September 15, 2023
File No. 04223002.02

Andrew Smith, PE, LHG
Washington Department of Ecology
Toxics Cleanup Program
PO Box 47775
Olympia, WA 98504-7775

Subject: **Semi-Annual Monitoring Report – January through June 2023**
Hidden Valley Landfill, Pierce County, Washington

Dear Andrew:

The following report provides a summary of monitoring activities performed at the closed Hidden Valley Landfill (HVL) during the semi-annual monitoring period of January through June of 2023. Site activities conducted during this period included groundwater monitoring, landfill gas monitoring, site inspections and maintenance, and recording of leachate volumes.

Groundwater Monitoring

Semi-Annual Groundwater Monitoring Event No. 1 was initially conducted on January 24 through 26, 2023. Additional sampling for dissolved metals from ten monitoring wells was conducted on May 10, 2023, and leachate samples were collected on May 11, 2023. Field activities performed for the monitoring event were consistent with the procedures described in the HVL Groundwater Monitoring Plan (GWMP) dated October 18, 2018.

Groundwater elevation measurements were collected on January 24 and 26, 2023. Groundwater potentiometric surface maps for the shallow perched aquifer, upper regional aquifer, and the lower regional aquifer are shown on enclosed Figure 1 through Figure 3, respectively.

Low-flow sampling techniques using dedicated pumps were employed to purge and collect samples from each monitoring well, except MW-12S, which was sampled with a disposable bailer. Field quality control samples consisted of one duplicate sample, one field blank, and six trip blanks. Water supply well samples were collected at Corliss Resources, Inc. (WS-Corliss) and the Paul Bunyan Rifle & Sportsman Club (WS-Paul Bunyan). Leachate and leak detection samples were collected from the east liner area leachate sump (Cell 1), side-slope liner leachate sump (Cell 2), side-slope liner leak detection system, and the east liner area hydraulic gradient control system. Samples were shipped to Eurofins TestAmerica Laboratories, Inc. in Denver, Colorado via FedEx at the end of each field day.

Groundwater results were reviewed and validated (see enclosed Data Validation Report). Field measurements and analytical data were uploaded into the Washington State Department of Ecology (Ecology) Environmental Information Management (EIM) System. Laboratory reports were provided to Ecology and the Tacoma-Pierce County Health Department (TPCHD) separately.

Field measurements and laboratory analytical results for this semi-annual monitoring event are summarized on the following enclosed tables: Table 1 – Main Sump and Side-Slope Liner Area Performance Data, Table 2 – Water Level Elevations, Table 3 – Field Parameters, Table 4 – Inorganic

Parameters, Table 5 – Dissolved Metals, Table 6 – Volatile Organic Compounds (VOC's), Table 7 – Duplicate Sample Evaluation, Table 8 – Water Supply Wells, Table 9 – Cation-Anion Balance, and Table 10 – Leachate.

Consistent with previous monitoring events, most of the samples displayed pH values less than the WAC 173-200 lower-level criteria of 6.5 pH units. Since the pH values at both background wells (MW-10S and MW-10D) have also been less than 6.5 on several occasions, these values are interpreted to be the result of natural background water quality.

Nitrate concentrations were equal to or below the site cleanup level of 10 mg/L. Wells MW-12S (8 mg/L) and FMMW-2 (10 mg/L) have slightly elevated nitrate concentrations, but still below the site cleanup level of 10 mg/L. The reported concentrations of nitrate at MW-12S and FMMW-2 are typical of previous results during the wet season.

Dissolved manganese concentrations exceeded the site cleanup level of 0.05 mg/L at seven monitoring wells (MW-14S, MW-15S, MW-17S, MW-29S, MW-14D, MW-14R, and MW-26R). Dissolved iron concentrations exceeded the site cleanup level of 0.3 mg/L at two monitoring wells (MW-14D and MW-26R). The reported concentrations of dissolved manganese and iron are typical of previous water quality results.

A low-level detection of tetrachloroethene (PCE) was reported in the sample collected from monitoring well MW-11D(2) at a concentration of 1.2 µg/L and in the sample collected from MW-15D at a concentration of 0.92 µg/L. These concentrations slightly exceeded the WAC 173-200 criteria of 0.80 µg/L and are typical of previous results.

A cation-anion balance was prepared based in milliequivalents per liter (meq/L) for each water sample to determine if it was electro-neutral (balanced cation and anion charges). A threshold of ten percent difference was used if the total sum of cations and anions were less than or equal to 5.0 meq/L, and a threshold of five percent difference was used if the total cation-anion sums was greater than 5.0 meq/L. The cation-anion balance was greater than the associated threshold at monitoring wells MW-10S, MW-12S, MW-13S, FMMW-2, MW-10D, MW-12D, MW-13D, MW-14D, MW-15D, and MW-20R. These threshold exceedances (in both downgradient and background wells) are typical of previous results.

Trilinear (or Piper) diagrams were prepared for groundwater sample results from each of the three water-bearing zones at the landfill (shallow perched aquifer, upper regional aquifer, and lower regional aquifer). As shown on the enclosed Trilinear Diagrams, the groundwater sample results from all three aquifers plot within a consistent area of the graph, while the leachate results plot in a second area. These plots demonstrate the inherent water quality differences between leachate and groundwater collected from the monitoring wells.

Leachate Collection System

Leachate volumes pumped from the east liner area sump (Cell 1) and side-slope liner sump (Cell 2), as well as rainfall totals from an on-site rain gauge, are recorded daily by on-site personnel. Volumes pumped from the side-slope liner leak detection system and the east liner area hydraulic gradient control system are recorded by site personnel when pumping occurs. A summary of the monthly volume data is provided in Table 1 and copies of the monthly reports are included with the Leachate Treatment System Data enclosure.

Samples were collected from the east liner area leachate sump (Cell 1), the side-slope liner leachate sump (Cell 2), the side-slope liner leak detection system and the east liner area hydraulic gradient control system on May 11, 2023. No significant changes in leachate quality were noted during this event. Consistent with previous monitoring events, water quality results from the side-slope liner leak detection system are similar to the leachate results, and water quality results from the hydraulic gradient control system are dissimilar to the leachate results.

Landfill Gas Monitoring

Monthly landfill gas monitoring was performed on January 20, February 21, March 21, April 26, May 31, and June 28, 2023. All gas probe measurements were observed to be less than 5 percent methane by volume.

On-site buildings were monitored for the presence of landfill gas on March 23, 2023, and May 31, 2023, using a flame ionization detector (FID). No detectable methane was recorded in the monitored buildings. A summary of monitoring data for the landfill gas probes, barometric pressure trends, and on-site buildings is enclosed with the report under Landfill Gas Monitoring Results enclosure.

Site Inspections and Maintenance

The landfill cover system and the condensate recirculation system were inspected on March 23, 2023, and May 31, 2023. Conditions observed during the inspections were typical for the site. The condensate sumps were working as designed. Sumps 5 and 10 do not collect significant volumes of condensate, and therefore, the pumps have been removed.

The gas collection and control system (GCCS) was inspected and maintenance was performed monthly during the first six months of 2023. Additional documentation can be found in the enclosed GCCS Maintenance Reports.

If you have any questions regarding the monitoring results, please call (425) 681-2189.

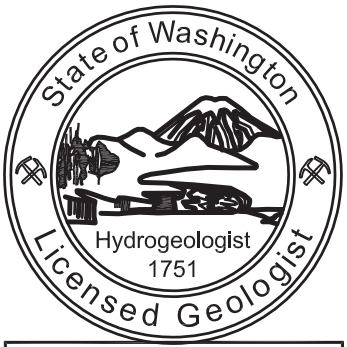
Sincerely,

Kevin Lakey, PE, LHG
Project Director
SCS Engineers

Jovany Estrada
Associate Staff Scientist
SCS Engineers

cc: Rick Johnston, Pierce County (email and hard copy)
Keith Johnston, TPCHD (email and hard copy)
Trevor Priestley, TPCHD (email)
Peter Lyon, Ecology (email)
George Duvendack, LRI (email and hard copy)
Kevin Green, LRI (email)
Samantha Winkle, LRI (email)
Jody Snyder, LRI (email)
Maria Finley, LRI (email and CD)

Enclosure: Summary Data Tables (Tables 1 through 10)
Groundwater Potentiometric Surface Maps (Figures 1 through 3)
Trilinear Diagrams (Figures 4 through 7)
Field Sampling Data Sheets
Data Validation Report
Landfill Gas Monitoring Results
Site Inspection Reports
GCCS Maintenance Reports
Leachate Treatment System Data



Summary Data Tables

Table 2. Water Level Elevations
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Location	Well Casing Elevation	Depth to Water (FT)	Water Level Elevation
Shallow Perched Aquifer			
MW-10S	463.65	28.40	435.25
MW-11S	520.03	94.10	425.93
MW-12S	493.41	65.28	428.13
MW-13S	452.26	21.32	430.94
MW-14S	481.30	51.10	430.20
MW-15S	506.78	76.55	430.23
MW-17S	555.97	129.50	426.47
MW-18S	541.43	133.39	408.04
MW-29S	450.65	17.50	433.15
FMMW-1	546.03	144.95	401.08
FMMW-2	539.96	137.08	402.88
BC-4S	530.25	125.71	404.54
Upper Regional Aquifer			
MW-10D	464.09	32.50	431.59
MW-11D	520.10		520.10
MW-11D(2)	519.53	94.95	424.58
MW-12D	493.49	69.14	424.35
MW-13D	450.19	26.29	423.90
MW-14D	481.39	53.60	427.79
MW-15D	509.09	82.46	426.63
MW-18D	541.79	132.17	409.62
Lower Regional Aquifer			
MW-14R	480.26	119.20	361.06
MW-20R	472.90	109.20	363.70
MW-26R	485.40	123.51	361.89
BC-4R	530.31	161.63	368.68

Table 3. Field Parameters
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Location	Sample Number	Date	Method	pH	Specific Conductivity	Temperature
Units				(SU)	(µS/cm)	(°C)
HVL Cleanup Level				—	700	—
WAC 173-200				6.5-8.5	700[b]	—
Shallow Perched Aquifer						
(BG) MW-10S	HVL-012423-11	1/24/23	DP	**6.49**	263	12.5
MW-11S	HVL-012523-02	1/25/23	DP	**5.76**	302	14.0
MW-12S	HVL-012523-20	1/25/23	DB	**6.06**	291	16.6
MW-13S	HVL-012623-24	1/26/23	DP	**6.15**	202	11.5
MW-14S	HVL-012423-01	1/24/23	DP	**6.02**	325	13.5
MW-15S	HVL-012423-07	1/24/23	DP	**5.73**	307	15.1
MW-17S	HVL-012423-27	1/24/23	DP	**5.64**	418	17.6
MW-18S	HVL-012523-10	1/25/23	DP	**6.21**	344	14.5
MW-29S	HVL-012623-26	1/26/23	DP	**6.24**	255	12.7
FMMW-1	HVL-012523-21	1/25/23	DP	**6.18**	222	14.1
FMMW-2	HVL-012523-23	1/25/23	DP	**5.90**	405	16.1
Upper Regional Aquifer						
(BG) MW-10D	HVL-012423-11	1/24/23	DP	6.51	277	12.1
MW-11D(2)	HVL-012523-02	1/25/23	DP	6.61	202	13.5
MW-12D	HVL-012523-20	1/25/23	DP	6.74	343	15.9
MW-13D	HVL-012623-24	1/26/23	DP	**6.32**	269	12.3
MW-14D	HVL-012423-01	1/24/23	DP	**6.29**	304	12.9
MW-15D	HVL-012423-07	1/24/23	DP	**6.24**	284	13.7
MW-18D	HVL-012423-27	1/24/23	DP	6.78	246	14.5
Lower Regional Aquifer						
MW-14R	HVL-012423-05	1/24/23	DP	7.53	108	11.1
MW-20R	HVL-012423-14	1/24/23	DP	6.50	100	10.5
MW-26R	HVL-012423-12	1/24/23	DP	6.81	219	11.4

Notes:

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

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

Table 4. Inorganic Parameters
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Location		Alkalinity, Total	Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL		10.0	0.10	0.2-1.2	0.20	0.2-1.0	10	1.0	4.0
HVL Cleanup Level		—	—	250	10	250	500	—	—
WAC 173-200 Criteria		—	—	250[b]	10[a]	250[b]	500[b]	—	—
Shallow Perched Aquifer									
(BG)	MW-10S	94	*	8.3	*	10	—	1	*
	MW-11S	100	*	34	3.9	8.4	32	1.5	*
	MW-12S	56	1.1	11	8.0	15	150	1.9	6.0
	MW-13S	61	*	15	1.9	10	120	1.2	*
	MW-14S	48	0.53	20	*	3.2	—	2.6	*
	MW-15S	140	2.9	9	*	3.2	—	1.7	*
	MW-17S	160	5	12	*	10	—	1.8	*
	MW-18S	180	*	14	4.9	14	160	1.6	*
	MW-29S	120	*	12	*	15	130	1.2	4.4
	FMMW-1	92	*	9.2	1.3	14	140	1.8	*
	FMMW-2	130	*	21	10	8.8	24	7.8	*
Upper Regional Aquifer									
(BG)	MW-10D	76	*	5.2	1.8	8.0	—	1.0	*
	MW-11D(2)	87	*	5.6	1.9	8.7	140	*	*
	MW-12D	140	*	9.0	0.92	7.7	170	1.1	*
	MW-13D	110	*	13	1.4	12	110	*	*
	MW-14D	98	3.4	12	*	9.8	—	1.8	*
	MW-15D	130	*	9.1	*	10	—	*	*
	MW-18D	110	*	6.9	1.8	8.1	100	*	*
Lower Regional Aquifer									
	MW-14R	53	*	1.8	*	4.2	—	*	*
	MW-20R	46	*	1.8	*	3.6	—	*	*
	MW-26R	100	*	5.3	*	11	—	*	*

Notes:

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

Analyses performed by Eurofins TestAmerica in Denver, Colorado

H = Due to a Fedex shipping delay, parameter analyzed outside specified holding time

— = not analyzed or not applicable

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

a = Primary Drinking Water Standard

b = Secondary Drinking Water Standard

BG = Background monitoring well

mg/L = milligrams per liter

Table 5. Dissolved Metals
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Location	Iron	Manganese	Calcium	Magnesium	Potassium	Sodium
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.005	0.001	0.20	0.10	2.0	1.0
HVL Cleanup Level	0.30	0.05	—	—	—	—
WAC 173-200 Criteria	0.30[b]	0.05[b]	—	—	—	—
Shallow Perched Aquifer						
(BG) MW-10S	*	*	34	10	2.2	9.2
MW-11S	*	*	25	7.5	5.7	20
MW-12S	0.007	0.006	23	6.6	10	17
MW-13S	*	*	21	5.9	2.9	11
MW-14S	*	0.13	32	9.5	6.8	20
MW-15S	0.017	**1.2**	25	7.7	9.1	16
MW-17S	*	**1.4**	28	9.2	15	21
MW-18S	*	*	31	9.3	8.0	21
MW-29S	0.12	**0.70**	25	7.3	3.3	22
FMMW-1	*	*	19	5.4	2.8	18
FMMW-2	*	*	35	11	12	24
Upper Regional Aquifer						
(BG) MW-10D	*	*	36	11	2.2	9.5
MW-11D(2)	*	*	20	8.7	2.3	8.2
MW-12D	*	*	33	13	3.2	21
MW-13D	*	*	27	10	2.6	11
MW-14D	**4.7**	**1.5**	27	8.1	8.3	14
MW-15D	*	0.0043	27	11	3.0	19
MW-18D	*	*	24	9.7	2.9	12
Lower Regional Aquifer						
MW-14R	0.041	**0.19**	8.8	5.0	2.2	5.7
MW-20R	*	0.006	8.8	4.5	2.3	6.0
MW-26R	**0.74**	**0.45**	23	10	2.5	6.9

Notes:

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

Analyses performed by Eurofins TestAmerica in Denver, Colorado

BG = Background Monitoring Well

mg/L = milligrams per liter

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

— = not analyzed or not applicable

Table 6. Volatile Organic Compounds
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Location		Tetrachloroethene
Units		µg/L
MRL		0.5
HVL Cleanup Level		—
WAC 173-200 Criteria		0.80
Shallow Perched Aquifer		
(BG)	MW-10S	*
	MW-11S	*
	MW-12S	*
	MW-13S	*
	MW-14S	*
	MW-15S	*
	MW-17S	*
	MW-18S	*
	MW-29S	*
	FMMW-1	*
	FMMW-2	*
Upper Regional Aquifer		
(BG)	MW-10D	*
	MW-11D(2)	**1.0**
	MW-12D	*
	MW-13D	*
	MW-14D	*
	MW-15D	**0.92**
	MW-18D	*
Lower Regional Aquifer		
	MW-14R	*
	MW-20R	*
	MW-26R	*
Quality Control Samples		
	Field Blank	*
	Trip Blank	*

Notes:

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

Analyses performed by Eurofins TestAmerica in Denver, Colorado

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

BG = Background

µg/L = micrograms per liter

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

— = not analyzed or not applicable

Table 7. Duplicate Sample Evaluation
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Parameter	MRL	MW-11S	MW-11S (Duplicate)	RPD (%)
Dissolved Metals (mg/L)				
Calcium	0.2	25	25	0.0
Magnesium	0.1	7.5	7.6	1.3
Potassium	2.0	5.7	5.8	1.7
Sodium	1.0	20	20	0.0
Inorganic Parameters (mg/L)				
Alkalinity	10.0	81	80	1.2
Chloride	0.6	34	34	0.0
Nitrate	0.2	3.9	3.9	0.0
Sulfate	0.5	8.4	8.4	0.0
Total Dissolved Solids	10	32	140	125.6
Total Organic Carbon	1.0	1.5	1.4	6.9

Notes:

Analysis performed by Eurofins TestAmerica in Denver, Colorado

Analytes not listed were not present at concentrations exceeding the MRL

H = Parameter analyzed outside specified holding time

RPD = relative percent difference

mg/L = milligrams per liter

*= RPD based on result as compared to the Reporting Limit (RL) for a non-detection in the compared sample

Table 8. Water Supply Wells
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Parameter	Units	MRL	Corliss	Paul Bunyan
Field Parameters				
pH	SU	—	7.32	7.36
Specific Conductivity	µS/cm	—	187	295
Temperature	°C	—	8.8	9.7
Volatile Organic Compounds				
2-Butanone (MEK)	µg/L	0.5	*	*
Acetone	µg/L	0.5	*	*
Metals (total)				
Arsenic	mg/L	0.005	*	*
Iron	mg/L	0.01	0.260	0.013
Manganese	mg/L	0.001	*	*
Zinc	mg/L	0.01	0.024	*
Inorganic Parameters				
Ammonia	mg/L	0.1	*	*
Chemical Oxygen Demand	mg/L	10	—	—
Chloride	mg/L	1.2	7.3	5.6
Nitrate	mg/L	0.2	2.1	1.0
Nitrite	mg/L	0.5	*	*
Sulfate	mg/L	0.2	12	14
Total Organic Carbon	mg/L	1.0	*	*
Other				
Color	PCU	5.0	*	*

Notes:

Analyses performed by Eurofins TestAmerica in Denver, Colorado.

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

Color reported in color units

°C = degrees Celsius

mg/L = milligrams per liter

PCU = platinum-cobalt units

SU = Standard Units

µS/cm = microsiemens per centimeter

µg/L = micrograms per liter

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

— = Not Applicable

^ = The Paul Bunyon water supply well was resampled on 3/31/22

Table 9. Cation-Anion Balance
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Cations	mg/L					meq/L					% of Total		
	Ca	Mg	K	Na	Total	Ca	Mg	K	Na	Total	Na+K	Ca	Mg
MW-10S	34	10	2.2	9.2	55.40	1.70	0.82	0.06	0.40	2.98	15	57	28
MW-11S	25	7.5	5.7	20	58.20	1.25	0.62	0.15	0.87	2.88	35	43	21
MW-12S	23	6.6	10	17	56.60	1.15	0.54	0.26	0.74	2.69	37	43	20
MW-13S	21	5.9	2.9	11	40.80	1.05	0.49	0.07	0.48	2.09	26	50	23
MW-14S	32	9.5	6.8	20	68.30	1.60	0.78	0.17	0.87	3.42	31	47	23
MW-15S	25	7.7	9.1	16	57.80	1.25	0.63	0.23	0.70	2.81	33	44	23
MW-17S	28	9.2	15	21	73.20	1.40	0.76	0.38	0.91	3.45	38	40	22
MW-18S	31	9.3	8.0	21	69.30	1.55	0.77	0.20	0.91	3.43	33	45	22
MW-29S	25	7.3	3.3	22	57.60	1.25	0.60	0.08	0.96	2.89	36	43	21
FMMW-1	19	5.4	2.8	18	45.20	0.95	0.44	0.07	0.78	2.25	38	42	20
FMMW-2	35	11	12	24	82.00	1.75	0.91	0.31	1.04	4.00	34	44	23
MW-10D	36	11	2.2	9.5	58.70	1.80	0.91	0.06	0.41	3.17	15	57	29
MW-11D(2)	20	8.7	2.3	8.2	39.20	1.00	0.72	0.06	0.36	2.13	20	47	34
MW-12D	33	13	3.2	21	70.20	1.65	1.07	0.08	0.91	3.71	27	44	29
MW-13D	27	10	2.6	11	50.60	1.35	0.82	0.07	0.48	2.72	20	50	30
MW-14D	27	8.1	8.3	14	57.40	1.35	0.67	0.21	0.61	2.84	29	48	24
MW-15D	27	11	3.0	19	60.00	1.35	0.91	0.08	0.83	3.16	29	43	29
MW-18D	24	9.4	2.9	12	48.30	1.20	0.77	0.07	0.52	2.57	23	47	30
MW-14R	8.8	5.0	2.2	5.7	21.70	0.44	0.41	0.06	0.25	1.15	26	38	36
MW-20R	8.8	4.5	2.3	6.0	21.60	0.44	0.37	0.06	0.26	1.13	28	39	33
MW-26R	23	10	2.5	6.9	42.40	1.15	0.82	0.06	0.30	2.33	16	49	35

Anions	mg/L					meq/L					% of Total			Total Ions (meq/L)	Cation - Anion Balance	Applicable Ratio (%)	Ratio Exceedance
	Alk	Cl	NO_3	SO_4	Total	Alk	Cl	NO_3	SO_4	Total	Cl	Alk	SO_4				
MW-10S	94	8.3	0.20	10	112.50	1.54	0.23	0.00	0.21	1.99	12	78	10	4.96	19.93	10	Exceeds
MW-11S	100	34	3.9	8.4	146.30	1.64	0.96	0.06	0.17	2.84	34	58	6	5.72	0.78	5	-
MW-12S	56	11	8.0	15	90.00	0.92	0.31	0.13	0.31	1.67	19	55	19	4.36	23.35	10	Exceeds
MW-13S	61	15	1.9	9.8	87.70	1.00	0.42	0.03	0.20	1.66	26	60	12	3.74	11.44	10	Exceeds
MW-14S	48	20	0.20	3.2	71.40	0.79	0.56	0.00	0.07	1.42	40	55	5	4.84	41.33	10	Exceeds
MW-15S	140	9.2	0.20	3.2	152.60	2.30	0.26	0.00	0.07	2.63	10	87	3	5.44	3.40	5	-
MW-17S	160	12	0.20	10.0	182.20	2.62	0.34	0.00	0.21	3.17	11	83	7	6.63	4.20	5	-
MW-18S	180	14	4.9	14	212.90	2.95	0.39	0.08	0.29	3.72	11	79	8	7.15	4.01	5	-
MW-29S	120	12	0.20	15	147.20	1.97	0.34	0.00	0.31	2.62	13	75	12	5.51	4.87	5	-
FMMW-1	92	9.2	1.3	14	116.50	1.51	0.26	0.02	0.29	2.08	12	73	14	4.33	3.86	10	-
FMMW-2	130	21	10	8.8	169.80	2.13	0.59	0.16	0.18	3.07	19	69	6	7.07	13.22	5	Exceeds
MW-10D	76	5.2	1.8	8.0	91.00	1.25	0.15	0.03	0.17	1.59	9	78	10	4.76	33.26	10	Exceeds
MW-11D(2)	87	5.6	1.9	8.7	103.20	1.43	0.16	0.03	0.18	1.80	9	79	10	3.93	8.49	10	-
MW-12D	140	9.0	0.92	7.7	157.62	2.30	0.25	0.01	0.16	2.72	9	84	6	6.44	15.34	5	Exceeds
MW-13D	110	13	1.4	12	136.40	1.80	0.37	0.02	0.25	2.44	15	74	10	5.16	5.29	5	Exceeds
MW-14D	98	12	0.20	9.8	120.00	1.61	0.34	0.00	0.20	2.15	16	75	9	4.99	13.69	10	Exceeds
MW-15D	130	9.1	0.20	10	149.30	2.13	0.26	0.00	0.21	2.60	10	82	8	5.76	9.66	5	Exceeds
MW-18D	110	6.9	1.8	8.1	126.80	1.80	0.19	0.03	0.17	2.20	9	82	8	4.76	7.80	10	-
MW-14R	53	1.8	0.20	4.2	59.20	0.87	0.05	0.00	0.09	1.01	5	86	9	2.17	6.67	10	-
MW-20R	46	1.8	0.20	3.6	51.60	0.75	0.05	0.00	0.07	0.88	6	85	8	2.01	12.23	10	Exceeds
MW-26R	100	5.3	0.20	11.0	116.50	1.64	0.15	0.00	0.23	2.02	7	81	11	4.36	7.19	10	-

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

Table 10. Leachate Monitoring Results
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Parameters	MRL	Leachate-East Area	Leachate-Side Slope	Leak Detection-Side Slope	Hydraulic Gradient Control System
Volatile Organics (µg/L)					
1,4-Dichlorobenzene	0.5-0.8	2.7	*	*	*
2-Butanone (MEK)	6.0	22	*	*	*
Acetone	10.0	20	*	*	*
Benzene	0.5-0.8	0.92	2.0	1.8	*
Carbon disulfide	0.5-0.84	*	2.1	*	*
cis-1,2-Dichloroethene	0.5-0.75	*	*	2.6	*
Ethylbenzene	1.0	1.7	1.3	*	*
m-Xylene & p-Xylene	0.5-0.77	4.2	0.64	*	*
o-Xylene	0.5-0.95	2.3	0.67	*	*
Toluene	0.5-0.85	3.0	1.9	0.81	*
Total Metals (mg/L)					
Calcium	0.2-0.78	81	15	42	99
Iron	0.01-0.02	3.68	2.07	1.66	2.50
Magnesium	0.1-0.26	42	23	31	27
Manganese	0.005	1.8	0.088	0.32	3.5
Potassium	2-2.4	200	520	410	3.5
Sodium	1-3.7	1,900	7,000	5,600	18
Inorganic Parameters (mg/L)					
Alkalinity	10	3,300	7,200	5,600	380
Ammonia	0.1-2.2	240	540	290	*
Chloride	0.2-60	2,000	19,000	15,000	1.4
Nitrate as N	0.5-0.9	* H	*	*	* H
Sulfate	0.2-5.0	43	1,100	1,000	15
Total Dissolved Solids	10-470	6,700	23,000	18,000	420
Total Organic Carbon - Quad	1-35	340	870	670	2.0
Total Suspended Solids	4.0	8.0	*	5.6	*
Field Parameters					
Dissolved Oxygen (mg/L)	—	5.25	0.49	2.93	8.01
Oxidation Reduction Potential (mV)	—	-83.4	269.2	-202.6	274.8
pH (SU)	—	7.17	8.04	7.59	6.59
Specific Conductivity (µS/cm)	—	12,261	35,383	27,080	706
Temperature (°C)	—	18.9	28.5	27.6	20.1
Turbidity (NTU)	—	126.0	21.1	565.0	12.6

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

Table 6. Appendix I Total Metals
Semi-Annual Monitoring Event No. 1 - January 2023
Hidden Valley Landfill, Pierce County, Washington

Location	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.002	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.002	0.02	0.005	0.01	0.005	0.01	0.01
WAC 173-200 Criteria	—	0.00005	1.0	—	0.01	0.05	—	1.0	0.05	—	0.01	0.05	—	—	5.0
Shallow Perched Aquifer															
(BG) MW-10S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11S	*	*	0.010	*	*	*	*	*	*	*	*	*	*	*	*
MW-12S	*	*	0.018	*	*	*	*	*	*	*	*	*	*	*	0.78
MW-13S	*	*	0.005	*	*	*	*	*	*	*	*	*	*	*	*
MW-14S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-15S	*	*	0.013	*	*	*	*	*	*	*	*	*	*	*	*
MW-17S	*	*	0.028	*	*	*	*	*	*	*	*	*	*	*	*
MW-18S	*	*	0.015	*	*	*	*	*	*	*	*	*	*	*	*
MW-29S	*	**0.0085**	0.009	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-1	*	*	0.006	*	*	*	*	*	*	*	*	*	*	*	*
FMMW-2	*	*	0.019	*	*	*	*	*	*	*	*	*	*	*	*
Upper Regional Aquifer															
(BG) MW-10D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-11D(2)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-12D	*	*	0.006	*	*	*	*	*	*	*	*	*	*	*	*
MW-13D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-14D	*	*	0.010	*	*	*	*	*	*	*	*	*	*	*	*
MW-15D	*	*	0.019	*	*	*	*	*	*	*	*	*	*	*	*
MW-18D	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lower Regional Aquifer															
MW-14R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-20R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-26R	*	*	0.008	*	*	*	*	*	*	*	*	*	*	*	*

Notes:

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

Analyses performed by Eurofins TestAmerica in Denver, Colorado

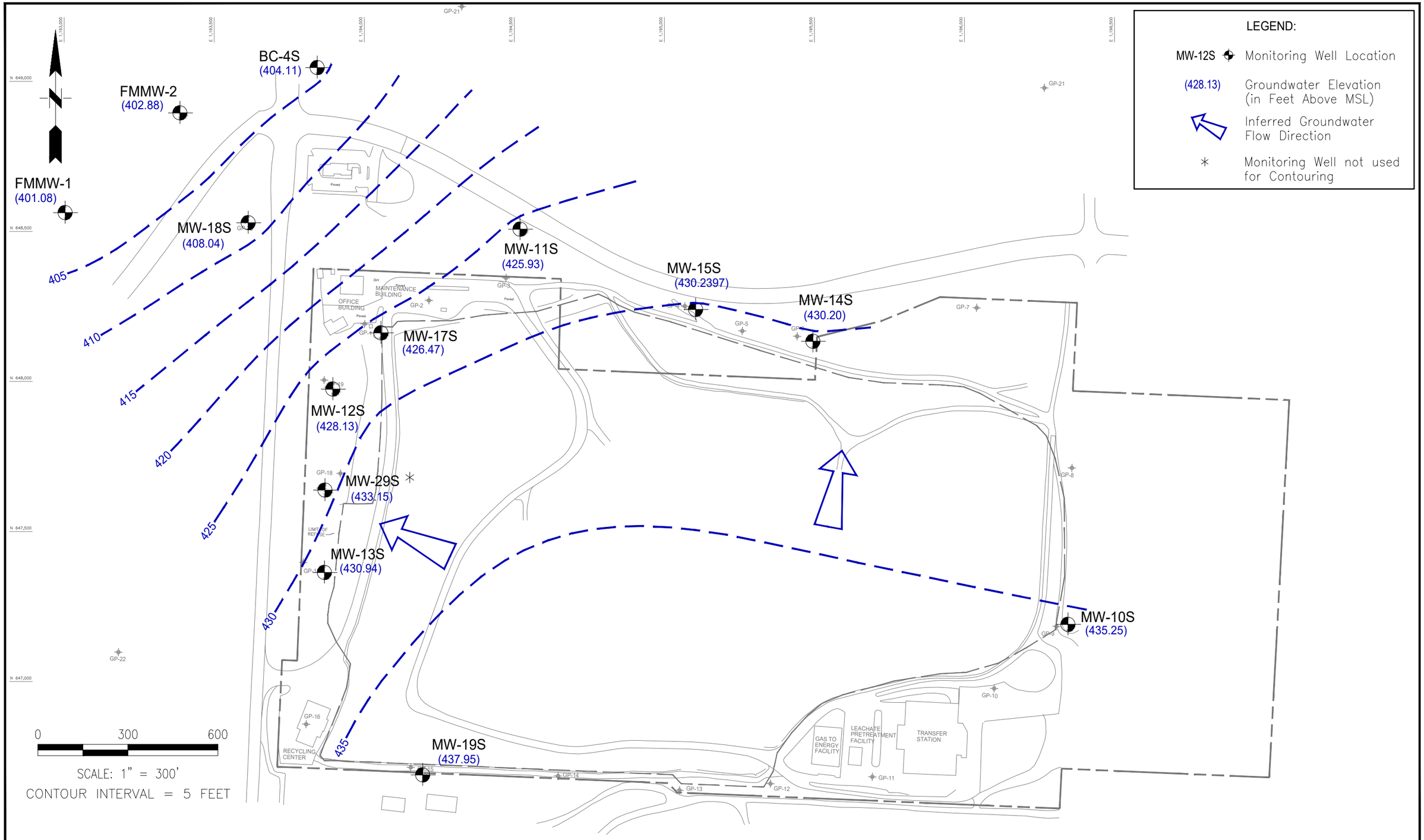
BG = Background Monitoring Well

mg/L = milligrams per liter

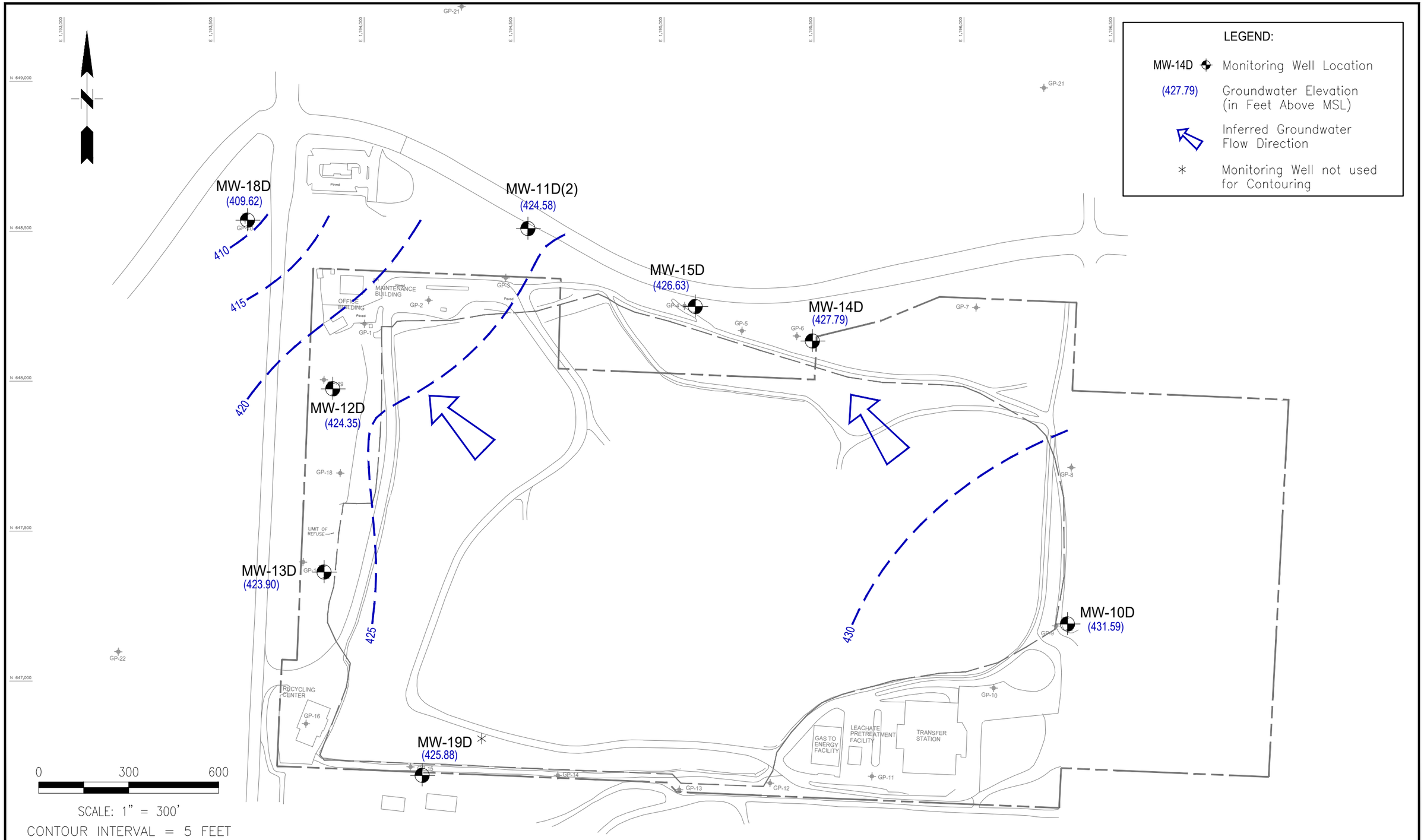
* = not reported at or above the MRL (Method Reporting Limit)

— = not analyzed or not applicable

Groundwater Potentiometric Surface Maps

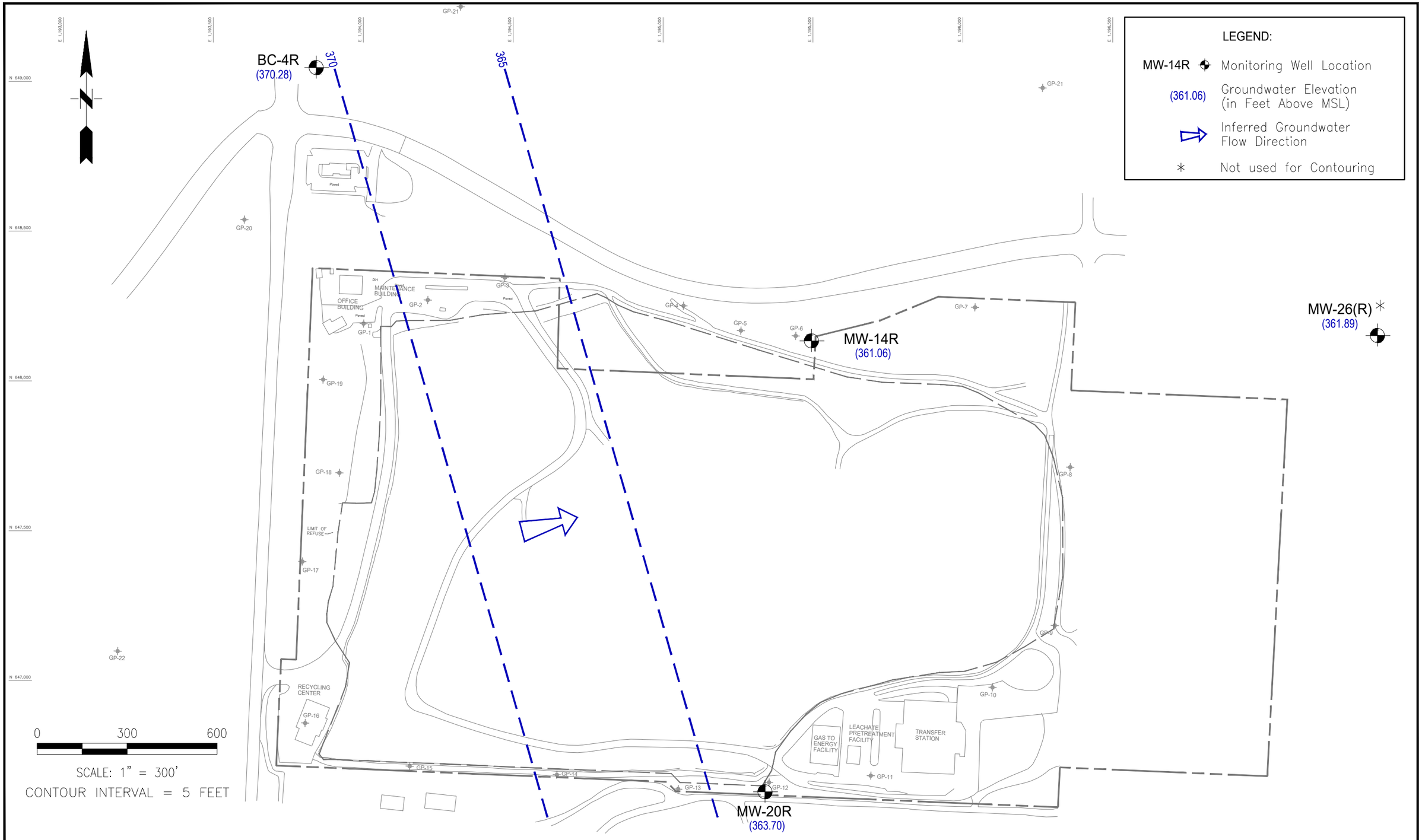


SCS ENGINEERS Environmental Consultants and Contractors 2405 140th Avenue NE, Suite 107 Bellevue, Washington 98005 (425) 746-4600 FAX: (425) 746-6747			PROJECT NO. 04223002.02 SCALE AS SHOWN CAD FILE FIGURE 1	DES BY AMD CHK BY KGL APP BY KGL	SHALLOW PERCHED AQUIFER WATER LEVEL MAP APRIL 12, 2023 HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	DATE MAY 2023 FIGURE 1



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

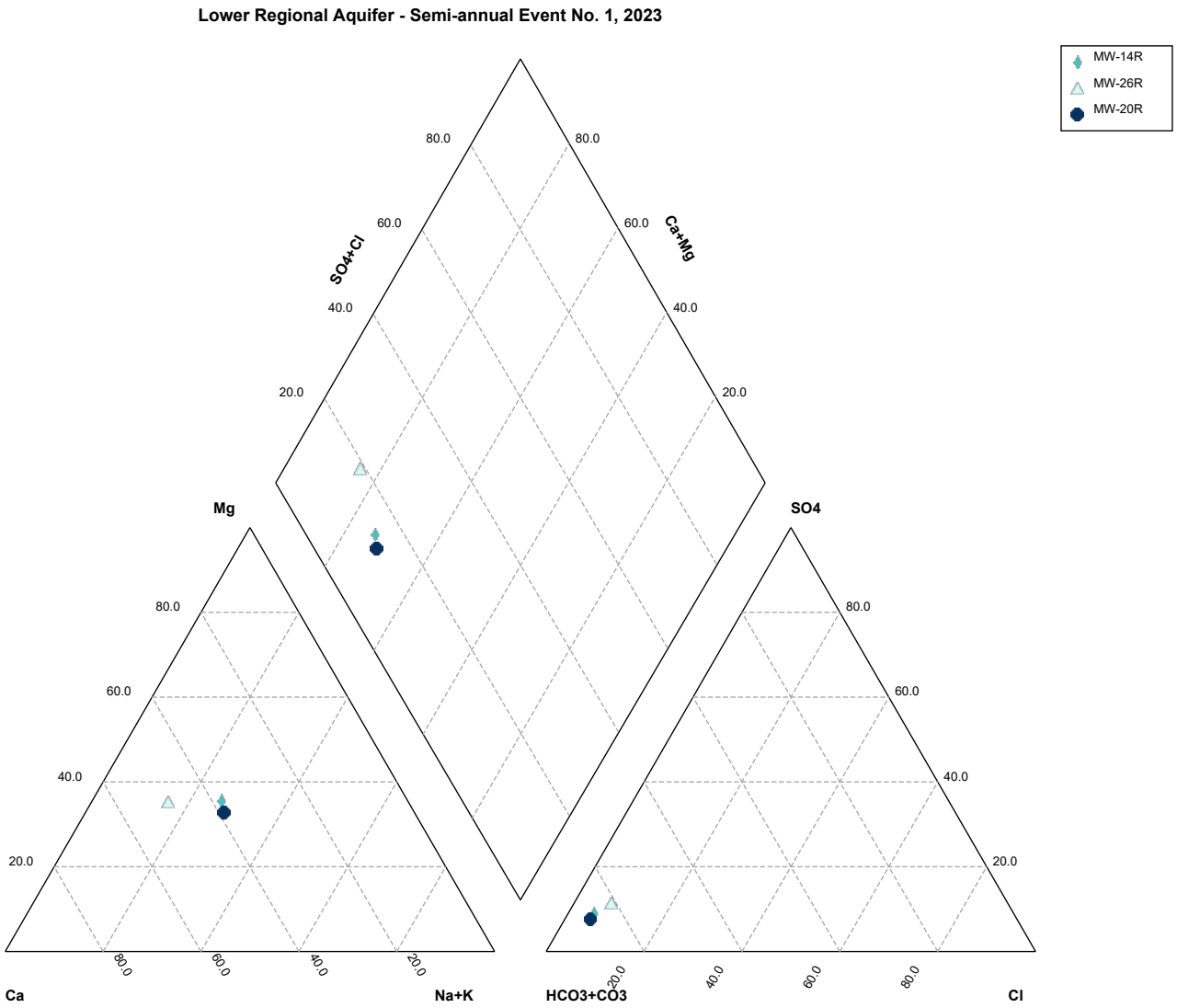
PROJECT NO. 04223002.02	DES BY AMD	UPPER REGIONAL AQUIFER WATER LEVEL MAP APRIL 12, 2023	DATE MAY 2023
SCALE AS SHOWN	CHK BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 2
CAD FILE FIGURE 2	APP BY KGL		



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

PROJECT NO. 04223002.02	DES BY AMD	LOWER REGIONAL AQUIFER WATER LEVEL MAP APRIL 12, 2023	DATE MAY 2023
SCALE AS SHOWN	CHK BY KGL	HIDDEN VALLEY LANDFILL PIERCE COUNTY, WASHINGTON	FIGURE 3
CAD FILE FIGURE 3	APP BY KGL		

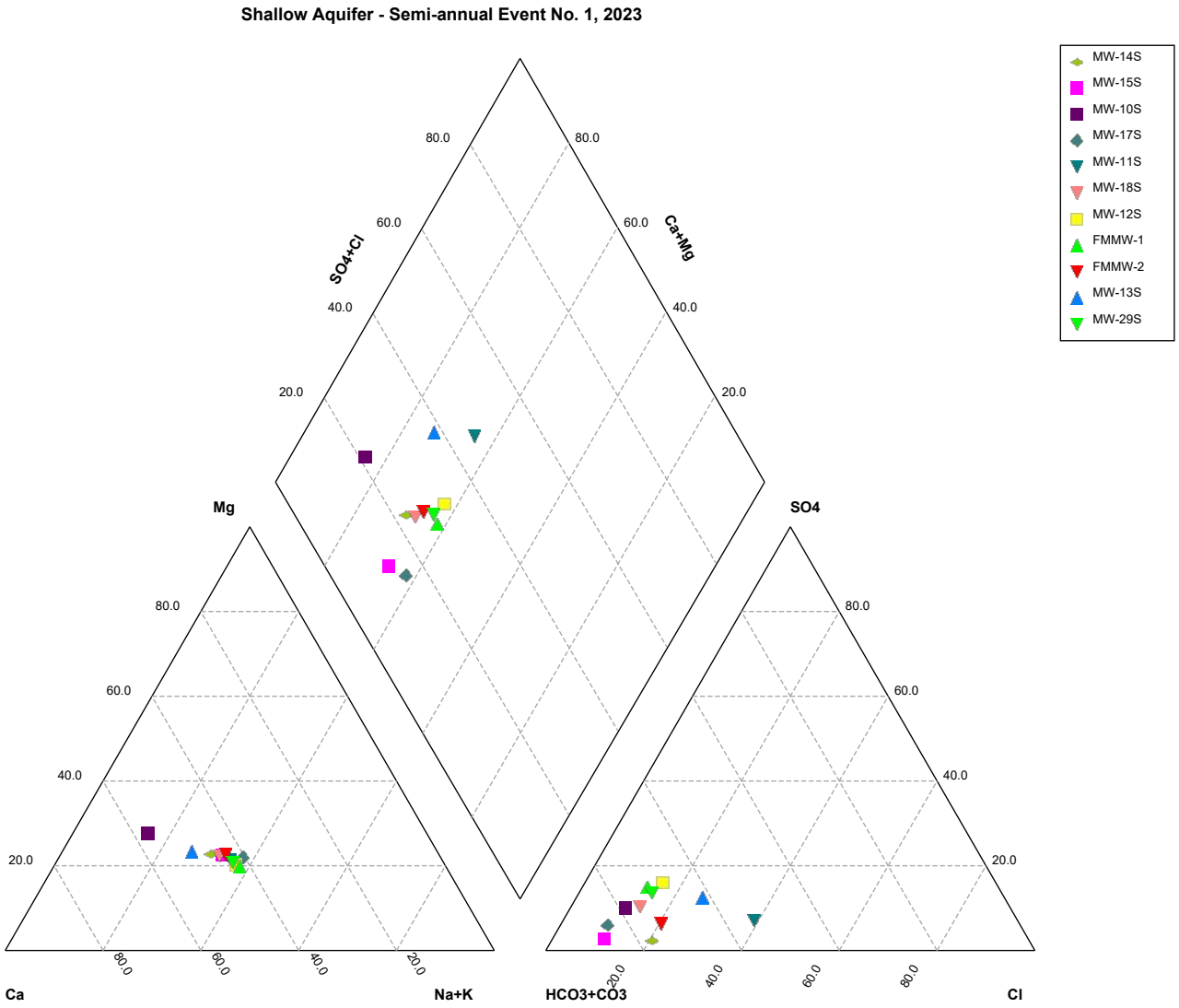
Trilinear Diagrams



Hidden Valley Landfill

Lower Regional Aquifer Trilinear Diagram

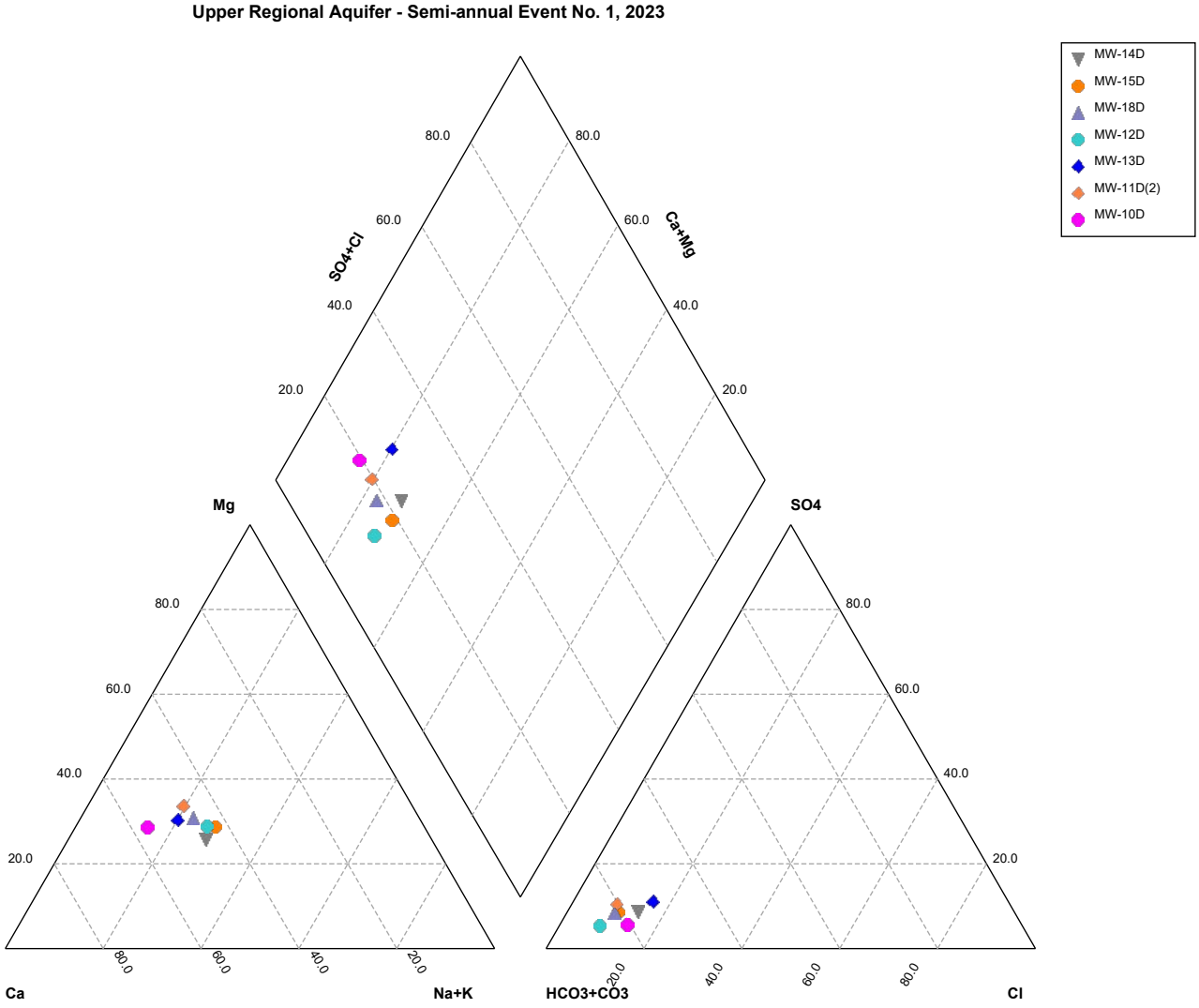
LRI Hidden Valley
04223002.03
June 19, 2023



Hidden Valley Landfill

Shallow Aquifer Trilinear Diagram

LRI Hidden Valley
04223002.03
June 19, 2023

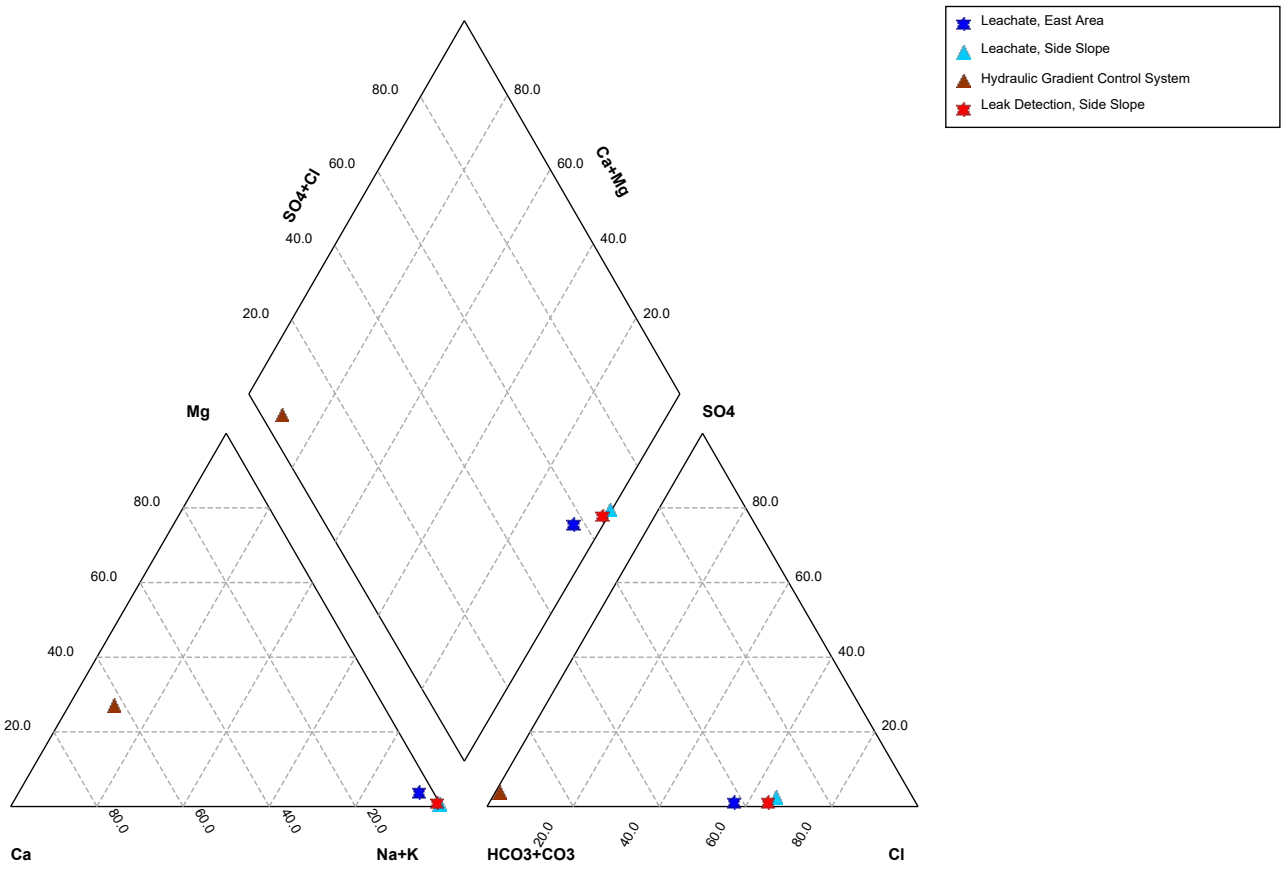


Hidden Valley Landfill

Upper Regional Aquifer Trilinear Diagram

LRI Hidden Valley
04223002.03
June 19, 2023

Leachate and Leak Detection Locations - Semi-annual Event No. 1, 2023



Hidden Valley Landfill

Leachate and Leak Detection Trilinear Diagram

LRI Hidden Valley
04223002.03
June 19, 2023

Field Sampling Data Sheets

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-145
Sample ID: HVL-012422-01
Date: 1/24/2023
Weather: Cloudy

51.1 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 10.5
Discharge 4.5
Pressure 35
Flow 500 ml/min

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1155		13.4°C	316.4	0.99	6.02	169.6	4.00	
1200		13.5	320.2	0.87	6.02	178.9	3.14	
1203		13.5	322.2	0.83	6.02	182.6	3.12	
1206		13.5	325.2	0.78	6.02	186.6	2.96	
1209		13.5	326.1	0.76	6.02	186.6	2.89	
1212		13.5	324.1	0.75	6.02	191.0	2.84	
1215		13.5	324.9	0.73	6.02	192.8	2.78	

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: ~~0422002.03~~ 04223002.02
Site: Hidden Valley Landfill
Well ID: MW-11S
Sample ID: HVL-012523-02
Date: 1/25/2023
Weather: Overcast

94.10' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill: 8
Discharge: 7
Pressure: 60
Flow: 250 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

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.
~~1420~~		13.71	301	2.23	5.90	-74.1	1.38	
1425		13.21	303	1.30	5.86	-77.7		
1428		13.04	303	1.24	5.83	-77.4		
1431		12.76	303	1.22	5.80	-76.7		
~~1434~~		~~12.71~~						
~~1436~~ 1536		12.71	299	4.34	5.42	-56.6		
~~1437~~ 1539		13.96	302	1.30	5.78	-78.0		
~~1440~~ 1542		13.97	302	1.20	5.78	-78.4	0.37	
1545		13.96	302	1.11	5.76	-77.9		

Notes / Observations (color, odor, anomalies, etc):

Nitrogen tank ran out of gas @ ≈ 14:32

Re-start w/ CO_2 @ 15:36

Duplicate collected as HVL-012523-04 @ 16:00

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-14D
Sample ID: HVL-012423-03
Date: 1/24/2023
Weather: cloudy

53.62 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 50
Flow 700ml/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1240		13.0	302.6	0.72	6.27	-5.1	3.15	
1245		13.0	302.9	0.71	6.28	-9.5	3.02	
1248		13.0	303.2	0.73	6.28	-11.5	3.00	
1252		12.9	303.4	0.71	6.29	-12.9	2.74	
1254		12.9	303.5	0.72	6.29	-13.7	2.70	
1257		12.9	303.6	0.71	6.29	-14.1	2.59	
1300		12.9	303.7	0.70	6.29	-14.4	2.51	

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-14R
Sample ID: HVL-012423-05
Date: 1/24/2023
Weather: cloudy

119.2 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 90
Flow 300 ml/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
1100		12.0	104.0	6.68	6.52	238.3	3.30	
1105		11.5	107.2	0.83	7.14	-32.4	2.96	
1108		11.2	107.7	0.67	7.39	-57.1	2.89	
1111		11.2	107.8	0.64	7.46	-70.4	2.83	
1114		11.1	107.9	0.62	7.52	-80.5	2.81	
1117		11.1	107.9	0.61	7.53	-82.9	2.84	
1120		11.1	107.9	0.61	7.53	-83.3	2.82	

Notes / Observations (color, odor, anomalies, etc):

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: ~~04220002.032~~ 04223002.02
Site: Hidden Valley Landfill
Well ID: MW-11D (2)
Sample ID: HVL-012623-06
Date: 1/26/2023
Weather: Overcast

94.95 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure ~~80~~ 90
Flow 330 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
1010		13.42	201	4.64	6.61	-38.7	0.94	
1015		13.42	202	4.15	6.66	-53.4		
1018		13.46	201	4.06	6.62	-52.5		
1021		13.44	202	4.06	6.62	-52.0		
1024		13.46	202	4.04	6.61	-51.5		
1027		13.48	202	4.02	6.61	-51.3	0.45	
1030		13.49	202	4.00	6.61	-51.5		

Notes / Observations (color, odor, anomalies, etc):

250 mL / 0.75 min = 330 mL/min

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-15S
Sample ID: HVL-01223-07
Date: 1/ /2023
Weather: overcast, misting

76.55 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 / YSI

CONTROL SETTINGS:
Refill: 8
Discharge: 7
Pressure: 60
Flow: 417 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

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		14.98	306	0.82	5.89	-89.5	0.40	
1220		15.05	306	0.32	5.82	-101.9		
1223		15.12	307	0.29	5.76	-102.8		
1226		15.09	307	0.32	5.75	-105.9		
1229		15.10	307	0.27	5.74	-107.0		
1232		15.11	307	0.26	5.73	-107.8	0.56	
1235		15.13	307	0.24	5.73	-108.9		

Notes / Observations (color, odor, anomalies, etc):

250 mL / 0.60 min = 417 mL/min

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-18D
Sample ID: HVL-012523-08
Date: 1/ 25/2023
Weather: Cloudy

132.17 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:

Refill 11
Discharge 9
Pressure 90
Flow 200 ml/min

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1140		10.2	243.0	7.28	7.23	123.1	3.20	
1145		14.1	245.7	3.09	6.77	126.6	2.77	
1148		14.2	245.6	3.06	6.77	126.4	2.78	
1151		14.3	245.6	3.03	6.78	125.9	2.74	
1154		14.2	245.7	3.01	6.78	126.6	2.74	
1157		14.3	245.6	3.01	6.78	127.2	2.77	
1200		14.3	245.6	3.00	6.78	127.6	2.76	

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-15D
Sample ID: HVL-012423-09
Date: 1/ /2023
Weather: Overcast, lt. rain

82.46 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 60
Flow 500 mL/m

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
1125		14.12	275	3.82	6.37	-83.9	2.49	
1130		13.84	283	1.31	6.29	-90.5		
1133		13.77	284	1.22	6.26	-91.7		
1136		13.75	284	1.03	6.24	-93.3		
1139		13.74	283	1.00	6.23	-94.4		
1142		13.72	284	1.10	6.24	-95.8		
1145		13.71	284	0.97	6.24	-97.0	0.86	

Notes / Observations (color, odor, anomalies, etc):

$\frac{250\ mL}{0.5\ min} = 500\ \frac{mL}{m}$

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-18S
Sample ID: HVL-012523-10
Date: 1/25/2023
Weather: Cloudy

133.39 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 12
Discharge 8
Pressure 80
Flow 200 ml/min
1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1230		11.5	291.3	5.54	6.56	132.4	2.77	
1235		13.7	337.2	2.16	6.21	154.3	2.67	
1238		14.0	342.8	1.91	6.21	159.2	2.73	
1241		14.5	343.4	1.87	6.21	161.1	2.64	
1244		14.7	343.8	1.85	6.21	162.5	2.67	
1247		14.7	343.6	1.83	6.21	164.4	2.64	
1250		14.5	344.0	1.83	6.21	165.1	2.65	

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

SAMPLER: Jovany Estrada
Printed Name

JE
Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-105
Sample ID: HVL-012423-11
Date: 1/24/2023
Weather: cloudy

28.4 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.26 gallons
Refill: 9 One Well Volume (liters): Other:
Discharge: 6 Flow Setting:
Pressure: 30 Total Volume Bailed (liters):
Flow: 300 ml/min

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.
2:10	8'	11.8	259.4	3.01	6.76	91.4	4.46	
2:15		12.5	263.3	2.67	6.49	141.0	2.72	
2:18		12.5	263.1	2.65	6.49	145.2	2.58	
2:21		12.5	263.1	2.63	6.49	152.5	2.59	
2:24		12.5	263.1	2.63	6.49	158.4	2.91	
2:27		12.5	263.1	2.62	6.49	158.1	2.58	
2:30		12.5	263.1	2.62	6.49	160.5	2.58	

Notes / Observations (color, odor, anomalies, etc):

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

SAMPLER: Jovany Estrada
Printed Name

JC
Signature

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

Groundwater Sampling Data Sheet

Project #: ~~0422000200~~ 04223C02.02
Site: Hidden Valley Landfill
Well ID: MW-26R
Sample ID: HVL-012123-12
Date: 1/ /2023
Weather: Overcast

123.5' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 75
Flow 333 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
~~1330~~								
1330		11.37	214	0.87	6.81	-177.7	0.71	
~~1335~~								
1335		11.40	213	0.40	6.79	-191.1	—	
1338		11.40	211	0.33	6.77	-186.6	—	
1341		11.41	211	0.31	6.77	-180.7	—	
1344		11.39	215	0.29	6.78	-174.7	—	
1347		11.38	217	0.26	6.80	-168.9	—	
1350		11.36	219	0.25	6.81	-164.9	0.33	

Notes / Observations (color, odor, anomalies, etc):

Measured DTW 2x to ensure accuracy

$\frac{250\ mL}{0.75\ min} = 333\ \frac{mL}{min}$

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03 04223002.02
Site: Hidden Valley Landfill
Well ID: MW 20R
Sample ID: HVL-012423-14
Date: 1/ /2023
Weather: overcast

109.20 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 / YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 70
Flow 300 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
~~1435~~	109.20	11.26	101	21.18	6.59	-96.2	0.33	
1440		10.58	99	2.96	6.43	-117.3		
1443		10.55	100	2.74	6.44	-117.7		
1446		10.53	100	2.37	6.47	-117.9		
1449		10.51	98	1.95	6.49	-119.0		
1452		10.48	100	1.85	6.50	-119.7	0.33	
1455		10.48	100	1.75	6.50	-120.2		

Notes / Observations (color, odor, anomalies, etc):

$\frac{250\ mL}{(50/60)\ min} = 300\ \frac{mL}{min}$

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

SAMPLER: John Faille
Printed Name

Signature

SCS ENGINEERS

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-10D
Sample ID: HVL-012423-16
Date: 1/24/2023
Weather: Cloudy

325 DTW
TOS
Intake
BOS
Total Depth

Sampling Method : Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.26 gallons

Refill 9
Discharge 6
Pressure 40
Flow 400ml/min

One Well Volume (liters)
Total Volume Bailed (liters)
Other :
Flow Setting :

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1330		11.4	252.8	3.90	6.67	67.5	2.99	
1335		12.2	232.4	2.54	6.56	102.5	2.76	
1338		12.2	229.6	2.25	6.54	115.3	2.66	
1341		12.2	231.8	2.21	6.53	124.0	3.15	
1344		12.1	261.7	2.46	6.52	132.8	5.78	
1347		12.1	273.7 MW	2.54	6.51	138.0	5.53	
1350		12.1	277.4	2.56	6.51	141.4	4.54	

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

SAMPLER: Jovany Estrecola
Printed Name

JE
Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: HVL-012523-18 S
Sample ID: MW-12D
Date: 1/25/2023
Weather: Cloudy

69.14 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 50
Flow 350 ml/min

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1455		12.8	312.2	1.84	6.45	146.6	2.64	
1500		15.7	338.2	1.47	6.70	139.9	4.99	
1503		15.9	342.3	1.37	6.73	139.9	2.86	
1506		15.9	342.6	1.35	6.73	140.2	2.95	
1509		15.9	342.7	1.32	6.74	140.6	2.68	
1512		15.9	342.8	1.32	6.74	140.7	3.20	
1515		15.9	342.7	1.32	6.74	140.8	2.65	

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

SAMPLER: Jovany Estrada
Printed Name

JC
Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-125
Sample ID: HVL-012523-20
Date: 1/25/2023
Weather: Cloudy

65.28 DTW
TOS
Intake
BOS
96.00 Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters): 17.29
Other:
Total Volume Bailed (liters): 51.9
Flow Setting:

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.
1406		15.8	388.7	1.81	6.14	148.5	4.19	
1410		16.6	293.0	2.37	6.02	149.0	5.82	
1415		16.6	290.5	3.12	6.06	150.5	8.52	

Notes / Observations (color, odor, anomalies, etc):

10.72 ft × 0.62 L/ft × 0.26 gal/L =

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03 04223002.02
Site: Hidden Valley Landfill
Well ID: FMMW-1
Sample ID: HVL-012523-21
Date: 1/25/2023
Weather: Overcast

144.95' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 110
Discharge 4.5
Pressure 85
Flow 143 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
1140		13.48	214	5.08	6.25	-45.8	1.35	
1145		14.21	221	4.63	6.25	-49.8		
1148		14.12	221	4.55	6.22	-48.8		
1151		14.14	222	4.52	6.19	-46.2		
1154		14.09	222	4.53	6.19	-45.6		
1157		14.07	222	4.52	6.18	-45.2	0.35	
1200		14.11	222	4.52	6.18	-45.2		

Notes / Observations (color, odor, anomalies, etc):

$\frac{250\ mL}{1.75\ min} = 143\ \frac{mL}{min}$

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

SAMPLER: John Faille
Printed Name

Signature

SCS ENGINEERS

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-13D
Sample ID: HVL-012523-22
Date: 1/25/2023
Weather: cloudy

26.29 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:

Refill 9
Discharge 6
Pressure 45
Flow 250 ml/min

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
9:50		10.4	390.2	2.42	6.18	194.2	2.65	
9:55		12.0	266.5	2.03	6.11	179.3	2.69	
9:58		12.2	268.2	2.09	6.22	171.7	2.66	
1001		12.2	268.3	2.05	6.27	168.5	2.64	
1004		12.2	268.4	2.03	6.29	167.1	2.67	
1007		12.3	268.4	2.02	6.31	166.4	2.65	
1010		12.3	268.5	2.01	6.32	166.3	2.63	

Notes / Observations (color, odor, anomalies, etc):

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: ~~04220002.03~~ 04223002.02
Site: Hidden Valley Landfill
Well ID: FMMW-2
Sample ID: HVL-012523-23
Date: 1/25/2023
Weather: overcast

137.08' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 / YSI

CONTROL SETTINGS:
Refill: 8
Discharge: 7
Pressure: 85
Flow: 250 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

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.
1305		15.85	395	17.57	6.13	-67.6	0.47	
1310		15.96	410	0.80	6.00	-72.4		
1313		15.98	409	0.57	5.94	-73.5		
1316		16.08	408	0.45	5.92	-74.6		
1319		16.03	407	0.39	5.91	-76.1		
1322		16.03	406	0.34	5.90	-77.6	0.29	
1325		16.12	405	0.32	5.90	-78.4		

Notes / Observations (color, odor, anomalies, etc):
250 mL / 1 min = 250 mL/min

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

SAMPLER: John Faille
Printed Name

Signature

SCS ENGINEERS

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: MW-135
Sample ID: HVL-012623-24
Date: 1/26/2023
Weather: Cloudy

21.32 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 / YSI

CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.26 gallons

Refill: 9
Discharge: 6
Pressure: 40
Flow: 200 ml/min

One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

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.
1205		9.5	151.6	5.75	6.51	150.3	3.25	
1210		11.7	201.6	3.23	6.11	163.0	2.79	
1213		11.7	202.1	3.11	6.13	164.6	2.65	
1216		11.7	202.1	3.09	6.14	167.3	2.59	
1219		11.8	202.1	3.08	6.14	169.6	2.57	
1222		11.8	202.1	3.07	6.15	171.7	2.58	
1225		11.5	202.1	3.07	6.15	172.2	2.57	

Notes / Observations (color, odor, anomalies, etc):

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

SAMPLER: Jovani Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04223002.07
Site: Hidden Valley LF
Well ID: Field Blank
Sample ID: HVL-012623-25
Date: 1/26/25
Weather: Cloudy

DTW
TOS
Intake
BOS
Total Depth

Sampling Method : Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | (Grab) | Other

Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters) _____
Total Volume Bailed (liters) _____
Other : _____
Flow Setting : _____

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

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1130		9.6	0.7	7.99	7.95	70.5	0.28	

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

SAMPLER: Jovany Estrada
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: ~~04220002.03~~ 04223002.02
Site: Hidden Valley Landfill
Well ID: MW-29S
Sample ID: HVL-012623-26
Date: 1/26/2023
Weather: Overcast

17.50' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: (Dedicated) | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill: 10
Discharge: 5
Pressure: 2530
Flow: 500

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):
250 ml / 0.5 min = 500 ml/min

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1120		12.49	220	10.43	6.25	-62.0	109	
1125		12.64	233	1.62	6.29	-72.8		
1128		12.66	233	1.40	6.25	-73.0		
1131		12.66	237	1.17	6.22	-73.7		
1134		12.65	246	0.93	6.22	-75.3	15.1	
1137		12.66	253	0.76	6.24	-77.1	17.9	
1140		12.66	255	0.68	6.24	-78.2	17.4	

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002:03 04223002.02
Site: Hidden Valley Landfill
Well ID: MW-17S
Sample ID: HVL-01/2423-0427
Date: 1/27/2023
Weather: OVERCAST

129.50' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 8
Discharge 7
Pressure 80
Flow 200 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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.
10:20		17.15	413	3.00	6.14	-50.7	0.54	
10:25		17.50	416	0.54	5.76	-72.4		
10:28		17.36	418	0.47	5.70	-74.8		
10:31		17.32	418	0.43	5.67	-77.8		
10:34		17.44	418	0.39	5.66	-80.0		
10:37		17.51	418	0.37	5.65	-83.8		
10:40		17.56	418	0.35	5.64	-86.5	0.36	

Notes / Observations (color, odor, anomalies, etc):

None

$\frac{250\ mL}{1.25\ min\ (1:15)} = \frac{200\ mL}{min}$

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

SAMPLER: John Faille
Printed Name

Signature

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

Groundwater Sampling Data Sheet

Project #: 04220002.03
Site: Hidden Valley Landfill
Well ID: WS-Paul Bunyon
Sample ID: HVL-012623-28
Date: 1/26/2023
Weather: Cloudy

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | (Grab) | Other

DTW
TOS
Intake
BOS
Total Depth

Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1030		9.7	295.1	4.90	7.36	86.4	1.66	

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

SAMPLER: Jovany Estrada
Printed Name

Signature

SCS ENGINEERS

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

Groundwater Sampling Data Sheet

Project #: 04220002.03

Site: Hidden Valley Landfill

Well ID: WS - Corliss

Sample ID: HVL-012623-20

Date: 1/26/2023

Weather: Cloudy

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | (Grab) | Other

DTW

TOS

Intake

BOS

Total Depth

Meter: MP-20 (YSI)

CONTROL SETTINGS:

Refill

Discharge

Pressure

Flow

1 ft water = 0.62L

1L = 0.26 gallons

One Well Volume (liters)

Total Volume Bailed (liters)

Other :

Flow Setting :

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 / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1100		8.8	187.2	7.62	7.32	108.0	0.98	

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

SAMPLER: Jovany Estrada
Printed Name

Signature

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	1/24/2022					
Time	8:50					
Weather (sky or precip, temp)	cloudy					
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	140V	4.07	7.08	10.35		
Post Cal Reading	1413	4.00	7.00	8.50		
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	Jovany Estrada					
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental				YSI Pro DDS / HACH2000	
Calibration Location	HVL Office					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	1-24-23 ~~Ø~~					
Time	09:00					
Weather (sky or precip, temp)	Overcast					
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 800, 100 (20) ~~0.1~~	
Pre-Cal Reading	1301 µS/cm	3.87	7.91	8.00 mg/L	12.0	
Post Cal Reading	1413 µS/cm	4.00	7.00	8.50 mg/L	12.0	
Descrepancy	—					
Calib. Successful?	Yes					
Calibration by	JTF					
Instrument Type, ID	YSI Pro DDS / (YSI 556) / Rental				YSI Pro DDS / (HACH2000)	
Calibration Location	HVL Office					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	~~1~~ 1/25/2023					
Time	9:30 AM					
Weather (sky or precip, temp)	cloudy					
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1458	4.00	6.95	8.20		
Post Cal Reading	1413	4.00	7.00	8.5		
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	Jovanh ESTrada					
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental				YSI Pro DDS / HACH2000	
Calibration Location	MW 13					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Date	1-25-23					
Time	10:00					
Weather (sky or precip, temp)	overcast, 45°					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1441	3.81	6.85	9.32	—	
Post Cal Reading	1413	4.00	6.99	8.50 mg/L	—	
Descrepancy	—					
Calib. Successful?	Yes					
Calibration by	JTF					
Instrument Type, ID	YSI Pro DDS / (YSI 556) / Rental				YSI Pro DDS / (HACH2000)	
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

Date	1/26/23					
Time	9:45					
Weather (sky or precip, temp)	Cloudy					
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	0.8	4.08	7.40	8.5		
Post Cal Reading	1413	4.00	7.00	8.5		
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	Jovany Estrada					
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental				YSI Pro DDS / HACH2000	
Calibration Location	HVL office					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	1-26-23					
Time	09:40					
Weather (sky or precip, temp)	overcast					
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1390	3.86	7.04	8.24	—	
Post Cal Reading	1413	4.00	7.00	8.50	—	
Descrepancy	—					
Calib. Successful?	Yes					
Calibration by	John Faille					
Instrument Type, ID	YSI Pro DDS (YSI 556) / Rental				YSI Pro DDS / HACH2000	
Calibration Location	HVL					

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

Data Validation Report

SEMI-ANNUAL EVENT NO. 1 - 2023 DATA VALIDATION REPORT – HIDDEN VALLEY LANDFILL

Project Details

Project No.	04223002.02	**Site Name**	Hidden Valley Landfill
Data Validator	Jovany Estrada	**Data Level**	Level 2
Date	4/19/2023	**DV Tier**	Tier 1
QA Document	Hidden Valley Landfill Groundwater Monitoring Plan, October 18, 2018.		

Sample Login Summary

Sample Group	Sample Login Comments	Analytical Lab (Primary)
280-171660-1	No Comment.	Eurofins TestAmerica, Denver
280-171705-1	No Comment.	Eurofins TestAmerica, Denver
280-171769-1	No Comment.	Eurofins TestAmerica, Denver

Analytical Summary

Sample Group	Analyses						
	TDS/Alk/ NO3	Metals	NH3/TOC	VOCs	Anions	TSS	COD and Color
280-171660-1	X	X[2]	X	X	X	--	X
280-171705-1	X	X[1]	X	X	X	X	--
280-171769-1	X	X	X	X	X	X	X

Notes:

1. Dissolved metals (Ca, Mg, Na, K, Fe, Mn)
2. Total metals only (As, Fe, Mn, Zn).
3. Total metals (Ca, Mg, Na, K, Fe, Mn)
4. NO3 and NO2 only.

Laboratory Quality Assurance Samples

Lab QA Samples	Results	Comments
Method Blank	Acceptable.	See case narratives.
LCS/LCSD	Acceptable.	See case narratives.
MS/MSD	Acceptable.	See case narratives.
Organics	Acceptable.	See case narratives.
General Comments	Acceptable.	See case narratives.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
QC-TB	280-171660-1	None.	

Lab Quality Flags

Flag	Sample Groups	Comments
4	280-171660-1	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	280-171660-1	MS/MSD RPD exceeds control limits
F1	280-171660-1, 280-171705-1, 280-171769-1	MS and/or MSD recovery exceeds control limits.
J	280-171660-1, 280-171705-1, 280-171769-1	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	280-171660-1, 280-171705-1, 280-171769-1	Result exceeded calibration range.
^-	280-171660-1	Continuing Calibration Verification (CCV) is outside acceptance limits, low biased.
B	280-171705-1, 280-171769-1	Compound was found in the blank and sample.
H	280-171705-1	Sample was prepped or analyzed beyond the specified holding time

Duplicate Evaluation

Analyte	Units	MW-11S (HVL-012523-02)	MW-11S DUP (HVL-012523-04)	RPD (%)
Alkalinity	mg/L	81	80	1.24
Calcium, Dissolved	mg/L	25	25	0.00
Chloride	mg/L	34	34	0.00
Iron, Total	mg/L	0.01	0.01	0.00
Magnesium, Dissolved	mg/L	7.5	7.6	1.32
Nitrate as N	mg/L	3.9	3.9	0.00
Potassium, Dissolved	mg/L	5.7	5.8	1.74
Sodium, Dissolved	mg/L	20	20	0.00
Sulfate	mg/L	8.4	8.4	0.00
Total Dissolved Solids	mg/L	32	140	125.58
Total Organic Carbon	mg/L	1.5	1.4	6.90

U = Non-detection. Reporting limit (RL) used for calculation of RPD when necessary.

Additional Data Flags

Flag	Description
U	Not detected above the method reporting limit.

Qualified Data and Usability

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

Landfill Gas Monitoring Results

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4223002.03

PCRCD dba LRI

January 20, 2023

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	20-Jan-23	11:22	-0.16	0.0	4.0	12.5	--	--	
GP-1B	20-Jan-23	11:25	1.20	0.0	4.9	15.6	--	--	
GP-1C	20-Jan-23	11:28	0.70	0.0	1.1	18.9	--	--	
GP-2A	20-Jan-23	11:34	0.79	0.0	0.3	20.4	--	--	*Note 3*
GP-2B	20-Jan-23	11:37	1.08	0.0	0.1	20.7	--	--	
GP-3S	20-Jan-23	11:42	0.46	0.0	2.3	14.1	--	--	
GP-3M	20-Jan-23	11:45	0.04	0.0	6.0	3.7	--	--	
GP-3D	20-Jan-23	11:48	0.43	0.0	9.7	7.2	--	--	
GP-4A	20-Jan-23	12:03	0.07	0.0	0.3	20.7	--	--	
GP-4B	20-Jan-23	12:07	0.35	0.0	0.2	20.6	--	--	
GP-5A	20-Jan-23	12:12	0.07	0.0	0.1	20.7	--	--	
GP-5B	20-Jan-23	12:15	0.07	0.0	0.1	20.7	--	--	
GP-6	20-Jan-23	12:22	0.06	0.0	0.1	20.6	--	--	
GP-7S	20-Jan-23	12:28	0.51	0.0	0.3	20.4	--	--	
GP-7D	20-Jan-23	12:31	0.08	0.0	0.1	20.7	--	--	
GP-8A	20-Jan-23	12:38	0.07	0.0	3.4	17.9	--	--	
GP-8B	20-Jan-23	12:41	0.32	0.0	0.5	20.4	--	--	
GP-9	20-Jan-23	12:52	0.07	0.0	3.3	16.4	--	--	
GP-10	20-Jan-23	12:58	0.07	0.0	0.3	20.3	--	--	
GP-11	20-Jan-23	13:06	0.05	0.0	1.3	18.4	--	--	
GP-12	20-Jan-23	13:12	0.04	0.0	3.8	12.1	--	--	
GP-13A	20-Jan-23	13:18	0.50	0.0	4.6	14.5	--	--	
GP-13B	20-Jan-23	13:22	0.04	0.0	0.2	20.4	--	--	
GP-14S	20-Jan-23	13:27	0.50	0.0	4.9	16.3	--	--	
GP-14D	20-Jan-23	13:31	0.17	0.0	5.1	9.2	--	--	
GP-15A	20-Jan-23	13:36	0.42	0.0	3.8	14.1	--	--	
GP-15B	20-Jan-23	13:40	0.03	0.0	9.8	1.9	--	--	
GP-16A	20-Jan-23	13:46	0.02	0.0	3.0	16.8	--	--	
GP-16B	20-Jan-23	13:50	0.20	0.0	3.1	16.7	--	--	
GP-17	20-Jan-23	13:57	0.48	0.0	1.9	19.1	--	--	
GP-18	20-Jan-23	14:08	0.04	0.0	0.8	20.0	--	--	
GP-19	20-Jan-23	14:14	0.05	0.0	1.0	19.9	--	--	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

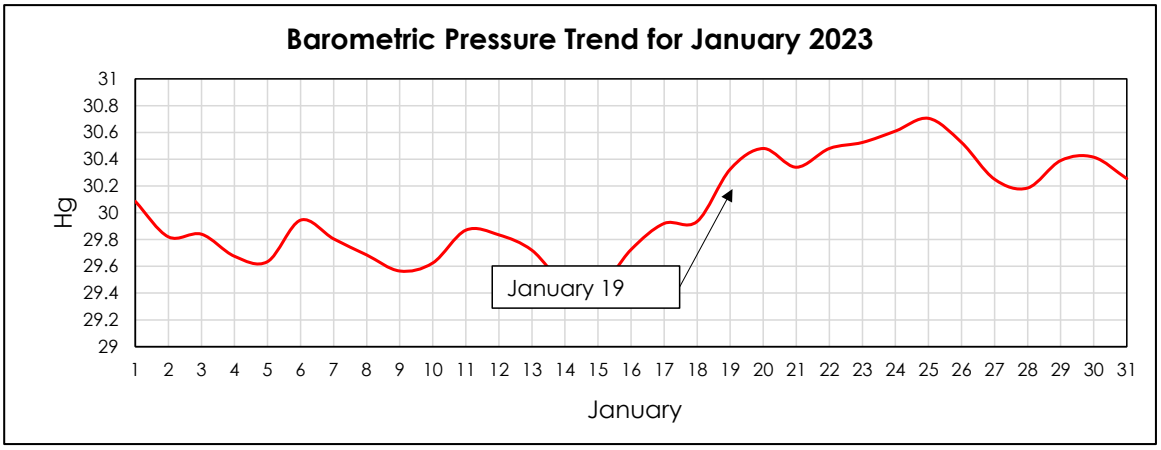
		Weather Conditions	
Monitored by:	J. Faille	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	20-Jan-23	Temperature (°F):	43

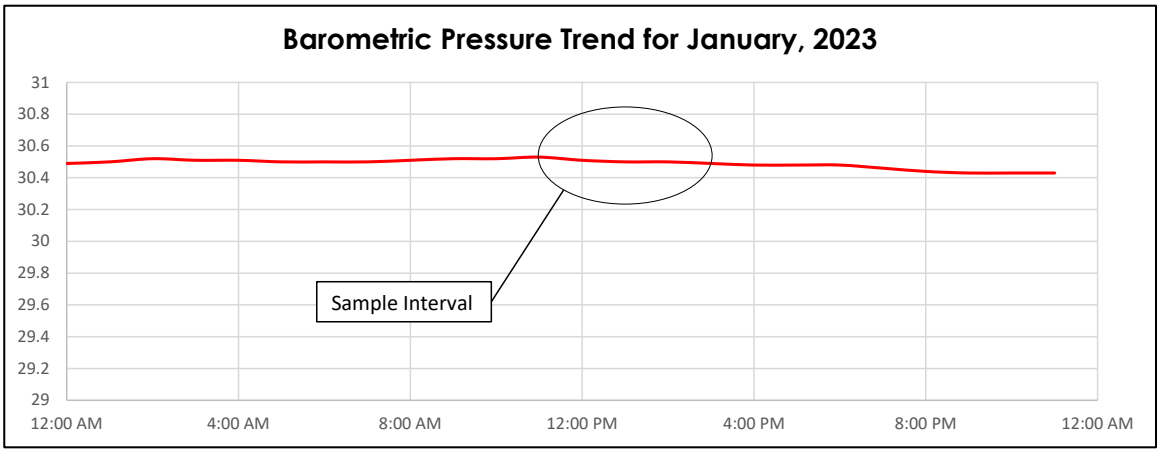
Notes

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

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

Barometric Pressure Trend - January 2023
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-01-20/2023-01-20/monthly

Daily Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-01-20/2023-01-20/daily

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4223002.03

PCRCD dba LRI

February 21, 2023

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	21-Feb-23	10:14	0.08	0.0	0.1	21.1	--	--	
GP-1B	21-Feb-23	10:17	0.08	0.0	4.8	17.0	--	--	
GP-1C	21-Feb-23	10:20	-0.05	0.0	6.0	14.7	--	--	
GP-2A	21-Feb-23	10:27	0.08	3.9	12.5	5.5	--	--	*Note 3*
GP-2B	21-Feb-23	10:30	0.04	0.0	0.6	21.0	--	--	
GP-3S	21-Feb-23	10:36	0.05	0.0	3.4	13.7	--	--	
GP-3M	21-Feb-23	10:43	-0.03	0.2	7.6	0.8	--	--	
GP-3D	21-Feb-23	10:40	0.12	0.0	8.7	3.9	--	--	
GP-4A	21-Feb-23	10:51	0.08	0.0	0.5	20.9	--	--	
GP-4B	21-Feb-23	10:54	0.05	0.0	0.2	21.3	--	--	
GP-5A	21-Feb-23	11:02	0.08	0.0	0.1	21.2	--	--	
GP-5B	21-Feb-23	11:06	0.08	0.0	0.1	21.1	--	--	
GP-6	21-Feb-23	11:12	0.08	0.0	0.1	21.1	--	--	
GP-7S	21-Feb-23	11:21	0.09	0.0	0.2	21.1	--	--	
GP-7D	21-Feb-23	11:24	0.08	0.0	0.3	20.9	--	--	
GP-8A	21-Feb-23	11:34	0.08	0.0	0.1	21.2	--	--	
GP-8B	21-Feb-23	11:37	0.09	0.0	0.1	21.2	--	--	
GP-9	21-Feb-23	11:45	0.09	0.0	2.8	18.8	--	--	
GP-10	21-Feb-23	11:53	0.08	0.0	0.3	21.2	--	--	
GP-11	21-Feb-23	12:01	0.09	0.0	1.9	15.8	--	--	
GP-12	21-Feb-23	12:10	0.09	0.0	0.2	21.1	--	--	
GP-13A	21-Feb-23	12:17	0.08	0.8	11.1	2.1	--	--	
GP-13B	21-Feb-23	12:20	0.08	0.0	0.5	21.0	--	--	
GP-14S	21-Feb-23	12:26	0.06	0.0	5.0	17.0	--	--	
GP-14D	21-Feb-23	12:29	0.06	0.0	5.1	10.8	--	--	
GP-15A	21-Feb-23	12:38	0.09	0.0	3.5	14.0	--	--	
GP-15B	21-Feb-23	12:41	0.08	0.0	9.3	4.4	--	--	
GP-16A	21-Feb-23	9:57	0.08	0.0	1.0	20.6	--	--	
GP-16B	21-Feb-23	10:00	0.08	0.0	0.6	21.0	--	--	
GP-17	21-Feb-23	12:47	0.09	0.0	1.0	20.5	--	--	
GP-18	21-Feb-23	12:58	0.09	0.0	0.7	20.3	--	--	
GP-19	21-Feb-23	13:03	0.09	0.0	0.3	21.1	--	--	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

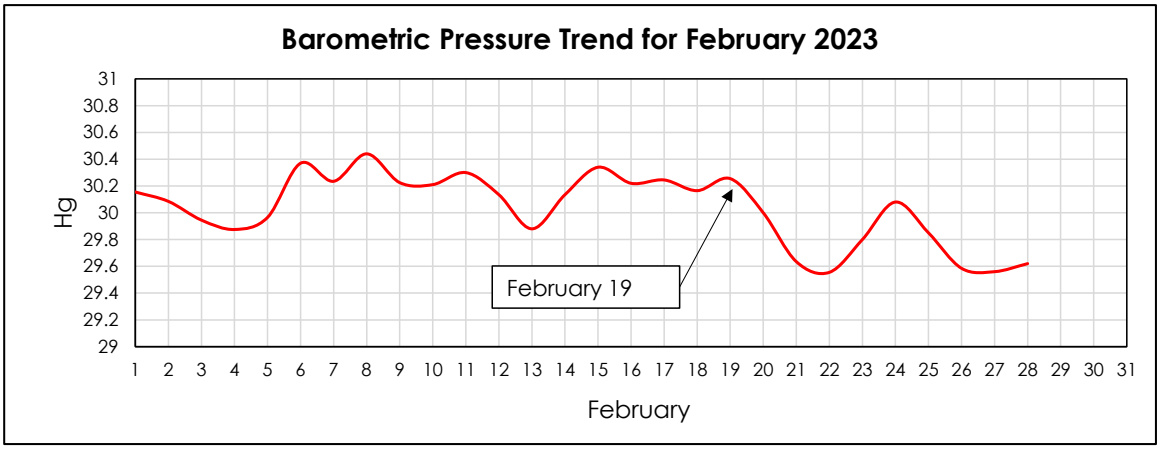
		Weather Conditions	
Monitored by:	L. Walker	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	Rain
Calibration Date:	21-Feb-23	Temperature (°F):	34

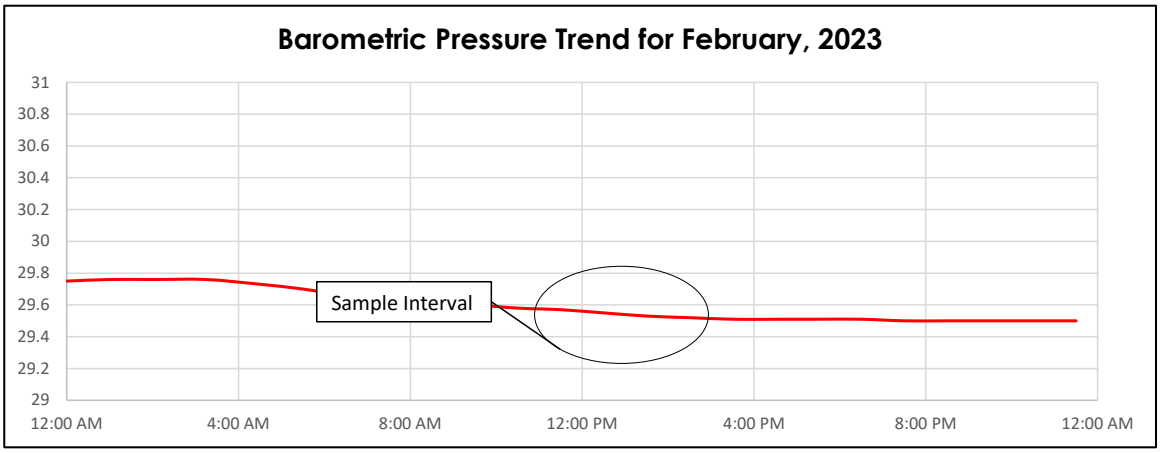
Notes

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

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

Barometric Pressure Trend - February 2023
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-02-21/2023-02-21/monthly

Daily Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-02-21/2023-02-21/daily

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4223002.03

PCRCD dba LRI

March 21, 2023

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	21-Mar-23	9:32	-0.01	0.0	2.6	16.8	--	--	
GP-1B	21-Mar-23	9:35	0.01	0.0	2.5	19.5	--	--	
GP-1C	21-Mar-23	9:38	0.12	0.0	1.1	20.3	--	--	
GP-2A	21-Mar-23	9:45	0.03	1.1	2.8	17.4	--	--	*Note 3*
GP-2B	21-Mar-23	9:49	0.01	0.0	0.2	21.9	--	--	
GP-3S	21-Mar-23	9:55	0.01	0.0	2.0	15.6	--	--	
GP-3M	21-Mar-23	9:58	0.01	1.5	5.4	5.4	--	--	
GP-3D	21-Mar-23	10:01	0.03	1.7	7.1	9.5	--	--	
GP-4A	21-Mar-23	10:10	0.02	0.0	0.4	22.0	--	--	
GP-4B	21-Mar-23	10:13	0.01	0.0	0.1	22.1	--	--	
GP-5A	21-Mar-23	10:20	0.00	0.0	0.1	21.8	--	--	
GP-5B	21-Mar-23	10:23	0.00	0.0	0.1	21.9	--	--	
GP-6	21-Mar-23	10:28	0.00	0.0	0.1	21.8	--	--	
GP-7S	21-Mar-23	10:35	-0.01	0.0	0.2	21.5	--	--	
GP-7D	21-Mar-23	10:38	0.00	0.0	0.1	21.8	--	--	
GP-8A	21-Mar-23	10:55	0.05	0.0	1.9	19.7	--	--	
GP-8B	21-Mar-23	10:58	0.33	0.0	1.2	19.7	--	--	
GP-9	21-Mar-23	11:06	0.01	0.0	1.0	20.8	--	--	
GP-10	21-Mar-23	11:13	0.01	0.0	0.2	22.0	--	--	
GP-11	21-Mar-23	11:21	0.02	0.0	0.7	20.5	--	--	
GP-12	21-Mar-23	11:31	0.02	0.0	0.3	21.5	--	--	
GP-13A	21-Mar-23	11:38	0.02	0.0	0.1	22.1	--	--	
GP-13B	21-Mar-23	11:42	0.01	0.0	0.1	22.1	--	--	
GP-14S	21-Mar-23	11:49	0.11	0.0	2.6	19.5	--	--	
GP-14D	21-Mar-23	11:52	0.00	0.0	1.2	18.4	--	--	
GP-15A	21-Mar-23	11:57	0.21	0.0	5.8	8.8	--	--	
GP-15B	21-Mar-23	12:00	0.02	0.0	9.0	4.6	--	--	
GP-16A	21-Mar-23	12:07	0.00	0.0	0.5	21.8	--	--	
GP-16B	21-Mar-23	12:10	0.00	0.0	0.3	21.8	--	--	
GP-17	21-Mar-23	12:17	0.00	0.0	0.6	21.6	--	--	
GP-18	21-Mar-23	12:22	0.01	0.0	0.2	22.2	--	--	
GP-19	21-Mar-23	12:25	0.01	0.0	0.3	21.8	--	--	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

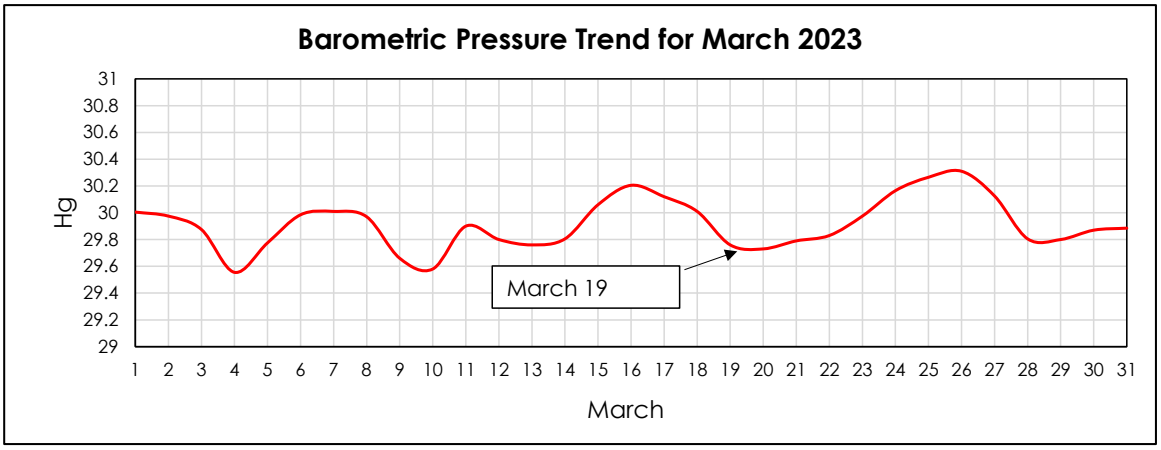
		Weather Conditions	
Monitored by:	L. Walker	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	21-Mar-23	Temperature (°F):	50

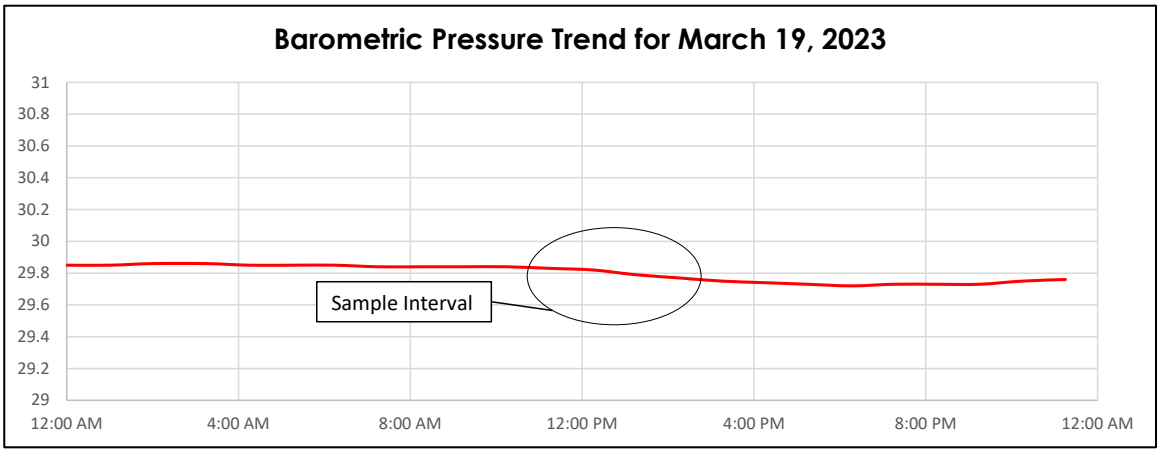
Notes

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

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

Barometric Pressure Trend - March 2023
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-03-21/2023-03-21/monthly

Daily Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-03-21/2023-03-21/daily

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4223002.03

PCRCD dba LRI

April 26, 2023

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	26-Apr-23	10:32	-0.01	0.0	4.0	14.0	--	--	
GP-1B	26-Apr-23	10:35	0.01	0.0	4.1	17.1	--	--	
GP-1C	26-Apr-23	10:39	0.00	0.0	2.1	18.2	--	--	
GP-2A	26-Apr-23	10:44	0.07	0.2	1.3	18.5	--	--	*Note 3*
GP-2B	26-Apr-23	10:46	0.04	0.0	0.3	20.2	--	--	
GP-3S	26-Apr-23	10:51	-0.05	0.0	2.5	14.0	--	--	
GP-3M	26-Apr-23	10:54	-0.02	2.2	6.9	0.5	--	--	
GP-3D	26-Apr-23	10:57	-0.01	3.9	12.1	1.9	--	--	
GP-4A	26-Apr-23	11:05	-0.02	0.0	0.4	20.5	--	--	
GP-4B	26-Apr-23	11:07	0.14	0.0	0.2	20.5	--	--	
GP-5A	26-Apr-23	11:14	-0.13	0.0	0.1	20.5	--	--	
GP-5B	26-Apr-23	11:16	-0.03	0.0	0.1	20.6	--	--	
GP-6	26-Apr-23	11:20	-0.02	0.0	0.1	20.3	--	--	
GP-7S	26-Apr-23	11:26	0.38	0.0	0.5	19.8	--	--	
GP-7D	26-Apr-23	11:28	-0.07	0.0	0.1	20.3	--	--	
GP-8A	26-Apr-23	11:38	-0.08	0.0	1.5	18.9	--	--	
GP-8B	26-Apr-23	11:40	-0.05	0.0	0.8	19.3	--	--	
GP-9	26-Apr-23	11:46	0.02	0.0	1.6	18.4	--	--	
GP-10	26-Apr-23	11:53	0.20	0.0	0.1	20.2	--	--	
GP-11	26-Apr-23	11:58	-0.08	0.0	0.8	19.2	--	--	
GP-12	26-Apr-23	12:05	-0.08	0.0	0.1	20.0	--	--	
GP-13A	26-Apr-23	12:09	-0.19	0.0	1.3	17.1	--	--	
GP-13B	26-Apr-23	12:11	0.06	0.0	0.2	20.1	--	--	
GP-14S	26-Apr-23	12:16	0.05	0.0	3.7	16.8	--	--	
GP-14D	26-Apr-23	12:19	-0.09	0.0	0.2	20.1	--	--	
GP-15A	26-Apr-23	12:24	0.00	0.0	2.5	16.6	--	--	
GP-15B	26-Apr-23	12:27	-0.10	0.0	8.2	4.9	--	--	
GP-16A	26-Apr-23	12:34	-0.19	0.0	1.4	18.5	--	--	
GP-16B	26-Apr-23	12:37	-0.69	0.0	1.1	19.0	--	--	
GP-17	26-Apr-23	12:45	-0.03	0.0	0.8	19.7	--	--	
GP-18	26-Apr-23	12:50	-0.09	0.0	1.7	18.6	--	--	
GP-19	26-Apr-23	12:54	-0.08	0.0	1.7	18.6	--	--	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

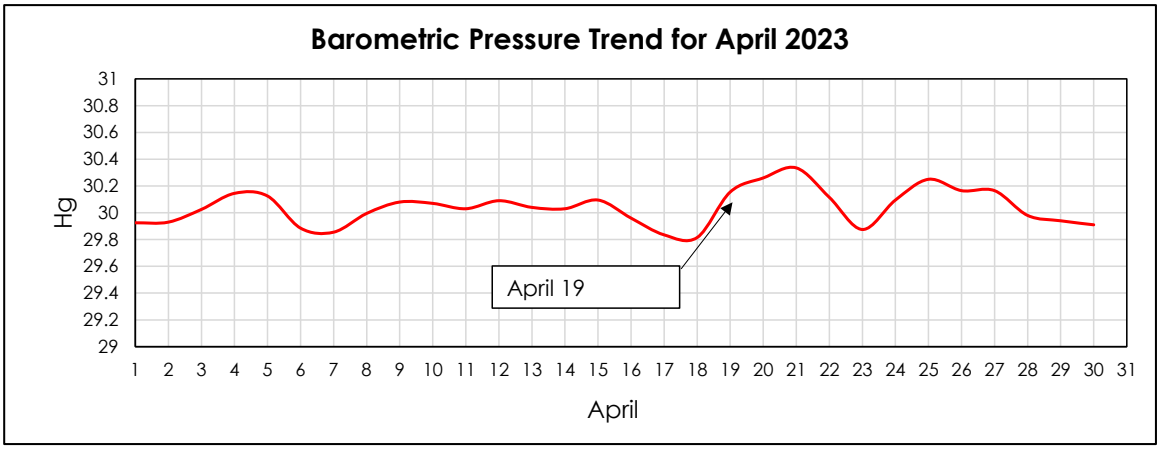
		Weather Conditions	
Monitored by:	L. Walker	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	26-Apr-23	Temperature (°F):	57

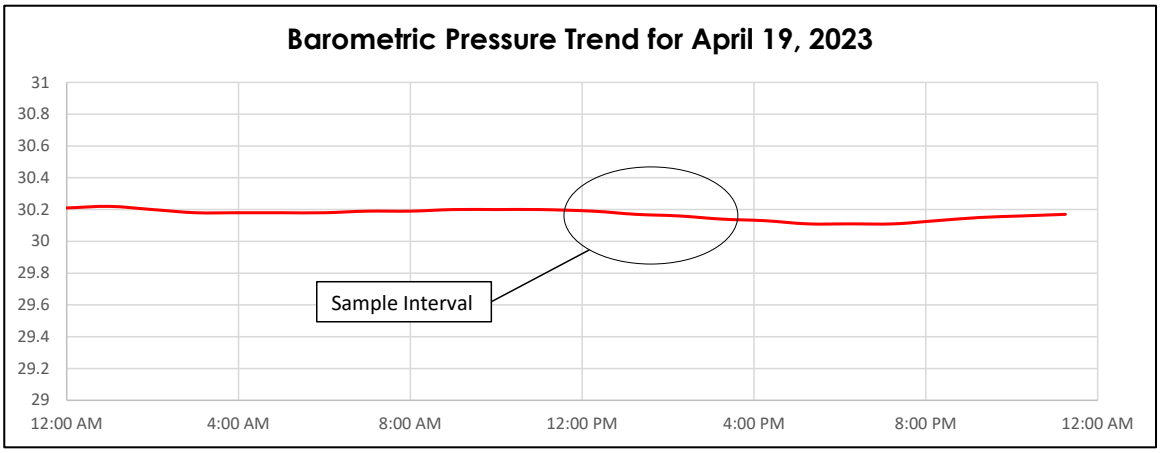
Notes

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

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

Barometric Pressure Trend - December 2022
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-04-26/2023-04-26/monthly

Daily Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-04-26/2023-04-26/daily

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4223002.03

PCRCD dba LRI

May 31, 2023

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	31-May-23	10:25	0.66	0.0	3.3	13.4	--	--	
GP-1B	31-May-23	10:28	0.36	0.0	3.5	17.4	--	--	
GP-1C	31-May-23	10:31	0.01	0.0	0.9	20.0	--	--	
GP-2A	31-May-23	10:38	0.01	0.1	0.6	19.7	--	--	*Note 3*
GP-2B	31-May-23	10:41	0.05	0.0	0.2	20.7	--	--	
GP-3S	31-May-23	10:47	0.03	0.0	0.7	18.9	--	--	
GP-3M	31-May-23	10:50	0.04	2.1	6.2	0.3	--	--	
GP-3D	31-May-23	10:53	0.00	0.0	5.8	16.2	--	--	
GP-4A	31-May-23	11:04	0.00	0.0	0.4	20.7	--	--	
GP-4B	31-May-23	11:08	0.17	0.0	0.2	20.7	--	--	
GP-5A	31-May-23	11:14	-0.01	0.0	0.1	20.7	--	--	
GP-5B	31-May-23	11:18	-0.01	0.0	0.0	20.7	--	--	
GP-6	31-May-23	11:23	-0.01	0.0	0.1	20.5	--	--	
GP-7S	31-May-23	11:30	-0.02	0.0	0.5	20.0	--	--	
GP-7D	31-May-23	11:34	-0.03	0.0	0.3	20.1	--	--	
GP-8A	31-May-23	11:43	-0.03	0.0	4.3	14.6	--	--	
GP-8B	31-May-23	11:45	-0.03	0.0	3.2	17.8	--	--	
GP-9	31-May-23	11:51	-0.04	0.0	2.0	17.9	--	--	
GP-10	31-May-23	11:59	-0.05	0.0	0.3	20.4	--	--	
GP-11	31-May-23	12:05	-0.01	0.0	0.9	19.8	--	--	
GP-12	31-May-23	12:12	-0.05	0.0	0.7	16.5	--	--	
GP-13A	31-May-23	12:18	-0.04	0.0	1.1	18.2	--	--	
GP-13B	31-May-23	12:21	0.00	0.0	0.2	20.8	--	--	
GP-14S	31-May-23	12:26	-0.05	0.0	3.8	17.0	--	--	
GP-14D	31-May-23	12:30	0.02	0.0	4.8	9.7	--	--	
GP-15A	31-May-23	12:36	-0.05	0.0	3.4	17.4	--	--	
GP-15B	31-May-23	12:37	-0.02	0.0	1.8	20.4	--	--	
GP-16A	31-May-23	12:39	-0.04	0.0	7.6	12.3	--	--	
GP-16B	31-May-23	12:47	-0.05	0.0	0.7	20.4	--	--	
GP-17	31-May-23	12:51	0.13	0.0	0.9	19.5	--	--	
GP-18	31-May-23	12:58	0.46	0.0	1.5	17.7	--	--	
GP-19	31-May-23	13:04	-0.03	0.0	5.2	14.0	--	--	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

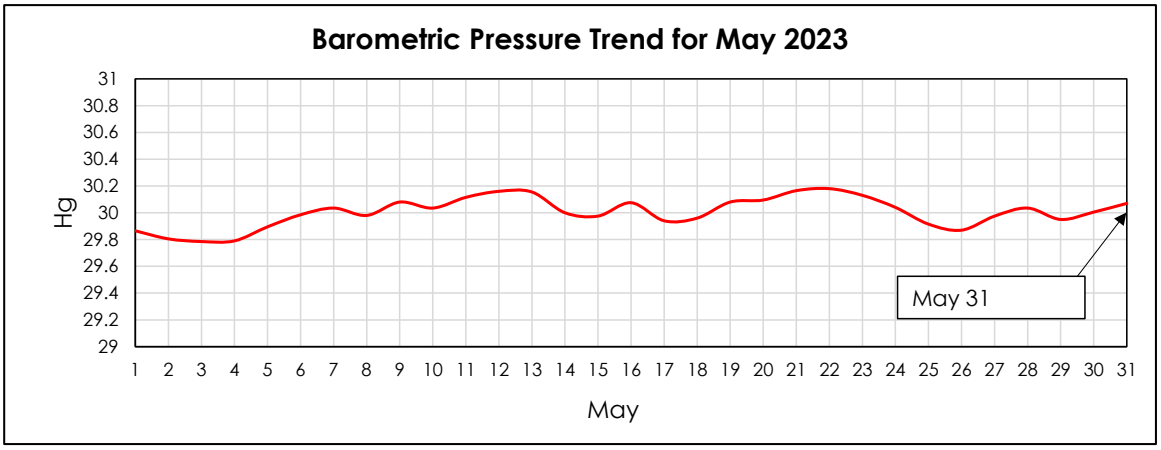
		Weather Conditions	
Monitored by:	J. Faille	Sky Cover:	Cloudy
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	31-May-23	Temperature (°F):	58

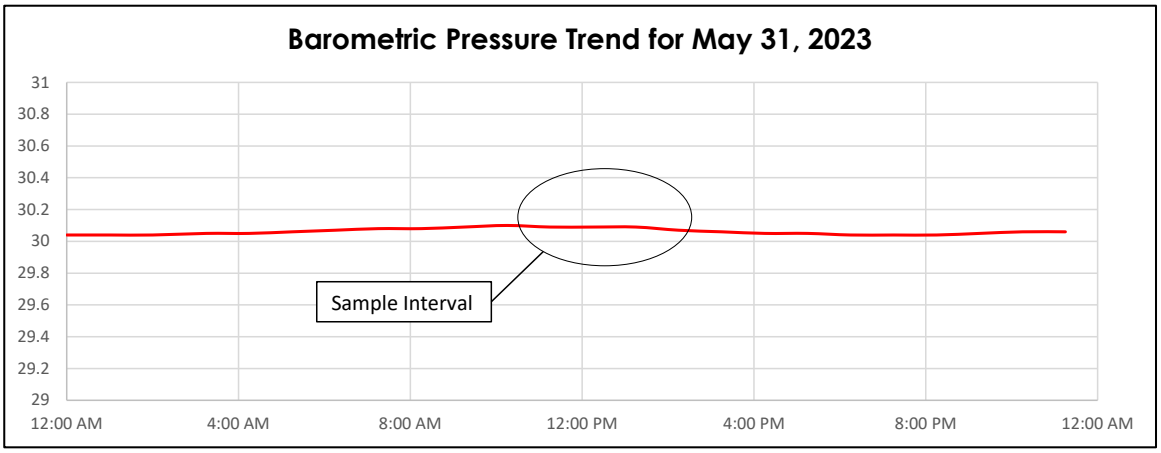
Notes

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

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

Barometric Pressure Trend - May 2023
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-05-31/2023-05-31/monthly

Daily Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-05-31/2023-05-31/daily

Landfill Gas Probe Monitoring

SCS Engineers

Hidden Valley Landfill

4223002.03

PCRCD dba LRI

June 28, 2023

Location Reference Designation	Date	Time	Pressure (in. H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Comments: Spike CO2 *Note 1* (% vol.)	Comments: Other
Gas Probes									
GP-1A	28-Jun-23	8:39	0.03	0.0	4.6	11.4	--	--	
GP-1B	28-Jun-23	8:43	0.20	0.0	4.7	15.9	--	--	
GP-1C	28-Jun-23	8:50	0.02	0.0	1.4	19.8	--	--	
GP-2A	28-Jun-23	8:57	0.02	0.3	1.4	18.8	--	--	
GP-2B	28-Jun-23	9:02	0.04	0.0	0.2	21.2	--	--	
GP-3S	28-Jun-23	9:09	-0.03	0.0	1.0	19.6	--	--	
GP-3M	28-Jun-23	9:18	-0.03	0.0	5.2	14.8	--	--	
GP-3D	28-Jun-23	9:30	0.00	0.0	1.3	19.0	--	--	
GP-4A	28-Jun-23	9:35	-0.01	0.0	0.1	21.0	--	--	
GP-4B	28-Jun-23	9:44	-0.03	0.0	0.2	20.6	--	--	
GP-5A	28-Jun-23	9:48	-0.04	0.0	0.7	18.0	--	--	
GP-5B	28-Jun-23	9:57	-0.05	0.0	0.3	20.6	--	--	
GP-6	28-Jun-23	10:05	-0.06	0.0	0.6	20.0	--	--	
GP-7S	28-Jun-23	10:09	-0.07	0.0	0.4	20.0	--	--	
GP-7D	28-Jun-23	10:19	-0.07	0.0	6.0	10.4	--	--	
GP-8A	28-Jun-23	10:24	-0.08	0.0	5.6	12.4	--	--	
GP-8B	28-Jun-23	10:37	-0.10	0.0	2.4	16.2	--	--	
GP-9	28-Jun-23	10:46	-0.10	0.0	0.2	20.0	--	--	
GP-10	28-Jun-23	10:54	-0.11	0.0	0.9	19.9	--	--	
GP-11	28-Jun-23	11:01	-0.11	0.0	5.3	11.5	--	--	
GP-12	28-Jun-23	11:08	-0.11	0.0	0.1	21.2	--	--	
GP-13A	28-Jun-23	11:12	-0.10	0.0	0.0	21.2	--	--	
GP-13B	28-Jun-23	11:20	-0.12	0.0	3.6	17.7	--	--	
GP-14S	28-Jun-23	11:24	-0.12	0.0	4.1	11.0	--	--	
GP-14D	28-Jun-23	11:31	-0.12	0.0	3.1	17.6	--	--	
GP-15A	28-Jun-23	11:35	-0.12	0.0	6.3	12.6	--	--	
GP-15B	28-Jun-23	11:50	-0.15	0.0	0.4	20.5	--	--	
GP-16A	28-Jun-23	11:55	-0.03	0.0	0.4	20.7	--	--	
GP-16B	28-Jun-23	12:04	-0.13	0.0	4.1	11.8	--	--	
GP-17	28-Jun-23	12:12	-0.11	0.0	8.5	7.2	--	--	
GP-18	28-Jun-23	12:19	-0.11	0.0	0.4	21.3	--	--	
GP-19	0-Jan-00	0:00	0.00	0.0	0.0	0.0	--	--	
LFG-1							-	-	*Note 2*
LFG-2							-	-	*Note 2*
LFG-3							-	-	*Note 2*

General Data

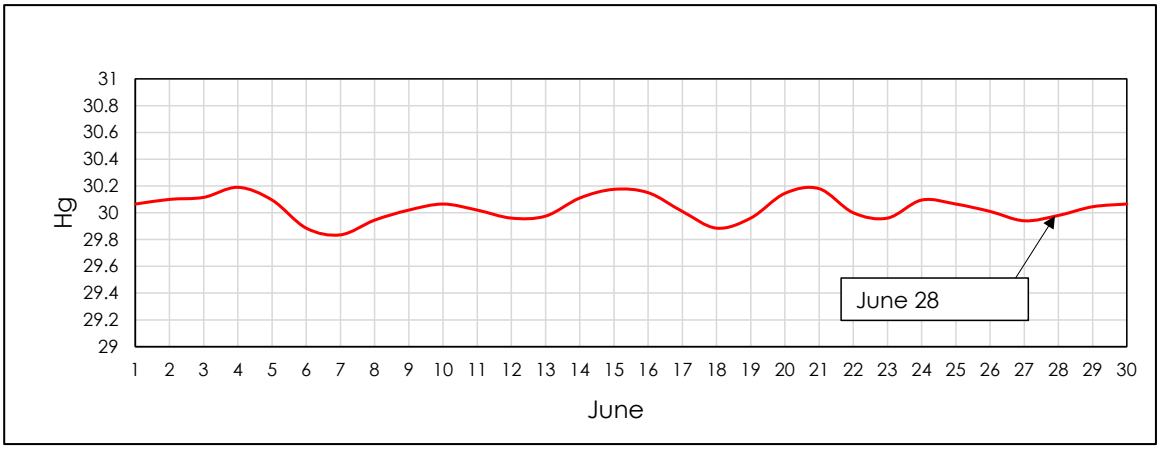
		Weather Conditions	
Monitored by:	A. Deszo	Sky Cover:	Sunny
Instruments:	GEM 2000	Wind / Rain / Snow:	None
Calibration Date:	28-Jun-23	Temperature (°F):	57

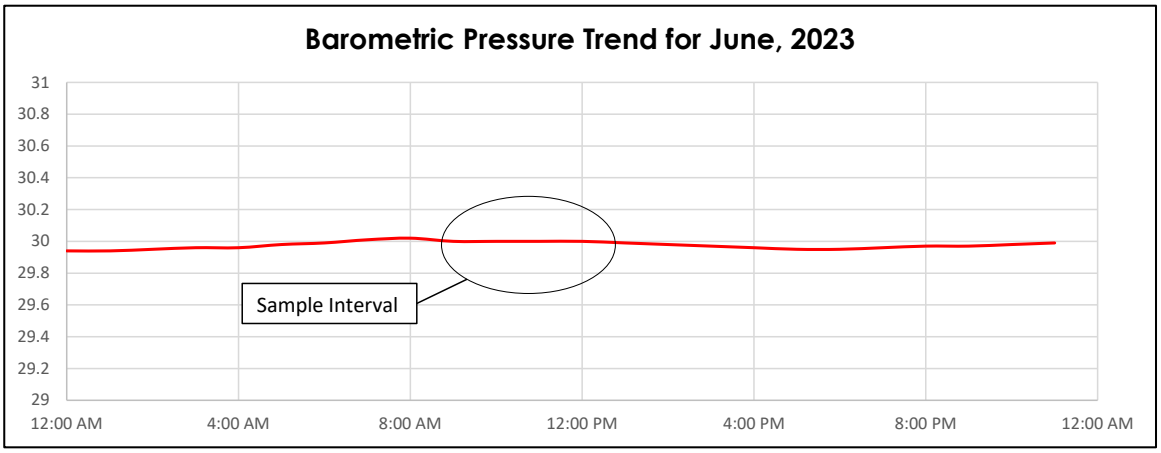
Notes

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

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

Barometric Pressure Trend - June 2023
Hidden Valley Landfill, Pierce County, Washington





Monthly Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-06-31/2023-06-31/monthly

Daily Data Source: Wunderground.com (South Hill, WA)
Lat: 47.10 Long: 122.27 Elev: 561 ft-AMSL
Data Source:
https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-06-28/2023-06-28/daily

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Date: 3-23-23
Weather Conditions: Rain + Wind
Instrument: MicroFID
Measured By: JTF

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

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

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

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

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

Signature

Hidden Valley Landfill
Landfill Gas Monitoring of On-site Buildings

Date: 5-31-23
Weather Conditions: overcast, 55°F
Instrument: Micro Fid
Measured By: JTF

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).
- [ ] Pay/Scale Booth – interior of building. 0.3 ppm max
- [x] Recycle Building – throughout facility and water drainage areas.
- [x] Leachate Treatment Building – all lower level office spaces, restrooms, water drainage system and storage/equipment areas.
- [x] Gas to Energy Building – central monitoring/control room, engine room and storage cabinets.
- [x] Transfer Station Building – throughout entire building and lower levels.

Signature

Site Inspection Reports

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Jack Faille

Signature: Jack Faille

Date: 3-23-23

Weather: Cloudy / Rain

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

Sump	Operation per Design (Y or N)	(1) Depth to Condensate (ft)	(2) Depth to Bottom (ft)	Height of Condensate (ft) = (2) – (1)	Comments
Sump No. 1	Y	–	9.45	0	DRY
Sump No. 2	Y	6.47	8.50	2.03	
Sump No. 3	Y	–	8.89	0	Dry
Sump No. 4	Y	6.46	8.55	2.09	
Sump No. 5	Y	–	6.02	0	Dry
Sump No. 6	Y	7.15	9.15	2.00	
Sump No. 7	Y	–	9.15	0	Dry
Sump No. 8	Y	7.97	9.39	1.42	
Sump No. 9	Y	8.98	9.52	0.54	
Sump No. 10	Y	7.28	9.50	2.22	
Sump No. 11	Y	6.59	9.49	2.90	

Other Remarks:

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: Jack Faille Date: 3-23-23

Signature: Jack F. Weather: Wind & Rain

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

Other Remarks:

Facility Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: John Faille

Signature: [signature]

Date: 5-31-23

Weather: Overcast

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

Other Remarks:

Condensate Recirculation Inspection Checklist

Hidden Valley Landfill, Pierce County, Washington

Name: J. Faille

Signature: Jen T. Faille

Date: 5-31-23

Weather: overcast

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

Sump	Operation per Design (Y or N)	(1) Depth to Condensate (ft)	(2) Depth to Bottom (ft)	Height of Condensate (ft) = (2) – (1)	Comments
Sump No. 1	Y	DRY	9.45'	0	
Sump No. 2	N	6.46'	8.50	2.10	Positive pressure in sump
Sump No. 3	Y	DRY	8.89	0	
Sump No. 4	Y	6.83'	8.75'	1.92	
Sump No. 5	Y	9.04'	9.95'	0.91	
Sump No. 6	Y	7.25'	9.15'	1.90	
Sump No. 7	Y	DRY	9.15'	0	
Sump No. 8	Y	7.79'	9.39'	1.60	
Sump No. 9	Y	9.08'	9.52'	0.44	
Sump No. 10	Y	7.24'	9.55'	2.31	
Sump No. 11	Y	6.63'	9.44'	2.81	

Other Remarks:

GCCS Maintenance Reports

Hidden Valley Landfill
LFG System Monitoring & Maintenance
January 10, 11, 12, 19 2023.

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on January 10th, 11th, 12th, and 19th 2023.
- Replaced 2" LFG hose at N-40 on 1/11/2023
- Replaced damaged 8" LFG Hose at N-3 on 1/19/2023
- Replaced damaged 3" LFG Hose at N-25 on 1/19/2023
- Repaired damaged 2" Line at N-59 on 1/19/2023
- Repaired damaged 4" 45 degree elbow, 4" LFG Hose at E6B on 1/19/2023
- Repaired 3" TEE at well at N-20 on 1/19/2023
- Reconnected 6" Line at N-61 on 1/25/2023

LANDFILL FLARE STATION

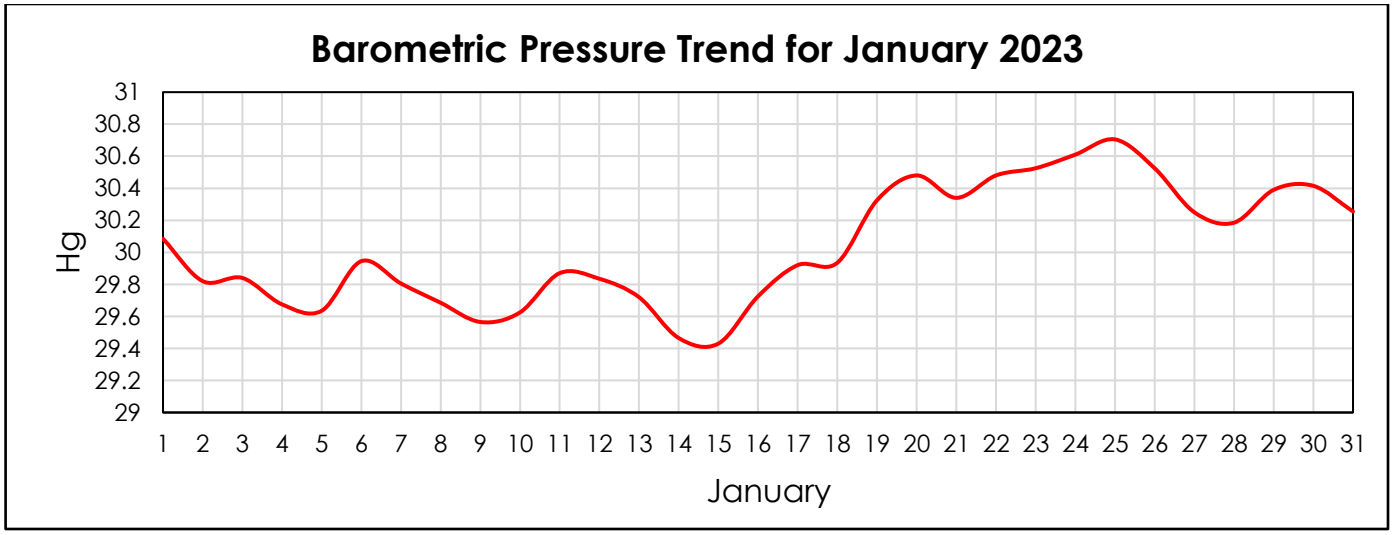
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
1/10/2023 14:04	35.5	23	3.3	38.2	144	144	28.88
1/11/2023 8:22	27.4	18.3	6.5	47.8	137	137	29.2
1/12/2023 8:23	33.4	22.4	3.2	41	129	129	29.19

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
1/11/2023 14:13	32.7	22	3.2	42.1	131	131	29.18
1/12/2023 11:45	32.7	22.1	3.1	42.1	121	121	29.21
1/19/2023 10:10	27.8	18.5	6.3	47.4	107	107	1806.1

Barometric Pressure Trends for January 2023



Data Source: https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-01-20/2023-01-20/monthly

Hidden Valley Landfill
LFG System Monitoring & Maintenance
February 1, 2, 3, 16 2023.

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on February 1st, 2nd, and 3rd 2023.
- Repaired 3" PVC Tee at E-18 Well Head on 2/1/2023
- Temporarily Repaired Oxygen leak at N-25 10" Coupler on 2/2/2023
- Temporarily Repaired Oxygen leak at N-44 6" Coupler on 2/2/2023
- Repaired Blower on 2/16/2023
- Replaced 6" Line at E-41A on 2/16/2023

LANDFILL FLARE STATION

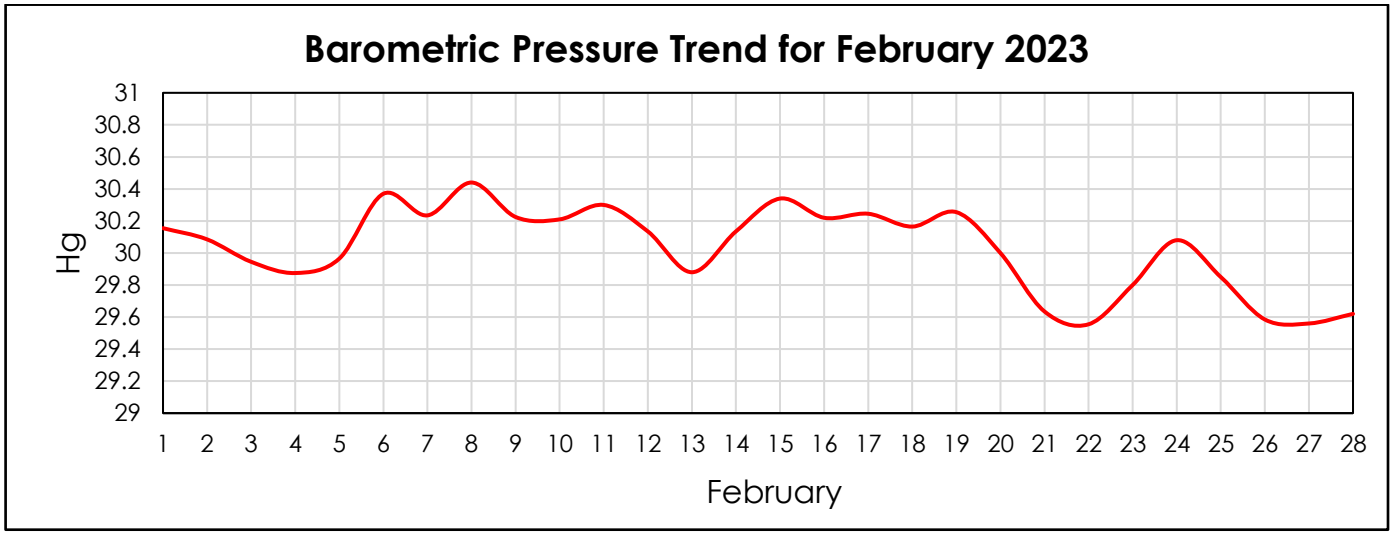
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
2/1/2023 8:37	27.7	18.1	7.8	46.4	114	114	29.47
2/2/2023 8:03	33.0	21.1	5.3	40.6	132	132	29.45

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
2/2/2023 14:22	36.8	23.5	3.0	36.7	134	134	29.47
2/3/2023 11:14	35.8	23.6	3.7	36.9	132	132	29.2

Barometric Pressure Trends for February 2023



Data Source: https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-02-21/2023-02-21/monthly

Hidden Valley Landfill
LFG System Monitoring & Maintenance
March 2, 3, 7, 8, 22, 29 2023.

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on March 3rd, 7th, 8th 2023.
- Repaired 6" Header at E-41A on 3/2/2023
- Repaired Blower on 3/8/2023
- Repaired 8" Line near E-2B on Header on 3/29/2023

LANDFILL FLARE STATION

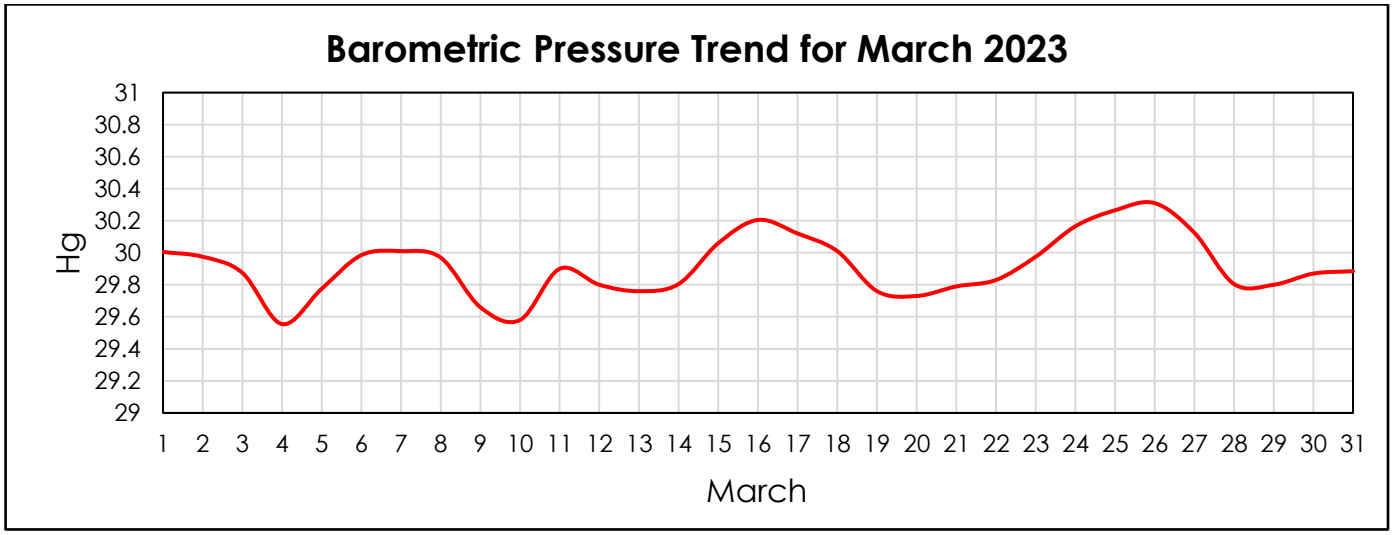
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
3/3/2023 9:09	34.9	20.1	4.7	40.3	145	145	29.33
3/7/2023 8:08	40.6	21	3.7	34.7	137	137	29.33
3/8/2023 8:42	41.6	20.3	2.5	35.6	175	175	29.26

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
3/8/2023 12:29	42.3	20.1	2.0	35.6	182	182	29.29

Barometric Pressure Trends for March 2023



Data Source: https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-03-21/2023-03-21/monthly

Hidden Valley Landfill
LFG System Monitoring & Maintenance
April 3, 4, 5 2023.

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on April 3rd, 4th, 5th 2023

LANDFILL FLARE STATION

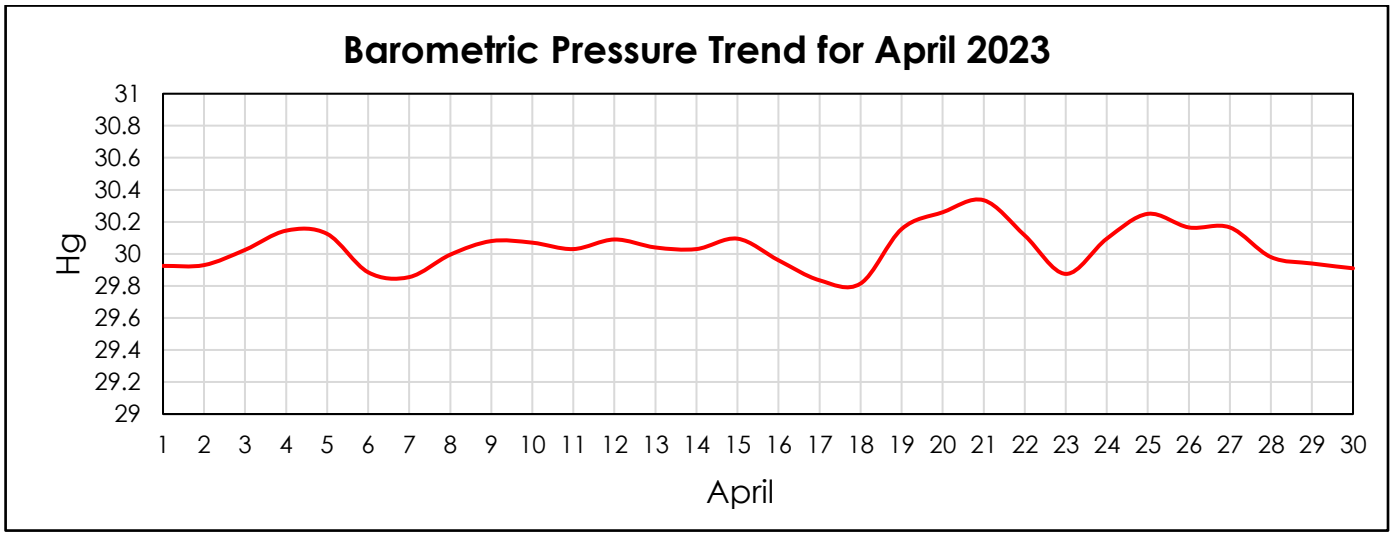
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
4/3/2023 12:57	37.8	19.7	2.3	40.2	173	173	29.39
4/4/2023 8:15	40.8	20.9	2.0	36.3	206	206	29.43
4/5/2023 8:36	35.6	22.1	2.5	39.8	202	202	29.50

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
4/5/2023 12:44	38.6	23.2	2.4	35.8	163	163	29.49

Barometric Pressure Trends for April 2023



Data Source: https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-04-26/2023-04-26/monthly

Hidden Valley Landfill
LFG System Monitoring & Maintenance
May 9, 10, 11, 30 2023.

MAINTENANCE ITEMS COMPLETED THIS MONTH:

- Performed monthly extraction well monitoring on May 9th, 10th, 11th, 30th 2023

LANDFILL FLARE STATION

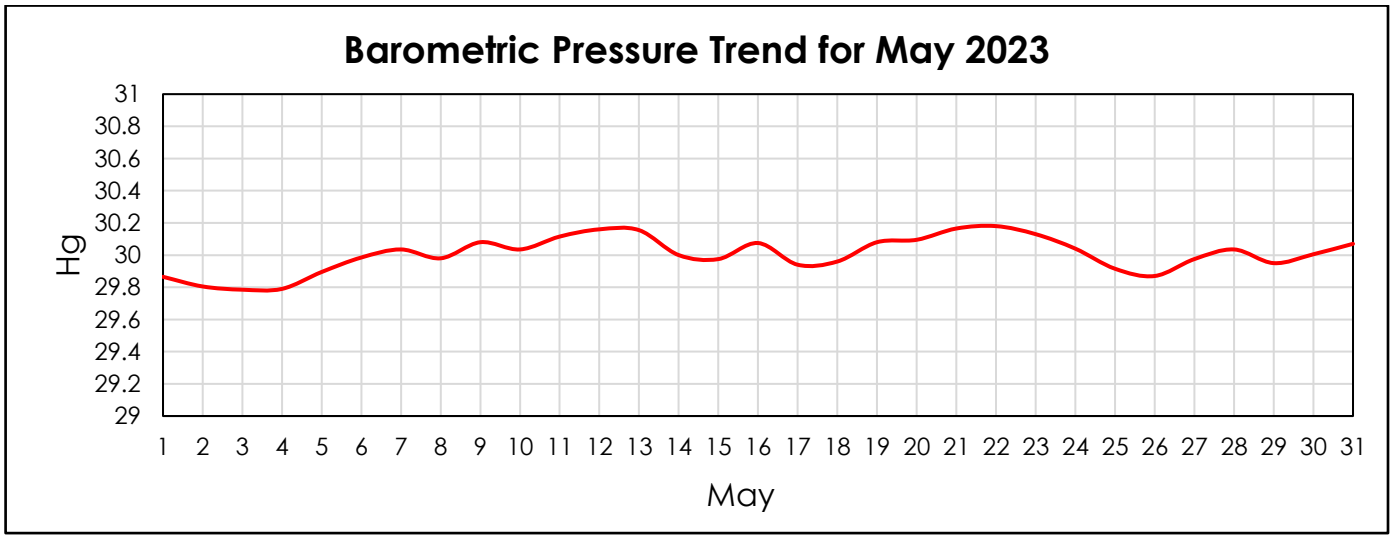
Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
5/9/2023 07:31	37.2	21.5	2.8	38.5	148	148	29.46
5/10/2023 07:29	38.9	20.7	4.2	36.2	148	148	29.40

After system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
5/10/2023 12:08	39.5	20.8	3.3	36.4	127	127	29.43
5/30/2023 13:09	37.0	19.3	3.3	40.4	125	125	29.42

Barometric Pressure Trends for May 2023



Data Source: https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-05-31/2023-05-31/monthly

Hidden Valley Landfill
LFG System Monitoring & Maintenance
June 7, 8, 19 2023.

MAINTENANCE ITEMS COMPLETED THIS MONTH:

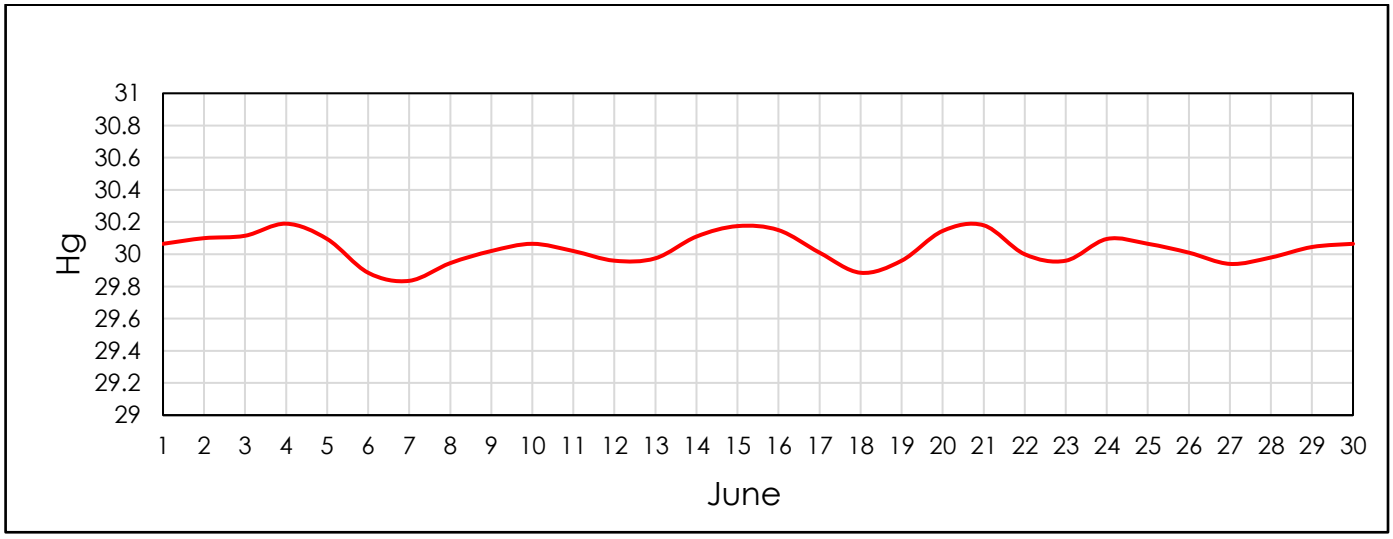
- Performed monthly extraction well monitoring on June 7th, 8th, 19th 2023

LANDFILL FLARE STATION

Before system maintenance

Date & Time	CH_4	CO_2	O_2	Balance	Init. Flow	Adj. Flow	Baro. Press.
	%	%	%	%	SCFM	SCFM	inches Hg
6/7/2023 07:37	36.0	19.5	3.9	40.6	131	131	29.17
6/8/2023 06:40	31.9	18.3	5.2	44.6	121	121	29.33

Barometric Pressure Trends for June 2023



Data Source: https://www.wunderground.com/dashboard/pws/KWASOUTH7/table/2023-06-31/2023-06-31/monthly

Leachate Treatment System Data

LEACHATE DAILY LOG #2

Month: JAN. 2023
Year:

Date	Time	P 15 A		P 15 B	AC-HRS	D-AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN P	BLW A/B	E-PH	DAILY EFFLUENT
1		2379	22	195	86730		0	23.6	19339	151800	1190095	436223	1534	48582	735	61617
2		2401	22		88754		.0	23.6	19342	"	"	"	1641	48604	743	61617
3		2423	22		88780		.2	23.9	19349	151800	1190095	436231	15.74	48626	7.24	61617
4		2428	22		88806		.2	23.9	19357	151800	1192626	436246	15.74	48634	6.96	61616
5			20	235	88832		.35	23.5	19357	151800	1192626	436251	15.92	48675	7.15	61616
6			22	255	88848		.2	23.2	19374	"	1193959	436300	1533	48694	732	61616
7			22	277	88872		.3	23.2	19379	"	1196715	"	1540	48717	730	61616
8		2434	22	293	88896		.25	23.1	19384	"	"	"	1634	48739	745	61616
9		2456	22		88920		.2	23.1	19389	"	"	"	1613	48762	740	61616
10		2478	22		88945		.0	23.1	19397	151800	1196716	436311	15.90	48785	7.17	61616
11		2500	22		88967		.2	23.2	19405	151800	1196715	436371	15.51	48806	7.06	61616
12		2526	22		88998		.65	23.2	19405	151800	1196715	437526	15.51	48812	7.03	61617
13			22	310	89015		.3	23.2	19422	"	"	438255	1611	48852	748	61617
14			22	332	89039		.25	23.3	19427	"	"	438863	1590	48874	737	61617
15			22	354	89063		.35	23.4	19431	"	"	439192	1609	48897	741	61617
16			20	376	89087		.2	23.6	19438	"	"	439341	1564	48919	757	61617
17		2536	21	391	89100		.2	23.7	19438	152498	1196715	439353	15.68	48919	6.88	55844
18		2552	22				.4	234	19454	152498	1198264	439386	16.39	48964	7.15	61616
19		2574	22		89158		0	23.1	19460	"	1201016	"	1544	48987	7	61617
20		2596	22		89182		0	23.3	19466	"	"	"	1548	49009	767	61616
21		2618	21		89206		.4	23.4	19472	"	"	"	1633	49032	751	61617
22		2624	22	406	89230		.1	23.5	19484	"	1201016	"	1581	49054	744	61617
23		2642	23	410	89254		.2	23.5	19490	"	"	439885	1548	49077	694	61617
24			21	433	89275		.0	23.5	19495	152498	1201016	439885	15.86	49077	6.84	61616
25			22	454	89295		0		19501	152498	1203616	439896		49122	7.05	61616
26			22	476	89323		0	23.1	19510	"	"	"	1584	49143	716	61617
27		2651	22	489	89357		.20	23.1	19521	"	"	"	1634	49165	742	61617
28		2673	21		89381		0	23.1	19527	"	"	440164	1589	49188	741	61617
29		2694	23		89405		.0	23.4	19533	"	"	"	1624	49210	738	61617
30		2717	23		89429		.0	23.3	19533	"	"	"	1591	49233	725	61617
31		2740	22	490.09	89450		.0	23.6	19533	152498	1203616	440164	15.82	49233	7.21	61617
				509			5.15		19545	698	13521					

LEACHATE DAILY LOG #2

Month: Febuary 23
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511		AC HRS	D-AP	RAIN	L8 LVL	GP HRS	S-SL	CELL1	TS/GL	TRAN P	BLW A/B	E-PH	DAILY EFFLUENT
1		2740	509	22	89475		ø	23.6	19545	152493	1203616	440164	15.32	49277	7.16	61617
2			531	22	89498		0	23.6	19544	152498	1203616	440164	15.32	49277	7.05	61617
3			553	21	89522		0	23.7	19566	"	"	"	16.38	49313	7.27	61617
4			574	23	89535		.3	23.6	19573	"	1207534	"	1610	"	7.26	61617
5		2750	587	23	89559		0	23	19579	"	"	"	1634	"	7.22	61617
6		2772		22	89583		.2	23.2	19579	"	"	"	1644	"	7.60	61617
7		2794		21	89605		.8	23.3	19589	152498	1207534	440165	15.67	49313	7.06	61617
8		2815		22	89640		.0	23.3	19602	152498	1207534	441411	15.68	OFF	7.23	61617
9		2837		23	89666		.4	23.3	19609	152498	1207534	441707	16.32	OFF	7.11	61616
10		2838	608	22	89680		.2	23.3	19609	152498	1207534	441864	15.70		7.02	61616
11			630	24	89714		.4	23.6	19627	152498	1207534	442105	15.85		6.86	61617
12			654	19	89740		.8	23.6	19639	152498	1207534	442149	15.85		7.06	61616
13			673	22	89762		0	23.6	19639	152498	1207534	442149	15.85		7.29	61617
14		28489	685	22	89784		0	23.8	19656	152498	1207534	442375	15.63		7.16	61617
15		2871		21	89810		1.35	23.8	19662	152498	1207534	442536			6.99	61617
16		2892		22	89827		0	23.9	19668	"	"	442587	1626		7.05	61617
17		2914		22	89851		.20	23.8	19679	"	"	"	1610		7.07	61617
18		2936		22	89875		.35	23.1	19688	153450	1210627	"	1615		7.32	61616
19			707	22	89899		0	23.2	19692	"	"	"	1623		7.36	61617
20			729	21	89923		0	23.2	19697	"	"	"	1591		7.14	61616
21			750	23	89953		0	23.4	19697	153450	1210627	442587	16.42		7.09	61617
22			773	20	89977		.4	22.8	19709	153450	1210627	442587	15.69		6.81	61616
23		2947	783	21	89995		0	23.3	19717	"	1212248	"	1587		6.93	61617
24		2970		21	90019		0	23.5	19729	"	"	"	1556		6.95	61616
25		2991		22	90043		0	22.5	19729	"	1215739	"	1549		6.86	61616
26		3013		22	90067		.4	22.8	19741	"	"	"	1649		6.93	61617
27		3034	784	22	90091		.0	23	19741	"	"	"	1631		7.33	61617
28			806	21	90115		.2	22.9	19741	153450	1215739	442587	15.47		7.14	61616
29			~~827~~				.2	~~22.9~~	~~19741~~	~~153739~~	~~1215739~~	~~442587~~	~~15.47~~		7.19	
30																
31																

6.2 952 12/23

LEACHATE DAILY LOG #2

Month: MARCH
Year: 2023

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D-AP	RAIN	L8 LVL	GP HRS	S SL	CELL1	TS/GL	TRAN P	BLW A/B	E-PH	DAILY EFFLUENT
1			827 22	90145		.2	22.9	19741	153739	1215739	441387	15.47	BOTH	7.14	61616
2		3034	854 22	90169		.4	23.0	19758	153739	1215739	442537	1645	off	7.22	61616
3			871 22	90187		.25	23.1	19772	"	"	"	1633		6.85	61617
4		3046	881 22	90201		.05	23.2	"	"	"	"	1644		6.80	61617
5		3068	22	90225		.25	23.3	19779	"	"	"	1588		685	61617
6		3096	20	90249		.4	23.3	"	"	"	"	1590		676	61617
7		3110	22	90275		.2	23.3	19779	153739	1215739	443241	1590		657	61617
8		3132	883 21	90300		.4	23.3	19790	153739	1215739	443516	1590		6.39	61616
9			904 22	90337		.25	23.5	19790	153739	1215739	443419	16.18		757	61616
10			926 22	90354		.2	23.5	19807	"	"	443815	1616		698	61617
11			948 22	90378		.1	23.6	"	"	"	444047	1605		673	61617
12			970 22	90402		.25	23.6	19824	"	"	444143	1635		646	61617
13		3145	979 22	90426		.2	23.5	19824	"	"	444308	1616		673	61617
14		3167	22	90450		0	23.7	19841	153750	1215739	446432	15.55		6.77	61617
15		3189	22	90474		1.1	23.7	19841	153750	1215739	446538	15.55		6.63	61617
16		3211	22	90497		0	23.3	"	"	1219066	"	1592		6.56	61617
17		3230	981 22	90521		0	23.4	19857	"	"	"	1594		650	61617
18			1003 22	90545		0	23.3	"	"	"	"	1576		655	61617
19			1025 22	90569		.1	"	"	"	"	"	1571		639	61617
20			1047 22	90593		.8	23.4	19875	"	"	"	1594		654	61617
21			1069 22	90617		.0	23.4	19875	153750	1219066	446538	1544		659	61617
22		3244	1077 22	90641		.3		19875	153750	1219066	447231	15.49		6.81	61617
23		3266	22	90664		0	23.4	19893	"	"	447387	1549		657	61617
24		3288	22	90688		0	"	"	"	"	447510	1591		626	61617
25		3310	21	90712		0	23.6	19906	"	"	"	1589		666	61616
26		3328	1080 22	90736		.15	23.6	"	"	"	447599	1598		698	61617
27			1102 22	90770		.2	23.7	19923	"	"	447648	1588		657	61617
28			1124 22	90790		.2	23.7	19923	153750	1219066	447830	15.88		6.47	61616
29			1148 23	90815		.0	23.8	19923	153750	1219066	448008	15.55		6.43	61617
30			1173 22	90839		0	23.8	19926	153750	1219066	448008	15.55		6.45	61617
31		3343	1175 22	90863		0	23	19947	153750	1223566	448009	1585		646	61617
		3365				5.20		19960	11	7827					

LEACHATE DAILY LOG #2

Month: APRIL 2023
Year:

Date	Time	INFLUENT FM 212	EFFLUENT FM 511	AC HRS	D AP	RAIN	L8 LVL	GP HRS	S SL	CELL1	TS/GL	TRAN P	BLW A/B	E PH	DAILY EFFLUENT
1	12	3365	1175	90879		.65	23.1	19960	153750	1223566	448009	1591	off	659	61617
2		3387		90903		.45	"	"	"	"	"	1606		616	61617
3		3409		90927		.4	23.2	"	"	"	448355	1584		624	61617
4		3426	1179	90951		.0	23.3	"	"	"	448687	1601		631	61617
5			1203	90972		.4	23.3	19960	153750	1223566	448793	16.01		6.71	61617
6			1227			.4	23.4		153750	1223566	448843	16.11		6.71	61617
7			1245	91023		.60	23.4	19977	"	"	449217	1587		612	61617
8			1267	91047		.20	"	19994	"	"	449597	1597		616	61617
9		3442	1273	91071		.85	23.5	"	"	"	449731	1610		618	61617
10		3464		91095		.8	"	"	"	"	450992	1531		645	61617
11		3486		91125		1.0	23.5	9994	153750	1223566	455074	1550		6.79	61617
12		3513		91150		.4	23.7	19994	153750	1223566	453074	15.64		6.74	61617
13		3524	1278	91167		0	23.4	19994	"	1226948	453348	1566		606	61617
14			1300	91191		0	23.6	20012	"	"	"	1591		605	61617
15			1322	91215		0	"	"	"	"	"	1601		609	61617
16			1344	91239		.4	"	20025	"	"	"	1606		6.27	61617
17		3545	1371	91265		.6	23.8	20033	153750	1226948	453348	15.49		6.29	61617
18		3563		91319		.0	23.9	20033	153750	1226948	453348	15.81		6.77	61617
19		3587				.4	23.9	2033	153750	1226948	453348	15.81		6.02	61616
20		3606				1.0	23.9	2033	153750	1226948	453348	15.81		6.09	61617
21		3622	1377	91383		.3	23.9	20033	"	"	"	1588		602	61617
22			1399	91407		.5	"	"	"	"	"	1618		610	61617
23			1421	91431		.0	23.9	20052	"	"	453589	1585		629	61617
24			1446	91460		.0	23.9	20052	153750	1228463	453703	1585		6.04	61617
25			1468	91486		.0	23.37	20052	153750	1228463	453703	1585		5.84	61617
26		3644	1469	91505		0	23.37	20052	153750	1228463	453703	15.85		6.10	61617
27		3661		91527		0	23	"	"	1233613	453795	1594		608	61617
28		3683		91551		0	22.6	"	"	1235183	"	1585		591	61617
29		3705		91575		0	22.7	"	"	"	453811	1590		597	61617
30		3727		91699		0	22.8	"	"	"	453811	1590		650	61617
31															

9.35 20052 0 11550

Month: MAY

Year: 2023

LEACHATE DAILY LOG

Date	Time	P15A	P15B	AC HRS	RAIN	18 LVL	GP HRS	S SL	CELL	TS/GL	TRAN P	E PH	DAILY EFFLUENT
1	12AM	3720	1476	91599	0	22.9	20052	153750	1235113	453811	15.94	5.99	61617
2	12AM		1502	91630	0	22.9	20052	"	"	"	"	5.97	61617
3	12AM		1524	91654	.2	23	"	"	"	"	"	611	61617
4	12AM		1546	91678	.2	"	"	"	"	453965	"	6.01	61617
5	12AM		1564	91694	.65	23.2	"	"	"	453988	15.84	5.97	61617
6	12AM	3738	1567	91718	.3	"	"	"	"	454042	15.89	5.94	61617
7	12AM	3760		91742	.05	"	"	"	"	"	15.74	5.95	61617
8	12AM	3782		91766	.2	"	"	"	"	454331	15.98	5.83	61617
9	12AM	3809		91780	0	22.6	"	"	12366860	454331	15.71	5.96	61617
10	12AM	3818	1578	91822	0	"	"	"	1238566	454738	"	5.95	61617
11	12AM		1597	91838	0	22.5	"	"	1239976	454919	15.84	5.99	61617
12	12AM		1618	91862	0	"	"	"	1241200	455000	15.88	5.95	61617
13	12AM		1640	91886	0	21.9	"	"	1242765	455038	15.20	5 65	61617
14	12AM		1662	91910	0	22	"	"	"	455079	1580	549	61616
15	12AM	3838	1665	91933	.2	21.9	"	"	"	455117	1578	575	61616
16	12AM	3863			.0	21.9	20069	153750	1244066	455485	15.78	5.65	61617
17	12AM	3885			0	21.9	20069	153750	1244066	455485	15.78	5.67	61617
18	12AM	3903		92004	0	21.7	20084	"	1245456	455827	1577	5.63	61617
19	12AM	3916		92028	0	21.7	20091	"	"	455877	1580	568	616617
20	12AM		1695	92052	.05	21.8	"	"	"	455995	1568	556	61617
21	12AM		1717	92076	0	21.9	"	"	"	456097	1548	584	61617
22	12AM		1739	92101	0	"	"	"	"	456162	1551	599	61617
23	12AM		1763	92126	0	21.6	20091	153750	1245456	456162	1551	583	61616
24	12AM	3936		92155	.9	21.3	20091	153750	1245456	456162	15.51	5.85	61616
25	12AM	3963		92181	0	21.3		153750	1245456	456162	15.51	5.82	61616
26	12AM	3980		92197	0	20.6	"	"	1252367	456817	1573	556	61616
27	12AM	4002		92221	0	20.3	"	"	1254042	456917	1577	570	61617
28	12AM	4014	1772	92245	0	"	"	"	"	457031	1572	566	61616
29	12AM		1794	92269	.0	20.5	"	"	"	457097	1591	581	61616
30	12AM		1816	92290	.0	20.5	20091	153750	1254042	457097	15.91	5.83	61617
31	12AM		1840	92315	.0	20.5	20091	153750	1254042	457097	15.91	5.89	61617
					1.85		091	0	18929				

Month: June 2023

Year: _____

LEACHATE DAILY LOG

Date	Time	P15A	P15B	AC HRS	RAIN	L8 LVL	GP HRS	S SL	CELL	TS/GL	TRANP	E-PH	DAILY EFFLUENT
1	12AM	4018	1861	92746	0	20.7	20091	153750	1254042	457[illegible]	15.77	7.87	61617
2	12AM	4035		92366	0	20.8	"	"	"	"	1572	698	61617
3	12AM	4057		92390	0	"	"	"	"	457299	1578	663	61617
4	12AM	4079		92414	0	"	"	"	"	"	1554	677	61617
5	12AM	4101		92438	.0	20.9	"	"	"	457580	1558	654	61617
6	12AM	4112		92455	.0	20.9	20091	153750	1254042	457580	15.58	657	61617
7	12AM	4112	1898		0	20.9	20091	153750	1254042	457580	1558	6.18	61616
8	12AM		1915	92510	0	20.5	"	"	1255821	457659	1554	610	61616
9	12AM		1937	92534	.35	20.7	"	"	"	457714	1571	583	61617
10	12AM		1959	92558	.05	"	"	"	"	457772	1577	606	61616
11	12AM	4134		92582	0	"	"	"	"	"	1564	570	61617
12	12AM	4156		92606	.0	20.8	"	"	"	457819	1577	583	61617
13	12AM	4182		92640	.0	20.8	20091	153750	1255821	457819	15.77	593	61617
14	12AM	4202		92661	0	20.8	20091	153750	1255921	457819	15.77	7.64	61617
15	12AM	4210	1970	92680	0	21	"	"	"	457855	1564	768	61616
16	12AM		1992	92687	.45	20.7	"	"	1257121	"	1584	765	61617
17	12AM		2014	92688	.05	20.8	"	"	"	"	1594	762	61617
18	12AM		2036	92689	.70	20.9	"	"	"	"	1588	761	61617
19	12AM	4211	2057	92690	.8	"	"	"	"	"	1598	759	61617
20	12AM	4223		92691	.4	20.9	20091	153750	1257121	457858	15.98	7.68	61617
21	12AM	4257		92693	.0	21.0	20091	153750	1257121	457858	15.77	7.62	61617
22	12AM	4278		92693	.8	21.0	20091	153750	1257121	457858	15.91	7.55	61617
23	12AM	4300		92693	.0	21.1	20091	153750	1257121	457858	15.73	754	61617
24	12AM	4308	2069	92693	.0	21.1	20091	153750	1258371	457862	15.73	755	61617
25	12AM		2091	92693	.0	21.0	20091	153750	1258371	457862	15.72	754	61617
26	12AM		2115	92698	.0	21.0	20091	153750	1258371	457862	15.72	759	61617
27	12AM		2131	92698	.0	21.0	20091	153750	1258371	457863	15.72	762	61617
28	12AM		2155	92698	.0	21.0	20091	153750	1258371	457863	15.72	7.61	61617
29	12AM	4332		92698	0	20.8	20091	153750	1258371	457863	15.73	7.57	61617
30	12AM	4354		92701	0	20.6	20128	"	1260748	"	15.75	740	61617
31	12AM												

2.8 500 6706