Environmental Consultants
and Contractors
6747

2405 140th Avenue, NE
Suite 107

Bellevue, WA 98005-1877

425 746-4600
FAX 425 746-

www.scsengineers.com

SCS ENGINEERS

June 17, 2013
File No. 04213004.03

Mr. David Bosch
Environmental Health Specialist
Tacoma-Pierce County Health Department
3629 South D Street
Tacoma, Washington 98418-6813

Subject: First Quarter 2013 Monitoring, Hidden Valley Landfill

Dear David:

The following provides a summary of monitoring activities performed at the closed Hidden Valley Landfill (HVL) during the First Quarter (January through March) of 2013.

Monthly rainfall totals and monthly leachate volumes pumped from Cell 1 (main sump), Cell 2 (side slope sump), and the leak detection sump (leakage flow), are summarized in Table 1. Leachate and leakage flow are recorded on a daily basis using a programmable logic controller. Leakage volumes from the side slope liner leak detection system are based on meter readings recorded by on-site personnel. Rainfall totals were recorded with an on-site rain gauge.

Transducer readings of leachate levels at the main leachate cell were greater than 24 inches on several days this quarter (see attached PLC system data). However, the variable nature of the data indicates the readings are likely due to a faulty transducer. Therefore, the transducer was replaced on May 1, 2013.

Monthly landfill gas monitoring at the HVL was performed on January 16, February 14, and March 18. On-site buildings were monitored for the presence of landfill gas on January 16. No methane detections were reported within the buildings. A summary of monitoring data for the landfill gas probes, barometric pressure trends, and on-site buildings is enclosed. In January, 2013, all perimeter gas probe measurements were less than 5 percent methane (CH_4) by volume. On February 14, 2013, methane was detected above 5 percent by volume at three gas probe locations (see table below). Following these readings, LRI personnel were notified and adjustments were made to the landfill gas extraction system to recapture the gas. On March 1, 2013, LRI staff re-checked the affected gas probes and confirmed that the methane readings were less than 5 percent by volume.

On March 18, 2013, methane was detected above 5 percent by volume at three gas probe locations (see table below). Following these readings, LRI personnel were notified and LRI and SCS staff made adjustments to the landfill gas extraction system to recapture the

gas. Well tuning was completed and supplemental measurements were obtained throughout the month of March and into April.

On March 22, 2013, supplemental indoor air monitoring was completed by SCS Engineers at the scale house and main office location. No methane detections were reported within the buildings.

Upgrades to the gas collection and control system at the Hidden Valley Landfill have occurred in 2012 and 2013. In some cases it is possible that system repairs and rebalancing in one area can have a short-term negative effect on another area. On February 14, the second day of system balancing and repair work was being completed while probe monitoring was being conducted. It is possible that the field balancing and repair work was related to the short-term methane concentrations measured at GP-2A and GP-3D. In future quarters, repair work and probe monitoring will be scheduled at least one week apart.

All February and March perimeter gas probe measurements were less than 5 percent methane (CH_4) by volume, except as noted below:

Landfill Gas Probe Data

Date	Gas Probe Location and Methane Reading (%)			
	GP-2A	GP-3M	GP-3D	GP-13A
February 14[a]	**7.5**	1.4	**5.1**	**6.4**
March 18[a]	**7.6**	3.4	**7.4**	**10.6**
March 20[b]	**7.7**	3.6	**7.3**	**12.1**
March 22[a]	2.7	**7.5**	0.0	**12.5**
March 26[b]	2.5	**6.6**	0.0	**12.1**
March 28[b]	4.0	**6.5**	0.0	**13.3**
April 2[b]	3.2	5.0	0.0	**13.3**

[a] Indicates a complete round of monitoring
[b] Indicates supplemental monitoring

First Quarter 2013 groundwater monitoring was an annual sampling event as described in the Hidden Valley Landfill Groundwater Compliance Monitoring Plan (February 2001). Groundwater samples were collected by SCS Engineers (SCS) on January 14 through January 17. Low-flow sampling techniques were used to purge and collect samples from the monitoring wells. Field quality control samples consisted of one duplicate sample and one field blank. Water supply well samples were collected at Corliss Resources, Inc. (Corliss) and the Paul Bunyan Rifle & Sportsman Club (Paul Bunyan). Water supply well Paul Bunyan was not sampled as initially scheduled due to frozen pipes. It was subsequently sampled on March 27.The hydraulic gradient control system beneath the main leachate collection sump did not accumulate fluids or require pumping during this monitoring period, therefore, fluids from this system were not sampled.

Samples were shipped to TestAmerica Laboratories, Inc. in Arvada, Colorado via FedEx the same day as collected. Groundwater data generated from the Hidden Valley Landfill during the First Quarter of 2013 were validated and input into the Washington Department of Ecology Environmental Information Management (EIM) system.

Depths to water measurements were collected on January 17. Figures 1 through 3 display water level contour maps for the shallow perched aquifer, upper regional aquifer, and the lower regional aquifer, respectively.

Groundwater field data and laboratory test results are summarized on the following tables: Table 1, 2013 Performance Monitoring Data; Table 2, Water Level Elevations; Table 3, Field Parameters; Table 4, Inorganic Parameters; Table 5, Dissolved Metals; Table 6, Volatile Organic Compounds; Table 7, Duplicate Samples; Table 8, Water Supply Wells; and Table 9, Side Slope Liner Monitoring. Field Sampling Data Sheets are attached. Laboratory reports for First Quarter 2013 groundwater monitoring were provided under separate cover.

Groundwater sample results are generally similar to previous results. A quality assurance review of the First Quarter 2013 analytical data is attached.

The landfill cover system and the condensate recirculation system were inspected on February 13. The inspections found minor maintenance issues which are detailed on the attached forms and are being addressed by LRI staff.

A portion of the landfill gas extraction system (gas wells N42, N43, N60, N61, N62, and N54) on the south slope of the landfill was taken off-line in early September 2009 to help mitigate a suspected subsurface smoldering fire (see 2009, 2010, 2011 and 2012 Annual Reports for further discussion). These extraction wells remain off-line.

Three temporary gas probes (LFG-1, LFG-2, and LFG-3) were installed in the vicinity of the suspected subsurface fire in September 2009. Probes LFG-1 and LFG-2 are located just outside of the waste on the south side of the first sinkhole. Probe LFG-3 is located within the waste, north of the first sinkhole. These probes are monitored monthly for methane, carbon dioxide, and oxygen. A chart of gas trends at the temporary probes is included with the landfill gas monitoring results.

LRI and SCS are continuing to monitor the sinkhole repair area and south slope for stabilization, slope erosion, and odors. Recent monitoring results for the sinkhole area indicate the area is ready to be repaired. A separate summary report and work plan will be submitted for the repair work.

If you have any questions regarding the monitoring results, please call at (425) 289-5447.

Sincerely,

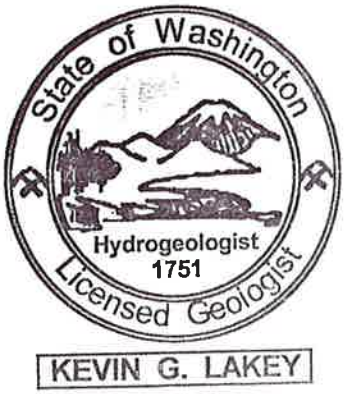
Kevin Lakey, PE, LHG
Project Director
SCS ENGINEERS

Emily Smart
Project Geologist
SCS ENGINEERS

Attachment: Data Summary Tables (Tables 1 through 9)
Groundwater Contour Maps (Figures 1 through 3)

Enclosure: Hidden Valley Leachate Treatment System Data
Field Sampling Data Sheets
Landfill Gas Monitoring Results
Site Inspection Forms
CD with .pdf of complete report

cc: Mohsen Kourehdar, Ecology
Rebecca Lawson, Ecology (w/o enclosure)
George Duvendack, LRI
Jody Snyder, LRI (w/o enclosure)
Wes Gavett, WCI (w/o enclosure)



Groundwater Data Validation Report
First Quarter 2013
Hidden Valley Landfill

Holding Times. All analyses were performed within quality control (QC) holding times.

Surrogate Recovery. Surrogate recoveries were within USEPA guidelines.

Laboratory Control Samples (LCS). All Laboratory Control Samples were within established control limits.

Matrix Spike and Matrix Spike Duplicate (MS/MSD). Matrix spike recoveries were within USEPA guidelines, with the following exceptions:

- Ammonia in lot numbers 280-37938-1 and 280-37940-1were reported outside the acceptable recovery percentage, this indicates the possibility of matrix interference. No further action was taken.

- 1,4 Dichlorobenzene was reported outside the acceptable recovery percentage in lot 280-37938-1, this indicates the possibility of matrix interference. No further action was taken.

- 1,1 dichloroethene, in lot 280-37891-1 was reported outside control limits because the sample amount was greater than 4 times the spike amount. No further action was taken.

- Total manganese in lot 280-37938-1 was reported outside the control limits because the sample concentration was greater than 4 times the spike amount. No further action was taken.

Blanks. One field blank was included this quarter. Laboratory grade de-ionized water from TestAmerica Laboratory, in Tacoma, Washington, was used to prepare the field blank by pumping the water through an unused bladder in the submersible bladder-pump. No VOCs, dissolved metals, or inorganic compounds were reported in the field blank, trip blank or laboratory method blanks.

Duplicate Samples. A field duplicate sample was collected from well MW-15S. All test results greater than five times the method reporting limit (MRL) were within 20 percent RPD,

Quantitation Limits. The reporting limits for all analyses were within the limits specified in the 2001 Groundwater Compliance Monitoring Plan.

Completeness. Samples were analyzed as requested.

Data Assessment. The data are considered acceptable for entry into the database.

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.

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

Paved

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

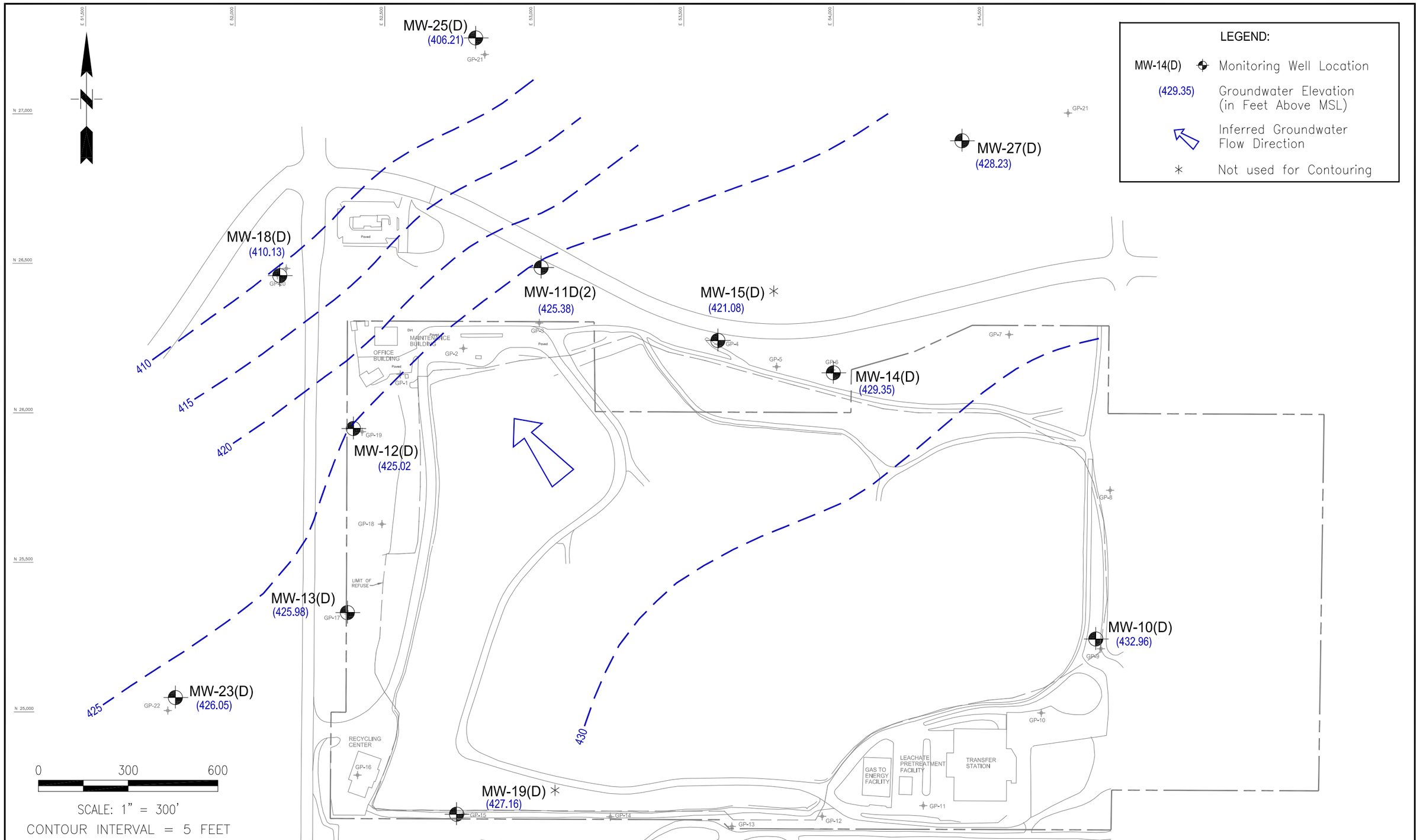
Environmental Consultants and Contractors

2405 140th Avenue NE, Suite 107

Bellevue, Washington 98005

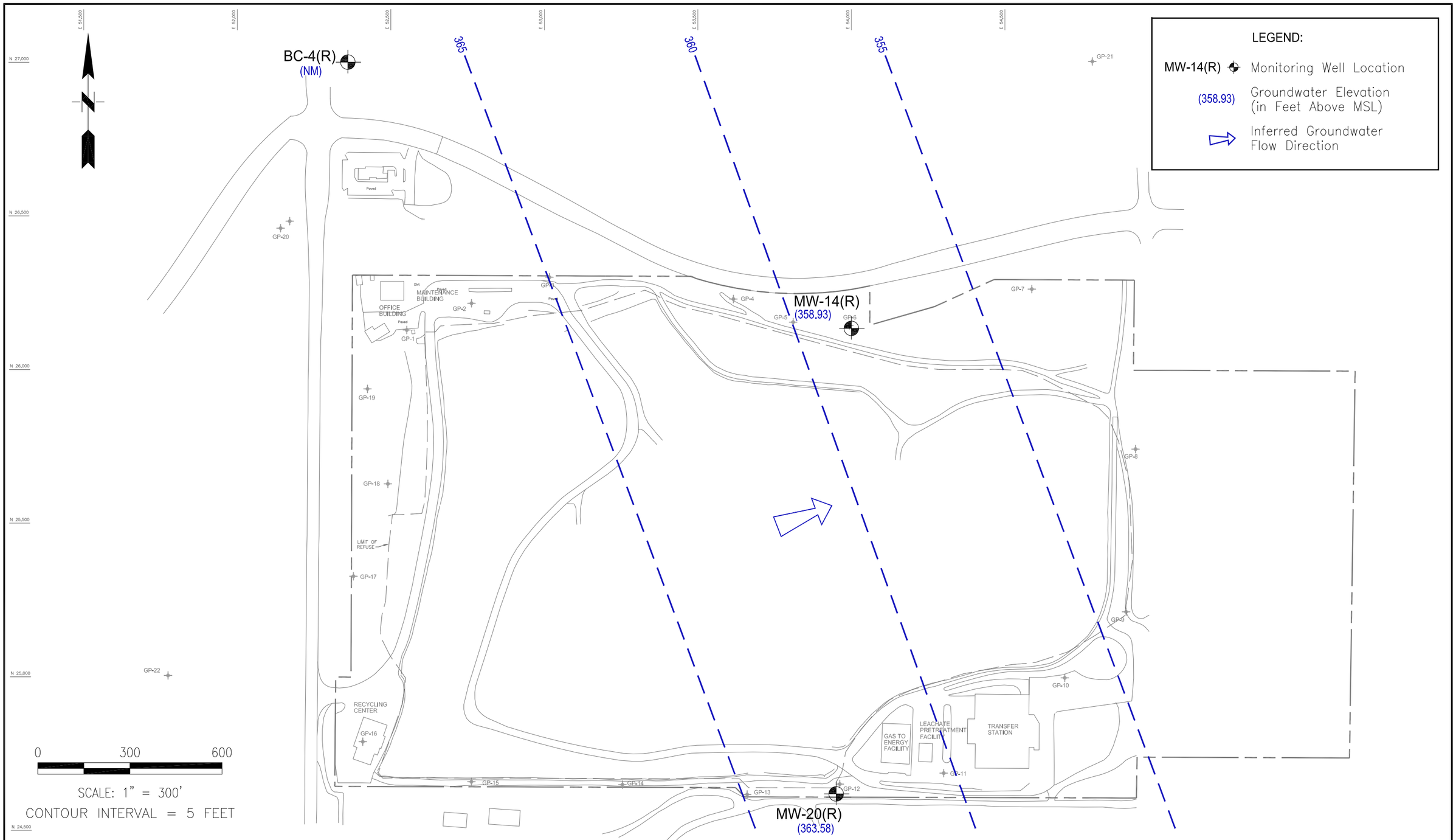
(425) 746-4600 FAX: (425) 746-6747

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



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	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		



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		

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	SITE 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	42,030
3	19.98	0.00	0	0	0	0	4,574	77.64	17,934	10,793
4	25.63	0.00	0	0	0	0	4,258	77.85	16,737	30,287
5	18.63	0.00	0	0	0	0	8,054	78.39	31,984	39,564
6	23.63	0.00	0	0	0	0	8,062	78.46	32,012	40,386
7	19.07	0.00	0	0	0	0	6,206	78.50	24,570	24,521
8	20.20	0.00	0	0	0	0	4,979	78.32	19,502	25,527
9	25.45	0.00	0	0	0	0	5,072	78.59	19,963	31,852
10	25.37	0.00	0	0	0	0	4,112	77.88	16,277	20,947
11	23.50	0.00	0	0	0	0	7,291	77.97	28,848	35,006
12	21.94	0.00	0	0	0	0	7,999	77.89	31,624	38,768
13	19.89	0.00	0	0	0	0	7,070	77.69	27,813	33,936
14	20.02	0.00	0	0	2,418	0	5,896	76.96	23,011	28,143
15	29.45	0.00	0	0	4,376	0	6,409	77.05	25,117	32,445
16	22.80	0.00	0	7	7,721	2	6,505	76.43	25,452	31,169
17	29.49	0.00	43	0	8,026	560	7,036	76.52	27,546	39,359
18	17.55	0.00	44	0	8,269	3,858	7,673	76.27	30,050	36,545
19	16.38	0.00	44	0	811	1,441	6,907	76.38	27,191	34,630
20	14.51	0.00	0	0	0	0	7,455	75.89	29,217	35,106
21	20.24	0.00	44	0	6,836	1,794	6,942	75.52	27,036	37,950
22	24.50	0.00	33	0	9,433	33	9,231	75.22	35,954	42,939
23	13.60	0.00	43	0	7,218	2,461	7,922	74.68	30,993	39,021
24	11.60	0.00	0	0	5,795	0	8,002	74.35	31,374	40,113
25	21.94	0.00	0	0	3,117	0	8,240	74.78	31,706	42,843
26	21.37	0.00	0	0	0	0	7,882	74.75	31,098	38,049
27	18.72	0.00	0	0	0	0	7,156	74.45	28,067	34,219
28	15.94	0.00	0	0	3,367	0	8,305	74.75	32,368	42,977
29	14.73	0.00	0	0	1,320	0	7,508	74.76	29,531	35,962
30	17.20	0.00	0	0	0	0	7,781	74.76	30,653	40,299
31	20.72	0.00	0	0	0	0	7,677	74.79	30,214	36,070
			Total Gallons:	**7**	**68,707**	**10,150**	**208,660**		**818,989**	**1,041,456**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge	SITE Treatment Discharge

Hidden Valley Landfill Hour Meters Totalizers

Jan-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	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	SITE 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	33,821
2	19.85	0.00	0	0	0	0	6,176	73.97	24,188	31,604
3	19.72	0.00	0	0	0	0	6,017	75.00	23,551	30,539
4	17.94	0.00	0	0	0	0	7,980	74.86	30,993	37,644
5	17.81	0.00	0	0	0	0	8,354	74.70	32,495	41,598
6	17.68	0.00	0	0	2,024	0	7,924	74.64	30,901	38,807
7	18.77	0.00	0	0	2,589	0	7,560	74.52	29,434	38,230
8	17.85	0.00	0	0	6,614	0	7,597	74.02	29,536	36,618
9	18.24	0.00	0	0	0	0	6,469	74.04	25,396	32,124
10	18.59	0.00	0	0	0	0	6,706	73.38	26,343	33,320
11	17.51	0.00	41	0	4,167	289	7,003	73.09	27,263	33,346
12	18.77	0.00	0	0	4,268	0	6,776	73.07	26,377	32,784
13	18.90	0.00	0	0	2,979	0	7,671	72.91	29,895	37,714
14	13.73	0.00	0	0	1,605	0	7,636	72.53	29,590	37,358
15	20.72	0.00	0	0	1,960	0	6,600	72.63	25,783	33,075
16	13.94	0.00	0	0	0	0	5,716	72.47	22,465	26,588
17	14.33	0.00	0	0	0	0	5,969	72.42	23,465	31,179
18	22.67	0.00	0	0	0	0	106,206	72.19	24,329	28,926
19	14.33	0.00	0	0	0	0	6,839	72.23	26,797	33,553
20	16.03	0.00	0	0	0	0	6,639	71.81	26,065	32,650
21	24.54	0.00	0	0	0	0	-93,677	71.82	24,850	32,375
22	24.32	0.00	0	0	0	0	6,475	71.67	25,516	32,462
23	40.79	0.00	0	0	0	0	5,903	71.95	23,313	28,765
24	16.29	0.00	0	0	0	0	6,423	72.10	25,164	32,171
25	15.46	0.00	0	0	0	0	6,509	71.72	25,604	31,185
26	15.94	0.00	0	0	0	0	6,583	71.76	26,050	31,327
27	16.12	0.00	0	0	1	0	5,968	71.72	23,596	32,815
28	16.07	0.00	0	0	0	0	6,743	71.53	26,536	32,640
Total Gallons:				**0**	**26,207**	**289**	**189,880**		**743,468**	**935,218**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge	SITE 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	SITE 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	29,620
2	16.59	0.00	0	0	7	0	6,120	71.69	24,446	30,745
3	16.59	0.00	0	0	0	0	5,738	72.06	22,484	28,161
4	16.98	0.00	0	0	0	0	6,740	72.78	26,129	32,791
5	17.24	0.00	0	0	0	0	6,892	73.13	26,621	31,894
6	17.59	0.00	0	0	0	0	6,406	73.41	24,814	34,942
7	20.76	0.00	0	0	0	0	7,515	71.93	29,205	38,271
8	18.11	0.00	0	0	0	0	7,292	73.47	28,506	32,111
9	18.42	0.00	0	0	0	0	6,951	73.49	27,266	33,864
10	21.50	0.00	0	0	0	0	7,170	73.35	28,018	34,403
11	26.63	0.00	0	0	0	0	7,062	73.47	27,551	33,476
12	25.37	0.00	0	0	0	0	6,817	72.87	26,599	32,994
13	19.42	0.00	0	0	0	0	6,185	73.05	24,106	30,443
14	34.53	0.00	0	0	0	0	6,899	73.44	26,953	34,896
15	31.88	0.00	0	0	385	0	6,645	73.60	25,980	32,541
16	23.63	0.00	0	0	0	0	6,006	73.54	23,532	30,078
17	24.37	0.00	0	0	0	0	7,113	73.70	27,711	34,821
18	25.80	0.00	0	0	0	0	7,086	73.35	27,580	33,006
19	22.80	0.00	0	0	0	0	6,695	73.03	26,071	33,536
20	24.80	0.00	0	0	0	0	6,647	72.81	25,848	27,300
21	21.46	0.00	0	0	0	0	1,000	71.26	3,777	4,112
22	20.63	0.00	0	0	1	0	2,479	73.39	9,687	18,750
23	20.24	0.00	0	0	0	0	7,000	73.71	27,346	35,797
24	19.98	0.00	0	0	0	0	6,774	74.47	26,438	33,252
25	21.28	0.00	0	0	0	0	7,339	74.52	28,543	33,937
26	21.76	0.00	0	0	0	0	7,094	74.74	27,506	34,068
27	23.63	0.00	44	0	231	1,108	7,140	74.66	27,699	38,561
28	11.03	0.00	44	0	1,492	8,729	7,906	74.82	30,752	35,937
29	14.42	0.00	0	0	0	0	6,443	75.21	25,195	31,476
30	18.37	0.00	0	0	0	0	7,158	74.91	28,091	36,156
31	22.63	0.00	0	0	505	0	6,981	74.87	27,329	33,980
			Total Gallons:	**0**	**2,621**	**9,838**	**201,150**		**784,998**	**985,919**
				Cell 2 Leak	Cell 1 Leachate	Cell 2 Leachate	304th Influent		Treatment Discharge	SITE 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

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

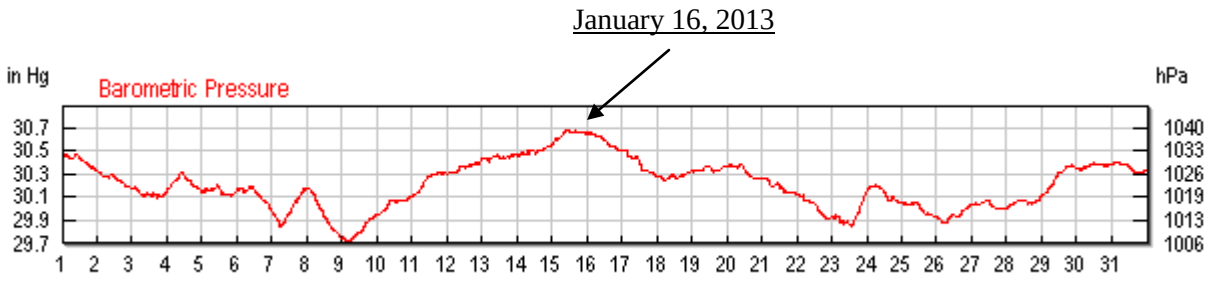
Notes

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

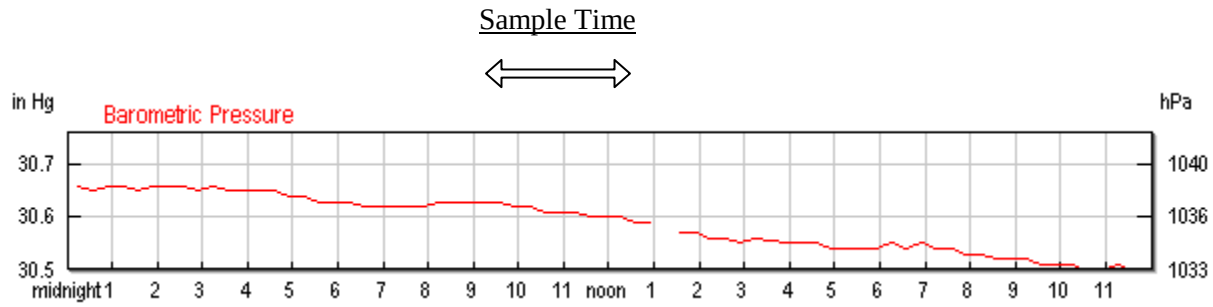
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
January 2013

Barometric Pressure Trend for January 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

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

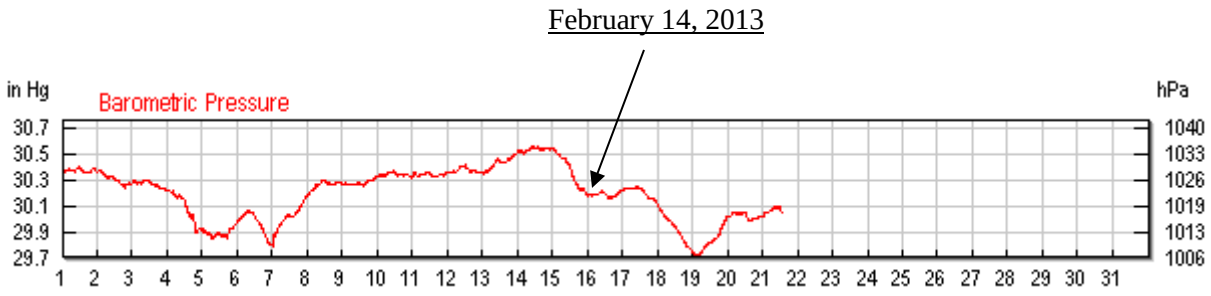
Notes

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

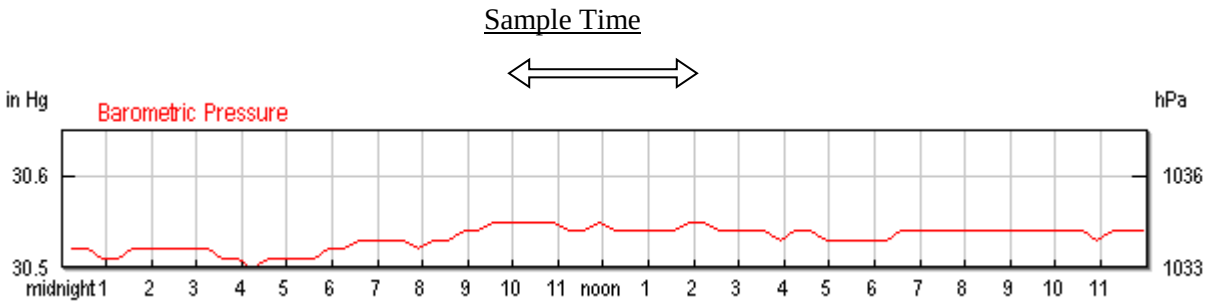
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured -	CO_2 = Carbon Dioxide	M = medium	B = medium
equipment malfunction	O_2 = Oxygen	D = deep	C = deep

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

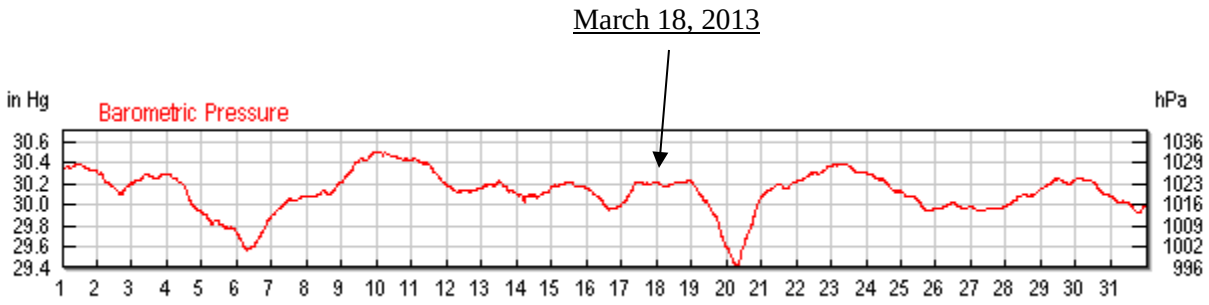
Notes

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

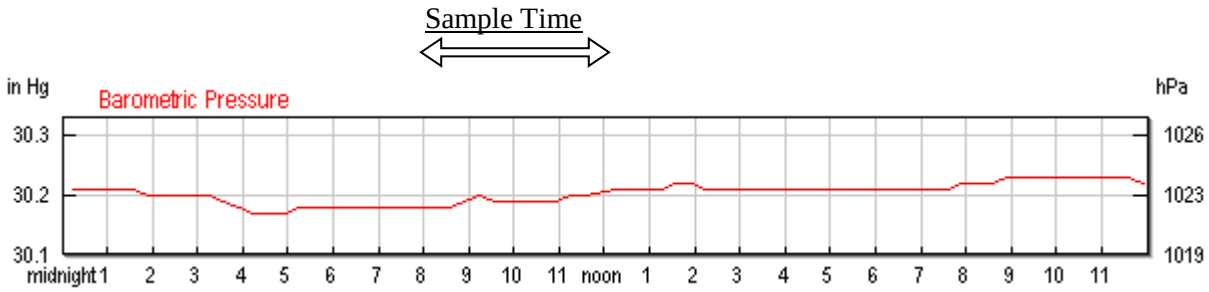
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
March 2013

Barometric Pressure Trend for March 2013



Barometric Pressure Trend for March 18, 2013



Source : KPLU Airport

Hidden Valley Landfill
LFG Probe Monitoring
20-Mar-13

Device ID	Date/Time	CH4 %	CO2 %	O2 %	Rel. Pressure inches H2O
HVGP002A	3/20/2013 7:25	7.4	17.7	0.6	0.27
HVGP002B	3/20/2013 7:29	0.0	0.4	21.5	0.01
HVGP003S	3/20/2013 7:33	1.7	13.5	0.5	0.11
HVGP003M	3/20/2013 7:36	3.4	6.0	0.2	0.01
HVGP003D	3/20/2013 7:40	4.0	13.9	2.0	-0.01
HVGP012	3/20/2013 8:14	0.0	2.0	14.6	-0.01
HVGP013A	3/20/2013 9:08	12.1	12.1	0.1	0
HVGP013B	3/20/2013 9:11	0.0	0.6	21.9	0.09
HVGP014S	3/20/2013 9:20	0.0	14.5	10.2	0.02
HVGP014D	3/20/2013 9:23	0.0	16.8	1.6	0
HVGP002A	3/20/2013 13:28	7.7	18.0	0.6	-0.08
HVGP002B	3/20/2013 13:32	0.0	0.4	20.7	0.03
HVGP003S	3/20/2013 13:36	1.9	14.3	0.0	-0.09
HVGP003M	3/20/2013 13:39	3.6	6.1	0.0	-0.05
HVGP003D	3/20/2013 13:44	7.3	14.4	1.7	-0.08

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

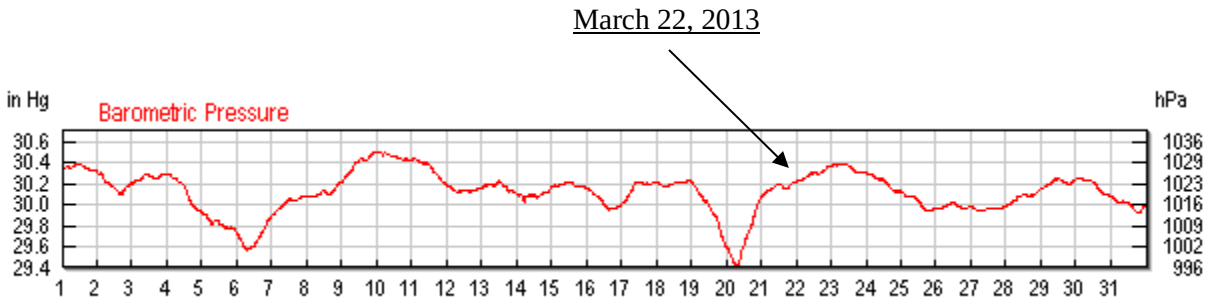
Notes

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

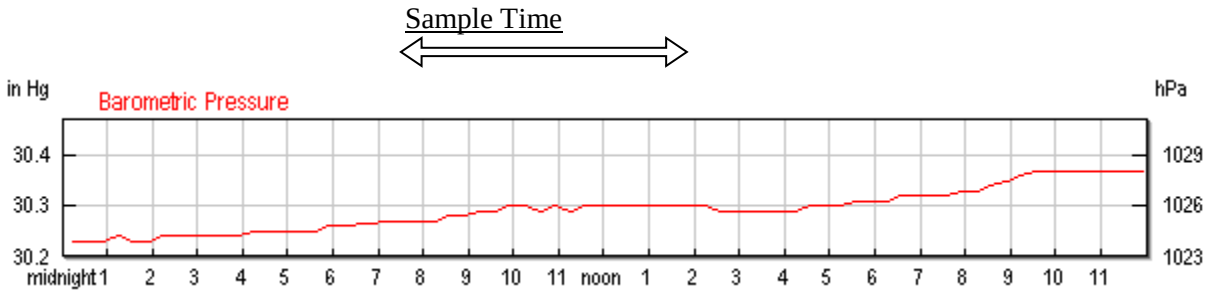
GP = Gas Probe	CH_4 = Methane	S = shallow	A= shallow
NM = Not measured - equipment malfunction	CO_2 = Carbon Dioxide	M = medium	B = medium
	O_2 = Oxygen	D = deep	C = deep

Barometric Pressure Trend
HVL Landfill
March 2013

Barometric Pressure Trend for March 2013



Barometric Pressure Trend for March 22, 2013



Source : KPLU Airport

Hidden Valley Landfill
LFG Probe Monitoring
26-Mar-13

Device ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)
HVGP001A	3/26/2013 11:03	0.0	5.2	0.0
HVGP001B	3/26/2013 11:07	0.0	16.7	3.8
HVGP001C	3/26/2013 11:11	0.0	13.7	6.8
HVGP002A	3/26/2013 11:16	2.5	15.5	2.0
HVGP002B	3/26/2013 11:20	0.0	0.3	21.1
HVGP003S	3/26/2013 11:25	0.9	13.6	0.7
HVGP003M	3/26/2013 11:29	6.6	10.6	0.0
HVGP003D	3/26/2013 11:33	0.0	13.6	6.7
HVGP013A	3/26/2013 11:48	12.1	11.8	0.0
HVGP013B	3/26/2013 11:53	0.0	0.4	20.9

Hidden Valley Landfill
LFG Probe Monitoring
28-Mar-13

Device ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	
HVGP001A	3/28/2013 9:50	0.1	5.2	<<<<	
HVGP001B	3/28/2013 9:54	0.0	15.8	6.7	
HVGP001C	3/28/2013 9:58	0.0	15.1	4.3	
HVGP002A	3/28/2013 10:04	4.0	16.5	0.6	
HVGP002A	3/28/2013 12:53	0.3	14.7	4.1	
HVGP002B	3/28/2013 10:08	0.0	0.3	19.9	
HVGP003S	3/28/2013 10:13	1.0	13.3	0.3	
HVGP003M	3/28/2013 10:16	6.5	9.8	0.0	
HVGP003M	3/28/2013 12:59	6.4	11.5	0.0	
HVGP003D	3/28/2013 10:20	0.0	11.4	12.7	
HVGP013B	3/28/2013 11:11	0.0	0.2	20.3	
HVGP013A	3/28/2013 11:15	12.1	11.5	0.2	
HVGP013A	3/28/2013 12:44	13.3	11.6	0.1	

Hidden Valley Landfill
LFG Probe Monitoring
2-Apr-13

Device ID	Date/Time	CH4 %	CO2 %	O2 %	Balance %	Baro. Press. inches Hg
HVGP001A	4/2/2013 7:30	0	5.1	0	94.9	29.41
HVGP001B	4/2/2013 7:34	0	14	11.1	74.9	29.40
HVGP001C	4/2/2013 7:40	0	14.1	6.8	79.1	29.40
HVGP002A	4/2/2013 7:49	3.2	18	0.7	78.1	29.40
HVGP002B	4/2/2013 7:53	0	0.3	22.1	77.6	29.41
HVGP003S	4/2/2013 7:59	0.6	12.7	4.2	82.5	29.40
HVGP003M	4/2/2013 8:02	5	10.1	0	84.9	29.40
HVGP003D	4/2/2013 8:06	0	8.7	17.4	73.9	29.40
HVGP013A	4/2/2013 8:28	13.3	12	0	74.7	29.40
HVGP013B	4/2/2013 8:32	0	0.4	22	77.6	29.48

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

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**.

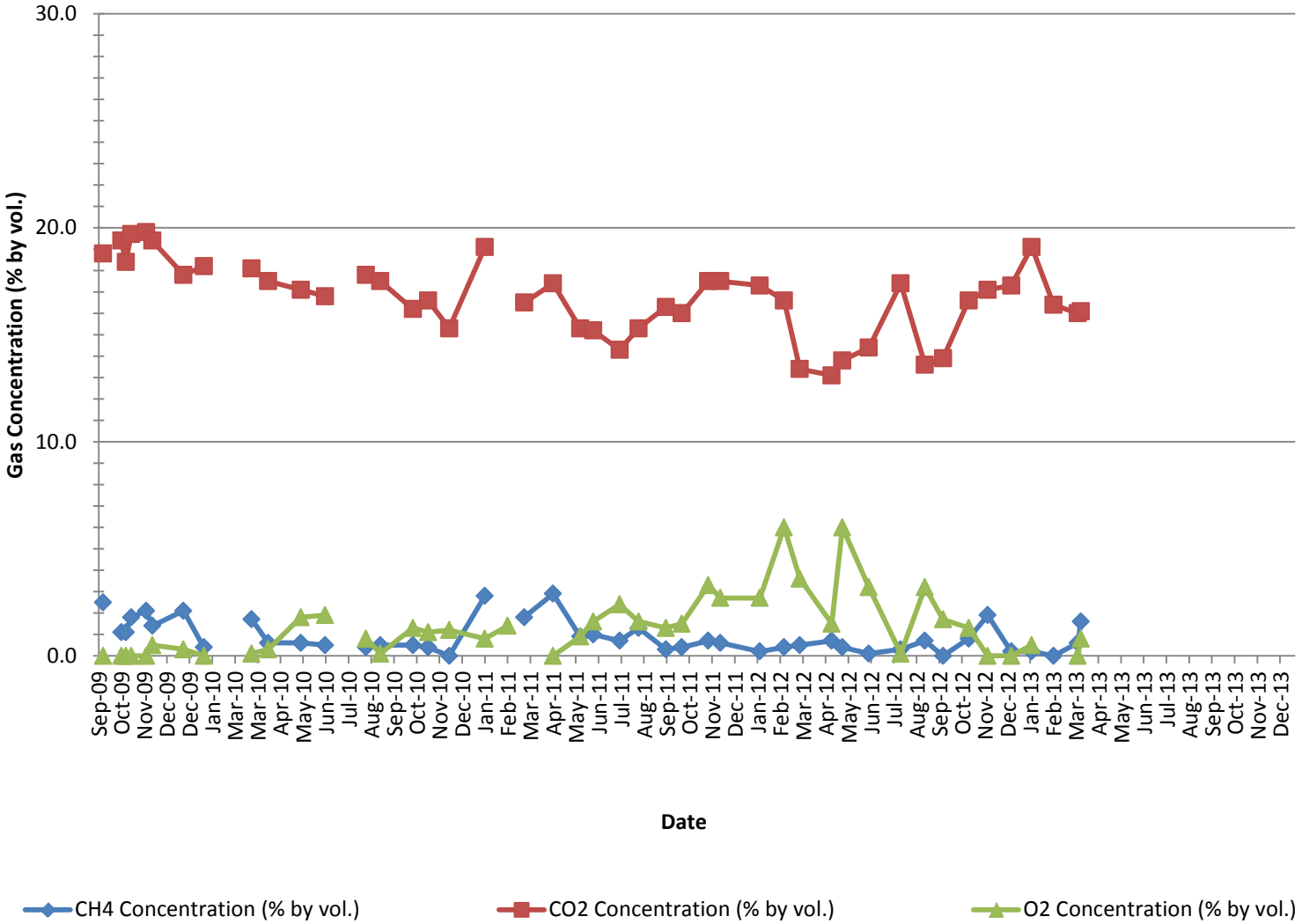
- [X] Main Office - individual office spaces, storage areas and within open crawl-space area.
- [X] Repair Shop – survey atmosphere conditions throughout (lower height levels).
- [X] Pay/Scale Booth – interior of building.
- [X] Recycle Building – throughout facility and water drainage areas.
- [X] Leachate 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

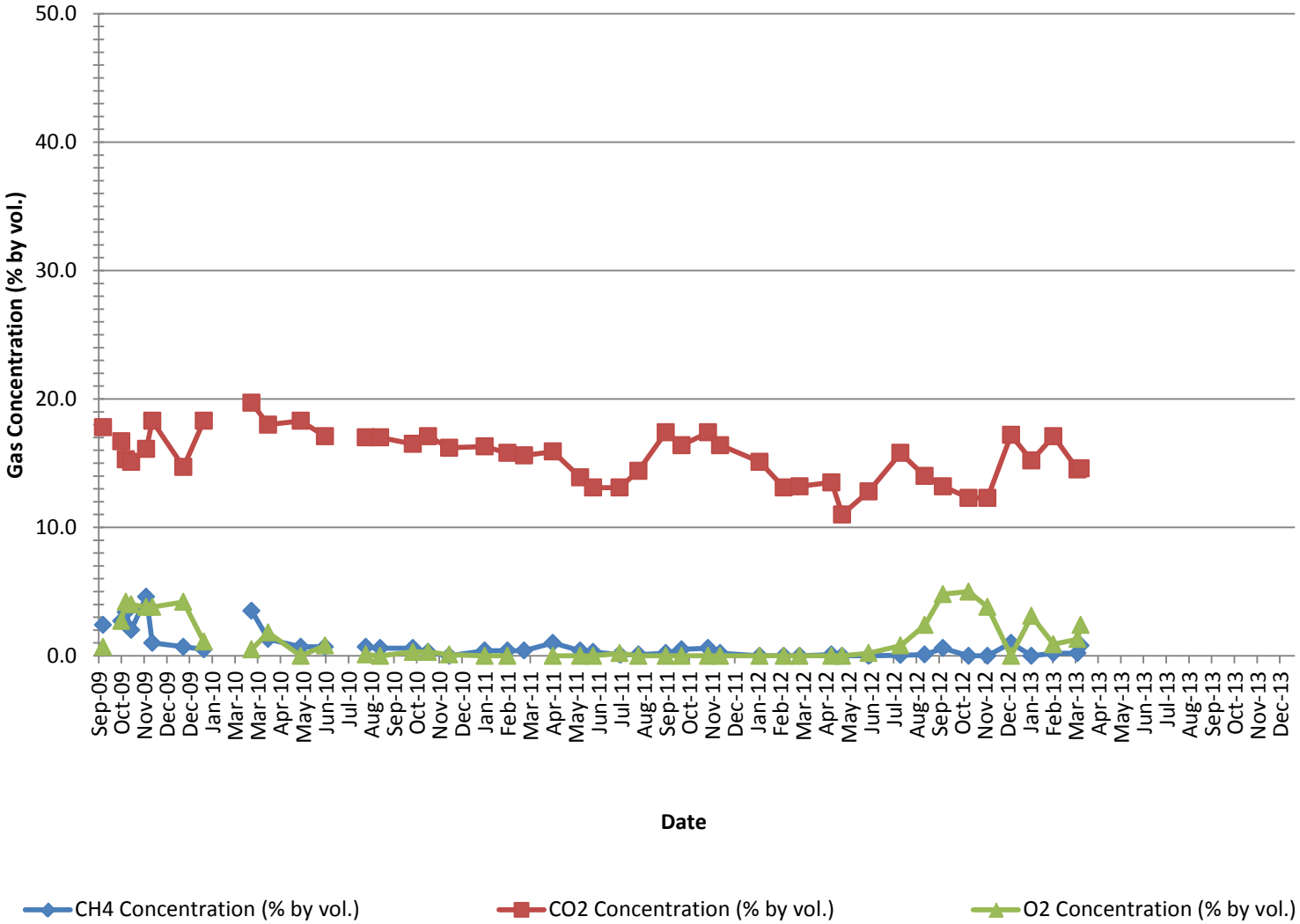
LFG-1, LFG-2, and LFG-3 Monitoring Results

	CH4 Concentration (% by vol.)			CO2 Concentration (% by vol.)			O2 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

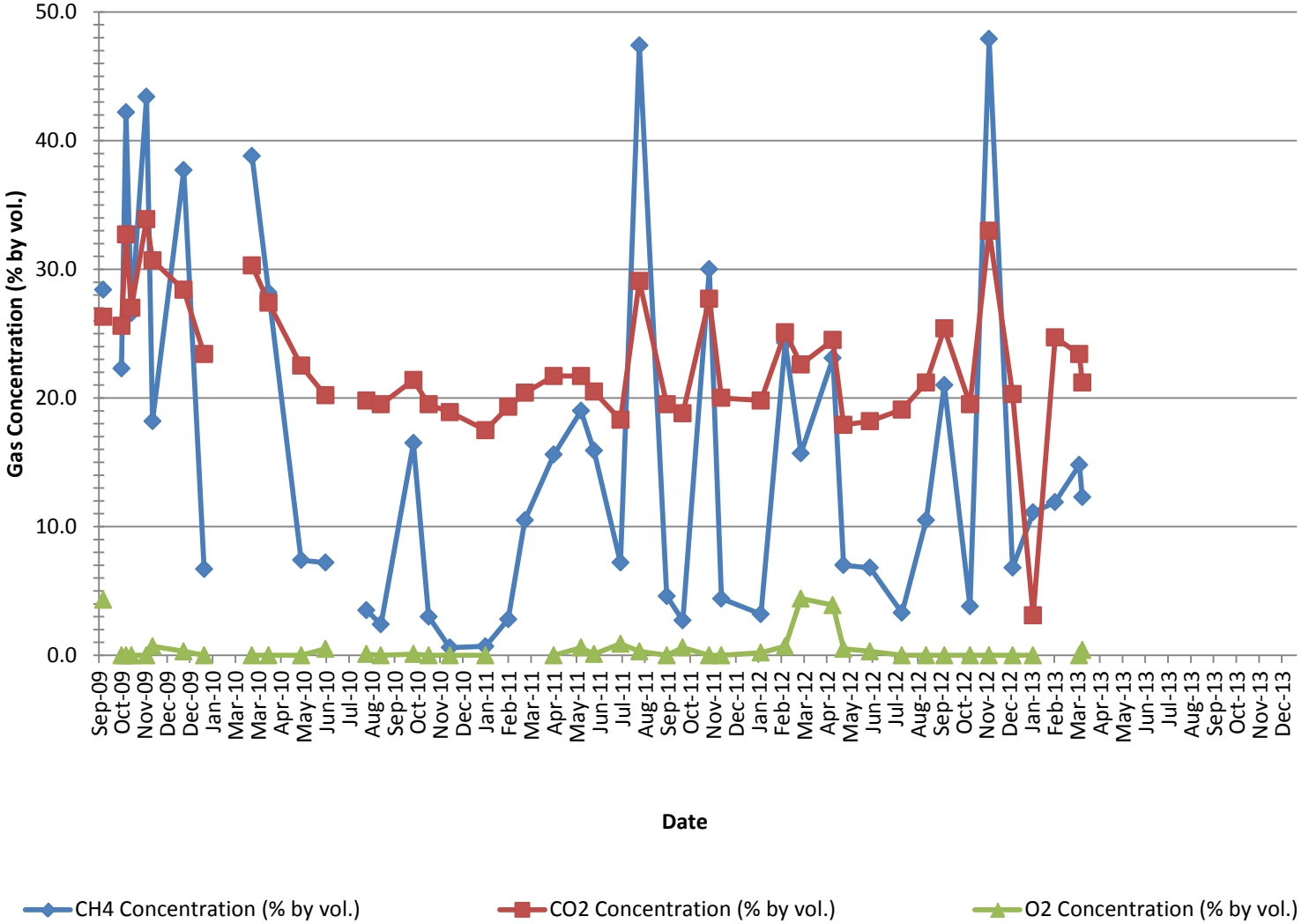
Monitoring Results LFG-1



Monitoring Results LFG-2



Monitoring Results LFG-3



Environmental Consultants
and Contractors

2405 140th Avenue, NE
Suite 107
Bellevue, WA 98005-1877

425 746-4600
FAX 425 746-6747
www.scsengineers.com

SCS ENGINEERS

January 18, 2013
File No. 04213004.03
Staff: Matthew O'Hare, Wayne Chang

Subject: Hidden Valley Landfill First Quarter 2013 Ground Water Sampling

---

Hidden Valley Landfill
First Quarter Groundwater Monitoring
January 2013
1/14/2013 to 1/17/2013

Notes/Sampling Decoding:

- Dedicated pumps were used for purging and sampling wells MW-10S, -10D, -12S, -12D, -13D, -14S, -14D, and -20R.
- Non-dedicated SamplePro pump was used for purging and sampling wells MW-11S, -11D2, -13S, -14R, -15S, -15D, -17S, -18S, -18D, -25S, -26R, FMW-1, and FMW-2.
- The water supply well (Corliss) was sampled as a direct grab sample. WSW Paul Bunyun was not sampled as scheduled due to frozen pipes. It was subsequently sampled on 3/27/13.
- A field duplicate sample was collected at well MW-14S.
- A complete round of waters levels was completed on 1/17/13.
- Field water quality meters were calibrated prior to sampling.
- Field blank sample was filled with deionized water from TestAmerica Laboratories.
- The dedicated pump air line in MW-26R was determined to be faulty. The dedicated pump was pulled, and a non-dedicated SamplePro pump was deployed to sample the well.
- MW-28S was not sampled due to lack of water
- MW-23S was not sampled due to well cave-in.

Sample Number	Well Number
HVL-011413-01	MW-11D2
HVL-011413-02	MW-11S

HVL-011413-03	MW-18S
HVL-011413-04	MW-18D
HVL-011413-05	MW-15D
HVL-011413-06	MW-15S
HVL-011413-07	MW-14S
HVL-011413-08	Duplicate-MW-14S
HVL-011513-09	MW-14R
HVL-011513-10	MW-14D
HVL-011513-11	MW-10S
HVL-011513-12	MW-10D
HVL-011513-13	MW-13S
HVL-011513-14	MW-13D
HVL-011513-15	Field Blank
HVL-011513-16	MW-17S
HVL-011613-17	MW-20R
HVL-011613-18	Leachate
HVL-011613-19	MW-12S
HVL-011613-20	MW-12D
HVL-011613-21	FMMW-1
HVL-011613-22	FMMW-2
HVL-011713-23	MW-26R
HVL-011713-24	MW-25S
HVL-011713-25	WS Corliss
HVL-032713-01	WS Paul Bunyan

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/14/12					
Time	0745					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	100 20 <0.1 ~~1000, 10, 0.2~~	
Pre-Cal Reading	430	4.03	7.00			
Post Cal Reading	445	4.01	7.00	8.50	811, 22.8, 0.60	
Descrepancy						
Calib. Successful?	yes					
Calibration by	MO					
Instrument Type, ID	MP20	MP20	MP20	MP20	MicoTPW	
Calibration Location	HVL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/14/18					
Time	0745					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	1000, 10, 0.2	
Pre-Cal Reading	552	3.72	7.16	759.6 mm Hg	>1100, 9.92, 0.0	
Post Cal Reading	445	4.01	7.00	13.07		
Descrepancy						
Calib. Successful?	yes					
Calibration by	MO					
Instrument Type, ID	~~YSI~~ MP20	MP20	MP20	MP20	MicoTPW	
Calibration Location	HVL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/15/13					
Time	0745					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	1000, 10, 0.262	
Pre-Cal Reading	436	4.07	7.02			
Post Cal Reading	445	4.01	7.00	8.50	826, 10.8, 0.00	
Descrepancy						
Calib. Successful?	yes					
Calibration by	MO					
Instrument Type, ID	MP20	MP20	MP20	MP20	MicoTPW	
Calibration Location	HVL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/15/13					
Time	0745					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	1000, 10, 0.2	
Pre-Cal Reading	293	4.05	6.98	—		
Post Cal Reading	445	4.01	7.00	8.5	883, 10.2, 0.03	
Descrepancy						
Calib. Successful?	yes					
Calibration by	MO					
Instrument Type, ID	~~YSI MP20~~	MP20	MP20	MP20	MicoTPW	
Calibration Location	HVL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/16/13					
Time	0800					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	1000, 10, 0.2	
Pre-Cal Reading	459	4.39	7.15	97.6		
Post Cal Reading	445	4.01	7.00	8.5	822, 9.7, 0.00	
Descrepancy						
Calib. Successful?	Yes					
Calibration by	MO					
Instrument Type, ID	~~MP20~~	MP20	MP20	MP20	MicoTPW	
Calibration Location	HV					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/16/13					
Time	0800					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	1000, 10, 0.2	
Pre-Cal Reading	449	4.14	6.83	7643mm		
Post Cal Reading	445	4.01	7.00		900, 9.7, 0.00	
Descrepancy						
Calib. Successful?	yes					
Calibration by	WC					
Instrument Type, ID	MP20	MP20	MP20	MP20	MicoTPW	
Calibration Location	HVL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	1/17/13					
Time	0645					
Weather (sky or precip, temp)	Fog					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	445	4.01	7.00	100% or ~8.5	1000, 10, 0.2	
Pre-Cal Reading	437	3.92	7.07	8.45		
Post Cal Reading	445	4.01	7.00	8.5	>1100 / 10.2, 0.06	
Descrepancy						
Calib. Successful?	yes					
Calibration by	MD					
Instrument Type, ID	~~YSI~~ MP20	MP20	MP20	MP20	MicoTPW	
Calibration Location	HV					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

Hidden Valley Landfill

Water Level Data

Date: 1/17/13

Measured by: MPD/WC

	PVC Elevation	Depth to Water	Water Level Elevation	Time	Comments
MW-10S	460.17	NM			Blocked at 4.85'
MW-10D	460.69	27.73			
MW-11S	516.44	90.42			
MW-11D	516.56	90.71			
MW-11D(2)	515.53	90.15			
MW-12S	489.94	62.80			
MW-12D	489.97	64.95			
MW-13S	448.81	22.61			
MW-13D	448.94	22.96			
MW-14S	477.95	46.55			
MW-14D	477.98	48.63			
MW-14R	476.84	117.91			
MW-15S	498.76	72.43			
MW-15D	498.52	77.44			
MW-17S	552.44	127.00			
MW-18S	546.88	128.97			
MW-18D	546.01	128.87			
MW-19S	485.71	53.31			
MW-19D	485.82	58.66			
MW-20R	469.43	105.85			
MW-22U	545.92	137.25			
MW-22L	546.07	139.85			
MW-23S	449.92	NM			Blocked at 18.65'
MW-23D	449.96	22.20			
MW-25S	526.54	123.45			
MW-25D	526.66	121.31			
MW-26R	481.81	60.20			
MW-27S	531.81	103.58			
MW-27D	531.92	103.69			
MW-28S	466.87	45.12			Dry
FMMW-1	542.59	141.66			
FMMW-2	536.40	133.93			
BC-4S	526.88	122.97			
BC-4D	526.94	157.65			

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-2
Sample ID: HVL-01413-01
Date: 1/14/13
Weather: partly cloudy

89.59 DTW
TOS
Intake
BOS
148.3 Total Depth

CONTROL SETTINGS:
Refill 13
Discharge 7
Pressure 30

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:
3' pull up
11.5 104,80
90,30

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:
1000 ml Poly
500 ml HNO3 x2
125 ml NaOH
500 ml Poly
500 ml H2SO4 x2
250 ml Poly
40 ml VOA x3 x6
125 ml Poly
1000 ml Amber

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0837	89.90	10.21	171	7.71	6.83	217.3	34.48	400
0905		10.81	144	7.19	6.55	212.6	9.05	
0910		11.05	144	7.18	6.25	212.4	5.49	
0915	90.0	11.24	144	7.09	6.85	211.6	3.54	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Gaynor Chang
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: 11S
Sample ID: HVL 01413-02
Date: 1/14/13
Weather:

90.30 DTW
TOS
Intake
BOS
104.80 Total Depth

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 100

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0857		Begin	Purge					
0900	90.30	14.25	277	1.98	5.63	221	1.59	400
0903		14.82	274	1.68	5.70	219	1.45	↓
0906	90.45	14.88	276	1.58	5.73	216	1.36	↓
0909		14.88	275	1.51	5.74	215	1.05	↓

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ (Printed Name) _____ (Signature)

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: 185
Sample ID: HVL-011413-03
Date: 1/ /13
Weather:

129.00 DTW
TOS
Intake
BOS
141.25 Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly	
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3 x6	1000 ml Amber	
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1105		Begin	Purge					
1108		12.38	346	5.08	6.31	167	11.18	350
1111	129.10	12.49	346	2.12	6.24	154	0.93	
1114		13.20	347	1.71	6.24	143	0.35	
1117		13.40	347	1.64	6.21	125	0.32	
1120	129.05	13.56	349	1.54	6.23	125	0.34	

Observations (color, odor, anomalies, etc)
~~Brown~~ ~~Black~~
2 ft fully

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Matthew O'Hare
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: 18D
Sample ID: HVL-011413-04
Date: 1/14/13
Weather: partly cloudy

129.85 DTW
TOS
170.46 Intake
BOS
173.46 Total Depth

CONTROL SETTINGS:
Refill 13
Discharge 7
Pressure 90

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes: pull up 3'

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:
(1000 ml Poly) 500 ml Poly 250 ml Poly 125 ml Poly
(500 ml HNO3 x2) (500 ml H2SO4 x2) (40 ml VOA x3) x6 1000 ml Amber
125 ml NaOH

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1106	129.15	9.00	177	7.32	7.17	197.6	11.98	
1111		11.07	181	4.32	6.84	199.2	26.1	
1115	129.15	11.60	180	3.85	6.83	195.5	19.1	
1120		12.10	181	3.67	6.83	192.3	13.6	
1125	129.15	12.37	182	3.58	6.82	190.9	7.82	
1128		12.52	182	3.44	6.82	191.1	5.39	
1131		12.51	182	3.39	6.82	190.9	4.34	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Dayne Chang
Printed Name

Dayne Chang
Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL 4
Well ID: MW 15D
Sample ID: HVL-011413-05
Date: 1/14/13
Weather:

77.29 DTW
TOS
Intake
BOS
120.35 Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1304	Begin Purge							
1307	77.30	13.72	211	1.82	6.86	193.6	54.2	500
1313	"	13.75	212	0.35	6.82	173.0	31.4	
1319		13.67	212	0.25	6.81	169.2	22.3	
1325		13.72	212	0.21	6.81	164.0	10.2	
1331	77.43	13.74	212	0.18	6.81	162.0	7.69	
1334		13.81	212	0.15	6.81	160.8	5.64	
1337		13.81	212	0.14	6.81	159.4	4.59	

Observations (color, odor, anomalies, etc)
Purged up 3 ft

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW 155
Sample ID: HVL - 011413 - 06
Date: 1/14/13
Weather:

72.33 DTW
TOS
Intake
BOS
91.10 Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1354	Begin		Purg					
1400	72.33	14.98	252	1.41	6.15	159	1.96	4000
1403		14.94	252	0.81	6.10	158	1.73	
1406		14.90	251	0.61	6.08	157	1.72	
1409		14.83	252	0.33	6.07	156	1.70	
1412		14.82	252	0.32	6.07	155	1.68	
1415		14.94	253	0.26	6.06	154	1.51	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Matt O'Hara
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW 14S
Sample ID: HVL-011413-07
Date: 1/14/13
Weather: Cloudy

46.42 DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill 10
Discharge 5
Pressure 37

Sampling Method: Grab Bail
Other: Deploy Dedicated

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

Notes:

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1452	Begin		Purg					
1455	46.42	12.12	98	1.71	6.20	143	0.68	450
1458		12.11	97	1.21	6.09	140	0.69	↓
1501	46.55	12.15	98	0.90	6.04	153	0.58	
1504		12.12	98	0.82	6.03	154	0.63	
1507	46.55	12.18	98	0.71	6.02	155	0.42	

Observations (color, odor, anomalies, etc)

Dupe Taken as HVL-011413-08

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS

2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-14R
Sample ID: HVL-011513-09
Date: 1/15/13
Weather: Partly Cloudy

117.30 DTW
TOS
220.67 Intake
BOS
265.33 Total Depth

CONTROL SETTINGS:
Refill 30
Discharge 30
Pressure 100

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y (N)
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:
1000 ml Poly
500 ml Poly
250 ml Poly
125 ml Poly
500 ml HNO3 x2
500 ml H2SO4 x2
40 ml VOA x3 x6
1000 ml Amber
125 ml NaOH

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q/ Vol.
0823	Begin		Purge					120
0842	Water to surface							
0851		4.50	116	7.15	7.13	179.2	8.62	
0854		7.00	111	4.89	7.18	180.3	4.79	
0857		7.17	108	4.44	7.21	184.6	4.50	
0900		7.50	107	4.10	7.23	186.6	3.04	
0905		8.00	106	3.12	7.27	188.5		
0910		8.06	105	2.57	7.28	191.3	4.12	
0915	118.30	8.21	105	2.35	7.28	192.2		
0920		8.14	105	2.07	7.29	193.9		
0925		8.60	105	1.77	7.29	195.6		
0930		9.21	105	1.47	7.29	194.8	2.27	
0933		8.00	105	1.40	7.30	194.9		
0936		8.94	105	1.33	7.30	194.7		

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-14D
Sample ID: HVL-011513-10
Date: 1/15/13
Weather: Clear

48.18 DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 40

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:
1000 ml Poly
500 ml HNO3 x2
125 ml NaOH
500 ml H2SO4 x2
250 ml Poly
40 ml VOA x3 x6
125 ml Poly
1000 ml Amber

TIME	DTW	Temp	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0835	48.30	10.42	185	1.06	6.18	52	2.77	380
0840		10.18	185	0.79	6.20	40	3.95	↓
0845		10.91	185	0.64	6.25	36	3.02	
0848		10.99	185	0.59	6.26	32	2.88	
0851		11.12	186	0.53	6.27	33	2.93	
0854		11.17	185	0.50	6.28	32	2.75	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Dayne Chang (Printed Name) Dayne Chang (Signature)

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-10S
Sample ID: HVL-011513-11
Date: 1/15/13
Weather: _____

Locked

DTW _____
TOS _____
Intake _____
BOS _____
Total Depth _____

CONTROL SETTINGS:
Refill 10
Discharge 5
Pressure 25

Sampling Method: Grab Bail
Other: _____ Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1000	Begin Purge							
1005	✗	13.09	148	5.73	6.45	141		480
1009		13.10	146	5.63	6.45	148		
1015		13.20	149	5.57	6.45	151		
1018		13.22	149	5.48	6.45	153		

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW 10D
Sample ID: HVL - 01513 - 12
Date: 1/15/13
Weather: _____

27.41 DTW
_____ TOS
_____ Intake
_____ BOS
_____ Total Depth

CONTROL SETTINGS:
Refill _____
Discharge _____
Pressure _____

Sampling Method: Grab Bail
Other: _____ Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1101	Purge	Purge						
1104		11.65	125	5.94	6.62	149	2.01	500
1107		12.82	126	5.00	6.58	153	1.97	
1110	27.48	12.49	127	4.61	6.55	158	0.82	
1113		12.36	129	4.49	6.53	160	0.73	
1116		12.40	139	4.48	6.50	162	1.18	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: 135
Sample ID: HVL-01|SI3-13
Date: 1/15/13
Weather: Sunny

22.42 DTW
TOS
54.30 Intake
BOS
57.30 Total Depth

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 45

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes: Pull up 3'

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1215		15.83	255	4.23	6.32	160.3	1.30	400
1220		16.04	257	3.98	6.30	187.0		
1225	22.67	16.02	256	3.92	6.29	197.1	0.94	
1228		16.10	257	3.91	6.29	203.5		

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: 13D
Sample ID: HVL-011513-14
Date: 1/ /13
Weather:

22.75 DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
PRE	Begin Purge							
1215	22.75	14.18	318	2.80	6.67	143	0.41	400
1218		15.53	281	4.11	6.58	147	0.45	↓
1221	22.77	15.46	284	4.13	6.54	149	0.63	
1224	22.83	15.63	285	4.09	6.54	150	1.30	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: ~~MW 26R~~ F B
Sample ID: HVL-011513-15
Date: 1/15/13
Weather: Sunny

DTW: ~~27~~.00
TOS:
Intake:
BOS:
Total Depth:

CONTROL SETTINGS:
Refill:
Discharge:
Pressure:

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:
MW 27.00
153.10

Filtered? Y N
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly			125 ml Poly
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3	x6	1000 ml Amber
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1310	Begin	Purge						
~~1315~~								

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Matt Hall
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-17
Sample ID: HVL-011513-16
Date: 1/15/13
Weather: Sun

127.00 DTW
____ TOS
____ Intake
____ BOS
153.10 Total Depth

CONTROL SETTINGS:
Refill ____
Discharge ____
Pressure ____

Sampling Method: Grab Bail
Other: ____ Deploy Dedicated

Notes:

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly	
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3 x6	1000 ml Amber	
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1430	Begin	Purge						
1433	127.00	14.85	440	2.03	6.21	151	0.60	350
1436	127.00	17.38	444	0.88	6.04	164	0.93	↓
1439	"	17.44	439	0.62	6.00	166	1.10	
1442		17.59	440	0.49	5.98	167	1.01	
1445		17.53	438	0.46	5.98	169	1.32	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: ____ Printed Name ____ Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-20
Sample ID: HVL-011613-17
Date: 1/16/13
Weather: overcast

10.51 DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 65

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:
1000 ml Poly
500 ml HNO3 x2
125 ml NaOH
500 ml Poly
500 ml H2SO4 x2
250 ml Poly
40 ml VOA x3 x6
125 ml Poly
1000 ml Amber

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0757		10.36	92	6.94	6.73	194		360
0800		10.16	91	5.92	6.70	192	0.90	
0805	106.10	9.74	92	2.96	6.76	191		
0810		9.71	92	2.25	6.79	185	0.78	
0815		9.70	90	1.99	6.84	180		
0818	106.10	9.69	91	1.87	6.85	176	0.70	
0821		9.68	91	1.83	6.87	175		

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Wayne Chang
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04213004.03
Site: HIDDEN VALLEY
Well ID: MAIN SUMP
Sample ID: HVL-011613-18
Date: JAN 16, 2013
Weather: _____

_____ DTW
_____ TOS
_____ Intake
_____ BOS
_____ Total Depth

CONTROL SETTINGS:
Refill _____
Discharge _____
Pressure _____

Sampling Method: (Grab) Bail
Other: _____ Deploy Dedicated

Notes:
COLLECTED IN OFFICE

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0910		7.26	19900	9.22	7.66	-99		

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: SAM ADLINGTON
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW-125
Sample ID: HVL-011613-19
Date: 1/16/13
Weather: Partly cloudy

62.75 DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill 12
Discharge 8
Pressure 35

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1028	Begin	Purge						
1031	62.75	18.35	254	2.06	5.75	285.0	2.00	400
1036		18.90	250	1.10	5.69	289.7	1.85	
1039		18.97	250	1.03	5.69	290.2	1.66	
1042		18.97	250	1.00	5.68	291.0	2.63	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: MW12-D
Sample ID: HVL-011613-20
Date: 1/16/13
Weather: Partly Cloudy

64.65 DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 50

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1057	64.75	14.05	300	7.76	6.58	277.1	0.83	40
1100		17.49	309	2.24	6.44	277.4		
1103		17.53	323	2.55	6.57	274.4	0.97	
1106		17.57	327	2.49	6.71	270.1		
1109	64.75	17.49	327	2.48	6.72	269.8		

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site HVL
Well ID: FMMW-1
Sample ID: HVL-011613-Z1
Date: 1/16/13
Weather: Sunny - Cold

141.75 DTW
____ TOS
____ Intake
____ BOS
161.00 Total Depth

CONTROL SETTINGS:
Refill ____
Discharge ____
Pressure ____

Sampling Method: Grab Bail
Other: ____ Deploy Dedicated

Notes:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly	
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3 x6	1000 ml Amber	
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1227	Begin	Purge						
1230	water	to surface						
1232	141.75	12.08	268	9.04	6.63	246.3	0.78	350
1235		12.57	270	9.08	6.47	251.0	0.78	↓
1238		12.69	270	8.96	6.46	251.3	0.95	
1241		12.73	270	8.91	6.45	250.0	0.65	

Observations (color, odor, anomalies, etc)
4 ft Pull up

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: FMMW-2
Sample ID: HVL-011613-22
Date: 1/16/13
Weather: Sunny

133.95 DTW
____ TOS
____ Intake
____ BOS
155.00 Total Depth

CONTROL SETTINGS:
Refill ____
Discharge ____
Pressure ____

Sampling Method: Grab Bail
Other: ____ Deploy Dedicated

Notes:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly	
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3 x6	1000 ml Amber	
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1335	Begin Purge							
1340		13.30	392	2.70	6.16	250.6	3.16	250
1343	133.97	14.52	399	0.80	6.10	244.5	2.32	
1346		15.03	399	0.66	6.09	239.5	1.97	
1349	133.94	14.99	399	0.51	6.09	234.8	2.96	
1352		15.06	399	0.41	6.09	229.8	1.93	
1355		15.04	400	0.34	6.09	227.7	1.59	

Observations (color, odor, anomalies, etc)
3PT pull up

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____
Printed Name

_____
Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005
(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL -011713-23
Well ID: MW26 ~~[illegible]~~
Sample ID: HVL-011713-23
Date: 1/17/13
Weather: Partly Cloudy

60.20 DTW
TOS
Intake
BOS
192.15 Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: Grab / Bail / Deploy (circled) / Dedicated
Other: ________

Filtered? Y (N)   Locked? Y (N)   Water in Protector? Y (N)   Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

Notes:

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
~~0825~~								
0825	Begin Purge							
0831		5.95	124	6.62	5.99	220.0		
0837	60.55	7.46	192	2.38	6.80	33.0	30.3	
0842		7.46	154	2.44	7.09	19.4	96.8	
0853		7.61	170	1.24	7.43	-30.5	35.7	
0900	60.55	7.66	172	1.03	7.48	-46.1	32.4	
0903		7.65	172	0.97	7.49	-51.3	29.1	
0906		7.65	174	0.92	7.50	-53.9	29.3	

Observations (color, odor, anomalies, etc)

Bladder
3 ft pull up

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: [signature] Printed Name   [signature] Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: 255
Sample ID: HVL-011713-[illegible]24
Date: 1/17/13
Weather: Sunny

123.45 DTW
____ TOS
____ Intake
____ BOS
138.30 Total Depth

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 90

Sampling Method: Grab Bail
Other: ____ Deploy Dedicated

Notes:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly	
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3 x6	1000 ml Amber	
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1242	Begin Purge							
1245	123.45	11.82	267	3.95	6.73	94.1	25.2	
1248		11.90	262	4.14	6.71	98.3	6.85	
1251	123.45	11.87	261	4.21	6.70	113.5	3.64	
1254		11.99	260	4.22	6.69	121.7	3.00	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____
Printed Name

_____
Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: HVL
Well ID: WS CONT35
Sample ID: HVL-011713-25
Date: 1/17/13
Weather:

DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: Grab Bail
Other: Deploy Dedicated

Notes:

Filtered? Y (N)
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1345	—	8.05	260	9.00	7.05	118.3	1.74	

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER:
Printed Name
Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04213004.03
Site: HIDDEN VALLEY
Well ID: LEACHATE SIDE SLOPE
Sample ID: ~~MW-[illegible]~~
Date: JAN 16, 2013
Weather: COLD / OVERCAST

DTW _____
TOS _____
Intake _____
BOS _____
Total Depth _____

CONTROL SETTINGS:
Refill _____
Discharge _____
Pressure _____

Sampling Method: Grab Bail
Other: _____ Deploy Dedicated

Notes:
BEHIND TRANSFER STATION

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? Y N

Sample Containers:

1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly	
500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3 x6	1000 ml Amber	
125 ml NaOH							

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.

NO SAMPLE COLLECTED

LEACHATE NOT PUMPING

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: _____ _____
Printed Name Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04212004.03
Site: Hidden Valley
Well ID: MW Paul Bunyan
Sample ID: HVL-~~10~~ 03 27 13 01
Date: 3/27/13
Weather:

DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill
Discharge
Pressure

Sampling Method: (Grab) Bail
Other: Deploy Dedicated

Notes:

Filtered? Y (N)
Locked? Y (N)
Water in Protector? Y (N)
Damage? Y N

Sample Containers:
(1000 ml Poly) 500 ml Poly (250 ml Poly) 125 ml Poly
(500 ml HNO3) (x2) (500 ml H2SO4) x2 (40 ml VOA) (x3) x6 1000 ml Amber
125 ml NaOH

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1515	—	~~8.48~~ 8.94	279	8.25	7.77	270.5	1.06	—

Observations (color, odor, anomalies, etc)

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Emily Smart for W.C.
Printed Name

Signature