02	HVL-100913-12	10/09/13	SP	6.48	402	16.5
Water Supply Well, P. Bunyan	HVL-100913-08	10/09/13	GRAB	6.62	266	11.4
Water Supply Well, Corliss	HVL-101013-16	10/10/13	GRAB	6.90	231	18.4
Leak Detection, Side Slope	—	—	—	—	—	—
Leachate, East Area	—	—	—	—	—	—

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
BAIL = disposable bailer
— = not analyzed or not applicable

Table 4
Inorganic Parameters
Fourth Quater 2013 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-14D	MW-15D	MW-17S	MW-18S	MW-18D	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
			Background																		
Alkalinity (mg $CaCO_3$/L)	5.0	—	65	63	51	95	—	—	89	120	56	72	—	180	—	—	—	—	58	110	120
Bicarbonate Alkalinity (mg $CaCO_3$/L)	5.0	—	65	63	51	95	—	—	89	120	56	72	—	180	—	—	—	—	58	110	120
Chloride	0.2-4.0	250[b]	6.9	8.1	11	4.9	—	—	6.4	9.2	9.3	11.0	—	13.0	—	—	—	—	7.0	12.0	15.0
Ammonia as Nitrogen	0.10	—	*	*	*	*	—	—	*	*	0.10	3.90	—	7.00	—	—	—	—	*	*	0.34
Nitrate as Nitrogen	0.50	10[a]	0.9 H	0.9 H	4.6	1.8	—	—	0.6	0.7	1.6	*	—	3.6	—	—	—	—	0.9	0.6	**13.0**
Sulfate	0.50-10	250[b]	7.8	8.8	13	7	—	—	11	12	7	11	—	4	—	—	—	—	10	15	9
Total Dissolved Solids	10	500[b]	100	110	140	140	—	—	140	180	110	120	—	240	—	—	—	—	130	170	260
Total Organic Carbon	1.0	—	*	*	*	*	—	—	1.2	*	2.3	1.6	—	2.0	—	—	—	—	1.0	1.0	1.5

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
Analyses performed by TestAmerica, Arvada, Colorado
All units are mg/L except otherwise noted
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
H indicates analysis performed outside of hold time

Table 5
Dissolved Metals
Fourth Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameters	MRL	Cleanup Levels	MW-10S	MW-10D	MW-11S	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14D	MW-15S	MW-15D	MW-17S	MW-18S	MW-18D	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
			Background																			
Arsenic	0.005	—	*	*	*	*	—	—	*	*	*	*	—	—	*	—	—	—	—	*	*	*
Iron	0.20	0.30[a]	*	*	*	*	—	—	*	*	*	**2.10**	—	—	*	—	—	—	—	*	*	*
Manganese	0.010	0.05[a]	*	*	*	*	—	—	0.007	*	0.034	**0.880**	—	—	**0.97**	—	—	—	—	*	*	**0.11**

Notes:
Parameter concentrations that are greater than cleanup levels are shown in **bold**
a = Secondary Drinking Water Standard
Analyses performed by TestAmerica, Arvada, Colorado
All units are mg/L except otherwise noted
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
Fourth Quarter 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-14D	MW-15S	MW-17S	MW-18S	MW-18D	MW-23S	MW-25S	MW-28S	FMW-01	FMW-02
				Background																		
m,p-Xylenes	µg/L	0.5	—	*	*	*	*	—	—	*	*	*	*	—	1.90	—	—	—	—	*	0.85	0.95
o-Xylenes	µg/L	0.5	—	*	*	*	*	—	—	*	*	*	*	—	0.85	—	—	—	—	*	*	*
Toluene	µg/L	0.5	1000	*	*	*	*	—	—	*	*	*	*	—	2.60	—	—	—	—	*	1.10	1.30
Trichloroethene	µg/L	0.5	5.0	*	*	*	0.74	—	—	*	*	*	*	—	*	—	—	—	—	*	*	*

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 Comparison
Fourth Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	MRL	MW-17S	DUP (MW-17S)	RPD (%)
Volatile Organics				
Toluene (µg/L)	0.5	2.0	2.6	26
m,p-Xylene (µg/L)	0.5	1.9	1.5	24
o-Xylene (µg/L)	0.5	0.85	0.71	18
Dissolved Metals				
Arsenic (mg/L)	0.015	*	*	—
Iron (mg/L)	0.20	*	*	—
Manganese (mg/L)	0.010	0.97	0.98	1
Inorganic Parameters				
Alkalinity (mg $CaCO_3$/L)	5	180	180	0
Bicarbonate Alkalinity (mg $CaCO_3$/L)	5	180	180	0
Ammonia as Nitrogen (mg/L)	0.10	7.00	7.10	1
Total Organic Carbon (mg/L)	1.0	2.0	1.9	5
Chloride (mg/L)	4.0	13.0	13.0	0
Nitrate as Nitrogen	0.5	3.6	5.3	38
Total Dissolved Solids (mg/L)	10	240	230	4
Sulfate (mg/L)	0.5	3.8	4.1	8

Notes:

Analyses 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

mg $CaCO_3$/L = milligrams calcium carbonate per liter

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

— = not applicable

Table 8
Water Supply Wells
Fourth Quarter 2013 Groundwater Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

Parameter Type	MRL	Paul Bunyan	Corliss
Total Metals			
Arsenic (mg/L)	0.005	*	*
Iron (mg/L)	0.020	*	*
Manganese (mg/L)	0.001	0.002	0.015
Zinc (mg/L)	0.010	0.05	0.17
Inorganic Parameters			
Chloride (mg/L)	4.0	4.9	5.5
Ammonia as Nitrogen (mg/L)	0.1	*	*
Nitrate as Nitrogen (mg/L)	0.5	1.9	1.1
Nitrite as Nitrogen (mg/L)	0.5	—	—
Sulfate (mg/L)	0.5	9.9	10.0
Chemical Oxygen Demand (mg/L)	5.0	—	—
Total Organic Carbon (mg/L)	1.0	*	*
Color	5.0	10.0	10.0

Notes:
Analyses performed by TestAmerica, Arvada, Colorado
VOCs not listed were not present at concentrations exceeding the MRL
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)

DATA VALIDATION REPORT

Sampling Event Dates: 10/7/2013 through 10/9/2013

Sample Receipt Temperature: All samples were received at ≤ 6.0 °C.

Data QA/QC Reviewer, Date: Matthew O'Hare 11/5/2013

Compliance Plan: Groundwater Compliance Monitoring Plan, Hidden Valley Landfill, February 2001. Prepared by Kleinfelder.

Sample Delivery Groups

Delivery Group:	Sample ID	Location ID
280-47605-1	HVL-100813-01	MW-14S
	HVL-100813-02	MW-14D
	HVL-100813-03	MW-10S
	HVL-100813-04	MW-10D
	HVL-100813-05	MW-13S
	HVL-100813-06	MW-13D
Delivery Group:		
280-47680-1	HVL-100913-07	MW-28S
	HVL-100913-09	MW-11S
	HVL-100913-10	MW-11D2
	HVL-100913-11	FMMW-1
	HVL-100913-12	FMMW-2
Delivery Group:		
280-47680-2	HVL-100913-08	WS-Paul Bunyan
Delivery Group:		
280-47766-1	HVL-101013-13	MW-17S
	HVL-101013-14	Dup -1 (MW-17S)
	HVL-101013-15	Field Blank
Delivery Group:		
280-47767-1	HVL-101013-16	WS-Corliss

Completeness

All required analyses were completed.

Quality Control Samples

Method Blanks

All analytes were non-detect (ND) with the following exceptions:

- Methylene Chloride Method 8260B (Sample Delivery Groups 280-47680-1 and 280-47680-2) was detected in the Method Blank above the project established reporting limit. However, the requested reporting limit for Methylene Chloride is below TestAmerica's standard reporting limits, therefore, corrective action was deemed unnecessary.

Laboratory Control Samples

All Laboratory Control Samples were within established control limits with the following exceptions:

- The Method 8260B LCS in Sample Delivery Groups 280-47680-1 and 280-47680-2 exhibited a recovery of Methylene Chloride above the upper control limit at 145% (control limits 54%-141%). Because this analyte was recovered within the marginal exceedance limits, no further action was required.

- The Method 300.0 LCS in Sample Delivery Group 280-47797-1 exhibited recoveries for Nitrite was above control limits. Because the data are considered to be biased high and the associated sample was non-detect for Nitrite, corrective action was deemed unnecessary.

Matrix Spike/Matrix Spike Duplicate

The quality of matrix spike/matrix spike duplicates (MS/MSD) were within quality limits with the following exceptions:

Sample Delivery Group 280-47680-1 and 280-47680-2

- The Matrix Spike and Matrix Spike Duplicate performed exhibited recoveries outside control limits for Ammonia Method 350.1. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

- The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Chemical Oxygen (COD) Method 410.4. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

Sample Delivery Group 280-47766-1

- The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Dissolved Manganese Method 6020. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

- The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Ammonia Method 350.1. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

Sample Delivery Group 280-47767-1

- The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Ammonia Method 350.1. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

Holding Times

All sample and analytical hold times were within quality control limits.

Field Quality Assurance / Quality Control Samples

Field Duplicate: The relative percent difference (RPD) for all analytical results greater than five times the method reporting limit were within 20 percent for the field groundwater duplicate samples collected except for Toulene (26%) and Nitrate as N (38%).

Field Blank: No analytes were detected at concentrations exceeding the method reporting limits and all were recorded as non-detect except for Methylene Chloride (15 µg/L). However, Methylene Chloride was not detected in any other samples.

Trip Blanks: No analytes were reported at concentrations exceeding the method reporting limit.

Quantitation Limits

The reporting limits for all analyses were within the limits specified in the Groundwater Compliance Monitoring Plan (Kleinfelder, 2001) with the following exceptions:

- acetone
- 2-butanone
- 2-hexanone
- Acrylonitrile
- 4-methyl-2-pentatone
- trans-1,4-dichloro-2-butene
- cis-1,4-dichloro-2-butene
- vinyl acetate
- nitrate
- arsenic
- iron

The data provided for these analytes have elevated reporting limits; however, the reporting limits are the standard laboratory reporting limits and cannot be decreased without increasing the uncertainty of the data quality. The lab will provided lower reporting limits for arsenic which will be run by USEPA Method 6020 in order to provide the required analytical method reporting limit.

Comments

Chloride and Sulfate were analyzed at the TestAmerica Laboratories' St. Louis location. Dissolved Iron was analyzed at TestAmerica's Tacoma Laboratory. All other analyses were analyzed at TestAmerica Laboratories' Denver location.

Data Validation Summary

Upon final review of the above-listed laboratory reports, SCS Engineers finds the laboratory data to be valid for their intended use.

2013 GROUNDWATER DATABASE

Hidden Valley Landfill
Groundwater Chemistry
Field Parameters

WELL Sample Number	Date	Notes	Well Casing Elevation	Depth to Water	Water Level Elevation	Field pH	Field Conductiviy (umho/cm)	Temp. (deg-C)	Dissolved Oxygen (mg/l)	Pore Volume	Volume Removed (gal)
FMW-01											
HVL-011613-21	1/16/2013		542.59	141.75	400.84	6.45	270	12.7		3	
HVL-042413-10	4/24/2013		542.59	140.21	402.38	6.04	261	14.1		3	
HVL-072413-05	7/24/2013		542.59	143.65	398.94	6.37	271	15.2		3	1
HVL-100913-11	10/9/2013		542.59	145.90	396.69	6.72	281	14.9		3	
FMW-02											
HVL-011613-22	1/16/2013		536.4	133.95	402.45	6.09	400	15.0		3	
HVL-042413-09	4/24/2013		536.4	132.86	403.54	5.97	333	16.7		3	
HVL-072413-06	7/24/2013		536.4	136.37	400.03	6.11	339	19.5		3	1
HVL-100913-12	10/9/2013		536.4	137.82	398.58	6.48	402	16.5		3	
Leachate, East Area											
HVL-011613-18	1/16/2013					7.66	19900	7.3		3	
MW-10D											
HVL-011513-12	1/15/2013		460.69	27.41	433.28	6.50	139	12.4		3	
HVL-042313-03	4/23/2013		460.69	26.00	434.69	6.72	184	11.9		3	
HVL-072613-17	7/26/2013		460.69	31.87	428.82	6.94	133	12.0		3	2
HVL-100813-04	10/8/2013		460.69	30.78	429.91	6.51	161	12.6		3	
MW-10S											
HVL-011513-11	1/15/2013		460.17			6.45	149	13.2		3	
HVL-042313-04	4/23/2013		460.17			6.74	127	12.1		3	
HVL-072613-16	7/26/2013		460.17			6.95	133	12.0		3	3
HVL-100813-03	10/8/2013		460.17			7.00	169	12.6		3	
MW-11D(2)											
HVL-011413-01	1/14/2013		515.53	89.59	425.94	6.85	144	11.2		3	
HVL-042413-12	4/24/2013		515.53	88.90	426.63	6.73	212	15.4		3	
HVL-072313-02	7/23/2013		515.53	94.10	421.43	6.82	219	16.0		3	3
HVL-100913-10	10/9/2013		515.53	93.25	422.28	6.89	218	16.2		3	
MW-11S											
HVL-011413-02	1/14/2013		516.44	90.30	426.14	5.74	275	14.9		3	
HVL-042413-11	4/24/2013		516.44	89.49	426.95	5.96	270	15.4		3	
HVL-072313-01	7/23/2013		516.44	93.80	422.64	5.98	238	16.7		3	2
HVL-100913-09	10/9/2013		516.44	92.90	423.54	6.14	207	14.9		3	
MW-12D											
HVL-011613-20	1/16/2013		489.97	64.65	425.32	6.72	327	17.5		3	
HVL-072613-20	7/26/2013		489.97	69.10	420.87	7.11	299	18.5		3	2

WELL Sample Number	Date	Notes	Well Casing Elevation	Depth to Water	Water Level Elevation	Field pH	Field Conductiviy (umho/cm)	Temp. (deg-C)	Dissolved Oxygen (mg/l)	Pore Volume	Volume Removed (gal)
MW-12S											
HVL-011613-19	1/16/2013		489.94	62.75	427.19	5.68	250	19.0		3	
MW-13D											
HVL-011513-14	1/15/2013		448.94	22.75	426.19	6.54	285	15.6		3	
HVL-042313-05	4/23/2013		448.94	21.75	427.19	6.74	304	16.0		3	
HVL-072613-19	7/26/2013		448.94	27.04	421.90	6.59	350	18.7		3	2
HVL-100813-06	10/8/2013		448.94	25.25	423.69	6.52	275	17.1		3	
MW-13S											
HVL-011513-13	1/15/2013		448.81	22.42	426.39	6.29	257	16.1		3	
HVL-042313-06	4/23/2013		448.81	21.55	427.26	6.32	257	16.1		3	
HVL-072613-18	7/26/2013		448.81	26.74	422.07	6.88	300	20.1		3	2
HVL-100813-05	10/8/2013		448.81	24.96	423.85	6.57	217	17.1		3	
MW-14D											
HVL-011513-10	1/15/2013		477.98	48.18	429.80	6.28	185	11.2		3	
HVL-042313-01	4/23/2013		477.98	47.00	430.98	6.52	181	11.7		3	
HVL-072613-15	7/26/2013		477.98	53.17	424.81	6.56	196	13.4		3	2
HVL-100813-02	10/8/2013		477.98	52.31	425.67	6.03	202	13.2		3	
MW-14R											
HVL-011513-09	1/15/2013		476.84	117.30	359.54	7.30	105	8.9		3	
MW-14S											
HVL-011413-07	1/14/2013		477.95	46.42	431.53	6.02	98	12.2		3	
HVL-042313-02	4/23/2013		477.95	45.11	432.84	6.25	114	11.5		3	
HVL-072613-14	7/26/2013		477.95	50.89	427.06	6.45	254	14.5		3	2
HVL-100813-01	10/8/2013		477.95			5.83	160	13.6		3	
MW-15D											
HVL-011413-05	1/14/2013		498.52	77.29	421.23	6.81	212	13.8		3	
HVL-072513-10	7/25/2013		498.52	81.92	416.60	6.75	293	16.4		3	4
MW-15S											
HVL-011413-06	1/14/2013		498.52	72.33	426.19	6.06	253	14.9		3	
HVL-072513-11	7/25/2013		498.52	76.27	422.25	6.21	208	18.7		3	1
MW-17S											
HVL-011513-16	1/15/2013		552.44	127.00	425.44	5.98	438	17.5		3	
HVL-042413-14	4/24/2013		552.44	126.41	426.03	6.47	426	20.6		3	
HVL-072513-08	7/25/2013		552.44	130.10	422.34	6.21	411	21.7		3	1

Hidden Valley Landfill
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WELL Sample Number	Date	Notes	Well Casing Elevation	Depth to Water	Water Level Elevation	Field pH	Field Conductiviy (umho/cm)	Temp. (deg-C)	Dissolved Oxygen (mg/l)	Pore Volume	Volume Removed (gal)
MW-17S											
HVL-072513-09	7/25/2013		552.44	130.10	422.34	6.21	411	21.7		3	1
HVL-101013-13	10/10/2013		552.44	129.21	423.23	6.19	445	16.5		3	
HVL-101013-14	10/10/2013		552.44	129.21	423.23	6.19	445	16.5		3	
MW-18D											
HVL-011413-04	1/14/2013		546.01	77.29	468.72	6.81	212	13.8		3	
HVL-072313-04	7/23/2013		546.01	131.65	414.36	6.85	275	17.6		3	1
MW-18S											
HVL-011413-03	1/14/2013		546.98	129.00	417.98	6.23	347	13.6		3	
HVL-072313-03	7/23/2013		546.98	131.55	415.43	6.35	304	19.9		3	0
MW-20R											
HVL-011613-17	1/16/2013		465.68	105.56	360.12	6.87	91	9.7		3	
MW-25S											
HVL-011713-24	1/17/2013		526.54	123.45	403.09	6.69	260	12.0		3	
HVL-072513-07	7/25/2013		526.54	126.83	399.71	6.58	263	13.6		3	0
MW-26R											
HVL-011713-23	1/17/2013		481.81	60.20	421.61	7.50	174	7.7		3	
MW-28S											
HVL-100913-07	10/9/2013		466.87	42.09	424.78	6.46	173	12.8		3	
QC, F-BLANK											
HVL-011513-15	1/15/2013									3	
HVL-042413-13	4/24/2013					8.30	3	16.7		3	
HVL-101013-15	10/10/2013					8.32	3	16.5		3	
Water Supply Well, Corliss											
HVL-011713-25	1/17/2013					1.05	260	8.1		3	
HVL-042313-08	4/23/2013					7.38	190	15.1		3	
HVL-072513-13	7/25/2013					7.04	223	27.5		3	0
HVL-101013-16	10/10/2013					6.90	231	18.4		3	
Water Supply Well, P. Bunyan											
HVL-032713-01	3/27/2013					7.77	279	8.9	8.25	3	
HVL-042313-07	4/23/2013					7.09	253	11.6		3	
HVL-072513-12	7/25/2013					6.58	269	22.9		3	0
HVL-100913-08	10/9/2013					6.62	266	11.4		3	

Hidden Valley Landfill
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Part 1 of 2

WELL Sample Number	Date	Note	Lab pH	Lab Cond. (umho/cm)	Total Alkalinity (mg/L as CaCO3)	Bicarbonate Alkalinity (mg/L as CaCO3)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	TKN as N (mg/L)
FMW-01												
HVL-011613-21	1/16/2013				94.0	94.0	11.0	15.0	0.10 L	1.90		
HVL-042413-10	4/24/2013				110.0	110.0	12.0	16.0	0.10 L	1.30		
HVL-072413-05	7/24/2013				99.0	99.0	12.0	15.0	0.10 L	0.87		
HVL-100913-11	10/9/2013				110.0	110.0	12.0	15.0	0.10 L	0.55		
FMW-02												
HVL-011613-22	1/16/2013				110.0	110.0	12.0	11.0	0.12	15.00		
HVL-042413-09	4/24/2013				120.0	120.0	13.0	13.0	0.10 L	3.90		
HVL-072413-06	7/24/2013				140.0	140.0	15.0	7.6	0.11	1.00		
HVL-100913-12	10/9/2013				120.0	120.0	15.0	8.8	0.34	13.00		
Leachate, East Area												
HVL-011613-18	1/16/2013				6300.0	6300.0	2900.0	110.0	580.00	0.50 L		
MW-10D												
HVL-011513-12	1/15/2013				78.0	78.0	5.8	8.2	0.10 L	1.60		
HVL-042313-03	4/23/2013				73.0	73.0	4.9	9.3	0.10 L	1.70 H		
HVL-072613-17	7/26/2013				49.0	49.0	4.8	4.9	0.10 L	0.50 LH		
HVL-100813-04	10/8/2013				63.0	63.0	8.1	8.8	0.10 L	0.90		
MW-10S												
HVL-011513-11	1/15/2013				60.0	60.0	8.1	7.0	0.10 L	1.30		
HVL-042313-04	4/23/2013				48.0	48.0	5.0	5.9	0.10 L	1.10 H		
HVL-072613-16	7/26/2013				52.0	52.0	5.0	5.1	0.10 L	0.50 LH		
HVL-100813-03	10/8/2013				65.0	65.0	6.9	7.8	0.10 L	0.91		
MW-11D(2)												
HVL-011413-01	1/14/2013				89.0	89.0	5.5	6.2	0.10 L	1.70		
HVL-042413-12	4/24/2013				88.0	88.0	5.3	6.6	0.10 L	1.70		
HVL-072313-02	7/23/2013				89.0	89.0	5.3	6.5	0.10 L	1.70		
HVL-100913-10	10/9/2013				95.0	95.0	4.9	6.7	0.10 L	1.80		
MW-11S												
HVL-011413-02	1/14/2013				63.0	63.0	14.0	20.0	0.13	11.00		
HVL-042413-11	4/24/2013				66.0	66.0	17.0	20.0	0.10 L	5.90		
HVL-072313-01	7/23/2013				69.0	69.0	15.0	15.0	0.10 L	1.80		
HVL-100913-09	10/9/2013				51.0	51.0	11.0	13.0	0.10 L	4.60		
MW-12D												
HVL-011613-20	1/16/2013				140.0	140.0	9.6	5.5	0.10 L	1.20		
HVL-072613-20	7/26/2013				120.0	120.0	8.7	5.7	0.10 L	1.30 H		

WELL Sample Number	Date	Note	Lab pH	Lab Cond. (umho/cm)	Total Alkalinity (mg/L as CaCO3)	Bicarbonate Alkalinity (mg/L as CaCO3)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	TKN as N (mg/L)
MW-12S												
HVL-011613-19	1/16/2013				48.0	48.0	9.8	6.1	0.48	12.00		
MW-13D												
HVL-011513-14	1/15/2013				140.0	140.0	12.0	13.0	0.10 L	1.10		
HVL-042313-05	4/23/2013				130.0	130.0	12.0	13.0	0.10 L	0.87		
HVL-072613-19	7/26/2013				140.0	140.0	12.0	17.0	0.10 L	0.50 LH		
HVL-100813-06	10/8/2013				120.0	120.0	9.2	12.0	0.10 L	0.66		
MW-13S												
HVL-011513-13	1/15/2013				93.0	93.0	10.0	15.0	0.10 L	1.90		
HVL-042313-06	4/23/2013				92.0	92.0	11.0	19.0	0.10 L	1.20		
HVL-072613-18	7/26/2013				110.0	110.0	12.0	20.0	0.10 L	1.00 H		
HVL-100813-05	10/8/2013				89.0	89.0	6.4	11.0	0.10 L	0.64		
MW-14D												
HVL-011513-10	1/15/2013				78.0	78.0	9.4	10.0	4.10	0.50 L		
HVL-042313-01	4/23/2013				65.0	65.0	6.8	10.0	3.70	0.50 L		
HVL-072613-15	7/26/2013				74.0	74.0	23.0	7.4	0.16	0.50 LH		
HVL-100813-02	10/8/2013				72.0	72.0	11.0	11.0	3.90	0.50 L		
MW-14R												
HVL-011513-09	1/15/2013				49.0	49.0	1.7	3.5	0.10 L	0.50 L		
MW-14S												
HVL-011413-07	1/14/2013				37.0	37.0	4.1	5.9	0.13	1.60		
HVL-042313-02	4/23/2013				38.0	38.0	4.8	7.3	0.39	0.99 H		
HVL-072613-14	7/26/2013				66.0	66.0	6.6	12.0	3.70	0.50 LH		
HVL-100813-01	10/8/2013				56.0	56.0	9.3	6.6	0.10	1.60		
MW-15D												
HVL-011413-05	1/14/2013				150.0	150.0	11.0	9.2	0.10 L	0.50 L		
HVL-072513-10	7/25/2013				120.0	120.0	9.3	9.4	0.10 L	0.54		
MW-15S												
HVL-011413-06	1/14/2013				95.0	95.0	16.0	10.0	4.30	1.60		
HVL-072513-11	7/25/2013				65.0	65.0	12.0	14.0	3.70	0.50 L		
MW-17S												
HVL-011513-16	1/15/2013				120.0	120.0	16.0	7.1	4.10	20.00		
HVL-042413-14	4/24/2013				180.0	180.0	17.0	5.6	5.80	4.20		
HVL-072513-08	7/25/2013				180.0	180.0	15.0	3.8	5.30	0.50 L		

WELL Sample Number	Date	Note	Lab pH	Lab Cond. (umho/cm)	Total Alkalinity (mg/L as CaCO3)	Bicarbonate Alkalinity (mg/L as CaCO3)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	TKN as N (mg/L)
MW-17S												
HVL-072513-09	7/25/2013				180.0	180.0	15.0	3.8	5.30	0.50 L		
HVL-101013-14	10/10/2013				180.0	180.0	13.0	4.1	7.10	5.30		
HVL-101013-13	10/10/2013				180.0	180.0	13.0	3.8	7.00	3.60		
MW-18D												
HVL-011413-04	1/14/2013				130.0	130.0	8.8	5.1	0.10 L	1.70		
HVL-072313-04	7/23/2013				120.0	120.0	8.1	5.3	0.10 L	1.70		
MW-18S												
HVL-011413-03	1/14/2013				130.0	130.0	13.0	8.3	0.10 L	9.80		
HVL-072313-03	7/23/2013				130.0	130.0	12.0	5.5	0.10 L	0.61		
MW-20R												
HVL-011613-17	1/16/2013				45.0	45.0	1.6	2.9	0.10 L	0.50 L		
MW-25S												
HVL-011713-24	1/17/2013				110.0	110.0	8.0	6.7	0.10 L	1.80		
HVL-072513-07	7/25/2013				110.0	110.0	8.0	6.6	0.10 L	1.40		
MW-26R												
HVL-011713-23	1/17/2013				77.0	77.0	3.9	9.1	0.10 L	0.50 L		
MW-28S												
HVL-100913-07	10/9/2013				58.0	58.0	7.0	9.5	0.10 L	0.91		
QC, F-BLANK												
HVL-011513-15	1/15/2013				5.0 L	5.0 L	0.2 L	0.5 L	0.10 L	0.50 L		
HVL-042413-13	4/24/2013				5.0 L	5.0 L	0.2 L	0.5 L	0.10 L	0.50 L		
HVL-101013-15	10/10/2013				5.0 L	5.0 L	0.2 L	0.5 L	0.10 L	0.50 L		
Water Supply Well, Corliss												
HVL-011713-25	1/17/2013				5.0 L	5.0 L	5.5	9.2	0.10 L	1.20		
HVL-042313-08	4/23/2013				5.0 L	5.0 L	4.8	9.0	0.10 L	1.20		
HVL-072513-13	7/25/2013				90.0	90.0	4.8	8.8	0.10 L	1.20		
HVL-101013-16	10/10/2013				5.0 L	5.0 L	5.5	10.0	0.10 L	1.10		
Water Supply Well, P. Bunyan												
HVL-032713-01	3/27/2013						4.6	9.2	0.10 L	1.90	0.50 L	
HVL-042313-07	4/23/2013				5.0 L	5.0 L	4.9	9.5	0.10 L	1.70		
HVL-072513-12	7/25/2013				110.0	110.0	5.0	9.9	0.10 L	1.70		
HVL-100913-08	10/9/2013				5.0 L	5.0 L	4.9	9.9	0.10 L	1.90		

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WELL Sample Number	Date	Fluoride (mg/L)	COD (mg/L)	Cyanide (mg/L)	TDS (mg/L)	TOC (mg/L)	TOX (mg/L)	Total Phenols (mg/L)	MBAS (mg/L)
FMW-01									
HVL-011613-21	1/16/2013				160	1.3			
HVL-042413-10	4/24/2013				160	1.5			
HVL-072413-05	7/24/2013				160	1.0 L			
HVL-100913-11	10/9/2013				170	1.0			
FMW-02									
HVL-011613-22	1/16/2013				270	1.6			
HVL-042413-09	4/24/2013				210	1.8			
HVL-072413-06	7/24/2013				200	1.3			
HVL-100913-12	10/9/2013				260	1.5			
Leachate, East Area									
HVL-011613-18	1/16/2013		2400		12000	810.0			
MW-10D									
HVL-011513-12	1/15/2013				120	1.0 L			
HVL-042313-03	4/23/2013				120	1.0 L			
HVL-072613-17	7/26/2013				87	1.0 L			
HVL-100813-04	10/8/2013				110	1.0 L			
MW-10S									
HVL-011513-11	1/15/2013				89	1.0 L			
HVL-042313-04	4/23/2013				69	1.2			
HVL-072613-16	7/26/2013				88	1.0 L			
HVL-100813-03	10/8/2013				100	1.0 L			
MW-11D(2)									
HVL-011413-01	1/14/2013				140	1.0 L			
HVL-042413-12	4/24/2013				140	1.0 L			
HVL-072313-02	7/23/2013				160	1.0 L			
HVL-100913-10	10/9/2013				140	1.0 L			
MW-11S									
HVL-011413-02	1/14/2013				200	1.1			
HVL-042413-11	4/24/2013				170	1.5			
HVL-072313-01	7/23/2013				1100	1.0 L			
HVL-100913-09	10/9/2013				140	1.0 L			
MW-12D									
HVL-011613-20	1/16/2013				190	1.0			
HVL-072613-20	7/26/2013				190	1.0 L			

WELL Sample Number	Date	Fluoride (mg/L)	COD (mg/L)	Cyanide (mg/L)	TDS (mg/L)	TOC (mg/L)	TOX (mg/L)	Total Phenols (mg/L)	MBAS (mg/L)
MW-12S									
HVL-011613-19	1/16/2013				180	1.8			
MW-13D									
HVL-011513-14	1/15/2013				190	1.0			
HVL-042313-05	4/23/2013				190	1.2			
HVL-072613-19	7/26/2013				220	1.3			
HVL-100813-06	10/8/2013				180	1.0 L			
MW-13S									
HVL-011513-13	1/15/2013				160	1.2			
HVL-042313-06	4/23/2013				170	1.5			
HVL-072613-18	7/26/2013				190	1.2			
HVL-100813-05	10/8/2013				140	1.2			
MW-14D									
HVL-011513-10	1/15/2013				110	1.9			
HVL-042313-01	4/23/2013				100	1.9			
HVL-072613-15	7/26/2013				150	2.0			
HVL-100813-02	10/8/2013				120	1.6			
MW-14R									
HVL-011513-09	1/15/2013				93	1.0 L			
MW-14S									
HVL-011413-07	1/14/2013				73	1.7			
HVL-042313-02	4/23/2013				64	1.8			
HVL-072613-14	7/26/2013				120	1.3			
HVL-100813-01	10/8/2013				110	2.3			
MW-15D									
HVL-011413-05	1/14/2013				190	1.3			
HVL-072513-10	7/25/2013				170	1.0 L			
MW-15S									
HVL-011413-06	1/14/2013				160	1.9			
HVL-072513-11	7/25/2013				120	1.2			
MW-17S									
HVL-011513-16	1/15/2013				290	1.8			
HVL-042413-14	4/24/2013				260	2.6			
HVL-072513-08	7/25/2013				220	1.7			

WELL Sample Number	Date	Fluoride (mg/L)	COD (mg/L)	Cyanide (mg/L)	TDS (mg/L)	TOC (mg/L)	TOX (mg/L)	Total Phenols (mg/L)	MBAS (mg/L)
MW-17S									
HVL-072513-09	7/25/2013				220	1.7			
HVL-101013-14	10/10/2013				230	1.9			
HVL-101013-13	10/10/2013				240	2.0			
MW-18D									
HVL-011413-04	1/14/2013				170	1.0 L			
HVL-072313-04	7/23/2013				180	1.0 L			
MW-18S									
HVL-011413-03	1/14/2013				250	1.4			
HVL-072313-03	7/23/2013				190	1.5			
MW-20R									
HVL-011613-17	1/16/2013				80	1.0 L			
MW-25S									
HVL-011713-24	1/17/2013				160	1.0 L			
HVL-072513-07	7/25/2013				150	1.0 L			
MW-26R									
HVL-011713-23	1/17/2013				110	1.0 L			
MW-28S									
HVL-100913-07	10/9/2013				130	1.0			
QC, F-BLANK									
HVL-011513-15	1/15/2013				10 L	1.0 L			
HVL-042413-13	4/24/2013				10 L	1.0 L			
HVL-101013-15	10/10/2013				10 L	1.0 L			
Water Supply Well, Corliss									
HVL-011713-25	1/17/2013				10 L	1.0 L			
HVL-042313-08	4/23/2013				10 L	1.0 L			
HVL-072513-13	7/25/2013				140	1.0 L			
HVL-101013-16	10/10/2013				10 L	1.0 L			
Water Supply Well, P. Bunyan									
HVL-032713-01	3/27/2013		5 L			1.0 L			
HVL-042313-07	4/23/2013		5		10 L	1.0 L			
HVL-072513-12	7/25/2013				170	1.0 L			
HVL-100913-08	10/9/2013				10 L	1.0 L			

Hidden Valley Landfill
Groundwater Chemistry
Dissolved Metals

WELL Sample Number	Date	Note	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead
FMW-01													
HVL-011613-21	1/16/2013				0.015 L							0.200 L	
HVL-042413-10	4/24/2013				0.015 L							0.200 L	
HVL-072413-05	7/24/2013				0.015 L							0.200 L	
HVL-100913-11	10/9/2013				0.015 L							0.200 L	
FMW-02													
HVL-011613-22	1/16/2013				0.015 L							0.200 L	
HVL-042413-09	4/24/2013				0.015 L							0.200 L	
HVL-072413-06	7/24/2013				0.015 L							0.200 L	
HVL-100913-12	10/9/2013				0.015 L							0.200 L	
Leachate, East Area													
HVL-011613-18	1/16/2013				0.015 L							0.200 L	
MW-10D													
HVL-011513-12	1/15/2013				0.015 L							0.200 L	
HVL-042313-03	4/23/2013				0.015 L							0.200 L	
HVL-072613-17	7/26/2013				0.015 L							0.200 L	
HVL-100813-04	10/8/2013				0.015 L							0.200 L	
MW-10S													
HVL-011513-11	1/15/2013				0.015 L							0.200 L	
HVL-042313-04	4/23/2013				0.015 L							0.200 L	
HVL-072613-16	7/26/2013				0.015 L							0.200 L	
HVL-100813-03	10/8/2013				0.015 L							0.200 L	
MW-11D(2)													
HVL-011413-01	1/14/2013				0.015 L							0.200 L	
HVL-042413-12	4/24/2013				0.015 L							0.200 L	
HVL-072313-02	7/23/2013				0.015 L							0.200 L	
HVL-100913-10	10/9/2013				0.015 L							0.200 L	
MW-11S													
HVL-011413-02	1/14/2013				0.015 L							0.200 L	
HVL-042413-11	4/24/2013				0.015 L							0.200 L	
HVL-072313-01	7/23/2013				0.015 L							0.200 L	
HVL-100913-09	10/9/2013				0.015 L							0.200 L	
MW-12D													
HVL-011613-20	1/16/2013				0.015 L							0.200 L	
HVL-072613-20	7/26/2013				0.015 L							0.200 L	

WELL Sample Number	Date	Note	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead
MW-12S													
HVL-011613-19	1/16/2013				0.015 L							0.200 L	
MW-13D													
HVL-011513-14	1/15/2013				0.015 L							0.200 L	
HVL-042313-05	4/23/2013				0.015 L							0.200 L	
HVL-072613-19	7/26/2013				0.015 L							0.200 L	
HVL-100813-06	10/8/2013				0.015 L							0.200 L	
MW-13S													
HVL-011513-13	1/15/2013				0.015 L							0.200 L	
HVL-042313-06	4/23/2013				0.015 L							0.200 L	
HVL-072613-18	7/26/2013				0.015 L							0.200 L	
HVL-100813-05	10/8/2013				0.015 L							0.200 L	
MW-14D													
HVL-011513-10	1/15/2013				0.015 L							2.300	
HVL-042313-01	4/23/2013				0.015 L							2.000	
HVL-072613-15	7/26/2013				0.015 L							0.200 L	
HVL-100813-02	10/8/2013				0.015 L							2.100	
MW-14R													
HVL-011513-09	1/15/2013				0.015 L							0.200 L	
MW-14S													
HVL-011413-07	1/14/2013				0.015 L							0.200 L	
HVL-042313-02	4/23/2013				0.015 L							0.200 L	
HVL-072613-14	7/26/2013				0.015 L							2.400	
HVL-100813-01	10/8/2013				0.015 L							0.200 L	
MW-15D													
HVL-011413-05	1/14/2013				0.015 L							0.200 L	
HVL-072513-10	7/25/2013				0.015 L							0.200 L	
MW-15S													
HVL-011413-06	1/14/2013				0.015 L							0.200 L	
HVL-072513-11	7/25/2013				0.015 L							0.200 L	
MW-17S													
HVL-011513-16	1/15/2013				0.015 L							0.200 L	
HVL-042413-14	4/24/2013				0.015 L							0.200 L	
HVL-072513-09	7/25/2013				0.015 L							0.200 L	

WELL Sample Number	Date	Note	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead
MW-17S													
HVL-072513-08	7/25/2013				0.015 L							0.200 L	
HVL-101013-13	10/10/2013				0.015 L							0.200 L	
HVL-101013-14	10/10/2013				0.015 L							0.200 L	
MW-18D													
HVL-011413-04	1/14/2013				0.015 L							0.200 L	
HVL-072313-04	7/23/2013				0.015 L							0.200 L	
MW-18S													
HVL-011413-03	1/14/2013				0.015 L							0.200 L	
HVL-072313-03	7/23/2013				0.015 L							0.200 L	
MW-20R													
HVL-011613-17	1/16/2013				0.015 L							0.200 L	
MW-25S													
HVL-011713-24	1/17/2013				0.015 L							0.200 L	
HVL-072513-07	7/25/2013				0.015 L							0.200 L	
MW-26R													
HVL-011713-23	1/17/2013				0.015 L							0.590	
MW-28S													
HVL-100913-07	10/9/2013				0.015 L							0.200 L	
QC, F-BLANK													
HVL-042413-13	4/24/2013				0.015 L							0.200 L	
Water Supply Well, P. Bunyan													
HVL-042313-07	4/23/2013				0.015 L							0.200 L	

Hidden Valley Landfill
Groundwater Chemistry
Dissolved Metals

WELL Sample Number	Date	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cobalt
FMW-01													
HVL-011613-21	1/16/2013		0.001 L										
HVL-042413-10	4/24/2013		0.001 L								0.000		0.000
HVL-072413-05	7/24/2013		0.001 L								0.000		0.000
HVL-100913-11	10/9/2013		0.001 L								0.000		0.000
FMW-02													
HVL-011613-22	1/16/2013		0.089										
HVL-042413-09	4/24/2013		0.075								0.000		0.000
HVL-072413-06	7/24/2013		0.081								0.000		0.000
HVL-100913-12	10/9/2013		0.110								0.000		0.000
Leachate, East Area													
HVL-011613-18	1/16/2013		0.001 L										
MW-10D													
HVL-011513-12	1/15/2013		0.001 L										
HVL-042313-03	4/23/2013		0.001 L								0.000		0.000
HVL-072613-17	7/26/2013		0.001 L								0.000		0.000
HVL-100813-04	10/8/2013		0.001 L								0.000		0.000
MW-10S													
HVL-011513-11	1/15/2013		0.001 L										
HVL-042313-04	4/23/2013		0.001 L								0.000		0.000
HVL-072613-16	7/26/2013		0.001 L								0.000		0.000
HVL-100813-03	10/8/2013		0.001 L								0.000		0.000
MW-11D(2)													
HVL-011413-01	1/14/2013		0.001 L										
HVL-042413-12	4/24/2013		0.001 L								0.000		0.000
HVL-072313-02	7/23/2013		0.001 L								0.000		0.000
HVL-100913-10	10/9/2013		0.001 L								0.000		0.000
MW-11S													
HVL-011413-02	1/14/2013		0.001 L										
HVL-042413-11	4/24/2013		0.001 L								0.000		0.000
HVL-072313-01	7/23/2013		0.004								0.000		0.000
HVL-100913-09	10/9/2013		0.001 L								0.000		0.000
MW-12D													
HVL-011613-20	1/16/2013		0.001 L										
HVL-072613-20	7/26/2013		0.001 L								0.000		0.000

WELL Sample Number	Date	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cobalt
MW-12S													
HVL-011613-19	1/16/2013		0.170										
MW-13D													
HVL-011513-14	1/15/2013		0.001 L										
HVL-042313-05	4/23/2013		0.001 L								0.000		0.000
HVL-072613-19	7/26/2013		0.001 L								0.000		0.000
HVL-100813-06	10/8/2013		0.001 L								0.000		0.000
MW-13S													
HVL-011513-13	1/15/2013		0.003										
HVL-042313-06	4/23/2013		0.001								0.000		0.000
HVL-072613-18	7/26/2013		0.003								0.000		0.000
HVL-100813-05	10/8/2013		0.007								0.000		0.000
MW-14D													
HVL-011513-10	1/15/2013		0.850										
HVL-042313-01	4/23/2013		0.790								0.000		0.000
HVL-072613-15	7/26/2013		0.052								0.000		0.000
HVL-100813-02	10/8/2013		0.880								0.000		0.000
MW-14R													
HVL-011513-09	1/15/2013		0.001 L										
MW-14S													
HVL-011413-07	1/14/2013		0.042										
HVL-042313-02	4/23/2013		0.120								0.000		0.000
HVL-072613-14	7/26/2013		0.730								0.000		0.000
HVL-100813-01	10/8/2013		0.034								0.000		0.000
MW-15D													
HVL-011413-05	1/14/2013		0.260										
HVL-072513-10	7/25/2013		0.260								0.000		0.000
MW-15S													
HVL-011413-06	1/14/2013		0.840										
HVL-072513-11	7/25/2013		0.530								0.000		0.000
MW-17S													
HVL-011513-16	1/15/2013		0.910										
HVL-042413-14	4/24/2013		1.500								0.000		0.000
HVL-072513-09	7/25/2013		1.100								0.000		0.000

Hidden Valley Landfill
Groundwater Chemistry
Dissolved Metals

WELL Sample Number	Date	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cobalt
MW-17S													
HVL-072513-08	7/25/2013		0.980								0.000		0.000
HVL-101013-13	10/10/2013		0.970								0.000		0.000
HVL-101013-14	10/10/2013		0.980										
MW-18D													
HVL-011413-04	1/14/2013		0.001 L										
HVL-072313-04	7/23/2013		0.001 L								0.000		0.000
MW-18S													
HVL-011413-03	1/14/2013		0.001 L										
HVL-072313-03	7/23/2013		0.001 L								0.000		0.000
MW-20R													
HVL-011613-17	1/16/2013		0.001 L										
MW-25S													
HVL-011713-24	1/17/2013		0.001 L										
HVL-072513-07	7/25/2013		0.001 L								0.000		0.000
MW-26R													
HVL-011713-23	1/17/2013		0.340										
MW-28S													
HVL-100913-07	10/9/2013		0.001 L								0.000		0.000
QC, F-BLANK													
HVL-042413-13	4/24/2013		0.001 L								0.000		0.000
Water Supply Well, P. Bunyan													
HVL-042313-07	4/23/2013		0.001 L								0.000		0.000

Hidden Valley Landfill
Groundwater Chemistry
Total Metals

Part 1 of 2

WELL Sample Number	Date	Note	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead
Leachate, East Area												
HVL-011613-18	1/16/2013	sodium 3900 mg/L	0.0110	0.069	0.690	0.001 L	0.005 L	110.0	0.210	0.009	4.700	0.003
QC, F-BLANK												
HVL-101013-15	10/10/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
Water Supply Well, Corliss												
HVL-011713-25	1/17/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
HVL-042313-08	4/23/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
HVL-072513-13	7/25/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
HVL-101013-16	10/10/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
Water Supply Well, P. Bunyan												
HVL-032713-01	3/27/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
HVL-042313-07	4/23/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
HVL-072513-12	7/25/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L
HVL-100913-08	10/9/2013		0.0020 L	0.005 L	0.001 L	0.001 L	0.005 L	0.2 L	0.002 L	0.002 L	0.020 L	0.001 L

Hidden Valley Landfill
Groundwater Chemistry
Total Metals

WELL Sample Number	Date	Magnesium	Manganese	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cobalt
Leachate, East Area												
HVL-011613-18	1/16/2013	54.00	1.700	0.52	0.4	0.005 L	0.01 L	3.9	0.001 L	0.170	0.120	0.019
QC, F-BLANK												
HVL-101013-15	10/10/2013	0.20 L	0.001 L	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.010 L	0.010 L
Water Supply Well, Corliss												
HVL-011713-25	1/17/2013	0.20 L	0.003	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.024	0.010 L
HVL-042313-08	4/23/2013	0.20 L	0.004	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.013	0.010 L
HVL-072513-13	7/25/2013	0.20 L	0.014	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.120	0.010 L
HVL-101013-16	10/10/2013	0.20 L	0.015	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.170	0.010 L
Water Supply Well, P. Bunyan												
HVL-032713-01	3/27/2013	0.20 L	0.011	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.061	0.010 L
HVL-042313-07	4/23/2013	0.20 L	0.003	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.085	0.010 L
HVL-072513-12	7/25/2013	0.20 L	0.001 L	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.200	0.010 L
HVL-100913-08	10/9/2013	0.20 L	0.002	0.00 L	3.0 L	0.005 L	0.01 L	1.0 L	0.001 L	0.010 L	0.050	0.010 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Note	Dichloro-difluoro-methane (Freon 12)	Chloro-methane	Vinyl Chloride	Bromo-methane	Chloro-ethane	Trichloro-fluoro-methane (Freon 11)	Freon 113	Acetone	1,1-Di-chloro-ethene	Carbon Disulfide	Methylene Chloride
FMW-01													
HVL-011613-21	1/16/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042413-10	4/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072413-05	7/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100913-11	10/9/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
FMW-02													
HVL-011613-22	1/16/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042413-09	4/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072413-06	7/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100913-12	10/9/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
Leachate, East Area													
HVL-011613-18	1/16/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	2.1	2.0 L
MW-10D													
HVL-011513-12	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-03	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-17	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100813-04	10/8/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-10S													
HVL-011513-11	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-04	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-16	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100813-03	10/8/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-11D(2)													
HVL-011413-01	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042413-12	4/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072313-02	7/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100913-10	10/9/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-11S													
HVL-011413-02	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042413-11	4/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072313-01	7/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100913-09	10/9/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-12D													
HVL-011613-20	1/16/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-20	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Note	Dichloro-difluoro-methane (Freon 12)	Chloro-methane	Vinyl Chloride	Bromo-methane	Chloro-ethane	Trichloro-fluoro-methane (Freon 11)	Freon 113	Acetone	1,1-Di-chloro-ethene	Carbon Disulfide	Methylene Chloride
MW-12S													
HVL-011613-19	1/16/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-13D													
HVL-011513-14	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-05	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-19	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100813-06	10/8/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-13S													
HVL-011513-13	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-06	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-18	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100813-05	10/8/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-14D													
HVL-011513-10	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-01	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-15	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100813-02	10/8/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-14R													
HVL-011513-09	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-14S													
HVL-011413-07	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-02	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072613-14	7/26/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100813-01	10/8/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-15D													
HVL-011413-05	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072513-10	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-15S													
HVL-011413-06	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072513-11	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-17S													
HVL-011513-16	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042413-14	4/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072513-08	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Note	Dichloro-difluoro-methane (Freon 12)	Chloro-methane	Vinyl Chloride	Bromo-methane	Chloro-ethane	Trichloro-fluoro-methane (Freon 11)	Freon 113	Acetone	1,1-Di-chloro-ethene	Carbon Disulfide	Methylene Chloride
MW-17S													
HVL-072513-09	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-101013-13	10/10/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-101013-14	10/10/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-18D													
HVL-011413-04	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072313-04	7/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-18S													
HVL-011413-03	1/14/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072313-03	7/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-20R													
HVL-011613-17	1/16/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-25S													
HVL-011713-24	1/17/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072513-07	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-26R													
HVL-011713-23	1/17/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
MW-28S													
HVL-100913-07	10/9/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
QC, F-BLANK													
HVL-011513-15	1/15/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042413-13	4/24/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-101013-15	10/10/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	15.0
Water Supply Well, Corliss													
HVL-011713-25	1/17/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-08	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072513-13	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-101013-16	10/10/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
Water Supply Well, P. Bunyan													
HVL-032713-01	3/27/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-042313-07	4/23/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-072513-12	7/25/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L
HVL-100913-08	10/9/2013		2.0 L	0.5 L	0.5 L	0.5 L	0.5 L	0.5 L		10.0 L	0.5 L	0.5 L	2.0 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	1,1-Di-chloro-ethane	trans 1,2-Dichloro-ethene	2-Butanone (MEK)	2,2-Di chloro-propane	cis 1,2-Dichloro ethene	Chloro-form	Bromo-chloro-methane	1,1,1 Tri-chloro-ethane (TCA)	1,1-Di-chloro-propene	Carbon Tetra-chloride	1,2-Di-chloro-ethane
FMW-01												
HVL-011613-21	1/16/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042413-10	4/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072413-05	7/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100913-11	10/9/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
FMW-02												
HVL-011613-22	1/16/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042413-09	4/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072413-06	7/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100913-12	10/9/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
Leachate, East Area												
HVL-011613-18	1/16/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-10D												
HVL-011513-12	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-03	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-17	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100813-04	10/8/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-10S												
HVL-011513-11	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-04	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-16	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100813-03	10/8/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-11D(2)												
HVL-011413-01	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042413-12	4/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072313-02	7/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100913-10	10/9/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-11S												
HVL-011413-02	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042413-11	4/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072313-01	7/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100913-09	10/9/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-12D												
HVL-011613-20	1/16/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-20	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	1,1-Di-chloro-ethane	trans 1,2-Dichloro-ethene	2-Butanone (MEK)	2,2-Di chloro-propane	cis 1,2-Dichloro ethene	Chloro-form	Bromo-chloro-methane	1,1,1 Tri-chloro-ethane (TCA)	1,1-Di-chloro-propene	Carbon Tetra-chloride	1,2-Di-chloro-ethane
MW-12S												
HVL-011613-19	1/16/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-13D												
HVL-011513-14	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-05	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-19	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100813-06	10/8/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-13S												
HVL-011513-13	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-06	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-18	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100813-05	10/8/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-14D												
HVL-011513-10	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-01	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-15	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100813-02	10/8/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-14R												
HVL-011513-09	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-14S												
HVL-011413-07	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-02	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072613-14	7/26/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100813-01	10/8/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-15D												
HVL-011413-05	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072513-10	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-15S												
HVL-011413-06	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072513-11	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-17S												
HVL-011513-16	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042413-14	4/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072513-08	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L

Hidden Valley Landfill
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(ug/L)

WELL Sample Number	Date	1,1-Di-chloro-ethane	trans 1,2-Dichloro-ethene	2-Butanone (MEK)	2,2-Di chloro-propane	cis 1,2-Dichloro ethene	Chloro-form	Bromo-chloro-methane	1,1,1 Tri-chloro-ethane (TCA)	1,1-Di-chloro-propene	Carbon Tetra-chloride	1,2-Di-chloro-ethane
MW-17S												
HVL-072513-09	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-101013-13	10/10/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-101013-14	10/10/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-18D												
HVL-011413-04	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072313-04	7/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-18S												
HVL-011413-03	1/14/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072313-03	7/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-20R												
HVL-011613-17	1/16/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-25S												
HVL-011713-24	1/17/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072513-07	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-26R												
HVL-011713-23	1/17/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
MW-28S												
HVL-100913-07	10/9/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
QC, F-BLANK												
HVL-011513-15	1/15/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042413-13	4/24/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-101013-15	10/10/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
Water Supply Well, Corliss												
HVL-011713-25	1/17/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-08	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072513-13	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-101013-16	10/10/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
Water Supply Well, P. Bunyan												
HVL-032713-01	3/27/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-042313-07	4/23/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-072513-12	7/25/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L
HVL-100913-08	10/9/2013	0.5 L	0.5 L	6.0 L		0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	0.5 L

Hidden Valley Landfill
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Volatile Organics
(ug/L)

WELL Sample Number	Date	Vinyl Acetate	Benzene	Trichloro-ethene (TCE)	1,2-Di-chloro-propane	Bromo-dichloro-methane	2-Chloro-ethyl Vinyl Ether	Dibromo-methane	2-Hexanone	cis-1,3-Dichloro propene	Toluene	trans 1,3-Dichloro-propene
FMW-01												
HVL-011613-21	1/16/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042413-10	4/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072413-05	7/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100913-11	10/9/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	1.1	0.5 L
FMW-02												
HVL-011613-22	1/16/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042413-09	4/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072413-06	7/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.6	0.5 L
HVL-100913-12	10/9/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	1.3	0.5 L
Leachate, East Area												
HVL-011613-18	1/16/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	3.4	0.5 L
MW-10D												
HVL-011513-12	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-03	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-17	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100813-04	10/8/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-10S												
HVL-011513-11	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-04	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-16	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100813-03	10/8/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-11D(2)												
HVL-011413-01	1/14/2013	3.0 L	0.5 L	1.0	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042413-12	4/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072313-02	7/23/2013	3.0 L	0.5 L	1.2	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100913-10	10/9/2013	3.0 L	0.5 L	0.7	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-11S												
HVL-011413-02	1/14/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042413-11	4/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072313-01	7/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100913-09	10/9/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-12D												
HVL-011613-20	1/16/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-20	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Vinyl Acetate	Benzene	Trichloro-ethene (TCE)	1,2-Di-chloro-propane	Bromo-dichloro-methane	2-Chloro-ethyl Vinyl Ether	Dibromo-methane	2-Hexanone	cis-1,3-Dichloro propene	Toluene	trans 1,3-Dichloro-propene
MW-12S												
HVL-011613-19	1/16/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-13D												
HVL-011513-14	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-05	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-19	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100813-06	10/8/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-13S												
HVL-011513-13	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-06	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-18	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100813-05	10/8/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-14D												
HVL-011513-10	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-01	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-15	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100813-02	10/8/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-14R												
HVL-011513-09	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-14S												
HVL-011413-07	1/14/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-02	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072613-14	7/26/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100813-01	10/8/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-15D												
HVL-011413-05	1/14/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072513-10	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-15S												
HVL-011413-06	1/14/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072513-11	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-17S												
HVL-011513-16	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042413-14	4/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.6	0.5 L
HVL-072513-08	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Vinyl Acetate	Benzene	Trichloro-ethene (TCE)	1,2-Di-chloro-propane	Bromo-dichloro-methane	2-Chloro-ethyl Vinyl Ether	Dibromo-methane	2-Hexanone	cis-1,3-Dichloro propene	Toluene	trans 1,3-Dichloro-propene
MW-17S												
HVL-072513-09	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-101013-13	10/10/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	2.6	0.5 L
HVL-101013-14	10/10/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	2.0	0.5 L
MW-18D												
HVL-011413-04	1/14/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072313-04	7/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-18S												
HVL-011413-03	1/14/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072313-03	7/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.6	0.5 L
MW-20R												
HVL-011613-17	1/16/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-25S												
HVL-011713-24	1/17/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072513-07	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-26R												
HVL-011713-23	1/17/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
MW-28S												
HVL-100913-07	10/9/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
QC, F-BLANK												
HVL-011513-15	1/15/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042413-13	4/24/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-101013-15	10/10/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
Water Supply Well, Corliss												
HVL-011713-25	1/17/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-08	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072513-13	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-101013-16	10/10/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
Water Supply Well, P. Bunyan												
HVL-032713-01	3/27/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-042313-07	4/23/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-072513-12	7/25/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L
HVL-100913-08	10/9/2013	3.0 L	0.5 L	0.5 L	0.5 L	0.5 L		0.5 L	5.0 L	0.5 L	0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	1,3-Dichloropropane	1,1,2-Trichloroethane	4-Methyl-2-pentanone (MIBK)	Tetrachloroethene (PCE)	Dibromochloromethane	1,2-Dibromoethane (EDB)	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	Xylenes, total	Styrene	Bromoform
FMW-01													
HVL-011613-21	1/16/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042413-10	4/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072413-05	7/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100913-11	10/9/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
FMW-02													
HVL-011613-22	1/16/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042413-09	4/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072413-06	7/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100913-12	10/9/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
Leachate, East Area													
HVL-011613-18	1/16/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-10D													
HVL-011513-12	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-03	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-17	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100813-04	10/8/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-10S													
HVL-011513-11	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-04	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-16	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100813-03	10/8/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-11D(2)													
HVL-011413-01	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042413-12	4/24/2013		0.5 L	5.0 L	0.9	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072313-02	7/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100913-10	10/9/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-11S													
HVL-011413-02	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042413-11	4/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072313-01	7/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100913-09	10/9/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-12D													
HVL-011613-20	1/16/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-20	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L

WELL Sample Number	Date	1,3-Dichloropropane	1,1,2-Trichloroethane	4-Methyl-2-pentanone (MIBK)	Tetrachloroethene (PCE)	Dibromochloromethane	1,2-Dibromoethane (EDB)	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	Xylenes, total	Styrene	Bromoform
MW-12S													
HVL-011613-19	1/16/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-13D													
HVL-011513-14	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-05	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-19	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100813-06	10/8/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-13S													
HVL-011513-13	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-06	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-18	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100813-05	10/8/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-14D													
HVL-011513-10	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-01	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-15	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100813-02	10/8/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-14R													
HVL-011513-09	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-14S													
HVL-011413-07	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-02	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072613-14	7/26/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100813-01	10/8/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-15D													
HVL-011413-05	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072513-10	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-15S													
HVL-011413-06	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072513-11	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-17S													
HVL-011513-16	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042413-14	4/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072513-08	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	1,3-Dichloropropane	1,1,2-Trichloroethane	4-Methyl-2-pentanone (MIBK)	Tetrachloroethene (PCE)	Dibromochloromethane	1,2-Dibromoethane (EDB)	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	Xylenes, total	Styrene	Bromoform
MW-17S													
HVL-072513-09	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-101013-13	10/10/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-101013-14	10/10/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-18D													
HVL-011413-04	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072313-04	7/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-18S													
HVL-011413-03	1/14/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072313-03	7/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-20R													
HVL-011613-17	1/16/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-25S													
HVL-011713-24	1/17/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072513-07	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-26R													
HVL-011713-23	1/17/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
MW-28S													
HVL-100913-07	10/9/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
QC, F-BLANK													
HVL-011513-15	1/15/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042413-13	4/24/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-101013-15	10/10/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
Water Supply Well, Corliss													
HVL-011713-25	1/17/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-08	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072513-13	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-101013-16	10/10/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
Water Supply Well, P. Bunyan													
HVL-032713-01	3/27/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-042313-07	4/23/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-072513-12	7/25/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L
HVL-100913-08	10/9/2013		0.5 L	5.0 L	0.5 L	0.5 L	1.0 L	0.5 L	0.5 L	1.0 L		0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Iso-propyl-benzene	1,1,2,2-Tetra-chloro-ethane	1,2,3-Tri-chloro-propane	Bromo-benzene	n-Propyl benzene	2-Chloro toluene	4-Chloro toluene	1,3,5-Tri methyl benzene	tert-Butyl benzene	1,2,4-Tri methyl benzene	sec-Butyl benzene
FMW-01												
HVL-011613-21	1/16/2013		0.5 L	1.0 L								
HVL-042413-10	4/24/2013		0.5 L	1.0 L								
HVL-072413-05	7/24/2013		0.5 L	1.0 L								
HVL-100913-11	10/9/2013		0.5 L	1.0 L								
FMW-02												
HVL-011613-22	1/16/2013		0.5 L	1.0 L								
HVL-042413-09	4/24/2013		0.5 L	1.0 L								
HVL-072413-06	7/24/2013		0.5 L	1.0 L								
HVL-100913-12	10/9/2013		0.5 L	1.0 L								
Leachate, East Area												
HVL-011613-18	1/16/2013		0.5 L	1.0 L								
MW-10D												
HVL-011513-12	1/15/2013		0.5 L	1.0 L								
HVL-042313-03	4/23/2013		0.5 L	1.0 L								
HVL-072613-17	7/26/2013		0.5 L	1.0 L								
HVL-100813-04	10/8/2013		0.5 L	1.0 L								
MW-10S												
HVL-011513-11	1/15/2013		0.5 L	1.0 L								
HVL-042313-04	4/23/2013		0.5 L	1.0 L								
HVL-072613-16	7/26/2013		0.5 L	1.0 L								
HVL-100813-03	10/8/2013		0.5 L	1.0 L								
MW-11D(2)												
HVL-011413-01	1/14/2013		0.5 L	1.0 L								
HVL-042413-12	4/24/2013		0.5 L	1.0 L								
HVL-072313-02	7/23/2013		0.5 L	1.0 L								
HVL-100913-10	10/9/2013		0.5 L	1.0 L								
MW-11S												
HVL-011413-02	1/14/2013		0.5 L	1.0 L								
HVL-042413-11	4/24/2013		0.5 L	1.0 L								
HVL-072313-01	7/23/2013		0.5 L	1.0 L								
HVL-100913-09	10/9/2013		0.5 L	1.0 L								
MW-12D												
HVL-011613-20	1/16/2013		0.5 L	1.0 L								
HVL-072613-20	7/26/2013		0.5 L	1.0 L								

WELL Sample Number	Date	Iso-propyl-benzene	1,1,2,2-Tetra-chloro-ethane	1,2,3-Tri-chloro-propane	Bromo-benzene	n-Propyl benzene	2-Chloro toluene	4-Chloro toluene	1,3,5-Tri methyl benzene	tert-Butyl benzene	1,2,4-Tri methyl benzene	sec-Butyl benzene
MW-12S												
HVL-011613-19	1/16/2013		0.5 L	1.0 L								
MW-13D												
HVL-011513-14	1/15/2013		0.5 L	1.0 L								
HVL-042313-05	4/23/2013		0.5 L	1.0 L								
HVL-072613-19	7/26/2013		0.5 L	1.0 L								
HVL-100813-06	10/8/2013		0.5 L	1.0 L								
MW-13S												
HVL-011513-13	1/15/2013		0.5 L	1.0 L								
HVL-042313-06	4/23/2013		0.5 L	1.0 L								
HVL-072613-18	7/26/2013		0.5 L	1.0 L								
HVL-100813-05	10/8/2013		0.5 L	1.0 L								
MW-14D												
HVL-011513-10	1/15/2013		0.5 L	1.0 L								
HVL-042313-01	4/23/2013		0.5 L	1.0 L								
HVL-072613-15	7/26/2013		0.5 L	1.0 L								
HVL-100813-02	10/8/2013		0.5 L	1.0 L								
MW-14R												
HVL-011513-09	1/15/2013		0.5 L	1.0 L								
MW-14S												
HVL-011413-07	1/14/2013		0.5 L	1.0 L								
HVL-042313-02	4/23/2013		0.5 L	1.0 L								
HVL-072613-14	7/26/2013		0.5 L	1.0 L								
HVL-100813-01	10/8/2013		0.5 L	1.0 L								
MW-15D												
HVL-011413-05	1/14/2013		0.5 L	1.0 L								
HVL-072513-10	7/25/2013		0.5 L	1.0 L								
MW-15S												
HVL-011413-06	1/14/2013		0.5 L	1.0 L								
HVL-072513-11	7/25/2013		0.5 L	1.0 L								
MW-17S												
HVL-011513-16	1/15/2013		0.5 L	1.0 L								
HVL-042413-14	4/24/2013		0.5 L	1.0 L								
HVL-072513-08	7/25/2013		0.5 L	1.0 L								

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Iso-propyl-benzene	1,1,2,2-Tetra-chloro-ethane	1,2,3-Tri-chloro-propane	Bromo-benzene	n-Propyl benzene	2-Chloro toluene	4-Chloro toluene	1,3,5-Tri methyl benzene	tert-Butyl benzene	1,2,4-Tri methyl benzene	sec-Butyl benzene
MW-17S												
HVL-072513-09	7/25/2013		0.5 L	1.0 L								
HVL-101013-13	10/10/2013		0.5 L	1.0 L								
HVL-101013-14	10/10/2013		0.5 L	1.0 L								
MW-18D												
HVL-011413-04	1/14/2013		0.5 L	1.0 L								
HVL-072313-04	7/23/2013		0.5 L	1.0 L								
MW-18S												
HVL-011413-03	1/14/2013		0.5 L	1.0 L								
HVL-072313-03	7/23/2013		0.5 L	1.0 L								
MW-20R												
HVL-011613-17	1/16/2013		0.5 L	1.0 L								
MW-25S												
HVL-011713-24	1/17/2013		0.5 L	1.0 L								
HVL-072513-07	7/25/2013		0.5 L	1.0 L								
MW-26R												
HVL-011713-23	1/17/2013		0.5 L	1.0 L								
MW-28S												
HVL-100913-07	10/9/2013		0.5 L	1.0 L								
QC, F-BLANK												
HVL-011513-15	1/15/2013		0.5 L	1.0 L								
HVL-042413-13	4/24/2013		0.5 L	1.0 L								
HVL-101013-15	10/10/2013		0.5 L	1.0 L								
Water Supply Well, Corliss												
HVL-011713-25	1/17/2013		0.5 L	1.0 L								
HVL-042313-08	4/23/2013		0.5 L	1.0 L								
HVL-072513-13	7/25/2013		0.5 L	1.0 L								
HVL-101013-16	10/10/2013		0.5 L	1.0 L								
Water Supply Well, P. Bunyan												
HVL-032713-01	3/27/2013		0.5 L	1.0 L								
HVL-042313-07	4/23/2013		0.5 L	1.0 L								
HVL-072513-12	7/25/2013		0.5 L	1.0 L								
HVL-100913-08	10/9/2013		0.5 L	1.0 L								

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	1,2-Di-chloro-benzene	n-Butyl benzene	4-Iso-propyl-toluene	1,3-Di-chloro-benzene	1,4-Di-chloro-benzene	Total-Di-chloro benzene	1,2-Dibromo-3-chloro propane (DBCP)	1,2,4-Tri chloro benzene	1,2,3-Tri chloro benzene	Naptha-lene
FMW-01											
HVL-011613-21	1/16/2013	0.5 L				0.5 L		2.0 L			
HVL-042413-10	4/24/2013	0.5 L				0.5 L		2.0 L			
HVL-072413-05	7/24/2013	0.5 L				0.5 L		2.0 L			
HVL-100913-11	10/9/2013	0.5 L				0.5 L		2.0 L			
FMW-02											
HVL-011613-22	1/16/2013	0.5 L				0.5 L		2.0 L			
HVL-042413-09	4/24/2013	0.5 L				0.5 L		2.0 L			
HVL-072413-06	7/24/2013	0.5 L				0.5 L		2.0 L			
HVL-100913-12	10/9/2013	0.5 L				0.5 L		2.0 L			
Leachate, East Area											
HVL-011613-18	1/16/2013	0.5 L				0.5 L		2.0 L			
MW-10D											
HVL-011513-12	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-03	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-17	7/26/2013	0.5 L				0.5 L		2.0 L			
HVL-100813-04	10/8/2013	0.5 L				0.5 L		2.0 L			
MW-10S											
HVL-011513-11	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-04	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-16	7/26/2013	0.5 L				0.5 L		2.0 L			
HVL-100813-03	10/8/2013	0.5 L				0.5 L		2.0 L			
MW-11D(2)											
HVL-011413-01	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-042413-12	4/24/2013	0.5 L				0.5 L		2.0 L			
HVL-072313-02	7/23/2013	0.5 L				0.5 L		2.0 L			
HVL-100913-10	10/9/2013	0.5 L				0.5 L		2.0 L			
MW-11S											
HVL-011413-02	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-042413-11	4/24/2013	0.5 L				0.5 L		2.0 L			
HVL-072313-01	7/23/2013	0.5 L				0.5 L		2.0 L			
HVL-100913-09	10/9/2013	0.5 L				0.5 L		2.0 L			
MW-12D											
HVL-011613-20	1/16/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-20	7/26/2013	0.5 L				0.5 L		2.0 L			

WELL Sample Number	Date	1,2-Di-chloro-benzene	n-Butyl benzene	4-Iso-propyl-toluene	1,3-Di-chloro-benzene	1,4-Di-chloro-benzene	Total-Di-chloro benzene	1,2-Dibromo-3-chloro propane (DBCP)	1,2,4-Tri chloro benzene	1,2,3-Tri chloro benzene	Naptha-lene
MW-12S											
HVL-011613-19	1/16/2013	0.5 L				0.5 L		2.0 L			
MW-13D											
HVL-011513-14	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-05	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-19	7/26/2013	0.5 L				0.5 L		2.0 L			
HVL-100813-06	10/8/2013	0.5 L				0.5 L		2.0 L			
MW-13S											
HVL-011513-13	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-06	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-18	7/26/2013	0.5 L				0.5 L		2.0 L			
HVL-100813-05	10/8/2013	0.5 L				0.5 L		2.0 L			
MW-14D											
HVL-011513-10	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-01	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-15	7/26/2013	0.5 L				0.5 L		2.0 L			
HVL-100813-02	10/8/2013	0.5 L				0.5 L		2.0 L			
MW-14R											
HVL-011513-09	1/15/2013	0.5 L				0.5 L		2.0 L			
MW-14S											
HVL-011413-07	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-02	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072613-14	7/26/2013	0.5 L				0.5 L		2.0 L			
HVL-100813-01	10/8/2013	0.5 L				0.5 L		2.0 L			
MW-15D											
HVL-011413-05	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-072513-10	7/25/2013	0.5 L				0.5 L		2.0 L			
MW-15S											
HVL-011413-06	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-072513-11	7/25/2013	0.5 L				0.5 L		2.0 L			
MW-17S											
HVL-011513-16	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042413-14	4/24/2013	0.5 L				0.5 L		2.0 L			
HVL-072513-08	7/25/2013	0.5 L				0.5 L		2.0 L			

WELL Sample Number	Date	1,2-Di-chloro-benzene	n-Butyl benzene	4-Iso-propyl-toluene	1,3-Di-chloro-benzene	1,4-Di-chloro-benzene	Total-Di-chloro benzene	1,2-Dibromo-3-chloro propane (DBCP)	1,2,4-Tri chloro benzene	1,2,3-Tri chloro benzene	Naptha-lene
MW-17S											
HVL-072513-09	7/25/2013	0.5 L				0.5 L		2.0 L			
HVL-101013-13	10/10/2013	0.5 L				0.5 L		2.0 L			
HVL-101013-14	10/10/2013	0.5 L				0.5 L		2.0 L			
MW-18D											
HVL-011413-04	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-072313-04	7/23/2013	0.5 L				0.5 L		2.0 L			
MW-18S											
HVL-011413-03	1/14/2013	0.5 L				0.5 L		2.0 L			
HVL-072313-03	7/23/2013	0.5 L				0.5 L		2.0 L			
MW-20R											
HVL-011613-17	1/16/2013	0.5 L				0.5 L		2.0 L			
MW-25S											
HVL-011713-24	1/17/2013	0.5 L				0.5 L		2.0 L			
HVL-072513-07	7/25/2013	0.5 L				0.5 L		2.0 L			
MW-26R											
HVL-011713-23	1/17/2013	0.5 L				0.5 L		2.0 L			
MW-28S											
HVL-100913-07	10/9/2013	0.5 L				0.5 L		2.0 L			
QC, F-BLANK											
HVL-011513-15	1/15/2013	0.5 L				0.5 L		2.0 L			
HVL-042413-13	4/24/2013	0.5 L				0.5 L		2.0 L			
HVL-101013-15	10/10/2013	0.5 L				0.5 L		2.0 L			
Water Supply Well, Corliss											
HVL-011713-25	1/17/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-08	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072513-13	7/25/2013	0.5 L				0.5 L		2.0 L			
HVL-101013-16	10/10/2013	0.5 L				0.5 L		2.0 L			
Water Supply Well, P. Bunyan											
HVL-032713-01	3/27/2013	0.5 L				0.5 L		2.0 L			
HVL-042313-07	4/23/2013	0.5 L				0.5 L		2.0 L			
HVL-072513-12	7/25/2013	0.5 L				0.5 L		2.0 L			
HVL-100913-08	10/9/2013	0.5 L				0.5 L		2.0 L			

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Hexachlor-butadiene	Acrylo-nitrile	trans + cis-1,4-Dichloro-2-butene	Iodo-methane	O-Xylene	m,p-Xylene
FMW-01							
HVL-011613-21	1/16/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042413-10	4/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072413-05	7/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-100913-11	10/9/2013		5.0 L	3.0	1.0 L	0.5 L	0.9
FMW-02							
HVL-011613-22	1/16/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042413-09	4/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072413-06	7/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-100913-12	10/9/2013		5.0 L	3.0	1.0 L	0.5 L	0.9
Leachate, Ea							
HVL-011613-18	1/16/2013		5.0 L	3.0 L	1.0 L	2.6	5.5
MW-10D							
HVL-011513-12	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-03	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072613-17	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100813-04	10/8/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-10S							
HVL-011513-11	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-04	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072613-16	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100813-03	10/8/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-11D(2)							
HVL-011413-01	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042413-12	4/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072313-02	7/23/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100913-10	10/9/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-11S							
HVL-011413-02	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042413-11	4/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072313-01	7/23/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100913-09	10/9/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-12D							
HVL-011613-20	1/16/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-072613-20	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L

WELL Sample Number	Date	Hexachlor-butadiene	Acrylo-nitrile	trans + cis-1,4-Dichloro-2-butene	Iodo-methane	O-Xylene	m,p-Xylene
MW-12S							
HVL-011613-19	1/16/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-13D							
HVL-011513-14	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-05	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072613-19	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100813-06	10/8/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-13S							
HVL-011513-13	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-06	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072613-18	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100813-05	10/8/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-14D							
HVL-011513-10	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-01	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072613-15	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100813-02	10/8/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-14R							
HVL-011513-09	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-14S							
HVL-011413-07	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-02	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072613-14	7/26/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100813-01	10/8/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
MW-15D							
HVL-011413-05	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-072513-10	7/25/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-15S							
HVL-011413-06	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-072513-11	7/25/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-17S							
HVL-011513-16	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042413-14	4/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072513-08	7/25/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L

Hidden Valley Landfill
Groundwater Chemistry
Volatile Organics
(ug/L)

WELL Sample Number	Date	Hexachlor-butadiene	Acrylo-nitrile	trans + cis-1,4-Dichloro-2-butene	Iodo-methane	O-Xylene	m,p-Xylene
MW-17S							
HVL-072513-09	7/25/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-101013-13	10/10/2013		5.0 L	3.0	1.0 L	0.9	1.9
HVL-101013-14	10/10/2013		5.0 L	3.0	1.0 L	0.7	1.5
MW-18D							
HVL-011413-04	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-072313-04	7/23/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-18S							
HVL-011413-03	1/14/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-072313-03	7/23/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-20R							
HVL-011613-17	1/16/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-25S							
HVL-011713-24	1/17/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-072513-07	7/25/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-26R							
HVL-011713-23	1/17/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
MW-28S							
HVL-100913-07	10/9/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
QC, F-BLANK							
HVL-011513-15	1/15/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042413-13	4/24/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-101013-15	10/10/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
Water Supply							
HVL-011713-25	1/17/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-042313-08	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072513-13	7/25/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-101013-16	10/10/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
Water Supply							
HVL-032713-01	3/27/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-042313-07	4/23/2013		5.0 L	3.0	1.0 L	0.5 L	0.5 L
HVL-072513-12	7/25/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L
HVL-100913-08	10/9/2013		5.0 L	3.0 L	1.0 L	0.5 L	0.5 L

Appendix D
Water Level Data

Groundwater Elevation Database
2013 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	MW-10S	MW-10D	MW-11S	MW-11D	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14D	MW-14R	MW-15S	MW-15D	MW-16S	MW-16D	MW-17S	MW-18S	MW-18D
TOC ELEV	460.17	460.69	516.44	516.56	515.53	489.94	489.97	448.81	448.94	477.95	477.98	476.84	498.76	498.52	480.27	480.73	552.44	538.40	539.00
10/10/13		429.93	423.53	423	422.28	429.72	422.63	423.81	423.69	428.05	425.68	356.52	424.26	417.52			423.23	408.55	408.89
07/25/13		428.83	422.45	422.36	421.1		420.88	422.06	421.9	427.06	424.81	350.22	422.49	416.6			422.34	404.55	404.95
04/23/13		434.69	426.89	427.61	426.58	427.73	426.16	427.26	427.19	432.84	430.98	361.72	427.65	422.12			426.09	409.41	410.68
01/17/13		432.96	426.02	425.85	425.38	427.14	425.02	426.20	425.98	431.40	429.35	358.93	426.33	421.08			425.44	409.43	410.13
10/11/12		425.34	419.24	419.16	417.64	424.39	417.36	418.78	418.59	423.21	420.98	351.39	418.77	412.56			419.44	404.69	404.59
07/19/12		431.89	424.31	424.16	453.77	425.87	424.05	425.74	425.44	429.47	428.18	355.53	424.57	420.02			423.99	407.87	408.97
04/27/12		435.29	427.21	427.06	427.27	428.27	427.19	428.38	428.79	433.25	431.43	362.73	427.88	423.17			426.41	410.15	411.34
01/26/12	NM	429.64	424.08	423.92	422.03	425.27	422.20	423.90	423.69	428.94	425.72	357.34	423.86	417.12			423.30	406.83	407.34
10/27/11		427.08	420.44	420.36	419.03		419.51	421.27	421.07	424.75	422.72	356.39	420.24				420.39	405.09	405.15
07/07/11		434.89	426.99	426.87	427.83	428.05	426.80	427.91	427.65	433.33	431.36	362.71	427.99	423.43			426.19	409.96	412.11
04/21/11		438.59	439.94		430.73	430.74	430.97	431.11	430.92	437.49	435.03	362.68	431.56	426.63			428.94	412.37	414.67
01/06/11		433.13	425.99	425.57	425.12	426.83	424.98	426.07	426.21	431.29	428.70	359.76	426.08	420.71			425.15	409.08	409.62
10/14/10		431.80	420.33	420.24	418.26		418.34	420.00	419.73	424.64	422.51	358.48	420.05	414.28			420.28	405.00	404.88
07/15/10	434.81	431.80	424.64	424.98	423.95	447.94	423.77	425.06	424.88	429.93	427.91	356.73	424.79	419.47			424.14	408.14	409.13
04/08/10	436.53	435.08	426.40	426.29	425.91	427.57	426.23	427.13	426.92	432.26	429.85	362.73	426.91	421.50			425.64	409.53	410.50
01/28/10	436.03	433.40	421.84	425.89	425.12	426.12	425.05	426.92	426.73	431.34	429.20	359.90	426.24	420.91			425.41	409.42	409.87
10/29/09	428.51	424.31	418.70	418.63	416.91		416.99	418.68	418.50	423.62	420.31	354.34	418.51	412.07			418.25	403.75	403.83
07/09/09	432.63	428.97	422.45	422.37	421.34		421.36	422.59	422.47	426.75	424.96	355.98	422.11	416.80			422.33	406.63	406.99
04/16/09	435.81	433.37	425.90	425.83	425.62	427.09	425.39	426.75	426.58	431.29	429.45	364.57	426.16	421.20			425.30	409.13	409.93
01/12/09	435.75	432.42	427.07	426.96	424.94	428.32	424.81	426.40	426.24	431.42	428.23	358.61	426.49	420.11			426.49	409.61	409.36
10/23/08	423.99	421.94	416.01	415.93	414.67		414.83	416.34	416.19		418.21	353.58	415.96	409.93				403.16	402.77
07/10/08	431.82	427.35	421.17	421.10	419.73	421.84	419.37	420.50	420.39	425.26	423.10	356.22	420.69	414.79			421.19	405.77	405.62
04/17/08	435.58	432.69	425.56	425.45	424.91	426.78	424.52	425.80	425.58	430.98	428.77	362.63	425.92	420.02			425.14	408.98	409.69
01/24/08	435.04	431.93	425.37	425.58	424.15	426.45	423.68	424.94	424.96	430.14	427.89	359.78	425.20	419.63			424.52	408.59	408.89
10/11/07	430.61	425.67	419.23	419.15	417.51		417.45	419.00	418.93	424.48	421.12	355.75	418.84	412.77			417.86	395.80	397.25
07/19/07	432.94	428.95	422.56	422.47	421.14	424.03	421.10	422.44	422.27	426.92	424.94	352.31	422.23	416.71			422.45	398.23	400.03
04/26/07	438.36	436.82	428.60	428.63	429.01	429.76	428.67	429.85	429.77	435.52	433.26	364.03	429.92	424.90			428.03	402.66	406.42
01/18/07	442.36	439.31	430.96	431.28	431.30	432.11	430.87	432.11	432.02	438.52	435.41	365.69	432.43	427.02			430.35	404.80	408.12
10/26/06	427.17	423.53	416.76	416.72	415.75	417.51	415.93	417.49	417.35	421.40	419.35	354.43	416.74	411.10			414.66	403.63	403.23
08/08/06	431.52	426.74	420.89	420.77	419.00	422.32	418.97	420.11	419.92	424.99	422.65	350.93	420.43	414.42			420.97	405.63	405.57
04/14/06	438.37	435.68	433.19	428.09	427.98	429.50	427.81	429.04	428.97	435.05	432.11	365.51	429.01	423.80			427.73	410.66	412.59
01/18/06	440.79	437.31	430.09	429.95	428.78		428.69	430.15	430.04	436.81	432.93	360.01	430.91	424.63			429.49	403.62	405.80
10/17/05	425.93	422.63	416.47	416.40	414.94		415.19	416.81	416.65	421.19	418.65	354.06	416.50	417.49			416.32		
07/22/05	430.84	426.49	421.08	420.98	419.03	422.63	419.09	420.64	420.49	425.00	422.64	354.42	420.53	414.42			421.20	405.74	404.95
04/21/05	432.98	429.57	422.93	422.85	421.50		421.66	423.36	423.20	427.26	425.37	359.64	422.66	417.13			422.78	406.27	406.10
02/23/05																		405.68	404.87
01/27/05	431.62	427.69	421.87	421.76	419.73		420.12	421.86	421.64	425.78	423.61	355.64	421.18	415.41			421.87		
10/21/04	426.31	423.54	417.45		415.64	418.79	415.71	417.58	417.31	422.76	419.77	352.96	417.34	418.73			416.56	403.27	402.86
06/29/04	423.80	421.95	417.12		414.92	418.39	415.12	416.60	416.29	421.45	418.46	348.28	416.59	417.27			417.01	403.52	402.80
04/15/04	432.97	430.20	423.49	423.42	422.53	427.12	422.66	424.45	424.20	428.02	423.17	358.31	423.40	425.34			423.63	407.34	407.33
01/22/04	432.67	429.32	423.74	423.67	421.73	425.10	421.69	423.64	423.27	427.86	425.59	355.57	423.14	417.25			423.59	407.29	406.68
10/30/03	426.52	423.28	418.20	418.11	415.89	418.73	416.13	418.22	417.81	422.70	419.66	351.66	418.04	411.39			417.88	403.45	402.96
07/24/03	428.64	424.40	418.96	418.88	416.52	420.23	416.69	418.68	418.12	422.85	420.23	347.33	418.43				419.13	403.93	403.58
04/24/03	433.54	430.82	424.44	424.33	422.49	425.56	422.59	424.50	425.19	429.14	426.58	356.12	423.99				424.13	407.56	407.43
01/30/03	430.66	427.50	425.25	424.98	420.21	423.57	420.27	422.46	423.58	426.91	423.28	352.16	421.63				422.29	405.43	405.07
10/24/02	425.14	422.88	416.94	416.88	414.99	418.13	415.87	418.02	417.18	421.26	418.65	350.49	416.69				417.19	403.06	402.61
07/25/02	432.88	428.84	423.19	423.10	421.18	424.84	421.22	423.87	423.06	427.58	424.95	348.54	423.02				423.46	406.88	406.80
04/25/02	438.75	435.80	428.58	428.29	427.79	429.76	427.70	429.86	429.28	434.77	432.06	357.03	429.36				428.14	412.72	410.30
01/18/02	435.69	433.32	426.51	426.55	425.34	428.12	425.48	427.30	426.99	431.60	429.53	352.63	426.65				426.54	409.63	409.31
10/23/01	420.04	419.61	413.80	413.73	412.88	416.82	412.92	414.65	414.36	418.24	416.36	345.94	414.65				413.12	402.93	401.44
07/12/01	428.15	423.72	418.34	418.27	415.95	419.94	416.12	417.86	417.62	422.73	419.58	344.49	418.49				418.49	403.73	403.09
04/19/01	421.97	425.08	420.17	420.07	417.20	421.98	417.34	419.17	418.89	424.36	420.88	351.25	419.71				419.89	404.29	403.75
03/22/01	427.53	424.34	418.59	418.50	416.74	419.49	417.07	419.02	418.65	423.07	420.38	351.60	418.65				418.51	403.78	403.36
01/18/01	428.97	424.19	419.72		416.78	421.56	417.88	421.16	419.24	424.15	420.48	360.24	419.49				419.87	404.28	403.71
09/12/00	432.19	427.03	421.59	421.50	419.62	423.13	419.44	421.34	421.03	425.90	423.00	359.91	421.28				421.84	405.65	399.71
06/09/00	436.94	433.55	426.51	426.35	425.56	427.78	425.58	427.12	427.02	432.40	429.91	366.37	427.04				426.16	408.98	409.91
03/15/00		436.77	423.34	423.39		430.54	428.36	429.86	430.60	436.56	432.97	369.84	430.58	421.54			427.62	411.43	412.18
12/13/99	430.83	431.44	415.73	414.93		427.32	423.50	425.30	425.06	430.83	427.70	363.30					425.80	408.54	407.87
09/13/99	431.71	426.89	412.06	411.36			419.38	421.46	421.08	425.72	421.99	356.76	421.22	411.73			421.82	Dry	405.37
06/07/99	436.83	433.70	416.45	416.35		427.97	426.27	427.19	427.04	432.56	430.66	367.36					426.52	Dry	410.69
04/09/99	442.47	438.93	420.90	420.83		431.86	430.90	432.13	432.01	438.56	435.53	373.99	432.64	424.18			430.27	412.72	415.00
12/21/98	433.79	431.90	415.83	415.74				426.12	425.97	430.34	428.76	364.34					425.71	408.63	408.40
09/16/98	428.00	423.75	408.99	408.90				418.03	417.90	422.95	419.88						419.45		403.67
06/24/98	433.77	429.96	414.02	413.91		425.82	422.07	423.57	423.70	428.75	426.18	365.64	424.03	514.69			424.56	407.51	407.44
03/16/98	437.30	434.53	417.79	417.61				428.26	428.09	433.69	430.99	368.84					427.79	410.57	411.08
12/15/97	432.19	427.41	412.87	412.78				422.52	422.39	427.05	424.31						439.79	Dry	416.88
09/08/97	433.31	429.66	412.39	413.28				423.56	423.42	428.32	425.79						424.01	Dry	407.54
06/09/97	439.49	436.18	418.63	418.51				429.54	429.43	435.71	432.64	369.35					428.74		412.99
03/25/97	445.61	442.38	423.39	423.34		433.87	433.87	434.98	434.90	441.55	438.83	372.37	435.18	427.38			432.24	414.02	417.25
12/11/96	436.16	434.00																	410.41
12/10/96			417.75	416.59				427.59	427.49	432.92	430.49						427.53		

Groundwater Elevation Database
2013 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	MW-19S	MW-19D	MW-20R	MW-22U	MW-22L	MW-23S	MW-23D	MW-25S	MW-25D	MW-26R	MW-27S	MW-27D	MW-28S	BC-4S	BC-4D	FM-1	FM-2
TOC ELEV	485.71	485.82	469.43	545.92	546.07	448.34	448.25	527.80	527.52	481.81	531.81	531.92	466.87	526.68	526.94	542.59	536.40
10/10/13	430.49	417.79	358.18	415.56	405.98	427.77	423.18	401.44	403.66	415.5	422.84	424.08	424.77	402.62		396.69	398.58
07/25/13	428.38		351.28	402.4	401.44	426.52	421.45	400.97	403.32	415.23	423.86	423.92		401.18		398.94	400.03
04/23/13	432.84	431.82	365.12	407.52	406.57		426.45	405.68	407.27		429.31	429.02		403.88	370.94	402.29	402.53
01/17/13	432.40	427.16	363.58	408.67	406.22	448.34	426.05	404.35	406.21	421.61	428.23	428.23	421.75	403.71	369.29	400.93	402.47
10/11/12	425.31	413.1	353.18	410.72	401.18	424.23	419.35	398.56	400.45	411.81	418.93	419.64	422.07	398.69	382.23	395.59	397.31
07/19/12	429.13	428.82	360.16	408.59	405.2	427.39	423.84	403.1	405.22	418.41	426.56	426.79	NM	402.68	383.51	400.23	401.73
04/27/12	433.59	432.47	365.47	408.53	407.40	429.91	426.84	406.43	407.77	422.11	430.11	430.02	427.77	404.73	371.79	402.84	403.65
01/26/12	431.25	426.29	360.47	408.55	403.42	428.54	423.14	401.60	403.42	416.29	424.02	424.15	424.67	400.62	367.04	404.79	390.61
10/27/11	426.96	424.97	360.18	408.58	401.69	427.04	421.34	397.98	400.34	414.36	420.43	421.07	422.19	399.08		395.63	397.45
07/07/11	432.64	423.97	366.50	408.59	408.30	430.65	431.51	406.94	408.46	423.31	430.81	430.84	427.4	405.68		404.19	404.75
04/21/11	435.63	434.34	364.26			433.36	431.53	410.32	411.06		434.21	433.82	429.44	408.19		407.24	408.19
01/06/11	432.10	426.03	365.03	408.52	405.71	428.60	425.28	403.64	400.66	421.15	427.77	427.81	426.83	403.27		400.45	401.98
10/14/10	426.67	414.40	365.51	408.47	401.33	426.85	421.05	398.86	399.05	416.44	420.24	420.75	422.12	399.19		395.53	397.37
07/15/10	430.20	425.29	359.84	408.55	405.19	429.01	425.72	402.02	404.43		426.90	426.83	426.05	402.97	368.16	400.27	401.76
04/08/10	432.53	431.67	367.05	408.46	406.56	427.64	430.65	403.99	406.04	423.20	428.89	428.97	427.21	404.21		401.49	402.89
01/28/10	432.46	430.51	364.03	408.49	405.88	430.57	427.19	402.62	404.93	422.47	427.68	427.73	427.12	403.68		408.44	394.49
10/29/09	425.61	419.98	358.55	408.62	400.42	424.66	418.20	398.60	399.77	413.99	418.19	418.77		397.50	363.75	395.01	396.36
07/09/09	428.13	424.29	360.80	408.63	403.27	427.99	423.39	399.34	402.10	418.88	423.46	423.75	423.73	400.94	366.80	398.56	399.71
04/16/09	432.12	427.71	372.20	408.61	405.97	430.26	427.34	402.73	405.16	423.97	427.87	428.09	426.91	402.94	371.11	400.76	402.25
01/12/09	434.55	426.70	363.90	408.63	405.39	432.59	427.22	403.98	405.31	421.81	426.62	426.75	428.75	402.94	367.21	397.95	399.52
10/23/08	422.49	416.83	357.26	408.65	399.66	421.36	415.95	397.85	398.85	412.87	416.64	416.76		396.97	362.86	394.63	395.85
07/10/08	426.83	419.45	360.29	408.64	402.06	425.67	419.94	399.63	401.67	417.77	421.57	422.01	422.20	399.51	366.13	396.45	398.39
04/17/08	431.34	422.96	366.95	408.68	405.84	427.94	425.12	404.10	406.01	423.93	428.13	427.98	426.59	403.49	370.84	401.03	402.38
01/24/08	431.40	425.59	363.34	408.63	404.84	428.13	424.12	402.59	404.63	422.65	426.60	426.33	426.60	402.59	369.13	399.50	401.02
10/11/07	425.69	418.63	359.85	408.66	400.70	426.22	420.33	397.52	399.38	420.27	419.02	419.79	422.21	398.20	365.42	395.16	396.59
07/19/07	427.92	420.54	354.75	403.21	408.84	428.03	423.10	399.75	402.42	420.27	423.82	424.02	423.37	401.11	366.10	398.64	399.82
04/26/07	434.32	430.83	369.70	409.12	409.53	432.07	430.17	408.72	409.96	429.28	432.82	432.58	428.57	405.70	375.48	407.03	406.24
01/18/07	437.47	431.65	372.19	410.75	411.13	434.74	432.41	410.92	411.43	431.96	434.62	434.38	430.59	408.86	375.24	407.49	408.00
10/26/06	423.21	416.38	360.35	408.67	399.93	423.52	418.56	396.69	398.27	416.03	417.03	417.67		397.42	364.03	394.77	395.96
08/08/06	426.70	418.33	353.35	408.66	401.95	426.99	421.75	398.24	400.76	417.51	421.17	421.57	423.12	399.62	364.84	396.37	398.29
04/14/06	433.99	429.22	371.55	408.68	408.67	431.58	429.77	407.33	408.77	427.15	431.41	431.22	428.30	406.21	374.62	404.72	405.29
01/18/06	436.89	431.44	364.98	409.31	408.36	434.54	431.53	407.84	408.45	427.64	431.74	431.58	430.34	405.98	370.34	402.96	404.02
10/17/05	423.14	416.31	359.88	408.42	399.67			396.69	398.08	414.26	416.89	417.15		397.03	363.33	394.54	395.79
07/22/05	427.13	419.51	365.10	408.45	401.68	426.81	421.50	398.32	400.62	418.16	421.01	421.51		399.63	366.14	396.29	398.29
04/21/05	429.68	424.87	367.10	408.48	402.44	427.22	422.38	400.86	402.57	420.93	423.09	423.70	423.30	399.65	367.62	395.77	397.47
02/23/05																	
01/27/05		423.55	361.23			426.42	420.82	400.23	401.62	419.60	421.54	422.11	421.63	399.05	365.58	398.88	396.69
10/21/04	423.99	416.98	359.30	408.53	399.84	423.12	417.47			415.49	417.50	418.02		397.06	362.51	395.27	395.61
06/29/04	422.85	417.37	351.66	408.51	399.89	421.90	416.77			414.50	416.86	417.15		397.20	361.83	394.84	396.07
04/15/04	429.94	425.71	364.08	408.55	398.80	426.98	423.21	401.40	404.80	422.59	424.72	425.08	425.50	400.42	368.67	398.92	400.29
01/22/04	429.91	421.87	361.66	408.55	403.19	427.33	422.92	401.25	404.54	422.04	424.31	424.47	424.25	400.87	366.45	397.28	398.82
10/30/03	425.14	415.85	356.61	408.54	400.03	423.38	417.75	398.62	400.71	416.39	417.81	418.27		397.53	362.80	394.49	395.70
07/24/03	424.68	416.52	351.00	408.58	400.42	423.52	418.02	398.56	401.15	417.02	418.43	419.02	422.21	397.90	362.29	395.20	396.65
04/24/03	430.11	422.82	361.74	408.58	403.97	427.36	423.50	401.87	405.11	423.51	425.44	425.55	425.82	401.71	367.83	398.80	400.20
01/30/03	428.49	423.12	357.16	408.58	401.60	426.86	421.05	400.43	402.89	420.47	421.45	421.92		399.11	364.35	395.29	396.75
10/24/02	423.15	417.61	356.14	408.60	399.76	421.88	417.02	397.96	400.28	415.99	416.90	417.41	422.18	397.08	363.26	394.69	395.89
07/25/02	428.75	420.61	352.90	408.63	403.40	426.72	422.13	401.21	404.55	421.86	424.01	424.05	424.95	401.04	365.29	398.34	399.46
04/25/02	434.46	427.43	363.44	408.71	408.34	430.66	428.05	408.25	410.29	429.08	431.41	431.16	428.56	405.74	371.19	404.03	404.80
01/18/02	432.98	427.77	360.85	408.58	405.67	429.36	425.84	403.93	406.84	426.39	427.92	428.07	427.42	403.56	366.94	400.29	400.88
10/23/01	422.06	412.43	353.10	408.51	398.94	420.01	414.80	397.69	399.30	414.16	415.59	415.18		396.63	360.01	394.20	395.30
07/12/01	425.59	418.04	348.98	408.52	400.12	424.02	417.24	398.45	400.66	417.36	417.81	418.49		397.90	361.47	395.03	397.80
04/19/01	426.53	416.48	357.77		402.85	424.38	418.24	399.12	401.61	419.10	418.95	419.53		398.36	364.70	395.14	396.50
03/22/01	425.04	419.13	359.06	415.11	400.35	424.28	418.31	398.49	399.04	418.40	417.86	418.61		397.88	364.58	395.11	396.35
01/18/01	426.66		366.18			425.11		399.04		417.96						395.29	396.75
09/12/00	427.38	418.67	366.82	408.65	402.24	426.10	420.98	399.66	402.82	420.53	421.77	422.76	423.74	400.12	367.67	397.12	398.67
06/09/00	432.31	426.35	372.31	408.49	406.42	428.74	426.04	405.62	408.06	427.51	429.31	428.99	427.07			401.66	402.76
03/15/00	435.42	428.76	377.63	408.87	408.62	431.62	428.71	408.62	410.31	430.47	431.83	431.95				404.48	405.20
12/13/99				408.52	404.35	429.15		402.07	405.09								
09/13/99	427.23	418.87		408.74	402.27	426.17		399.65	402.74								
06/07/99				408.62	407.15	427.83	425.35	406.26	408.78								
04/09/99	436.29	430.58	377.97	410.21	411.54	432.50		412.72	414.14	433.49	435.18	434.74					
12/21/98				408.55	404.66	428.77	425.09	403.13	405.80	426.31				402.72	369.96		
09/16/98						424.07			401.02								
06/24/98	429.57	420.63	369.21	408.60	404.12	427.28	423.22	401.46	404.80		425.22	425.02		401.92	371.40		
03/16/98			375.28			430.92	427.46		408.83	428.69							
12/15/97						427.01	422.29		403.70								
09/08/97					404.22	427.15	423.11	401.39	404.92								
06/09/97						431.35			411.61								
03/25/97	438.73	434.56	374.66	411.65	413.61	434.60	433.41	415.13	416.69	436.69	436.35	437.98		410.54	380.40		
12/11/96						427.10											
12/10/96																	

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WELL	MW-10S	MW-10D	MW-11S	MW-11D	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14D	MW-14R	MW-15S	MW-15D	MW-16S	MW-16D	MW-17S	MW-18S	MW-18D
TOC ELEV	460.17	460.69	516.44	516.56	515.53	489.94	489.97	448.81	448.94	477.95	477.98	476.84	498.76	498.52	480.27	480.73	552.44	538.40	539.00
09/03/96	433.97	430.54	414.41	414.32		426.37	422.98	424.23	424.12	429.49	426.88		429.11	425.50			425.04	408.31	408.47
06/12/96	440.80	437.51	429.48	429.42		431.24	429.82	431.04	430.96	437.20	434.40		427.78	425.25			429.74	DRY	414.02
03/19/96	444.11	440.31	421.50	421.45				433.50	433.35	440.34	436.82	369.81					431.64		416.00
12/13/95	433.15	430.60	419.71	419.50				425.06	424.90	429.78	427.28						426.26		408.24
09/19/95	428.32	424.59	413.36	413.26				418.71	418.58	423.86	420.79						420.54		404.27
06/19/95	434.82	431.53	418.51	418.43				425.05	424.98	430.66	427.68						425.98		408.71
03/18/95	438.16	435.70	421.87	421.77		430.21	428.03	429.13	429.06	434.94	432.14	365.61	433.81	431.00			428.54	411.72	412.14
12/05/94	425.98	422.56	414.56	414.34			416.49	417.91	417.86	424.23	419.40	356.62	423.86	418.49			420.11	405.74	403.78
09/19/94	DRY	419.79	407.22	407.18			413.23	414.48	414.42	DRY	416.51	354.24	419.66	415.39			413.79	403.10	401.86
06/07/94	427.72	424.07	412.38	412.28			416.80	418.12	418.04	423.78	420.20	357.64	423.51	419.13			419.24	405.20	403.96
03/14/94	427.86	424.73	414.64	414.50			418.14	419.49	419.38	425.00	421.42	358.96	424.97	420.36			421.45	406.60	404.78
12/07/93	424.88	422.47	410.27	410.19			415.55		416.81	422.73	418.74	358.09	421.51	417.67			416.45	403.39	402.82
09/07/93	429.61	425.74	413.06	413.00			418.33	419.65	419.58	424.16	421.64	355.18		420.59			420.18	404.83	404.57
06/02/93	433.05	428.63	417.27	417.13		425.34	420.84	422.08	422.02	428.37	424.55	358.88	427.81	423.40			423.44	407.14	406.46
03/22/93	427.37	423.64	420.13	420.10		DRY	417.47	417.76	417.56	423.43	419.77	359.29	423.16	418.66			418.76	404.70	403.76
10/19/92	DRY	420.98	DRY	414.86		416.73	414.37	415.91	415.78	DRY	417.55	356.74	420.15	416.43			414.86	402.62	402.31
07/14/92	430.31	425.25	419.60	419.60		DRY	418.17	419.20	419.15	424.27	420.89	355.42	424.26	419.70			410.72	DRY	
04/14/92	433.49	428.87	422.73	422.63		424.73	421.17	422.47	422.40	428.57	424.73	361.44	427.90	423.59			423.07	DRY	406.61
01/20/92	429.35	424.29	419.28	418.97		DRY	417.46	419.23	418.79	424.05	420.45	361.18	423.88	419.11			419.34	DRY	404.61
07/29/91	435.20	431.16	425.83	425.60		428.04	424.23	428.63	426.07	431.01	427.33	358.20	430.88	426.37			426.56	409.46	409.59
06/28/91	443.36	433.96	428.19			430.08		430.83		434.42	430.25							411.32	411.78
04/29/91	444.30	439.41	432.12	432.05		430.35	431.85	434.54	433.29	440.39	435.84	370.24	438.36	434.82			431.88	413.42	415.38
03/26/91	433.22		431.22			432.81		423.59		438.95								403.76	
02/25/91	441.32		430.09			430.76		432.43		447.30								411.88	
01/29/91	436.67	433.89	426.58	427.61		429.03	427.02	430.33	426.64	420.35	433.28	367.49	433.07	429.29	434.89	431.36	428.25		
12/17/90	435.69		426.78			429.24		428.13		432.45								409.38	
11/26/90			427.55			426.09		429.03								405.49			
10/22/90	430.05		418.67				418.31	423.45		424.47								404.46	
10/01/90	425.32	431.62	420.58	420.38				423.66	421.13	425.03	422.14	359.66					420.92	405.51	405.41
09/04/90	432.69	427.99	422.41				421.01	424.68		427.07			426.96				422.86	406.71	406.71
07/24/90	435.11	431.02	425.44	425.17		426.32	423.97	426.86	425.44	430.71	427.17	355.95	430.29	425.99	427.06	428.09	426.04	408.55	408.81
07/02/90	436.65		426.82			428.89		428.27		432.42			432.04				427.42	409.86	410.21
06/18/90	425.45	433.14	427.53			429.79		429.07		433.54			433.05				428.15	DRY	410.70
06/04/90	438.12		427.27			429.69		429.21		433.00			432.76				427.90	410.48	410.59
05/21/90	438.34	433.69	427.82			429.95		429.34		434.01			433.38				428.46	412.20	411.36
05/07/90	439.68		428.78			430.90		429.68		435.51			432.65				429.34	411.73	412.13
04/25/90	440.44	435.54	429.34	429.20		431.22	428.24	430.51	430.42	436.42	431.68	367.42	435.32	430.56	433.05	432.43	429.67	411.90	412.48
04/09/90	441.27		430.10			431.96		431.07		437.47			436.25				430.39	412.37	413.31
03/26/90	442.22	437.30	430.89			432.74		431.81		438.70			437.27				431.09	412.96	413.85
03/12/90	442.83		431.25			433.02		432.43		439.50			437.73				431.47	414.05	413.66
02/27/90	442.60		431.60			433.09		432.60		439.52			438.07				431.71		414.39
02/12/90	441.52		430.91			433.16		432.16		438.30			436.97				431.34	412.32	413.08
01/29/90	438.49	434.58	427.82	427.58		430.59	426.75	429.29	428.30	434.81	430.95	366.27	433.53	429.11	436.38	431.37	428.38	410.02	410.72
01/24/90						429.00		427.90		434.11							427.10	408.05	
01/15/90	435.27		426.26			428.56		427.85		432.01			431.31				432.44	407.10	409.03
01/03/90	428.78		420.15			DRY		421.75		424.95			424.90				420.58	405.18	405.01
12/18/89	429.68		420.88			DRY		422.37		425.29			425.50				420.19	405.25	405.27
11/15/89	427.78		DRY			DRY		421.39		423.25			422.85				417.35	403.17	403.79
10/27/89									418.22									403.69	403.73
10/26/89			DRY	417.12		DRY	416.67	420.52					421.85	418.47			417.57		
10/25/89	426.70	423.15								DRY	419.47	361.30			422.35	420.66			
10/04/89	428.49	424.33	DRY	418.55		DRY	417.66	421.35		423.11			422.97				419.02	404.41	
09/05/89	430.93	426.24	420.67			DRY	419.27	422.40		424.96			424.68				420.99	406.68	
07/19/89						427.23	423.07											408.62	408.48
07/18/89			425.10	424.90				425.48	424.49			361.22			431.22	427.26	424.79		
07/17/89	434.50	430.18								429.96	426.31		425.18	429.71					
06/30/89						423.02		426.41					430.68				426.88	409.73	
06/29/89	435.95	374.97	426.38							424.33									
05/25/89	439.43	434.36	429.02				427.21	428.80		435.15	430.60							411.88	
04/25/89	441.21	436.45	430.40	429.35		432.23	428.79	430.41	430.10	437.32	432.40	368.74	436.43	431.47	439.37	433.43	430.72	412.41	412.61
03/16/89	436.30	432.07								431.77	428.09								
03/15/89			425.88			428.93	424.63	426.35					431.53				426.88	408.64	
03/04/89			424.13							429.20	425.58								
03/02/89	434.17	429.90					422.67	424.15										407.63	
01/24/89	432.60	408.23	422.63	422.47		425.65	421.29	423.34	422.76	427.42	424.47	362.86	427.43	423.45	427.90	425.63	423.04	406.58	406.66
12/22/88	429.60	398.87		420.40			419.12	421.86		425.17	421.96							404.51	
12/02/88			420.70				418.69											403.28	
12/01/88	430.21	351.73						422.41		425.35	421.39								
10/25/88	424.60	398.74	DRY	416.27		DRY	415.66	419.52	417.59	DRY	418.30	360.31	421.83	417.40	421.67	419.52	416.31	401.68	402.91
09/16/88								420.33										402.03	
09/15/88	427.30	423.54		417.20			416.82			422.39	419.83								

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WELL	MW-19S	MW-19D	MW-20R	MW-22U	MW-22L	MW-23S	MW-23D	MW-25S	MW-25D	MW-26R	MW-27S	MW-27D	MW-28S	BC-4S	BC-4D	FM-1	FM-2
TOC ELEV	**485.71**	**485.82**	**469.43**	**545.92**	**546.07**	**448.34**	**448.25**	**527.80**	**527.52**	**481.81**	**531.81**	**531.92**	**466.87**	**526.68**	**526.94**	**542.59**	**536.40**
09/03/96	430.05	422.34		405.03	408.78	427.50	423.78	402.43	404.96		426.05	425.86		402.93	368.33		
06/12/96	435.56	430.78		410.29	409.88	431.80	429.71	410.74	412.72		433.34	433.07		407.84	376.22		
03/19/96			377.05			433.76				434.35							
12/13/95						429.37		401.96	405.30								
09/19/95						424.75			401.29								
06/19/95						427.78			405.91								
03/18/95	434.65	430.29	373.56	409.08	408.62	430.94	427.76	407.39	409.70	428.77	430.84	430.78		406.34	373.21		
12/05/94	427.13	415.87	363.85	408.54	401.09	426.02	418.86	399.71	401.32	416.61	417.69	417.89		399.46	364.10		
09/19/94	422.10	412.11	359.17	408.57	399.45	420.91	414.73	397.58	399.23	413.53	415.62	415.20		397.63	362.99		
06/07/94	425.62	423.53	364.22	408.63	401.20	424.79	418.50	397.06	400.91	417.29	417.93	418.69		399.62	365.16		
03/14/94	427.18	418.42	365.22	408.64	401.97	426.11	419.74	399.47	401.89	418.73	419.39	419.92		400.45	366.08		
12/07/93	423.79	417.80	364.98	408.63	400.09	423.01	417.14	397.87	399.88	415.67	416.44	416.84		398.21	359.84		
09/07/93	426.05	421.38	361.92	408.89	401.49	425.22	419.55	398.53	401.38	418.28	418.84	419.84		399.98	364.51		
06/02/93	429.59	419.27	365.90	408.58	403.34	427.46	422.21	400.04	403.36	419.19	423.19	423.34		401.91	367.48		
03/22/93	426.81	415.55	365.37	408.59	401.02	426.54	419.16	398.29	400.76	417.27	417.80	418.44		399.65	366.06		
10/19/92	423.42	413.53	363.22	408.63	399.72	422.09	416.24	397.72	399.65	415.27	416.24	416.07		397.85	364.26		
07/14/92	425.96	416.74	359.15	408.68	401.71	425.59	419.50	398.66	401.33	418.64	418.89	419.53					
04/14/92	429.69	420.71	367.38	408.66	403.50	427.38	422.39	399.99	403.37	422.24	423.23	423.47		402.05	369.21		
01/20/92	427.29	416.28	372.01	408.68	401.89	426.11	419.36	399.17	401.69	418.41	418.61	419.12		400.69	367.82		
07/29/91	436.20	424.40	362.13	408.83	406.33	430.28	425.43	403.25	406.76								
06/28/91																	
04/29/91	437.67	431.53	376.74	401.78	411.12	429.94	431.86	412.34	414.08					409.35	366.55		
03/26/91																	
02/25/91																	
01/29/91			375.93		DRY	431.73	428.00	404.54	406.91								
12/17/90																	
11/26/90																	
10/22/90																	
10/01/90			365.62			426.73		399.24									
09/04/90				403.32	403.47												
07/24/90	433.11	424.70	360.41	408.47	405.43	429.61	424.96	402.12	405.81					403.62	368.69		
07/02/90				408.72	406.95												
06/18/90				DRY													
06/04/90				408.72	407.21												
05/21/90				408.75	408.01												
05/07/90				408.97	408.75												
04/25/90	436.71	428.57	375.22	409.47	409.25	432.47	428.61	407.69	410.27					406.70	374.99		
04/09/90				410.04	409.98												
03/26/90				410.39	410.60												
03/12/90				410.23	410.65												
02/27/90				410.55	410.84												
02/12/90				409.70	409.53												
01/29/90	436.74	428.38	374.60	DRY	407.12	432.63	427.92	404.32	407.37					404.52	372.03		
01/24/90					406.07												
01/15/90				DRY	405.19												
01/03/90				DRY	412.21												
12/18/89				DRY	402.38												
11/15/89				DRY	400.83												
10/27/89	426.78	417.94												399.12	367.40		
10/26/89			369.50														
10/25/89																	
10/04/89																	
09/05/89																	
07/19/89			365.39											403.42	370.05		
07/18/89	432.38	423.90															
07/17/89																	
06/30/89																	
06/29/89																	
05/25/89																	
04/25/89	437.37	428.59	377.61											406.95	374.72		
03/16/89																	
03/15/89																	
03/04/89																	
03/02/89																	
01/24/89	432.97	421.87	371.50											401.83	369.06		
12/22/88																	
12/02/88																	
12/01/88																	
10/25/88	427.19	416.22	368.72											397.82	366.16		
09/16/88																	
09/15/88																	

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WELL	MW-10S	MW-10D	MW-11S	MW-11D	MW-11D(2)	MW-12S	MW-12D	MW-13S	MW-13D	MW-14S	MW-14D	MW-14R	MW-15S	MW-15D	MW-16S	MW-16D	MW-17S	MW-18S	MW-18D
TOC ELEV	**460.17**	**460.69**	**516.44**	**516.56**	**515.53**	**489.94**	**489.97**	**448.81**	**448.94**	**477.95**	**477.98**	**476.84**	**498.76**	**498.52**	**480.27**	**480.73**	**552.44**	**538.40**	**539.00**
08/31/88				418.18			417.59	420.86		423.05	420.45								
08/30/88	428.77	373.41																402.61	
07/21/88			420.95	420.79														404.36	405.61
07/20/88						423.27	419.80	422.90	421.28								421.14		
07/19/88	431.58	363.77													425.92	423.45			
07/18/88										425.55	422.78	362.42	425.43	421.73					
06/24/88	432.63	389.19	422.18				421.65	424.71		426.95	423.90								
05/24/88	432.97	428.55	422.59	422.43		DRY	421.39	425.23	422.91	427.33	423.65	363.31							
04/26/88	432.03	428.06	422.20	422.07		427.23	420.16	424.75	422.54	427.06	424.34	363.04	426.86	423.32	427.52	425.67	422.10	405.27	406.43
02/24/88			DRY	417.65				422.29	418.12										
02/23/88	424.01	421.96				DRY	416.57			DRY	419.33								
01/15/88	424.51						415.92		418.89		418.33								

Groundwater Elevation Database
2013 Annual Monitoring Report
Hidden Valley Landfill, Pierce County, Washington

WELL	MW-19S	MW-19D	MW-20R	MW-22U	MW-22L	MW-23S	MW-23D	MW-25S	MW-25D	MW-26R	MW-27S	MW-27D	MW-28S	BC-4S	BC-4D	FM-1	FM-2
TOC ELEV	485.71	485.82	469.43	545.92	546.07	448.34	448.25	527.80	527.52	481.81	531.81	531.92	466.87	526.68	526.94	542.59	536.40
08/31/88														399.08			
08/30/88															367.19		
07/21/88																	
07/20/88																	
07/19/88	429.41	419.88	371.54														
07/18/88																	
06/24/88																	
05/24/88																	
04/26/88	430.35	422.65	361.05											401.24	369.12		
02/24/88														399.00	366.39		
02/23/88																	
01/15/88																	

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

LEGEND:

MW-11(S) Monitoring Well Location

(426.02) Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

MW-25(S) (404.35)

BC-4(S) (403.71)

FMMW-2 (402.47)

MW-27(S) (428.23)

FMMW-1 (400.93)

MW-18(S) (409.43)

MW-11(S) (426.02)

MW-15(S) (426.33)

MW-14(S) (431.40)

MW-17(S) (425.44)

MW-12(S) (427.14)

MW-28(S) (421.75)

MW-13(S) (426.20)

MW-23(S) (NM)

MW-10(S) (NM)

MW-19(S) (432.40)

405 410 415 420 425 430

OFFICE BUILDING

MAINTENANCE BUILDING

LIMIT OF REFUSE

GP-22 LOCATED IN ROW RANGE

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

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

SCS ENGINEERS

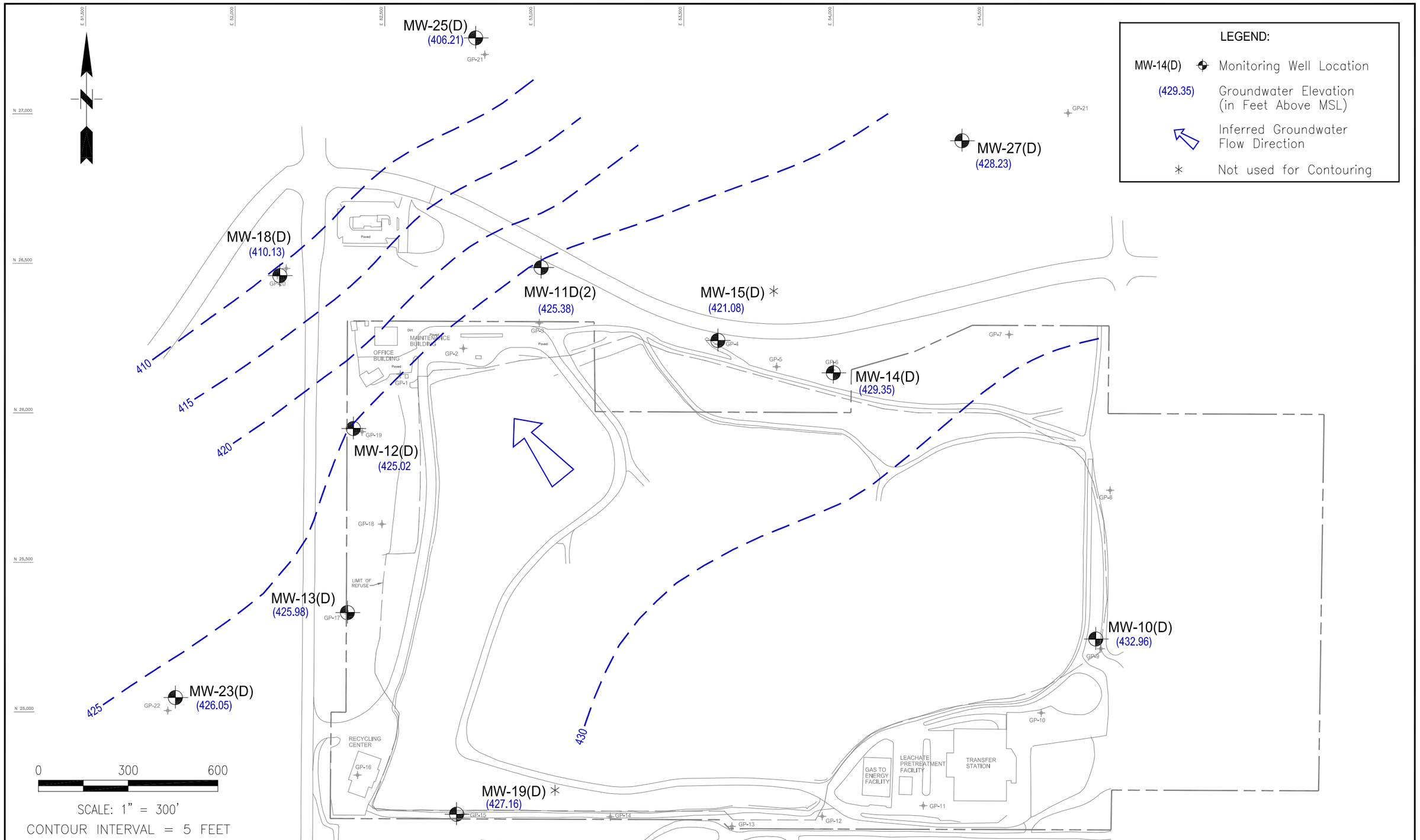
Environmental Consultants and Contractors

2405 140th Avenue NE, Suite 107

Bellevue, Washington 98005

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

PROJECT NO. 04213004.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP JANUARY 17, 2013 HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MARCH 2013
SCALE AS SHOWN	CHK BY ES		FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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Environmental Consultants and Contractors
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Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04213004.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP JANUARY 17, 2013	DATE MARCH 2013
SCALE AS SHOWN	CHK BY ES	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		

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

BC-4(R)
(NM)

365 360 355

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

Paved
Dirt
MAINTENANCE BUILDING
OFFICE BUILDING
Paved
Power
LIMIT OF REFUSE
RECYCLING CENTER
GAS TO ENERGY FACILITY
LEACHATE PRETREATMENT FACILITY
TRANSFER STATION

MW-14(R)
(358.93)

MW-20(R)
(363.58)

LEGEND:

MW-14(R) Monitoring Well Location

(358.93) Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

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. 04213004.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP JANUARY 17, 2013	DATE MARCH 2013
SCALE AS SHOWN	CHK BY ES	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

LEGEND:

MW-11(S) — Monitoring Well Location

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

Inferred Groundwater Flow Direction

MW-25(S) (405.68)

BC-4(S) (403.88)

FMMW-2 (402.53)

MW-27(S) (429.31)

FMMW-1 (402.29)

MW-18(S) (409.41)

MW-11(S) (426.89)

MW-15(S) (427.65)

MW-14(S) (432.84)

MW-17(S) (426.09)

MW-12(S) (427.73)

MW-28(S) (421.75)

MW-13(S) (426.26)

MW-23(S) (NM)

MW-10(S) (NM)

MW-19(S) (432.84)

405 410 415 420 425 430

OFFICE BUILDING

MAINTENANCE BUILDING

LIMIT OF REFUSE

GP-22 LOCATED IN RIFLE RANGE

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

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

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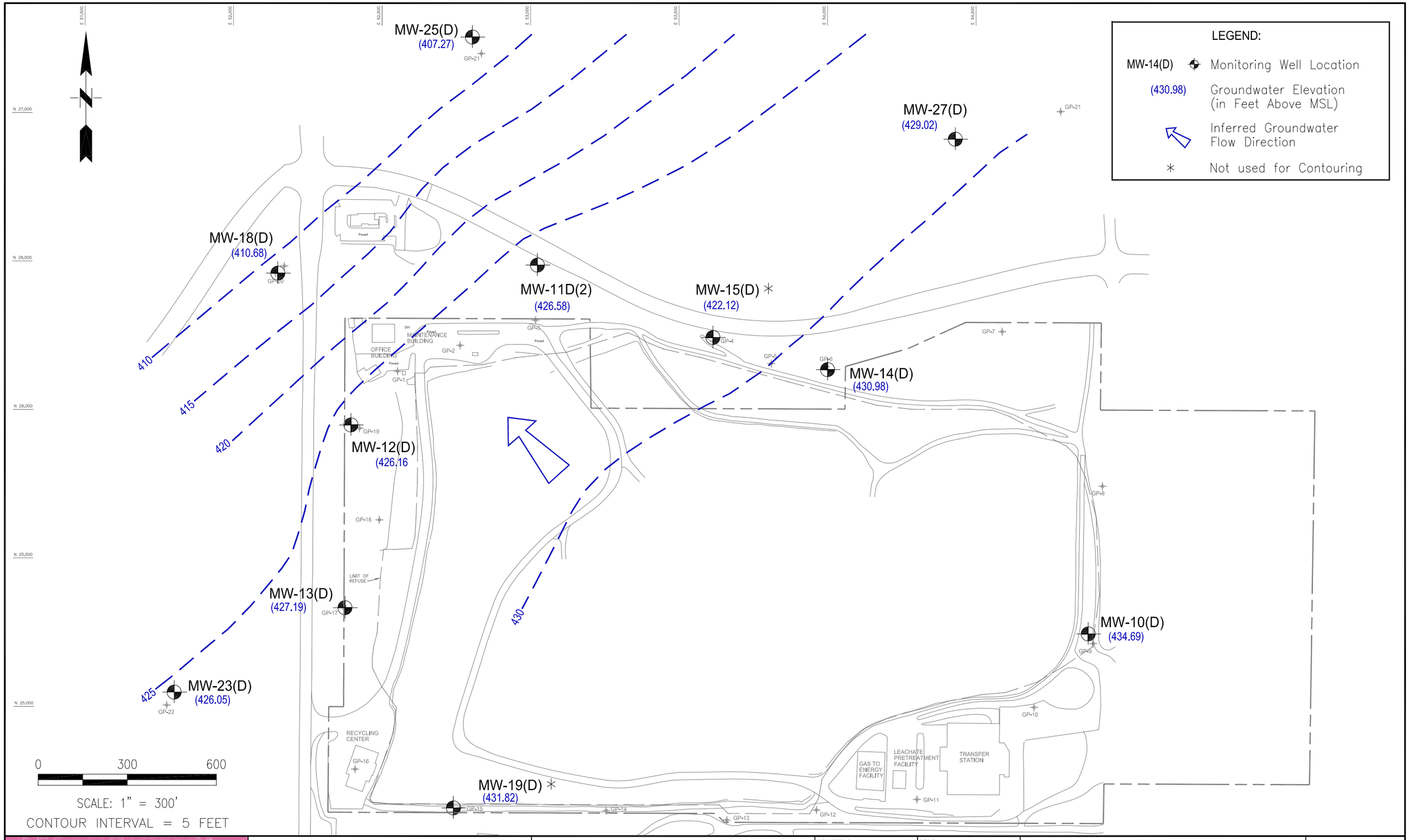
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04213004.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP APRIL 23, 2013	DATE MAY 2013
SCALE AS SHOWN	CHK BY ES	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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

PROJECT NO. 04213004.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP APRIL 23, 2013	DATE MAY 2013
SCALE AS SHOWN	CHK BY ES	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		

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

BC-4(R)
(NM)

365

360

GP-21

GP-20

Paved

Dirt

MAINTENANCE BUILDING

OFFICE BUILDING

GP-1 GP-2 GP-3 GP-4 GP-5 GP-6 GP-7

MW-14(R)
(361.69)

GP-19

GP-18

LIMIT OF REFUSE

GP-17

GP-8 GP-9

GP-22

RECYCLING CENTER

GP-16

GP-10

GAS TO ENERGY FACILITY

LEACHATE PRETREATMENT FACILITY

TRANSFER STATION

GP-11

GP-15 GP-14 GP-13 GP-12

MW-20(R)
(365.12)

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

LEGEND:

MW-14(R) Monitoring Well Location

(361.69) Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

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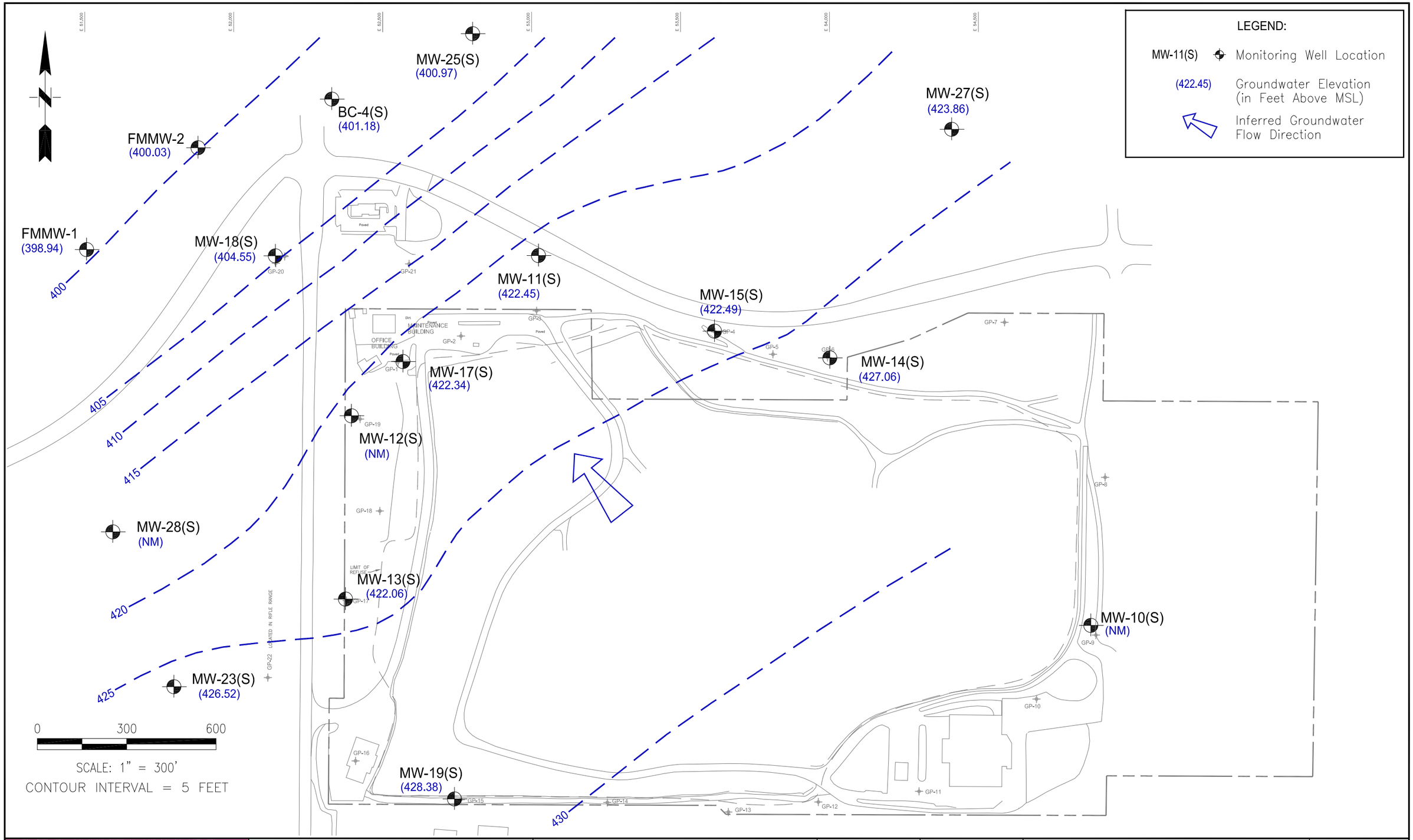
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04213004.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP APRIL 23, 2013 HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MAY 2013
SCALE AS SHOWN	CHK BY ES		FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		



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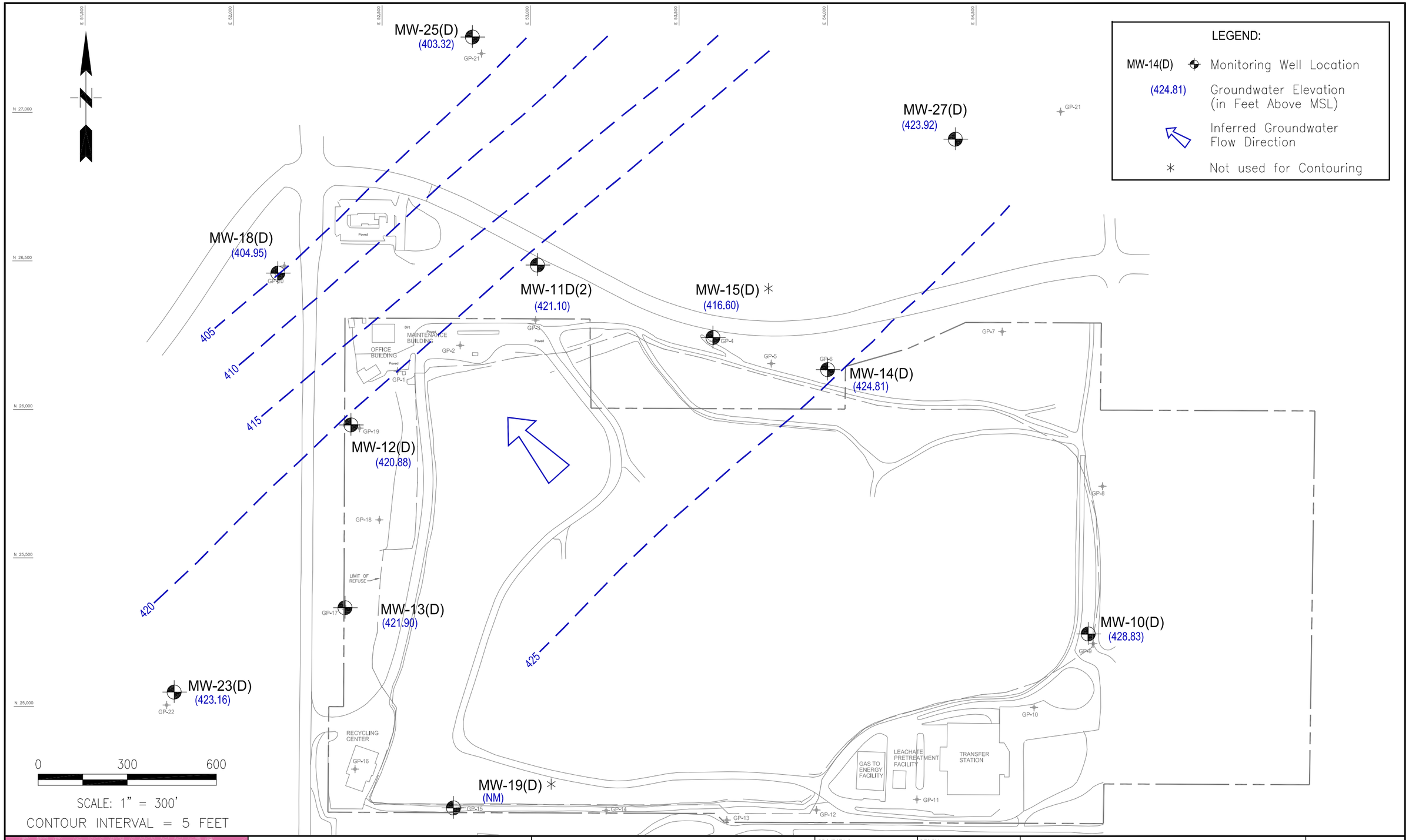
PROJECT NO. 04213004.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP JULY 25, 2013	DATE SEPTEMBER 2013
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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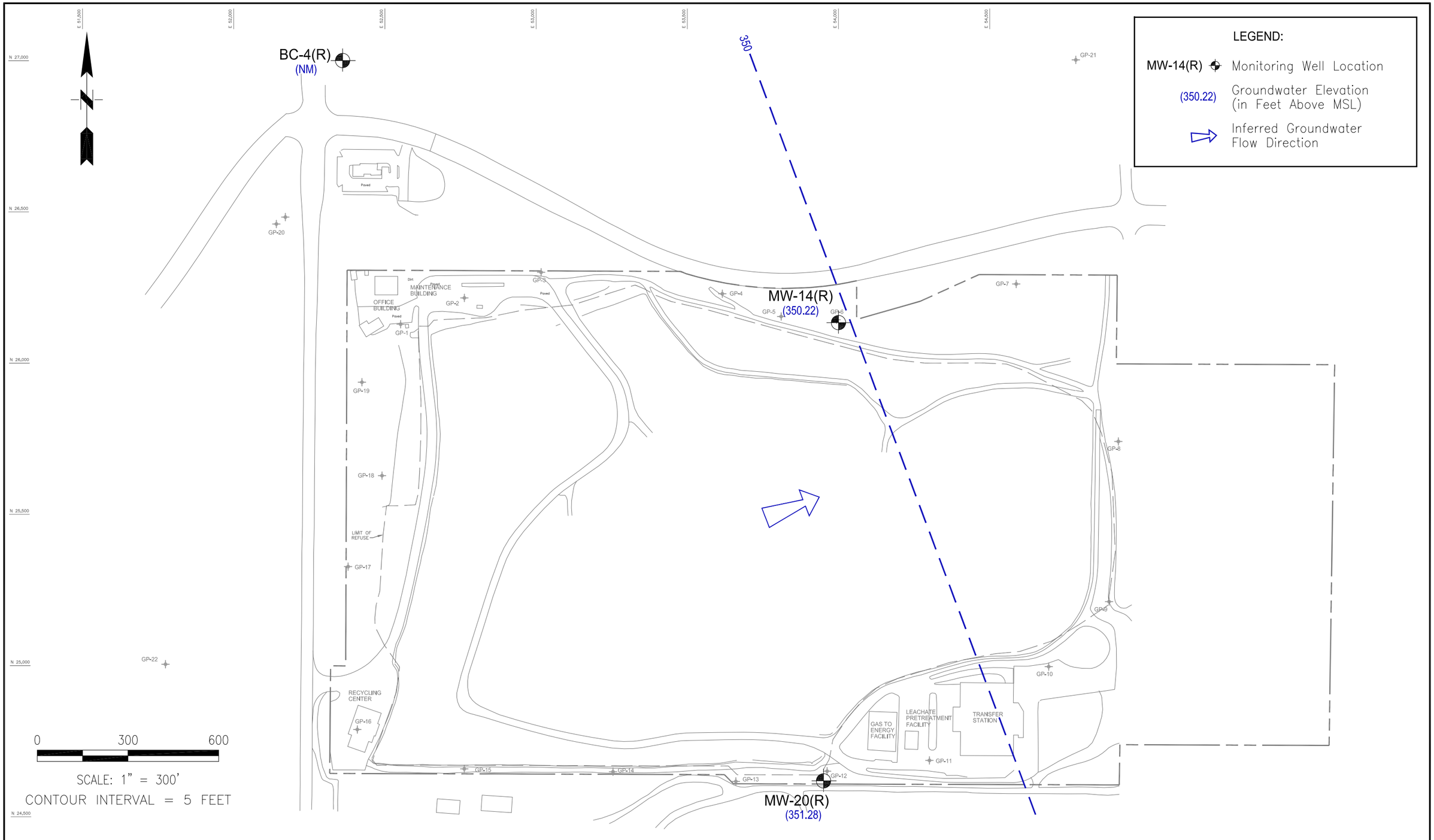
PROJECT NO. 04213004.03	DES BY MO	UPPER REGIONAL AQUIFER WATER LEVEL MAP JULY 25, 2013	DATE SEPTEMBER 2013
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		



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Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04213004.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP JULY 25, 2013 HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE SEPTEMBER 2013
SCALE AS SHOWN	CHK BY ES		FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

LEGEND:

MW-11(S) Monitoring Well Location

(422.45) Groundwater Elevation (in Feet Above MSL)

Inferred Groundwater Flow Direction

MW-25(S) (401.44)

BC-4(S) (402.62)

MW-27(S) (422.84)

FMMW-2 (398.58)

FMMW-1 (396.69)

MW-18(S) (408.55)

MW-11(S) (423.53)

MW-15(S) (424.26)

MW-14(S) (428.05)

MW-17(S) (423.23)

MW-12(S) (429.72)

MW-28(S) (424.77)

MW-13(S) (423.81)

MW-23(S) (427.77)

MW-10(S) (NM)

MW-19(S) (430.49)

400 405 410 415 420 425 430

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

OFFICE BUILDING

MAINTENANCE BUILDING

LIMIT OF REFUSE

Paved

Dirt

0 300 600

SCALE: 1" = 300'

CONTOUR INTERVAL = 5 FEET

SCS ENGINEERS

Environmental Consultants and Contractors

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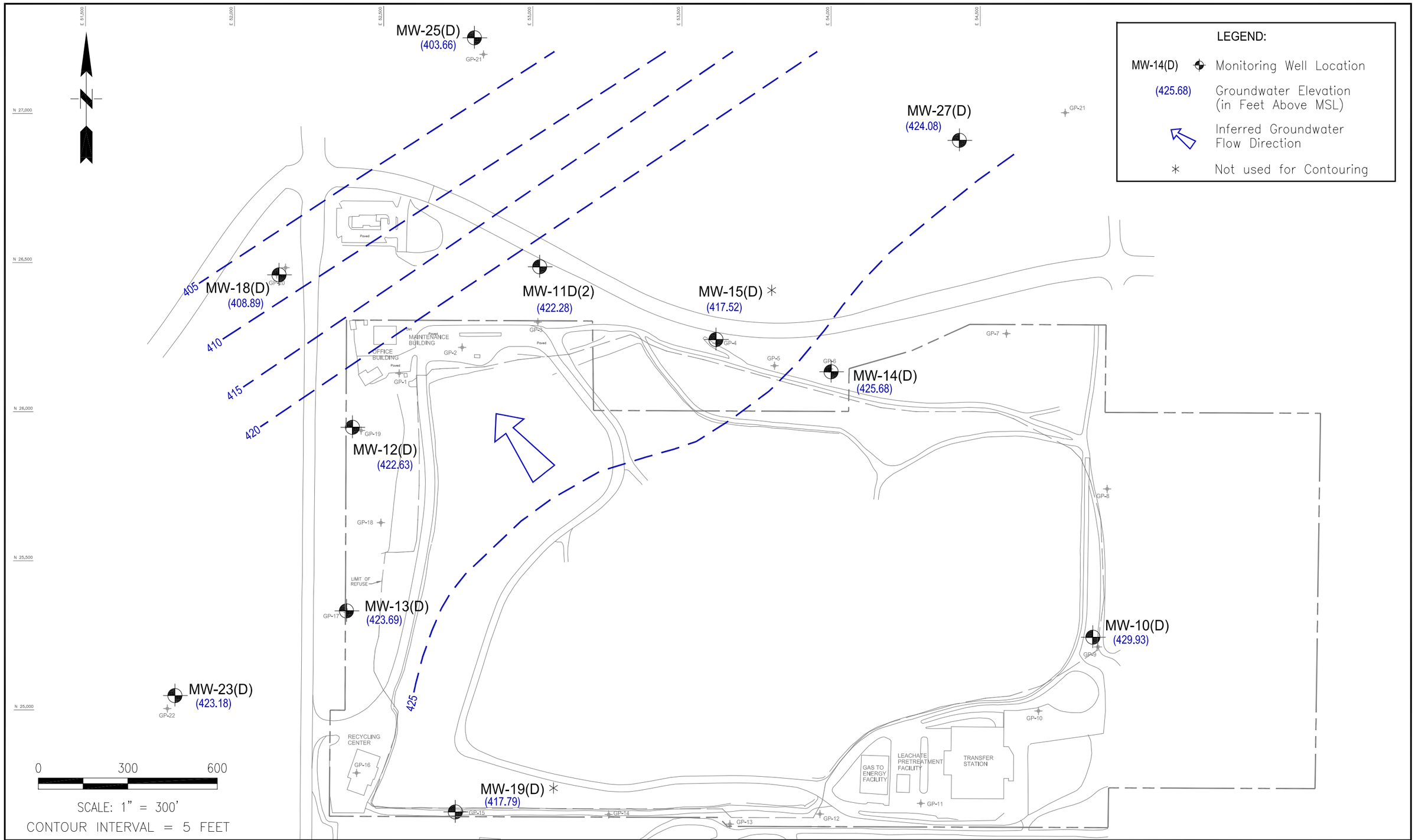
PROJECT NO. 04213004.03	DES BY MO	SHALLOW PERCHED AQUIFER WATER LEVEL MAP OCTOBER 10, 2013	DATE FEBRUARY 2014
SCALE AS SHOWN	CHK BY ER	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		



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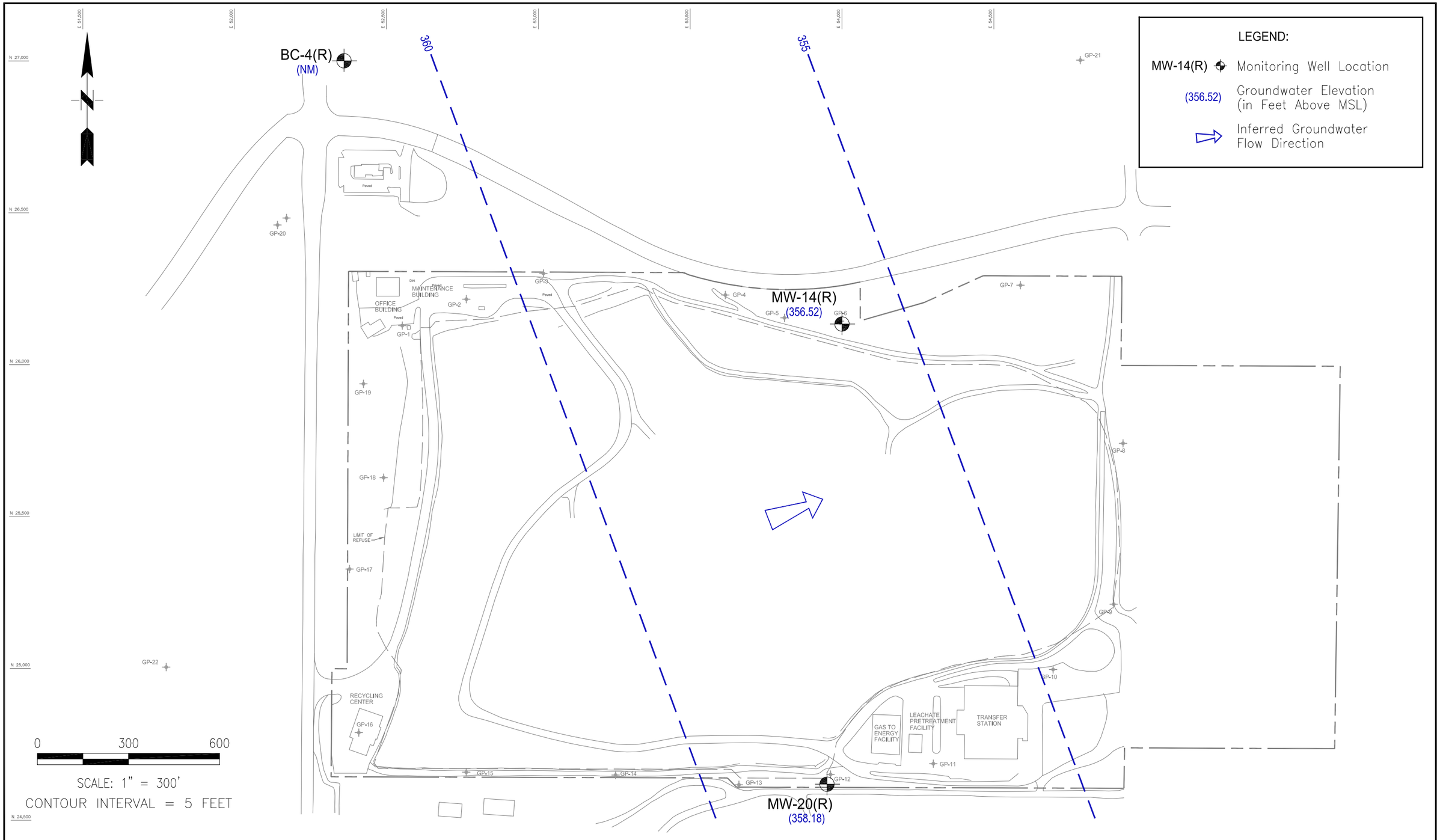
PROJECT NO. 04213004.03	DES BY MO
SCALE AS SHOWN	CHK BY ER
CAD FILE FIGURE 2	APP BY KGL

UPPER REGIONAL AQUIFER
WATER LEVEL MAP
OCTOBER 10, 2013

HIDDEN VALLEY LANDFILL
PIERCE COUNTY, WASHINGTON

DATE FEBRUARY 2014

FIGURE 2



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Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04213004.03	DES BY MO	LOWER REGIONAL AQUIFER WATER LEVEL MAP OCTOBER 10, 2013	DATE FEBRUARY 2014
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

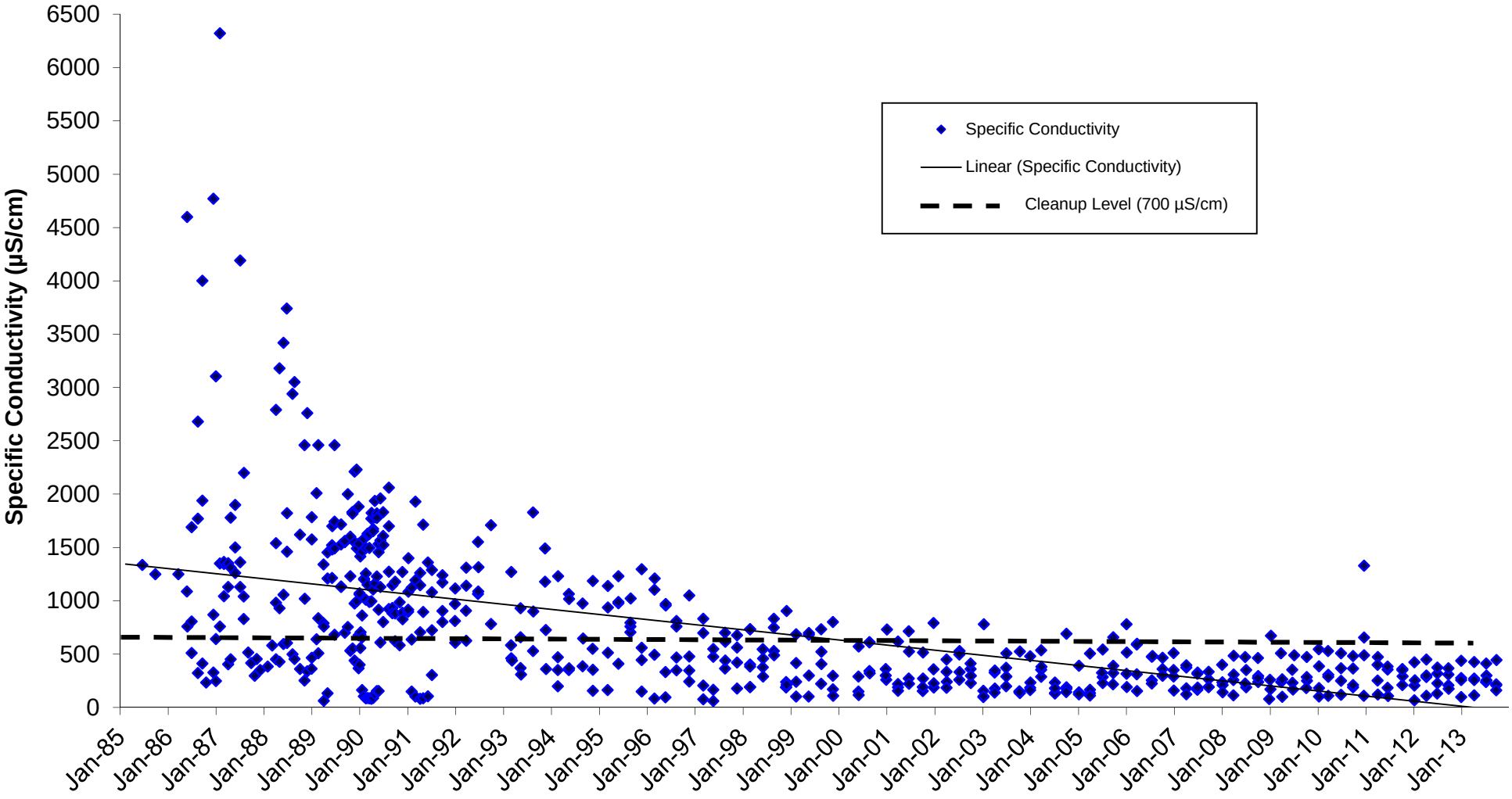


Figure E-2

Ammonia

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

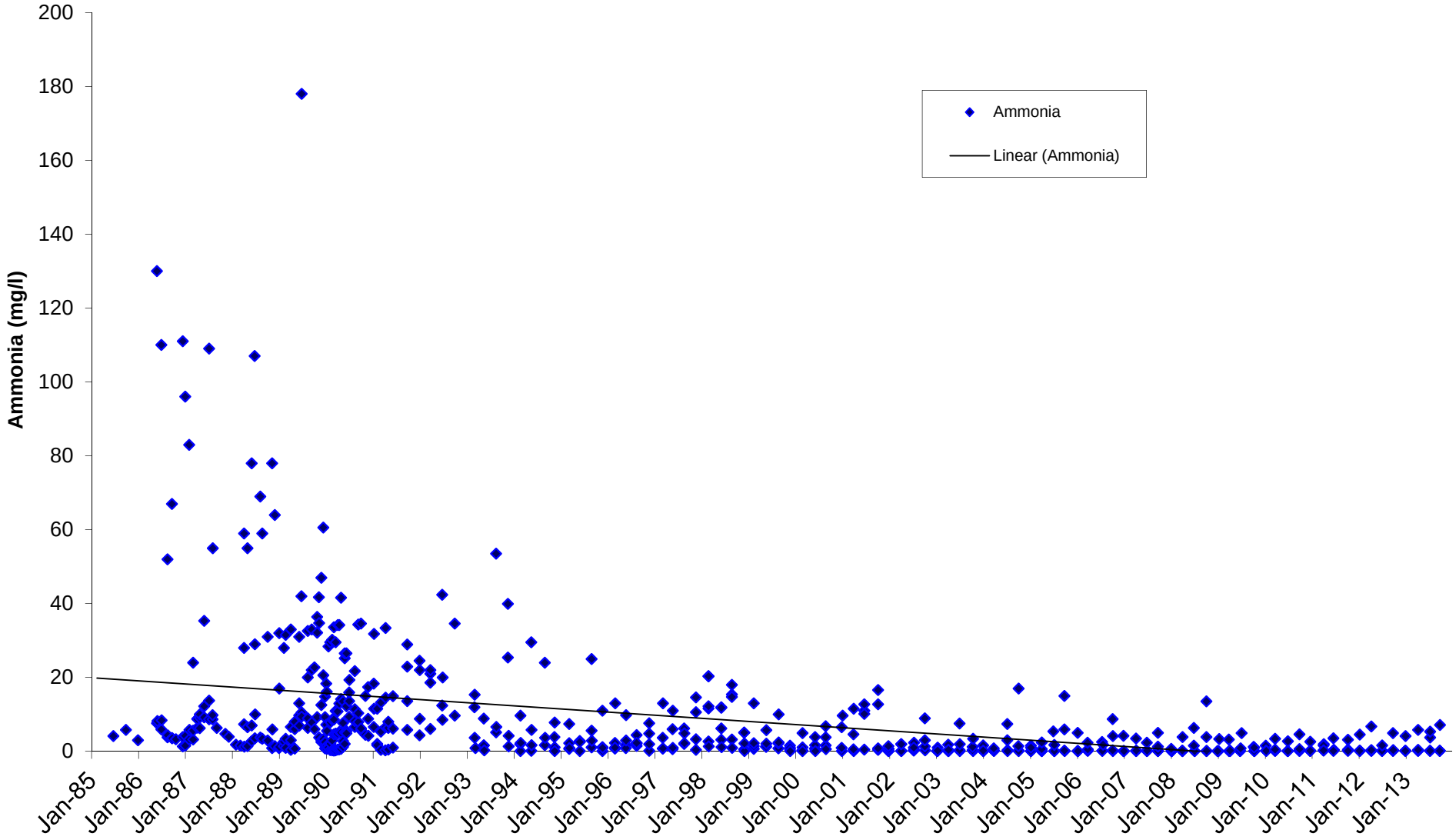


Figure E-3

Nitrate

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

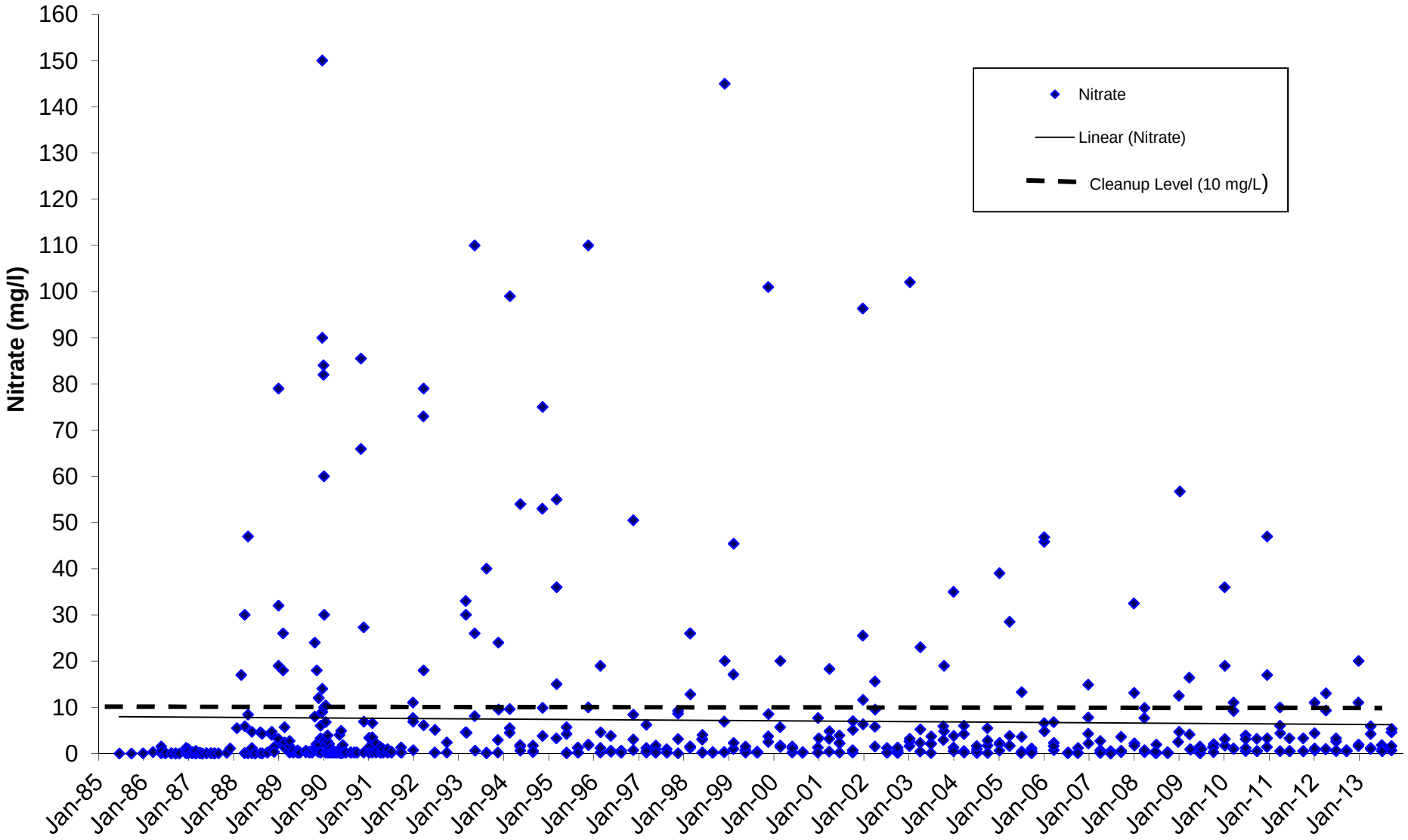


Figure E-4

Dissolved Iron

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

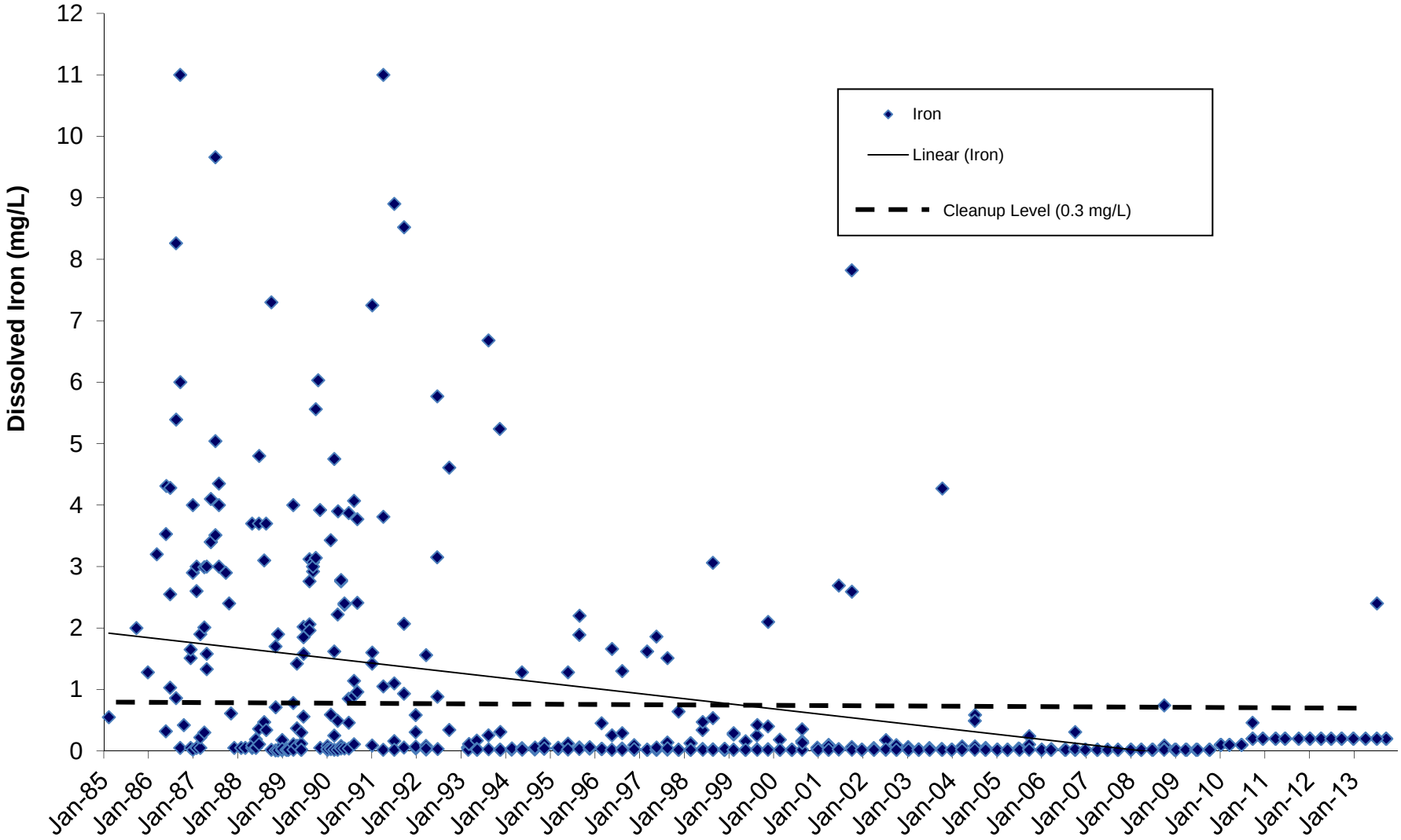


Figure E-5

Dissolved Manganese

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

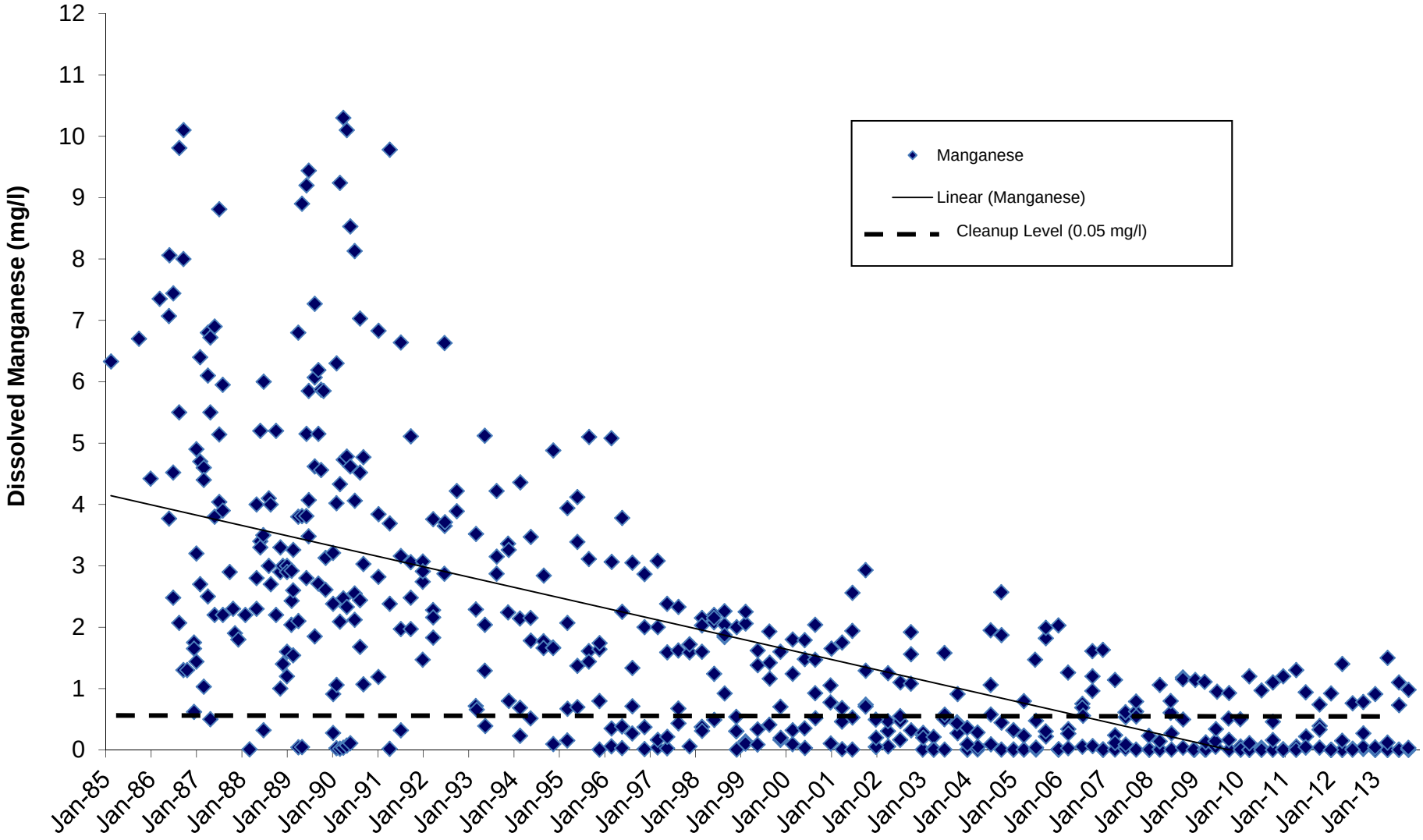


Figure E-6

Specific Conductivity

Upper Regional Aquifer, Hidden Valley Landfill

Wells MW-11D(2), MW-13D and MW-14D

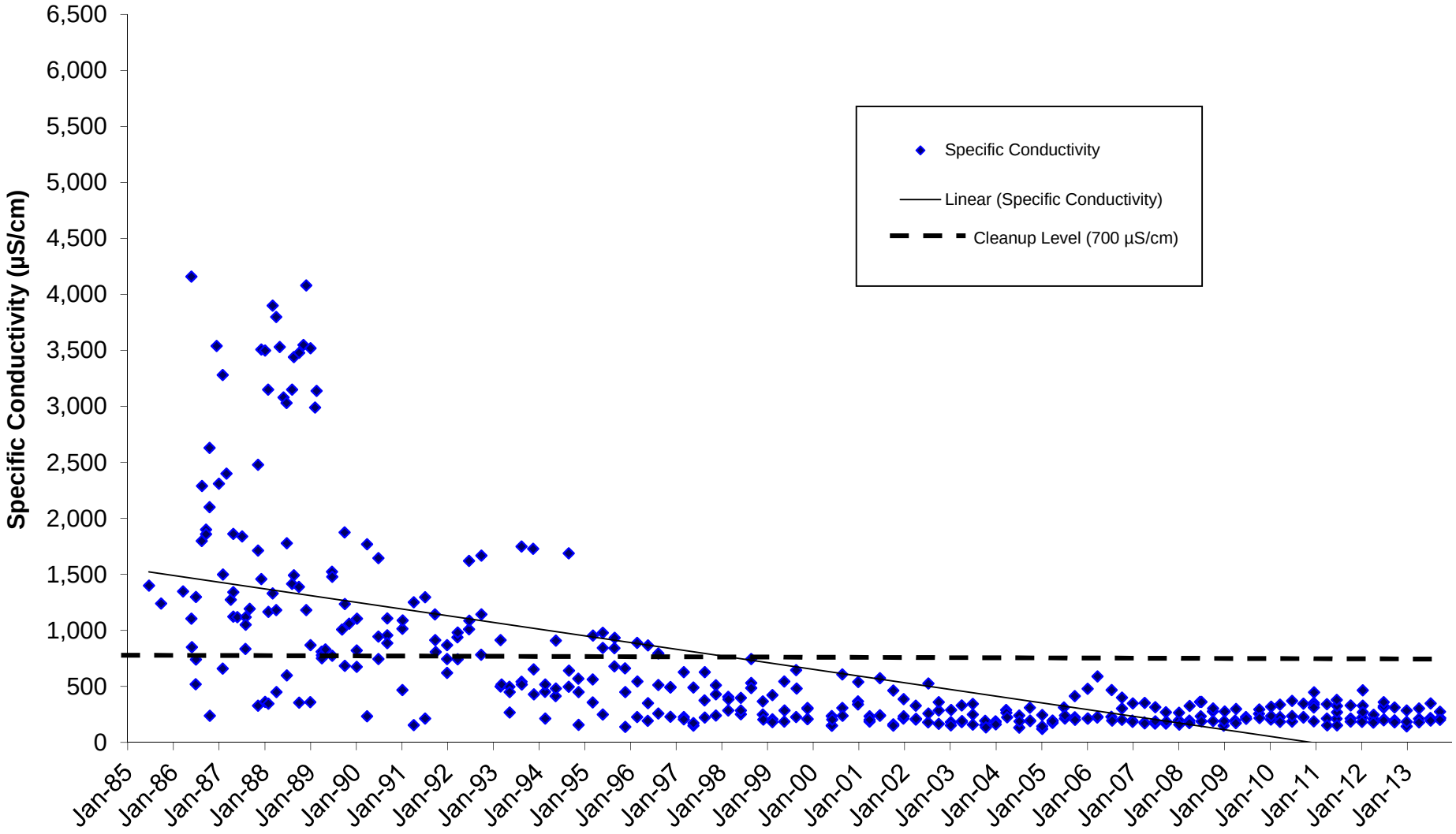


Figure E-7

Ammonia

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

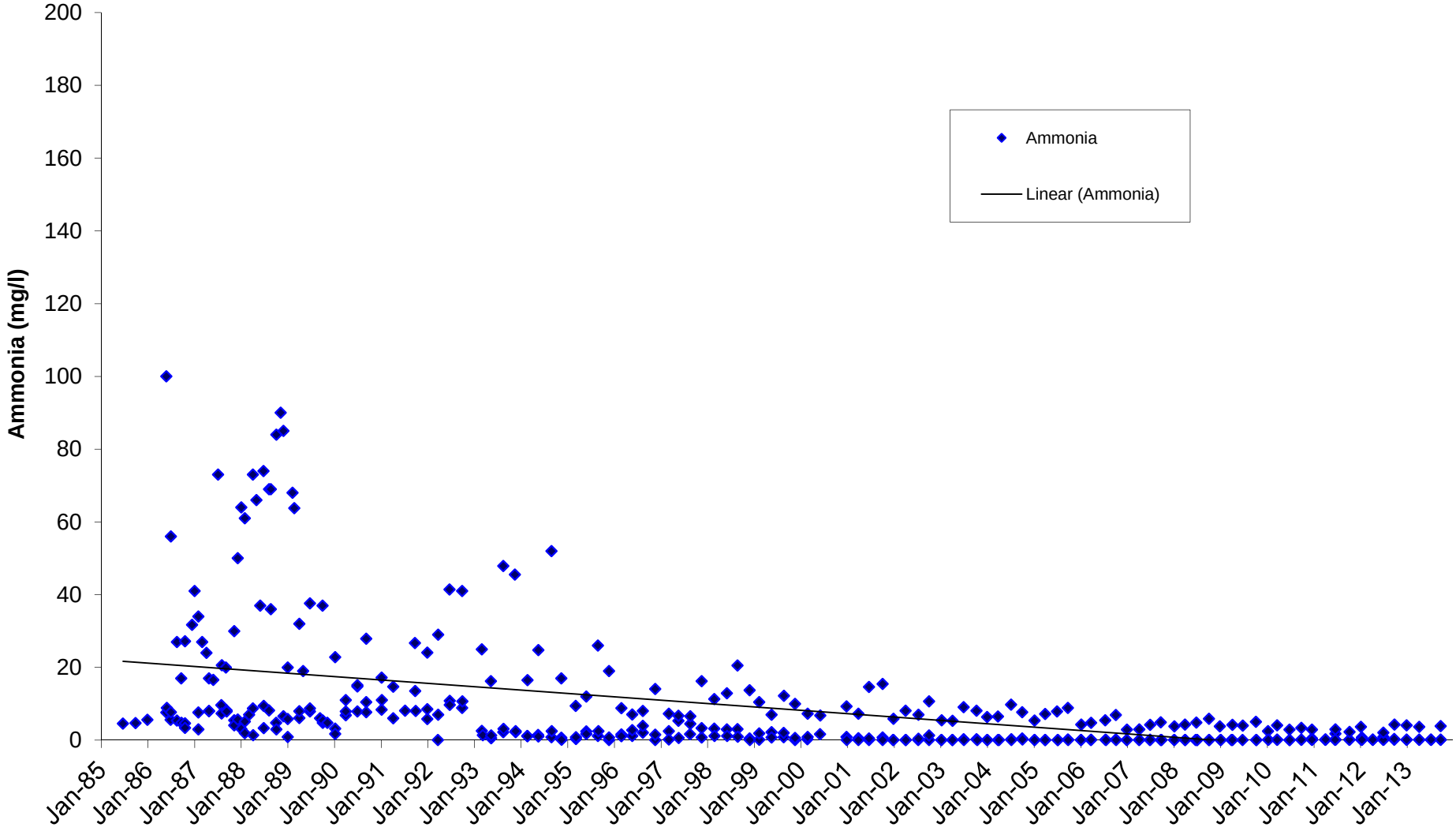


Figure E-8

Nitrate

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

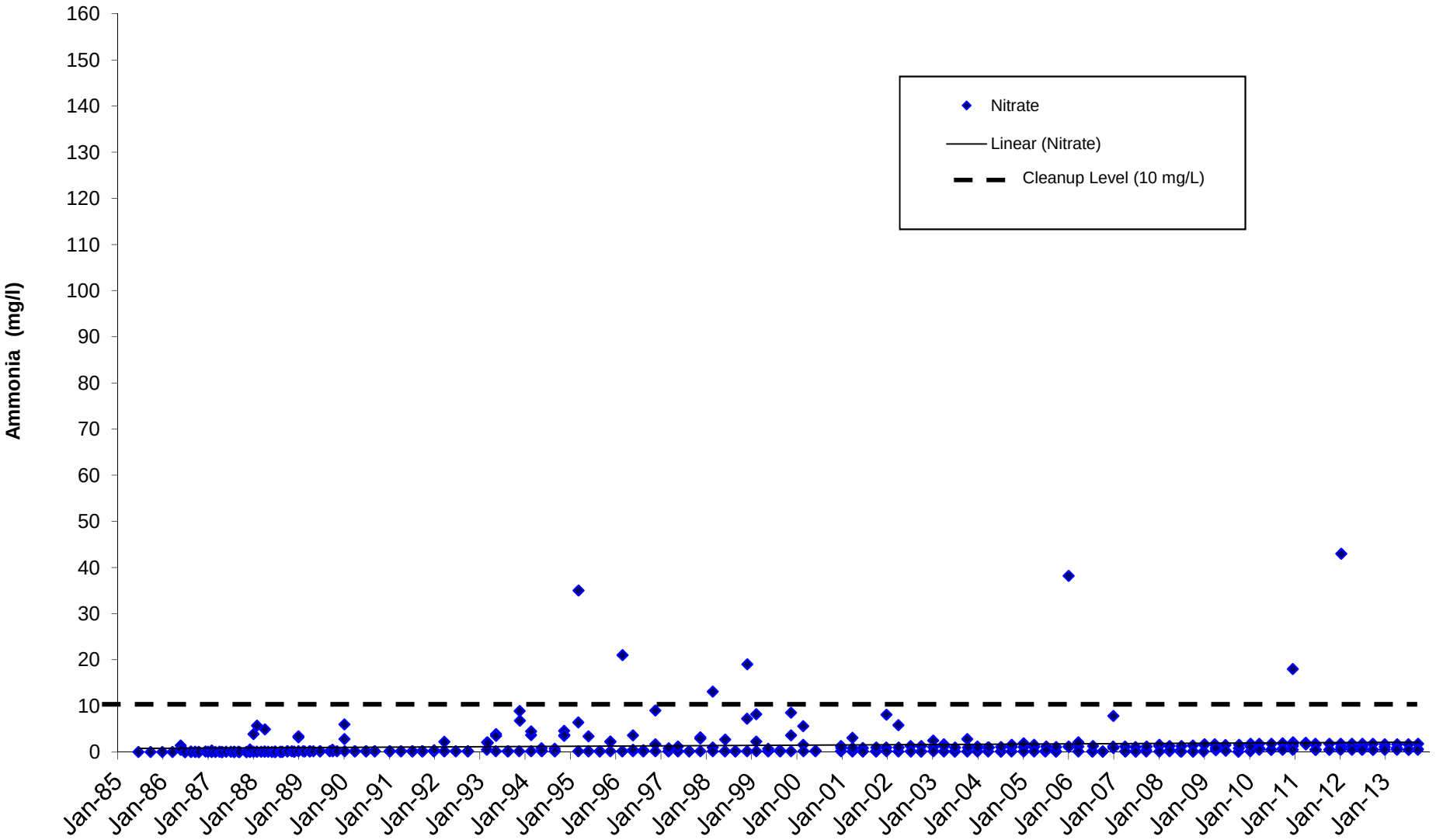


Figure E-9

Dissolved Iron

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

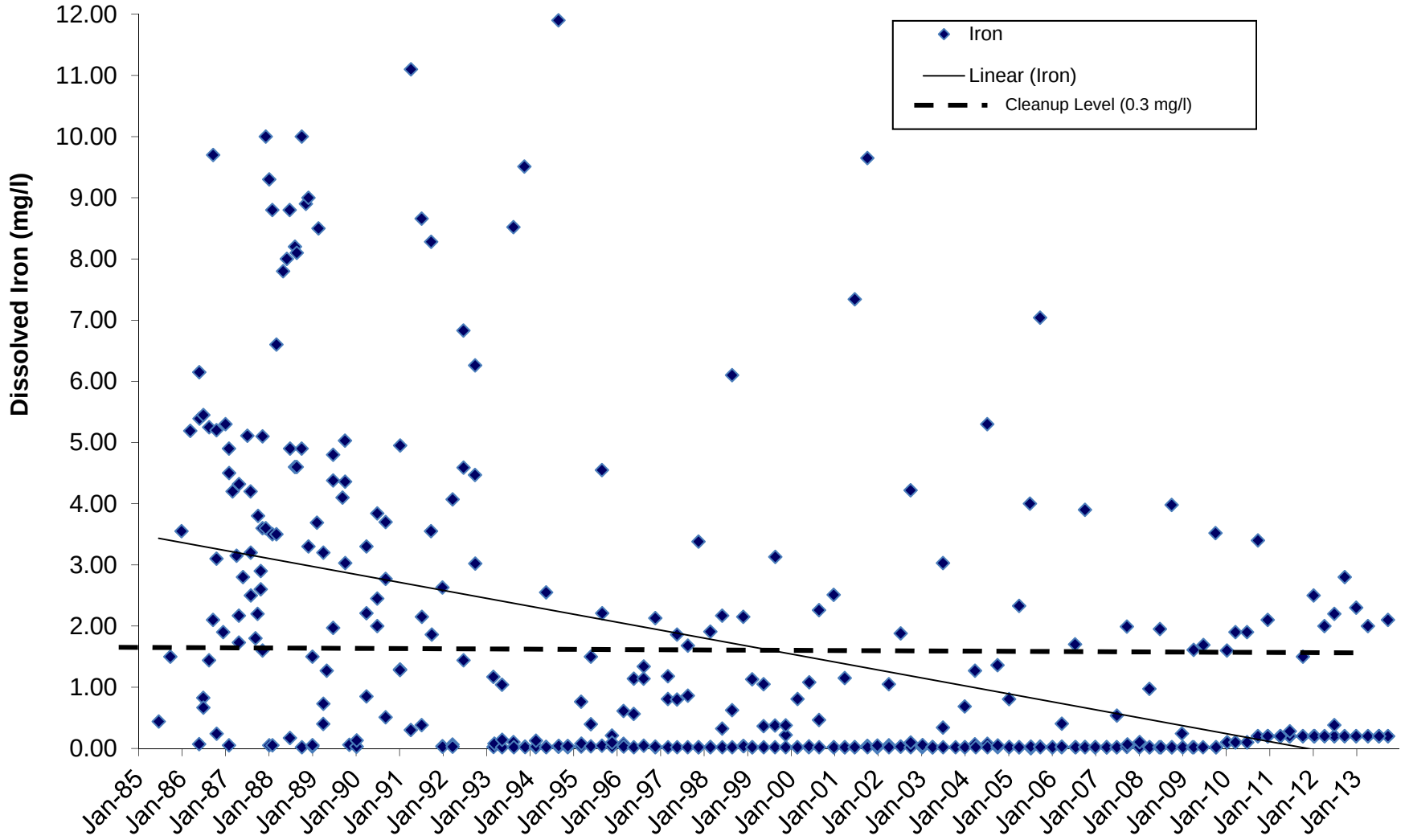
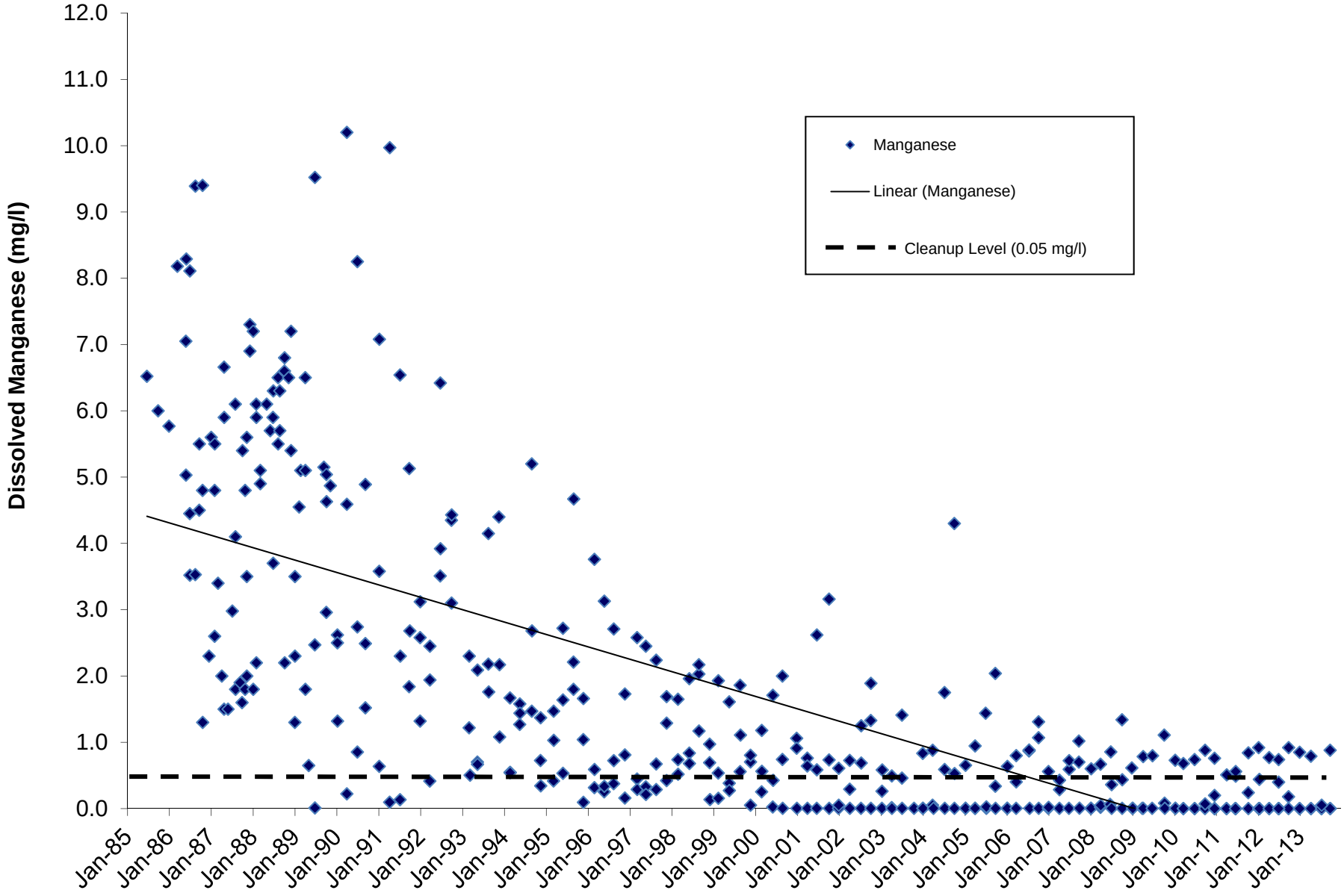


Figure E-10

Dissolved Manganese

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



Appendix F
Statistical Calculations

Inorganics
Statistical Summary of Groundwater Data
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	1/20/2009	233	233	110	110	3.8	3.8	0.05 L	0.025	1.3	1.3	3.8	3.8	160	160	0.5 L	0.25
MW-10D	4/21/2009	231	231	114	114	4	4	0.05 L	0.025	1.6	1.6	3.9	3.9	160	160	0.5 L	0.25
MW-10D	7/24/2009	120	120	44	44	4.9	4.9	0.05 L	0.025	0.5	0.5	8.7	8.7	84	84	0.7	0.7
MW-10D	10/30/2009	135	135	51.4	51.4	4.12	4.12	0.05 L	0.025	0.88	0.88	8.21	8.21	94	94	1.15	1.15
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		1		16		19		20		5	
Minimum conc.			113		44		3.8		0.03		0.3		2.5		83		0.3
Maximum conc.			241		140		11.7		0.11		1.7		16.5		160		1.4
Average conc.			173		77		5.4		0.05		1.1		7.7		119		0.6
Distribution			Lognormal		Lognormal		Neither		NC		Neither		Lognormal		Lognormal		NC
UCL 95			192		88.3		6.10		NC		1.7**		9.28		131		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-10S																	
MW-10S	1/20/2009	150	150	65	65	4.5	4.5	0.05 L	0.025	2.9	2.9	7.5	7.5	116	116	0.8	0.8
MW-10S	4/22/2009	101	101	39	39	5	5	0.05 L	0.025	0.9	0.9	8.6	8.6	83	83	0.9	0.9
MW-10S	7/24/2009	119	119	44	44	4.5	4.5	0.05 L	0.025	0.5	0.5	8.5	8.5	73	73	0.6	0.6
MW-10S	10/30/2009	135	135	50.2	50.2	3.61	3.61	0.05 L	0.025	1.22	1.22	6.97	6.97	111	111	0.98	0.98
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		1		15		20		20		10	
Minimum conc.			101		39		3.6		0.03		0.3		4.7		69		0.5
Maximum conc.			169		72		10.6		0.05		2.9		14.8		116		1.7
Average conc.			138		53		5.6		0.04		0.9		7.9		93		0.8
Distribution			Lognormal		Lognormal		Lognormal		NC		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			145		56.5		6.19		NC		1.37		8.92		98.3		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-11D(2)																	
MW-11D(2)	1/19/2009	191	191	104	104	6.2	6.2	0.05 L	0.025	1.6	1.6	4.7	4.7	164	164	0.5 L	0.25
MW-11D(2)	4/14/2009	196	196	102	102	6	6	0.05 L	0.025	1.7	1.7	4.9	4.9	161	161	0.5 L	0.25
MW-11D(2)	7/10/2009	228	228	102	102	5.9	5.9	0.05 L	0.025	1.5	1.5	5	5	146	146	0.6	0.6
MW-11D(2)	10/28/2009	218	218	99.2	99.2	6.18	6.18	0.05 L	0.025	1.59	1.59	4.85	4.85	158	158	0.6	0.6
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		3		20		17		20		2	
Minimum conc.			144		88		4.9		0.03		1.5		2.5		140		0.3
Maximum conc.			448		110		10.1		0.13		2.1		6.7		164		0.6
Average conc.			224		99		5.9		0.05		1.8		5.2		150		0.5
Distribution			Neither		Neither		Neither		NC		Neither		Neither		Neither		NC
UCL 95			244		101		6.33		NC		1.82		5.66		153		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-11S																	
MW-11S	1/19/2009	260	260	42	42	12.2	12.2	0.05 L	0.025	12.5	12.5	19.8	19.8	194	194	0.9	0.9
MW-11S	4/15/2009	238	238	54	54	25.4	25.4	0.05 L	0.025	4.1	4.1	12.9	12.9	166	166	3	3
MW-11S	7/10/2009	232	232	84	84	13.2	13.2	0.05 L	0.025	1.5	1.5	13.6	13.6	172	172	1.6	1.6
MW-11S	10/28/2009	251	251	59.4	59.4	33.4	33.4	0.05 L	0.025	2.04	2.04	9.22	9.22	183	183	1.44	1.44
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		6		20		20		20		15	
Minimum conc.			184		42		9.5		0.03		0.7		9.2		130		0.5
Maximum conc.			656		100		33.4		0.22		19.0		27.0		1100		3.0
Average conc.			266		62		15.1		0.08		6.5		17.4		223		1.2
Distribution			Neither		Lognormal		Lognormal		NC		Lognormal		Lognormal		Neither		Neither
UCL 95			304		68.1		17.2		NC		10.9		19.9		300		3.00 **

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-12S																	
MW-12S	1/21/2009	360	360	17	17	14.2	14.2	0.05 L	0.025	34.8	34.8	6.6	6.6	315	315	1.9	1.9
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		8		8		8		8		8		8		8		8	
No. Detect		8		8		8		6		6		7		8		8	
Minimum conc.			250		17		9.8		0.03		0.3		1.2		180		1.5
Maximum conc.			466		160		19.4		1.80		43.0		11.0		350		3.9
Average conc.			345		83		14.9		0.71		15.8		5.5		251		2.3
Distribution			Lognormal*		Lognormal		Lognormal		Lognormal		Normal		Normal		Lognormal		Lognormal*
UCL 95			391		227		18.0		8.76		26.2		8.10		295		2.97
MW-12D																	
MW-12D	1/21/2009	392	392	192	192	16.9	16.9	0.05 L	0.025	0.7	0.7	4.8	4.8	248	248	1.2	1.2
MW-12D	7/14/2009	337	337	158	158	13.4	13.4	0.05 L	0.025	1	1	5	5	209	209	1	1
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
No. Analyzed		8		8		8		8		8		8		8		8	
No. Detect		8		8		8		0		8		7		8		1	
Minimum conc.			270		120		8.7		0.03		1.1		2.5		190		0.5
Maximum conc.			380		170		14.0		0.05		1.6		5.7		220		1.0
Average conc.			325		149		10.7		0.05		1.3		5.0		203		0.6
Distribution			Lognormal		Lognormal		Lognormal		NC		Normal		Lognormal		Lognormal*		NC
UCL 95			356		167		13.2		NC		1.33		5.39		219		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-13D																	
MW-13D	1/22/2009	277	277	118	118	11	11	0.05 L	0.025	1.7	1.7	11.4	11.4	164	164	1	1
MW-13D	4/23/2009	299	299	136	136	13.2	13.2	0.05 L	0.025	0.9	0.9	11.9	11.9	224	224	0.9	0.9
MW-13D	7/8/2009	363	363	152	152	16.4	16.4	0.05 L	0.025	0.3	0.3	16	16	234	234	1.5	1.5
MW-13D	10/26/2009	296	296	125	125	14.4	14.4	0.05 L	0.025	0.83	0.83	15.3	15.3	202	202	1	1
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
No. Analyzed		16		16		16		16		16		16		16		16	
No. Detect		16		16		16		2		11		16		16		11	
Minimum conc.			247		94		9.2		0.03		0.3		11.0		170		0.5
Maximum conc.			380		170		21.1		0.33		1.7		20.0		260		1.8
Average conc.			322		138		13.5		0.07		0.8		15.1		208		1.1
Distribution			Lognormal*		Lognormal		Lognormal		NC		Lognormal		Lognormal		Lognormal		Niether
UCL 95			219		144		14.7		NC		1.15		16.0		218		1.8 **

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-13S																	
MW-13S	1/22/2009	171	171	62	62	6.4	6.4	0.05 L	0.025	4.7	4.7	10.3	10.3	136	136	1.2	1.2
MW-13S	4/23/2009	265	265	110	110	12.7	12.7	0.05 L	0.025	0.8	0.8	19.2	19.2	212	212	1.3	1.3
MW-13S	7/8/2009	354	354	151	151	15.4	15.4	0.06	0.06	0.1 L	0.05	18.6	18.6	214	214	1.9	1.9
MW-13S	10/26/2009	284	284	104	104	17.8	17.8	0.05 L	0.025	1.25	1.25	18.8	18.8	195	195	1.53	1.53
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		6		13		20		20		17	
Minimum conc.			171		61		5		0.03		0.1		10		130		1
Maximum conc.			489		160		31		0.24		6.0		26		270		2
Average conc.			306		115		14		0.07		1.4		17		195		1
Distribution			Lognormal		Lognormal		Lognormal		Neither		Lognormal		Normal		Lognormal		Lognormal
UCL 95			341		130		17.3		0.24**		3.21		18.8		214		1.53

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-14D																	
MW-14D	1/14/2009	150	150	68	68	6.8	6.8	3.82	3.82	0.1 L	0.05	8.1	8.1	115	115	2.4	2.4
MW-14D	4/22/2009	174	174	75	75	5.8	5.8	4.19	4.19	0.4	0.4	10.3	10.3	126	126	2	2
MW-14D	7/13/2009	211	211	82	82	5.8	5.8	4.04	4.04	0.3	0.3	12.6	12.6	135	135	1.5	1.5
MW-14D	10/23/2009	257	257	93.2	93.2	14.3	14.3	5.07	5.07	0.1 L	0.05	11.7	11.7	173	173	2.41	2.41
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		19		2		20		20		20	
Minimum conc.			150		56		5.2		0.05		0.05		7.4		99		1.3
Maximum conc.			257		93		23		5.07		0.4		12.6		173		2.8
Average conc.			189		73		9		3		0		11		122		2
Distribution			Lognormal		Lognormal		Neither		Neither		NC		Normal		Neither		Lognormal
UCL 95			199		75.8		10.1		3.58		NC		11.1		128		2.00
MW-14R																	
MW-14R	1/15/2009	87	87	48	48	1.6	1.6	0.05	0.05	0.3	0.3	3.3	3.3	102	102	0.6	0.6
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
No. Analyzed		5		5		5		5		5		5		5		5	
No. Detect		5		5		4		2		1		4		5		1	
Minimum conc.			87		48		1.5		0.05		0.1		2.5		92		0.5
Maximum conc.			128		49		1.8		0.15		0.3		3.8		110		0.6
Average conc.			105		48		1.7		0.07		0.2		3.4		99		0.5
Distribution			Lognormal		Neither		Lognormal		NC		NC		NC		Normal		NC
UCL 95			122		48.8		2.85		NC		NC		NC		106		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-14S																	
MW-14S	1/14/2009	79	79	23	23	2.4	2.4	0.05 L	0.025	2.5	2.5	5.1	5.1	77	77	2.3	2.3
MW-14S	4/22/2009	99	99	40	40	4.3	4.3	0.16	0.16	0.9	0.9	9.1	9.1	86	86	1.8	1.8
MW-14S	7/13/2009	168	168	58	58	11.5	11.5	0.81	0.81	0.1 L	0.05	12.6	12.6	132	132	1.8	1.8
MW-14S	10/23/2009	182	182	59.6	59.6	12.7	12.7	1.2	1.2	1.36	1.36	9.81	9.81	108	108	2.33	2.33
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		19		15		15		19		20		19	
Minimum conc.			67		23		0.1		0.025		0.05		0.25		56		0.5
Maximum conc.			292		78		21.5		3.7		2.5		12.6		140		2.6
Average conc.			140		46		7		0.480		1		8		94		1.7
Distribution			Lognormal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			165		53.3		15.5		1.14		1.5		12.4		104		1.95
MW-15D																	
MW-15D	1/13/2009	369	369	187	187	18.5	18.5	0.05 L	0.025	0.3	0.3	8	8	227	227	1.8	1.8
MW-15D	7/22/2009	335	335	155	155	14.4	14.4	0.05 L	0.025	0.3	0.3	8.7	8.7	218	218	1.8	1.8
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
No. Analyzed		10		10		10		10		10		10		10		10	
No. Detect		10		10		10		2		8		10		10		8	
Minimum conc.			212		120		9.3		0.03		0.25		8.0		170		0.5
Maximum conc.			653		187		18.5		1.90		0.61		10.4		227		1.8
Average conc.			341		151		13.0		0.23		0.43		8.9		200		1.2
Distribution			Lognormal*		Lognormal		Lognormal		NC		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			411		163		15.1		NC		0.555[a]		9.31		209		1.55

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-15S																	
MW-15S	1/13/2009	294	294	26	26	11.5	11.5	2.13	2.13	22.2	22.2	11.4	11.4	226	226	2	2
MW-15S	7/24/2009	212	212	83	83	9.8	9.8	3.35	3.35	0.1 L	0.05	13	13	149	149	1.9	1.9
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
No. Analyzed		10		10		10		10		10		10		10		10	
No. Detect		10		10		10		10		5		10		10		10	
Minimum conc.			154		26		6.8		1.40		0.1		10		110		1.2
Maximum conc.			527		100		21.0		4.30		22.2		14		226		2.2
Average conc.			272		76		13.6		2.79		4.5		12		161		1.8
Distribution			Lognormal*		Normal *		Lognormal		Lognormal		Neither		Lognormal		Lognormal		Normal
UCL 95			339		88.0		17.4		3.57		22.2**		12.3		187		1.96
MW-17S																	
MW-17S	1/27/2009	671	671	93	93	20.5	20.5	3.34	3.34	56.7	56.7	8.1	8.1	482	482	2.5	2.5
MW-17S	4/13/2009	508	508	165	165	25.3	25.3	3.2	3.2	16.4	16.4	10.5	10.5	356	356	2.8	2.8
MW-17S	7/22/2009	489	489	230	230	19	19	4.93	4.93	0.9	0.9	5.4	5.4	297	297	3.1	3.1
MW-17S	10/27/2009	472	472	238	238	15.9	15.9	0.96	0.96	0.33	0.33	2.36	2.36	266	266	3.85	3.85
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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		20		15		20		20		20	
Minimum conc.			356		84		12		0.96		0.3		2.4		220		1.6
Maximum conc.			1329		238		26		7.00		56.7		10.5		482		3.9
Average conc.			503		170		18		3.78		11.6		6.4		296		2.4
Distribution			Neither		Normal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			579		186		19.9		4.94		56.7**		7.72		322		2.67

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-18D																	
MW-18D	1/20/2009	304	304	140	140	12.4	12.4	0.05 L	0.025	1.3	1.3	4.9	4.9	206	206	0.8	0.8
MW-18D	7/17/2009	306	306	142	142	11.7	11.7	0.05 L	0.025	1.4	1.4	4.6	4.6	198	198	0.7	0.7
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	2.59	2.59	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
No. Analyzed		10		10		10		10		10		10		10		10	
No. Detect		10		10		10		0		10		9		10		2	
Minimum conc.			3		120		8.1		0.03		1.3		2.5		170		0.5
Maximum conc.			313		142		12.4		0.05		1.8		5.3		220		0.8
Average conc.			255		132		10.3		0.04		1.6		4.7		194		0.6
Distribution			Neither		Neither		Lognormal		NC		Normal*		Lognormal		Lognormal		NC
UCL 95			303		136		11.3		NC		1.72		5.14		204		NC
MW-18S																	
MW-18S	1/22/2009	364	364	134	134	13	13	0.05 L	0.025	8.7	8.7	15.5	15.5	248	248	2.3	2.3
MW-18S	7/17/2009	326	326	138	138	15.6	15.6	0.05 L	0.025	1.1	1.1	9.1	9.1	219	219	1.8	1.8
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
No. Analyzed		10		10		10		10		10		10		10		10	
No. Detect		10		10		10		0		9		10		10		10	
Minimum conc.			304		120		12.0		0.03		0.3		5.1		190		1.3
Maximum conc.			409		150		20.0		0.05		11.0		15.5		250		2.4
Average conc.			345		136		14.4		0.04		5.3		8.9		232		1.6
Distribution			Lognormal		Lognormal		Lognormal*		NC		Lognormal*		Lognormal		Neither		Neither
UCL 95			370		142		15.7		NC		11**		11.4		241		1.85

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-20R																	
MW-20R	1/22/2009	83	83	54	54	1.2	1.2	0.07	0.07	0.1 L	0.05	2.8	2.8	92	92	0.2 L	0.1
MW-20R	1/27/2010	104	104	45	45	3 L	1.5	0.11	0.11	0.2 L	0.1	5 L	2.5	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
No. Analyzed		5		5		5		5		5		5		5		5	
No. Detect		5		5		4		2		0		4		5		0	
Minimum conc.			83		45		1.2		0.05		0.1		2.5		80		0.1
Maximum conc.			259		54		1.8		0.11		0.3		3.2		95		0.5
Average conc.			127		48		1.5		0.07		0.2		2.9		88		0.4
Distribution			Neither		Lognormal*		Neither		NC		NC		Neither		Lognormal		NC
UCL 95			182		51.5		1.8**		NC		NC		3.2**		94.6		NC
MW-23S																	
MW-23S	1/15/2009	132	132	50	50	11.3	11.3	0.05 L	0.025	1.3	1.3	8.8	8.8	110	110	0.5 L	0.25
MW-23S	7/9/2009	229	229	62	62	18.4	18.4	0.05 L	0.025	0.1	0.1	14.8	14.8			0.9	0.9
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
No. Analyzed		8		8		8		8		8		8		7		8	
No. Detect		8		8		8		1		5		8		7		1	
Minimum conc.			132		50		6		0		0.10		5		84		0
Maximum conc.			287		82		18		0		1.30		17		150		1
Average conc.			209		67		12		0		0.53		13		126		1
Distribution			Lognormal*		Lognormal		Normal		NC		Normal		Normal*		Normal		NC
UCL 95			247		77.2		14.0		NC		0.811		15.1		144		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-25S																	
MW-25S	1/21/2009	193	193	87	87	6.9	6.9	0.05 L	0.025	3.1	3.1	7.1	7.1	159	159	0.7	0.7
MW-25S	7/17/2009	278	278	126	126	11	11	0.05 L	0.025	1.2	1.2	6.1	6.1	163	163	0.6	0.6
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
No. Analyzed		10		10		10		10		10		10		10		10	
No. Detect		10		10		10		0		10		10		10		2	
Minimum conc.			74		87		7		0.03		1.2		5.9		150		0.5
Maximum conc.			301		126		11		0.05		3.1		7.4		180		0.7
Average conc.			238		112		9		0.04		1.7		6.5		166		0.5
Distribution			Neither		Neither		Lognormal		NC		Neither		Lognormal		Lognormal		NC
UCL 95			274		119		9.87		NC		1.99		6.77		172		NC
MW-26R																	
MW-26R	1/23/2009	123	123	62	62	2.9	2.9	0.05 L	0.025	0.1 L	0.05	8	8	107	107	0.5 L	0.25
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
No. Analyzed		5		5		5		5		5		5		5		5	
No. Detect		5		5		5		2		0		4		5		1	
Minimum conc.			69		42		2.3		0.03		0		0.3		52		0.3
Maximum conc.			174		77		3.9		0.30		0		9.1		110		1.0
Average conc.			129		61		3.2		0.11		0		6.3		96		0.6
Distribution			Normal		Lognormal*		Lognormal		NC		NC		Lognormal		Neither		NC
UCL 95			166		77.8		4.15		NC		NC		8.9***		110***		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-28S																	
MW-28S	1/15/2009	155	155	72	72	9.4	9.4	0.05 L	0.025	0.8	0.8	9.4	9.4	134	134	0.8	0.8
MW-28S	4/16/2009	140	140	142	142	4	4	0.05 L	0.025	1.2	1.2	7	7	123	123	0.9	0.9
MW-28S	7/9/2009	225	225	82	82	10.5	10.5	0.05 L	0.025	3.5	3.5	9.8	9.8		0	0.9	0.9
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		13		13		13		13		13		13		12		13	
No. Detect		13		13		13		2		10		12		12		4	
Minimum conc.			116		14		3.6		0.03		0.1		3		0		0.5
Maximum conc.			233		142		16.6		0.11		4.0		17		160		1.0
Average conc.			173		69		7.9		0.05		1.4		8		112		0.6
Distribution			Lognormal		Neither		Lognormal		NC		Lognormal		Lognormal		Lognormal		NC
UCL 95			195		81.9		11.0		NC		2.92		11.83		136		NC

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Monitoring Well	Date	Specific Conductance		Alkalinity		Chloride		Ammonia		Nitrate		Sulfate		TDS		TOC	
		Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
FMW-01																	
FMW-01	1/14/2009	288	288	447	447	16.7	16.7	0.05 L	0.025	1	1	17.2	17.2	202	202	1.4	1.4
FMW-01	4/14/2009	256	256	95	95	14.2	14.2	0.08	0.08	2.1	2.1	17.2	17.2	192	192	1.2	1.2
FMW-01	7/10/2009	280	280	104	104	15.3	15.3	0.06	0.06	1.1	1.1	18.3	18.3	181	181	1.4	1.4
FMW-01	10/27/2009	286	286	109	109	17	17	0.05 L	0.025	0.75	0.75	17.7	17.7	188	188	1.63	1.63
FMW-01	1/26/2010	487	487	150	150	15	15	0.11	0.11	20	20	17	17	340	340	1.3	1.3
FMW-01	4/7/2010	242	242	94	94	12	12	0.1 L	0.05	2	2	17	17	160	160	1.7	1.7
FMW-01	7/13/2010	250	250	110	110	12	12	0.05 L	0.025	1	1	15	15	190	190	1.1	1.1
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	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
FMW-01	10/9/2013	281	281	110	110	12	12	0.1 L	0.05	0.55	0.55	15	15	170	170	1	1
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		5		20		20		20		16	
Minimum conc.			242		89		11.0		0.03		0.6		12.8		160		0.5
Maximum conc.			554		447		21.2		0.21		20.0		18.3		340		1.7
Average conc.			300		124		14.9		0.06		2.4		16.0		189		1.2
Distribution			Neither		Neither		Lognormal		NC		Neither		Lognormal		Neither		Lognormal
UCL 95			329		153		16.2		NC		3.98		16.6		203		1.35

Inorganics
Statistical Summary of Groundwater Data
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.
FMW-02																	
FMW-02	1/19/2009	460	460	125	125	14.5	14.5	0.05 L	0.025	20.7	20.7	18.1	18.1	229	229	1.8	1.8
FMW-02	4/15/2009	360	360	138	138	16.7	16.7	0.07	0.07	8.3	8.3	11.3	11.3	245	245	2.2	2.2
FMW-02	7/13/2009	389	389	170	170	18.7	18.7	0.2	0.2	1.3	1.3	7.1	7.1	252	252	3.1	3.1
FMW-02	10/27/2009	379	379	154	154	18.7	18.7	0.167	0.167	4.25	4.25	7.28	7.28	260	260	2.55	2.55
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	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
FMW-02	1/16/2013	400	400	110	110	12	12	0.12	0.12	15	15	11	11	270	270	1.6	1.6
FMW-02	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
FMW-02	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
FMW-02	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
No. Analyzed		20		20		20		20		20		20		20		20	
No. Detect		20		20		20		14		20		20		20		20	
Minimum conc.			259		100		12.0		0.03		1.0		5.3		170		1.1
Maximum conc.			951		170		23.1		0.34		24.0		19.1		320		3.1
Average conc.			389		134		16.0		0.14		7.6		11.0		245		1.8
Distribution			Neither		Lognormal		Lognormal		Neither		Lognormal		Lognormal		Lognormal		Lognormal
UCL 95			442		144		17.1		0.34**		15.1		12.9		260		1.99

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.

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-10D					
MW-10D	01/20/09	0.020 L	0.010	0.005 L	0.0025
MW-10D	04/21/09	0.020 L	0.010	0.005 L	0.0025
MW-10D	07/24/09	0.020 L	0.010	0.005 L	0.0025
MW-10D	10/30/09	0.020 L	0.010	0.005 L	0.0025
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
No. Analyzed		20		20	
No. Detect		0		1	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.003
Average conc.			NC		0.001
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-10S					
MW-10S	01/20/09	0.020 L	0.010	0.005 L	0.0025
MW-10S	04/22/09	0.020 L	0.010	0.005 L	0.0025
MW-10S	07/24/09	0.020 L	0.010	0.005 L	0.0025
MW-10S	10/30/09	0.020 L	0.010	0.005 L	0.0025
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
No. Analyzed		20		20	
No. Detect		0		1	
Minimum conc.			ALL ND		0.001
Maximum conc.			ALL ND		0.006
Average conc.			NC		0.002
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-11D(2)					
MW-11D(2)	01/19/09	0.020 L	0.010	0.005 L	0.0025
MW-11D(2)	04/14/09	0.020 L	0.010	0.005 L	0.0025
MW-11D(2)	07/10/09	0.020 L	0.010	0.005 L	0.0025
MW-11D(2)	10/28/09	0.020 L	0.010	0.005 L	0.0025
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
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

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-11S					
MW-11S	01/19/09	0.020 L	0.010	0.005 L	0.0025
MW-11S	04/15/09	0.020 L	0.010	0.005 L	0.0025
MW-11S	07/10/09	0.020 L	0.010	0.005 L	0.0025
MW-11S	10/28/09	0.020 L	0.010	0.005 L	0.0025
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
No. Analyzed		20		20	
No. Detect		1		9	
Minimum conc.			0.010		0.001
Maximum conc.			0.460		0.038
Average conc.			0.079		0.007
Distribution			NC		NC
UCL 95			NC		NC
MW-12D					
MW-12D	01/21/09	0.020 L	0.010	0.021	0.0208
MW-12D	07/14/09	0.020 L	0.010	0.005 L	0.0025
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
No. Analyzed		10		10	
No. Detect		0		1	
Minimum conc.			ALL ND		0.0005
Maximum conc.			ALL ND		0.2660
Average conc.			NC		0.0249
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-12S					
MW-12S	01/21/09	0.020 L	0.010	0.027	0.0266
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		8		8	
No. Detect		0		8	
Minimum conc.			ALL ND		0.0266
Maximum conc.			ALL ND		0.4900
Average conc.			ALL ND		0.260
Distribution			NC		Normal
UCL 95			NC		0.380
MW-13D					
MW-13D	01/22/09	0.020 L	0.010	0.005 L	0.0025
MW-13D	04/23/09	0.020 L	0.010	0.005 L	0.0025
MW-13D	07/08/09	0.020 L	0.010	0.065	0.0653
MW-13D	10/26/09	0.020 L	0.010	0.083	0.0832
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
No. Analyzed		20		20	
No. Detect		1		6	
Minimum conc.			0.010		0.0005
Maximum conc.			0.380		0.2400
Average conc.			0.089		0.0328
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-13S					
MW-13S	01/22/09	0.020 L	0.010	0.005 L	0.0025
MW-13S	04/23/09	0.020 L	0.010	0.005 L	0.0025
MW-13S	07/08/09	0.020 L	0.010	0.142	0.1420
MW-13S	10/26/09	0.021	0.021	0.164	0.1640
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
No. Analyzed		20		20	
No. Detect		1		15	
Minimum conc.			0.010		0.001
Maximum conc.			0.100		0.330
Average conc.			0.075		0.049
Distribution			NC		Lognormal
UCL 95			NC		0.618

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-14D					
MW-14D	01/14/09	0.243	0.243	0.614	0.6140
MW-14D	04/22/09	1.610	1.610	0.785	0.7850
MW-14D	07/13/09	1.690	1.690	0.798	0.7980
MW-14D	10/23/09	3.520	3.520	1.110	1.1100
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
No. Analyzed		20		20	
No. Detect		18		20	
Minimum conc.			0.100		0.052
Maximum conc.			3.520		1.110
Average conc.			1.792		0.746
Distribution			Neither		Neither
UCL 95			2.16		0.824

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-14S					
MW-14S	01/14/09	0.020 L	0.010	0.005 L	0.0025
MW-14S	04/22/09	0.020 L	0.010	0.124	0.1240
MW-14S	07/13/09	0.020 L	0.010	0.340	0.3400
MW-14S	10/23/09	0.020 L	0.010	0.511	0.5110
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
No. Analyzed		20		20	
No. Detect		1		19	
Minimum conc.			0.010		0.003
Maximum conc.			2.400		0.730
Average conc.			0.190		0.182
Distribution			NC		Lognormal
UCL 95			NC		1.46
MW-14R					
MW-14R	01/15/09	0.028	0.028	0.030	0.0301
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
No. Analyzed		5		5	
No. Detect		1		3	
Minimum conc.			0.028		0.001
Maximum conc.			0.100		0.190
Average conc.			0.076		0.070
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-15D					
MW-15D	01/13/09	0.150	0.150	0.298	0.2980
MW-15D	07/22/09	0.020 L	0.010	0.374	0.3740
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
No. Analyzed		10		10	
No. Detect		1		9	
Minimum conc.			0.010		0.001
Maximum conc.			0.150		0.430
Average conc.			0.086		0.280
Distribution			NC		Normal*
UCL 95			NC		0.361
MW-15S					
MW-15S	01/13/09	0.020 L	0.010	0.717	0.7170
MW-15S	07/24/09	0.020 L	0.010	0.472	0.4720
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
No. Analyzed		10		10	
No. Detect		1		10	
Minimum conc.			0.010		0.380
Maximum conc.			0.200		0.910
Average conc.			0.087		0.685
Distribution			NC		Lognormal
UCL 95			NC		0.833

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-17S					
MW-17S	01/27/09	0.020 L	0.010	1.140	1.1400
MW-17S	04/13/09	0.020 L	0.010	1.110	1.1100
MW-17S	07/22/09	0.020 L	0.010	0.950	0.9500
MW-17S	10/27/09	0.020 L	0.010	0.926	0.9260
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
No. Analyzed		20		20	
No. Detect		0		20	
Minimum conc.			ALL ND		0.500
Maximum conc.			ALL ND		1.500
Average conc.			ALL ND		1.021
Distribution			NC		Lognormal
UCL 95			NC		1.14

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-18D					
MW-18D	01/20/09	0.020 L	0.010	0.005 L	0.0025
MW-18D	07/17/09	0.020 L	0.010	0.005 L	0.0025
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
No. Analyzed		10		10	
No. Detect		0		1	
Minimum conc.			ALL ND		0.0005
Maximum conc.			ALL ND		0.0025
Average conc.			ALL ND		0.0012
Distribution			NC		NC
UCL 95			NC		NC
MW-18S					
MW-18S	01/22/09	0.020 L	0.010	0.005 L	0.0025
MW-18S	07/17/09	0.020 L	0.010	0.005 L	0.0025
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
No. Analyzed		10		10	
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

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-20R					
MW-20R	01/22/09	0.042	0.042	0.096	0.0957
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
No. Analyzed		5		5	
No. Detect		1		1	
Minimum conc.			0.042		0.001
Maximum conc.			0.100		0.096
Average conc.			0.078		0.020
Distribution			NC		NC
UCL 95			NC		NC
MW-23S					
MW-23S	01/15/09	0.052	0.052	0.011	0.0106
MW-23S	07/09/09	0.107	0.107	0.058	0.0583
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
No. Analyzed		8		8	
No. Detect		3		7	
Minimum conc.			0.050		0.001
Maximum conc.			0.130		0.068
Average conc.			0.092		0.032
Distribution			NC		Normal
UCL 95			NC		0.048

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-25S					
MW-25S	01/21/09	0.039	0.039	0.005 L	0.0025
MW-25S	07/17/09	0.045	0.045	0.005	0.0051
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
No. Analyzed		10		10	
No. Detect		2		2	
Minimum conc.			0.039		0.001
Maximum conc.			0.100		0.005
Average conc.			0.078		0.002
Distribution			NC		NC
UCL 95			NC		NC
MW-26R					
MW-26R	01/23/09	0.441	0.441	0.272	0.2720
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
No. Analyzed		5		5	
No. Detect		5		5	
Minimum conc.			0.441		0.260
Maximum conc.			0.750		0.340
Average conc.			0.578		0.282
Distribution			Lognormal		Lognormal*
UCL 95			0.736		0.317

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
MW-28S					
MW-28S	01/15/09	0.600	0.600	0.022	0.0215
MW-28S	04/16/09	4.290	4.290	0.115	0.1150
MW-28S	07/09/09	0.020 L	0.010	0.005 L	0.0025
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		13		13	
No. Detect		3		3	
Minimum conc.			0.010		0.001
Maximum conc.			4.290		0.115
Average conc.			0.472		0.012
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
FMW-01					
FMW-01	01/14/09	0.068	0.068	0.005 L	0.0025
FMW-01	04/14/09	0.022	0.022	0.005 L	0.0025
FMW-01	07/10/09	0.620	0.620	0.030	0.0295
FMW-01	10/27/09	0.020 L	0.010	0.005 L	0.0025
FMW-01	01/26/10	0.100 L	0.050	0.081	0.0810
FMW-01	04/07/10	0.100 L	0.050	0.001 L	0.0005
FMW-01	07/13/10	0.100 L	0.050	0.002 L	0.0010
FMW-01	10/13/10	0.200 L	0.100	0.001 L	0.0005
FMW-01	01/05/11	0.200 L	0.100	0.001 L	0.0005
FMW-01	04/19/11	0.200 L	0.100	0.001 L	0.0005
FMW-01	07/05/11	0.200 L	0.100	0.003	0.0029
FMW-01	10/25/11	0.200 L	0.100	0.001 L	0.0005
FMW-01	01/27/12	0.200 L	0.100	0.001 L	0.0005
FMW-01	04/25/12	0.200 L	0.100	0.001 L	0.0005
FMW-01	07/18/12	0.200 L	0.100	0.001 L	0.0005
FMW-01	10/10/12	0.200 L	0.100	0.001 L	0.0005
FMW-01	01/16/13	0.200 L	0.100	0.001 L	0.0005
FMW-01	04/24/13	0.200 L	0.100	0.001 L	0.0005
FMW-01	07/24/13	0.200 L	0.100	0.001 L	0.0005
FMW-01	10/09/13	0.200 L	0.100	0.001 L	0.0005
No. Analyzed		20		20	
No. Detect		3		3	
Minimum conc.			0.010		0.001
Maximum conc.			0.620		0.081
Average conc.			0.109		0.006
Distribution			NC		NC
UCL 95			NC		NC

Dissolved Metals
Statistical Summary of Groundwater Data
Hidden Valley Landfill, Pierce County, Washington

Monitoring Well	Date	Iron		Manganese	
		Result	Conc.	Result	Conc.
FMW-02					
FMW-02	01/19/09	0.021	0.021	0.064	0.0635
FMW-02	04/15/09	0.037	0.037	0.075	0.0754
FMW-02	07/13/09	0.024	0.024	0.095	0.0948
FMW-02	10/27/09	0.020 L	0.010	0.103	0.1030
FMW-02	01/26/10	0.100 L	0.050	0.005 L	0.0025
FMW-02	04/07/10	0.100 L	0.050	0.750	0.7500
FMW-02	07/13/10	0.100 L	0.050	0.091	0.0910
FMW-02	10/13/10	0.200 L	0.100	0.120	0.1200
FMW-02	01/05/11	0.430	0.430	0.120	0.1200
FMW-02	04/20/11	0.200 L	0.100	0.084	0.0840
FMW-02	07/05/11	0.200 L	0.100	0.091	0.0910
FMW-02	10/25/11	0.200 L	0.100	0.090	0.0900
FMW-02	01/27/12	0.200 L	0.100	0.110	0.1100
FMW-02	04/25/12	0.200 L	0.100	0.100	0.1000
FMW-02	07/18/12	0.200 L	0.100	0.096	0.0960
FMW-02	10/10/12	0.200 L	0.100	0.093	0.0930
FMW-02	01/16/13	0.200 L	0.100	0.089	0.0890
FMW-02	04/24/13	0.200 L	0.100	0.075	0.0750
FMW-02	07/24/13	0.200 L	0.100	0.081	0.0810
FMW-02	10/09/13	0.200 L	0.100	0.110	0.1100
No. Analyzed		20		20	
No. Detect		4		19	
Minimum conc.			0.010		0.003
Maximum conc.			0.430		0.750
Average conc.			0.094		0.122
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-11S					
MW-11S	01/19/09	0.5 L	0.25	0.5 L	0.25
MW-11S	04/15/09	0.5 L	0.25	0.5 L	0.25
MW-11S	07/10/09	0.5 L	0.25	0.5 L	0.25
MW-11S	10/28/09	0.5 L	0.25	0.5 L	0.25
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
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-12S					
MW-12S	01/21/09	0.5 L	0.25	0.5 L	0.25
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		8		10	
No. Detect		3		0	
Minimum conc.			0.25		ALL ND
Maximum conc.			1.20		ALL ND
Average conc.			0.50		ALL ND
Distribution			NC		NC
UCL 95			1.2**		NC
MW-12D					
MW-12D	01/21/09	0.5 L	0.25	0.5 L	0.25
MW-12D	07/14/09	0.5 L	0.25	0.5 L	0.25
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
No. Analyzed		10		10	
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-13D					
MW-13D	01/22/09	0.5 L	0.25	0.5 L	0.25
MW-13D	04/23/09	0.5 L	0.25	0.5 L	0.25
MW-13D	07/08/09	0.5 L	0.25	0.5 L	0.25
MW-13D	10/26/09	0.5 L	0.25	0.5 L	0.25
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
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-13S					
MW-13S	01/22/09	0.5 L	0.25	0.5 L	0.25
MW-13S	04/23/09	0.5 L	0.25	0.5 L	0.25
MW-13S	07/08/09	0.5 L	0.25	0.5 L	0.25
MW-13S	10/26/09	0.5 L	0.25	0.5 L	0.25
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
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-15S					
MW-15S	01/13/09	0.5 L	0.25	0.5 L	0.25
MW-15S	07/24/09	0.5 L	0.25	0.5 L	0.25
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
No. Analyzed		10		10	
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-17S					
MW-17S	01/27/09	0.5 L	0.25	0.5 L	0.25
MW-17S	04/13/09	0.5 L	0.25	0.5 L	0.25
MW-17S	07/22/09	0.5 L	0.25	0.5 L	0.25
MW-17S	10/27/09	0.5 L	0.25	0.5 L	0.25
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
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
MW-18S					
MW-18S	01/22/09	0.5 L	0.25	0.5 L	0.25
MW-18S	07/17/09	0.5 L	0.25	0.5 L	0.25
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
No. Analyzed		10		10	
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

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

Monitoring Well	Date	1,4-Dichlorobenzene		Chlorobenzene	
		Result	Conc.	Result	Conc.
FMMW-2					
FMW-02	01/19/09	0.5 L	0.25	0.5 L	0.25
FMW-02	04/15/09	0.5 L	0.25	0.5 L	0.25
FMW-02	07/13/09	0.5 L	0.25	0.5 L	0.25
FMW-02	10/27/09	0.5 L	0.25	0.5 L	0.25
FMW-02	01/26/10	0.5 L	0.25	0.5 L	0.25
FMW-02	04/07/10	0.5 L	0.25	0.5 L	0.25
FMW-02	07/13/10	0.5 L	0.25	0.5 L	0.25
FMW-02	10/13/10	0.5 L	0.25	0.5 L	0.25
FMW-02	01/05/11	0.5 L	0.25	0.5 L	0.25
FMW-02	04/20/11	0.5 L	0.25	0.5 L	0.25
FMW-02	07/05/11	0.5 L	0.25	0.5 L	0.25
FMW-02	10/25/11	0.5 L	0.25	0.5 L	0.25
FMW-02	01/27/12	0.5 L	0.25	0.5 L	0.25
FMW-02	04/25/12	0.5 L	0.25	0.5 L	0.25
FMW-02	07/18/12	0.5 L	0.25	0.5 L	0.25
FMW-02	10/10/12	0.5 L	0.25	0.5 L	0.25
FMW-02	01/16/13	0.5 L	0.25	0.5 L	0.25
FMW-02	04/24/13	0.5 L	0.25	0.5 L	0.25
FMW-02	07/24/13	0.5 L	0.25	0.5 L	0.25
FMW-02	10/09/13	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)	01/19/09	0.5 L	0.25	0.5 L	0.25	2.0	2.00
MW-11D(2)	04/14/09	0.5 L	0.25	0.5 L	0.25	2.1	2.10
MW-11D(2)	07/10/09	0.5 L	0.25	0.5	0.50	1.8	1.80
MW-11D(2)	10/28/09	0.5 L	0.25	0.5 L	0.25	2.5	2.50
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
No. Analyzed		20		20		20	
No. Detect		0		1		16	
Minimum conc.			ALL ND		0.25		0.25
Maximum conc.			ALL ND		0.50		2.50
Average conc.			ALL ND		0.26		1.00
Distribution			NC		NC		Lognormal
UCL 95			NC		NC		1.39

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

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Wayne Chang Date: February 13, 2013

Signature: Wayne Chang Weather: 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	Y	
Sump No. 6	Y	
Sump No. 7	Y	
Sump No. 8	Y	
Sump No. 9	Y	
Sump No. 10	N	Pump pulled

Other Remarks:
See photos

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Wayne Chang Date: February 13, 2013

Signature: Wayne Chang Weather: Clear

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		Some minor growth
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas		X	
Culvert Obstructions		X	Some trash accumulation
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		x	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues	X		Some pipes disconnected due to shifting from cold
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

See photos

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Matt O'Hare

Date: 5/23/13

Signature: [signature]

Weather: Rain

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		Slight growth in multiple areas
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas	X	X	Tree fall near drainage ditch near site entrance No Blockage
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows		X	
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues		X	
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Matt O'Hare

Signature:

Date: 5/23/13

Weather: 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	Y	
Sump No. 7	Y	
Sump No. 8	Y	
Sump No. 9	Y	
Sump No. 10	N	Pump has previously been pulled

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: SAM ADLINGTON

Date: 8/14/2013

Signature:

Weather: Lt. CLOUDS

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	GASKET NEEDING REPLACEMENT
Sump No. 5	Y	GASKET NEEDING REPLACEMENT
Sump No. 6	N	PUMP REMOVED
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 ADLINGTON Date: 8/14/13

Signature: [signature] Weather: Lt. clouds.

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		SOME SHRUBS & SCOTCH BROOM BY CT-7
Stormwater Conveyance System			
Ditch Obstructions or Flat Areas		X	
Culvert Obstructions		X	
Catch Basin Debris or Silt Accumulation		X	MINIMAL, NOT ENOUGH TO WARRENT MAINTENANCE
Stormwater Basin Debris or Silt		X	
Cover Erosion			
Gullies and/or Erosion Scars		X	
Presence of Seeps		X	
Vector Control			
Evidence of Ground Burrows			
Leachate Collection & Leak Detection Systems			
Piping or Valve Issues		X	
Pump or Meter Issues		X	
Foaming at Pump		X	

Other Remarks:

N-50 BENT OVER AT RISER AT APPROXIMATELY 45° ANGLE

THIRD QUARTER 2013 FACILITY INSPECTION
AUGUST 14, 2013

CS-1

CS-2

CS-3

CS-4

CS-5

CS-6

CS-7

CS-8

CS-9

CS-10

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andrew McDonald Date: 11/12/18

Signature: Andrew McDonald Weather: Sunny

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

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Andrew McDonald

Date: 11/12/13

Signature: Andrew McDonald

Weather: 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	Water present at bottom, 4 Bolts
Sump No. 2	Y	Water present, methane smell, 3 Bolts
Sump No. 3	Y	Water present at bottom, heavy condensate, 4 Bolts
Sump No. 4	Y	Water present at Bottom, 4 Bolts, 1 bolt lacking nut, washer
Sump No. 5	Y	Water present at bottom, methane smell, some condensate, 4 bolts
Sump No. 6	N	water present at bottom, methane smell, 8 bolts
Sump No. 7	Y	Water present at bottom, heavy condensate, 8 bolts
Sump No. 8	Y	Water present at bottom, methane smell, 6 bolts, 1 bolt needs nut and washer
Sump No. 9	Y	Water present at bottom, under pressure, 1 bolt stuck
Sump No. 10	Y	Water present at bottom, methane smell, heavy condensate, 8 bolts

Other Remarks: Sump 6 needs a replacement seal, Sump 8 has no seal
Sump 9 has a broken seal