
CEDAR HILLS REGIONAL LANDFILL QUARTERLY ENVIRONMENTAL MONITORING REPORT

Third Quarter 2013



Department of Natural Resources and Parks
Solid Waste Division

**KING COUNTY SOLID WASTE
CEDAR HILLS REGIONAL LANDFILL
QUARTERLY ENVIRONMENTAL MONITORING REPORT**

CONTENTS

SUMMARY OF QUARTERLY ENVIRONMENTAL MONITORING

RESULTS AND ANALYSIS	1
GROUNDWATER	1
SURFACE WATER	3
LANDFILL GAS	3
ANALYTICAL METHODS	4

FIGURES

Fig 1	MONITORING WELL LOCATIONS	7
Fig 2	TRILINEAR DIAGRAM SOUTHERN UPGRADIENT REGIONAL WELLS	23
Fig 3	TRILINEAR DIAGRAM NW & NE UPGRADIENT REGIONAL WELLS	24
Fig 4	TRILINEAR DIAGRAM REGIONAL INTERIOR & VERTICAL TO FACILITIES WELLS	25
Fig 5	TRILINEAR DIAGRAM DOWNGRADIENT REGIONAL WELLS	26
Fig 6	TRILINEAR DIAGRAM DOWNGRADIENT REGIONAL WELLS	27
Fig 7	TRILINEAR DIAGRAM NORTH AND WEST PERCHED ZONES WELLS	37
Fig 8	TRILINEAR DIAGRAM EAST PERCHED ZONE WELLS	38
Fig 9	TRILINEAR DIAGRAM SSW AREA PERCHED ZONES WELLS	39

TABLES

Tab 1	SUMMARY OF CEDAR HILLS REGIONAL LANDFILL SITE WELLS	9
Tab 2	GROUNDWATER MONITORING ACTIVITIES	11
Tab 3	REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES	13
Tab 4	REGIONAL AQUIFER ION BALANCE CALCULATIONS	15
Tab 5	REGIONAL AQUIFER PREDICTION LIMIT EVALUATION	29
Tab 6	REGIONAL AQUIFER VOLATILE ORGANIC COMPOUND DETECTIONS	31
Tab 7	PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES	33
Tab 8	PERCHED ZONES ION BALANCE CALCULATIONS	35
Tab 9	PERCHED ZONES PREDICTION LIMIT EVALUATION	41
Tab 10	PERCHED ZONES VOLATILE ORGANIC COMPOUND DETECTIONS	43
Tab 11	SURFACE WATER MONITORING ACTIVITIES	45
Tab 12	SURFACE WATER QUALITY CRITERIA EXCEEDANCES	47
Tab 13	VOLATILE ORGANIC COMPOUND DETECTIONS IN BLANKS	49
Tab 14	GROUNDWATER QUALITY STANDARDS	51
Tab 15	STORMWATER PERMIT BENCHMARKS and EFFLUENT LIMITS	53
Tab 16	UNUSABLE DATA	55

APPENDICES

POTENTIOMETRIC SURFACE MAPS & AQUIFER FLOW CALCULATIONS	App A
FIELD DATA AND ANALYTICAL TEST RESULTS	App B
GROUNDWATER	
SURFACE WATER	
LEACHATE	
LANDFILL GAS MONITORING	
ANALYTICAL DATA QUALIFIERS	
METEROLOGICAL DATA AND OBSERVATIONS	App C
AREA 5 TOP DECK MONITORING REPORT	App D

Cedar Hills Regional Landfill Summary of Quarterly Environmental Monitoring Third Quarter of 2013

This summary contains a discussion of quarterly environmental monitoring results for groundwater and surface water quality and landfill gas migration monitoring for Cedar Hills Regional Landfill.

Environmental samples were collected and analyzed in accordance with the Quality Assurance Project Plan for Environmental Monitoring at King County Solid Waste Facilities (QAPP). This document contains procedures to ensure data quality, consistency and documentation.

1.0 Quarterly Results and Analysis

This Section discusses the monitoring results and how they compare to previously collected data at the site.

1.1 Groundwater

Groundwater monitoring well details and locations are presented in Table 1 and Figure 1. Monitoring activities for the second quarter are listed in Table 2.

1.11 Regional Aquifer

Regional aquifer analysis results for this quarter are consistent with past results.

For discussion and graphical presentation, monitoring wells are grouped together according to the flow path analysis for the regional aquifer, which was developed in the *Cedar Hills Regional Landfill Technical Memorandum Phase I Investigations Groundwater Monitoring Well System Enhancements*, 2007, and refined in the *Cedar Hills Regional Landfill Regional Aquifer Technical Memorandum*, 2011.

Groundwater elevations and potentiometric surfaces are within historical ranges and reflect seasonal responses to precipitation. Potentiometric Surface Map and Groundwater Flow Analysis can be found in Appendix A. Elevations measured this quarter conform to the current hydrogeologic model.

Exceedances of regulatory standards are tabulated and presented in Table 3. Groundwater samples were analyzed for both dissolved and total metal fractions per WAC 173-351-430(2)(b)(ii) as revised. Total metals results were compared to water quality standards. This has resulted in more exceedances for arsenic but does not indicate a change in water quality as the dissolved concentrations remained similar. These results reflect the change in analytical procedure.

Primary Ground Water Quality Criteria were exceeded for total arsenic in upgradient and crossgradient wells MW-56, MW-57, MW-60, MW-93, MW-95 and MW-99; wells interior, vertical to facilities MW-64, MW-68, MW-78 and MW-100; and downgradient wells MW-69, MW-80, MW-86, MW-87, MW-88, MW-89 and MW-91.

Trichloroethylene exceeded the groundwater criterion in upgradient wells MW-76 and MW-82; and vinyl chloride exceeded criteria in MW-65. Secondary standards

(dissolved iron and dissolved manganese) were exceeded in numerous regional wells. These results are consistent with past analyses.

The change to a comparison of Appendix I metals to standards using the total fraction leads to concentration increases as a result of dissolving particulates in the sample rather than filtering them out. This was an expected result of the methodology change.

Trilinear Diagrams (Figures 2 through 6) indicate water quality type (hydrochemical facie) based on dissolved ion distribution. The diagrams are useful to recognize spatial variability, potential analytical error or change in hydrochemical facie over time. All regional samples are within the calcium-magnesium-bicarbonate hydrochemical facie. Data are consistent with previous quarters. Ion balance calculations (Table 4) indicate no analytical error in regional aquifer samples as all samples are within 10% on the ion balance.

Intra-well prediction limits are calculated annually using data collected through the end of the previous calendar year (2012). Comparison to calculated prediction limits provides an indication of whether a change in concentration represents normal variability or a change in water quality. Nitrate exceeded the prediction limit in MW-66 this quarter in the regional aquifer (Table 5).

Volatile Organic Compound (VOC) detections are presented in Table 6. Present are regularly occurring detections of chlorinated VOCs and their breakdown products from the upgradient Queen City Farms (QCF) Site, which include trichloroethene (TCE) in monitoring wells MW-76, MW-78, MW-82, MW-83, and MW-94; *cis*-1,2-dichloroethene was detected in MW-24, MW-56, MW-59 and MW-76; tetrachloroethene (PCE) in MW-76 and vinyl chloride (VC) in MW-65. These upgradient well detections are consistent with past data and continuing migration from QCF.

Acetone was detected in well samples and several QC blanks, methylene chloride was detected in two trip blanks, all probable laboratory artifacts. Quality Assurance /Quality Control (QA/QC) samples (trip blanks, and method blanks) detections appear in Table 13.

1.12 Perched Zones

Analysis results for the perched zones this quarter are consistent with past results.

Groundwater elevations measured during the quarter are within historical ranges. Samples were collected from nine perched wells, four in the north and west areas of the landfill (MW-27A, MW-28, MW-29 and MW-55), two in the east perched zone (MW-30A and MW-47), and MW-101 in the South Solid Waste Area. Groundwater quality data for the regularly sampled Perched Zone samples collected during the second quarter of 2013 are consistent with previous samples.

Exceedances of regulatory standards are tabulated and presented in Table 7. All are

consistent with past analyses and known impacts.

Trilinear plots for perched zones samples are all within the calcium-magnesium-bicarbonate hydrochemical facie, as in past samples (Table 8 and Figures 7-9). Cation/Anion balances indicate no potential analytical error (greater than 10% ion imbalance) in perched zones samples.

As with the regional data, perched zone prediction limits are derived from cumulative data through the end of 2012 and any exceedances of these limits by current results are tabulated (Table 9). There were no prediction limits exceedances in the perched zone.

Volatile Organic Compound detections in the perched zones are presented in Table 10. All are consistent with previous analyses.

1.2 Surface Water

Surface water sampling is attempted monthly at stations located along the drainage courses around the landfill. Samples were collected at 12 surface water stations having adequate flow during the quarter. Monitoring activities are listed in Table 11.

Cedar Hills Regional Landfill is covered by an Industrial Stormwater General Permit issued by the Washington State Department of Ecology. The permit defines discharge Benchmarks, applicable to all facilities and Effluent Limits, applicable specifically to landfills. These values are reproduced in Table 15. Stations SW-N4, SW-SL3 and SW-GS1 are the designated points for comparison to permit benchmarks and effluent limits. Samples were obtained from each designated compliance station monthly this quarter. Compliance sample exceedances are presented in Table 12. No Benchmark or Effluent Criteria were exceeded this quarter.

1.3 Landfill Gas

A network of compliance probes are monitored for landfill gas migration around the perimeter of the landfill. Probes are monitored by the landfill gas crew monthly to monitor system performance and quarterly for compliance.

Detections above the regulatory limit in landfill gas probe GP-33C in September of 2011 prompted actions including: monitoring frequency increases, operational adjustments to increase LFG recovery rates, off-site structure monitoring and preparation of a response plan.

Operational review resulted in modifications to enhance extraction from unlined areas and under liner spaces that could potentially act as gas conveyance pathways.

The plan initiated installation of extraction wells targeting the potential zone of LFG migration in the native sediments with seven LFG extraction wells. These seven original extraction wells continue under active extraction, are currently monitored weekly for methane, carbon dioxide, oxygen, pressure and flow.

Four additional borings (MGPW1703, MGPW17010S, MGPW17010D and MGPW17014) targeting highly transmissive sediments were completed in February 2013.

Weekly monitoring of these borings and LFG migration probes GP-30B and GP-33C, located along the western property, continued through the third quarter with no methane detections.

Data indicate the system has been effective in controlling LFG migration to the perimeter probes with no methane detections this quarter.

Compliance Probe, On-site Buildings and supplemental Monitoring Probe results are presented in Appendix B.

2.0 Analytical Methods

Groundwater quality is evaluated by comparison of analysis results to regulatory standards, geochemical analysis and statistical evaluation. Water quality analytical results for surface water runoff discharged from the landfill site are compared to the limits set in the Industrial Stormwater General Permit. Following is a brief description of each.

2.1 Regulatory Standards

Groundwater monitoring results are compared to Washington State Groundwater Quality Criteria, WAC 173-200 (Table 14). Surface water monitoring results are compared to the *Industrial Stormwater General Permit* Benchmark Criteria or WAC 173-201A Water Quality Standards for Surface Waters of the State of Washington.

2.2 Trilinear Diagrams and Major Ion Balance

Geochemical data are presented on trilinear diagrams. Major cations and anions are plotted on individual triangles as percentages of total milliequivalents per liter (meq/L). These diagrams illustrate differences in major ion chemistry between groundwater samples and can be used to categorize water composition into identifiable groups or hydrochemical facies. These hydrochemical facies reflect distinct compositions of cation and anion concentrations. The value of the diagram lies in pointing out relationships that exist among individual samples. Trilinear Diagrams are included with ionic balance calculations in this report. Ion balance calculations are useful for determining analytical correctness and can be of value in detecting laboratory error or variation in field sampling procedures.

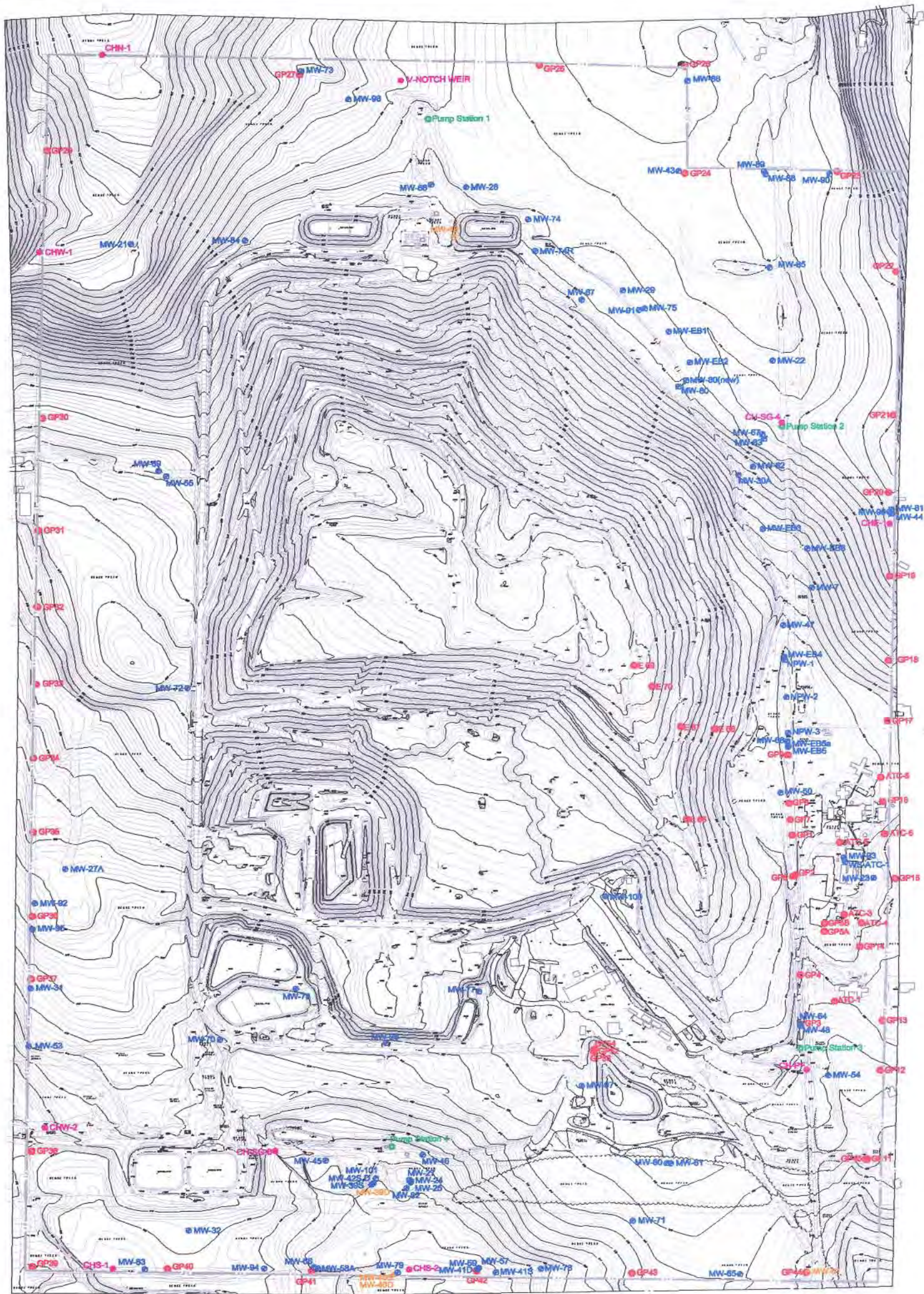
2.3 Prediction Limits

The Prediction Limit is an intra-well statistical test that compares an analytical result to a computed limit value. The limit value is derived from past analytical results from the same well, considered representative historical well data. A value outside of this limiting value is considered evidence that the result is not drawn from the same sample population distribution. The prediction limits generated in this report are based on a 1% false positive rate (type I error) and depend on the background distribution. For each parameter tested, an appropriate background data set is chosen. This background set is updated annually to include recent data that more accurately defines background water quality. The data set is tested for normality by application of the Shapiro-Wilk Test for Normality. If the data fail the test for normality, log transformed data are tested. When normal or transformed normal data sets are determined, a parametric prediction limit is calculated and future results compared to this value. When transformations fail the test for normality, a non-parametric method is applied and future results are compared to this limit.

This test is performed on parameters listed in WAC 173-351-990 Appendix I and also on selected analytes that are common groundwater constituents and have high detection frequencies. It is used to detect a change in the population distribution of the individual well. Exceedances detected in Appendix I parameters for the quarter are presented in Table 5 (Regional Aquifer Wells) and Table 9 (Perched Zones Wells).

2.4 Laboratory Data Quality

Laboratory analytical data is reviewed to verify meeting data quality objectives (DQOs) as defined in the Quality Assurance Project Plan for Environmental Monitoring at King County Solid Waste Facilities (QAPP). Occasionally, results identified during this process are deemed to be unsuitable for evaluation purposes. A summary of suspect results can be found in Table 16.



LEGEND

- MW-9 Monitoring Well
- GP-19 Gas Probe
- MW-8 Decommissioned Monitoring Well
- GP-13 Decommissioned Gas Probe
- Pump Station NO. __
- MW-9 Surface Water Stations



	DATE: Oct. 2007	SITE MAP Cedar Hills Landfill Maple Valley, Washington	Aero-Metric Aerial Photo taken August 24, 2007	PROJECT NO.
	DESIGNED BY:			FIGURE NO. 1

TABLE 1
SUMMARY OF CEDAR HILLS REGIONAL LANDFILL GROUNDWATER WELLS

Well Number	Date Constructed	Aquifer	Zone ¹	Purpose ²	Ground	Top of	Total Well	Screened Interval		Screened Interval		Coordinates	
					Surface Elevation	Well Casing Elevation	Depth	Depth		Elevation		Northing	Easting
MW-24	6/1/1983	Regional	US	WL/WQ	473.8	475.99	193.0	187	192	286.8	281.8	167767.76	1702441.65
MW-54	9/26/1986	Regional	US	WL	579.3	580.43	360.0	329	351	250.3	228.3	168435.53	1702154.28
MW-56	10/12/1988	Regional	US	WL/WQ	479.2	480.33	170.5	156	166	323.2	313.2	167214.82	1698980.77
MW-57	8/22/1988	Regional	US	WL/WQ	455.7	456.64	145.5	129	144	326.7	311.7	167201.99	1699993.32
MW-58A	9/26/1988	Regional	US	WL/WQ	478.6	479.27	220.5	208.5	218.5	270.1	260.1	167207.16	1699006.59
MW-59	8/16/1988	Regional	US	WL/WQ	455.6	457.13	185.5	170.5	180.5	285.1	275.1	167193.44	1699983.91
MW-60	9/13/1991	Regional	US	WL/WQ	564.8	567.15	266.4	230	239	334.8	325.8	167873.2	1701154.47
MW-65	3/29/1993	Regional	US	WL/WQ	543.2	545.83	236.9	225.5	234.3	317.7	308.9	167146.55	1701602.10
MW-76	10/25/1999	Regional	US	WL/WQ	489.8	491.71	155.9	138.7	148.2	351.1	341.6	167193.13	1700376.23
MW-82	11/2/2000	Regional	US	WL/WQ	472.8	474.85	139.5	123.9	133.4	348.9	339.4	167725.31	1699553.72
MW-83	10/27/2000	Regional	US	WL/WQ	494.5	496.81	160.0	144.3	153.8	350.2	340.7	167212.27	1697939.89
MW-94	7/2/2002	Regional	US	WL/WQ	493.2	495.51	168.0	136	144.7	357.2	348.5	167210.22	1698674.21
MW-21	5/17/1983	Regional	UNW	WL/WQ	418.2	420.66	180.0	155	163	263.2	255.2	173876.38	1697901.86
MW-73	7/3/1999	Regional	UNW	WL/WQ	484.3	485.70	218.0	196.2	205.5	288.1	278.8	174995.59	1698954.95
MW-84	10/20/2000	Regional	UNW	WL/WQ	528.7	530.80	250.5	236.2	245.7	292.5	283.0	173894.54	1698602.89
MW-81	10/3/2002	Regional	UNE	WL/WQ	492.2	493.66	199.0	183	192	309.2	300.2	172113.99	1702568.87
MW-99	8/30/2002	Regional	UNE	WL/WQ	491.8	493.64	287.0	270	279	221.8	212.8	172098.73	1702556.06
MW-93	6/24/2002	Regional	CG	WL/WQ	630.2	632.15	350.0	310.3	320.1	319.9	310.1	169851.24	1702259.35
MW-95	7/22/2002	Regional	CG	WL/WQ	568.6	571.54	311.0	254	262.7	314.6	305.9	169426.92	1697265.32
MW-106	2/19/2009	Regional	CG	WL	473.0	475.47	270.0	193	203	280.0	270.0	173461.69	1702536.99
MW-70	5/11/1993	Regional	I	WL/WQ	527.9	530.57	221.5	205.1	218.8	322.8	309.1	168699.89	1698412.97
MW-77	10/12/1999	Regional	I	WL/WQ	550.5	552.67	251.5	230	239.5	320.5	311.0	168999.71	1700007.63
MW-78	10/8/1999	Regional	I	WL/WQ	535.3	537.35	229.5	213	225.5	322.3	309.8	169027.58	1698881.94
MW-100	8/26/2002	Regional	I	WL/WQ	618.4	620.32	124.7	299.3	309.3	319.1	309.1	169610.46	1700791.72
MW-22	5/25/1983	Regional	V	WL	515.0	517.09	284.0	279	283.8	236.0	231.2	173088.17	1701844.34
MW-64	3/22/1993	Regional	V	WL/WQ	594.3	596.55	276.3	260.3	274.1	334.0	320.2	168772.19	1701980.27
MW-66	4/5/1993	Regional	V	WL/WQ	528.6	531.28	250.7	234.2	248	294.4	280.6	174250.32	1699750.19
MW-67	4/28/1993	Regional	V	WL/WQ	514.1	516.43	232.4	216.3	230.1	297.8	284.0	172610.65	1701776.69
MW-68	4/15/1993	Regional	V	WL/WQ	644.8	647.07	354.6	333.5	352.5	311.3	292.3	170609.35	1701917.32
MW-69	4/23/1993	Regional	DW	WL/WQ	651.0	653.69	368.8	357.4	371	293.6	280.0	172400.20	1698061.86
MW-72	8/7/1998	Regional	DW	WL/WQ	669.8	671.87	389.0	366.2	375.8	303.6	294.0	170987.71	1698229.92
MW-74	11/1/2000	Regional	DG	WL/WQ	529.2	531.26	270.0	239.3	248.8	289.9	280.4	173813.79	1700386.85
MW-75	9/24/1999	Regional	DG	WL/WQ	529.8	532.40	287.0	258.7	268.8	271.1	261.0	173432.42	1701059.70
MW-80	2/27/2001	Regional	DG	WL/WQ	528.5	530.41	270.0	249.3	258.8	279.2	269.7	172964.99	1701309.78
MW-85	12/1/2000	Regional	DG	WL/WQ	529.8	531.76	270.0	247.2	256.7	282.6	273.1	173694.52	1701828.95
MW-86	12/12/2000	Regional	DG	WL/WQ	533.9	536.04	282.0	250.5	259.3	283.4	274.6	174917.90	1701331.25
MW-87	11/21/2000	Regional	DG	WL/WQ	535.2	537.31	272.5	251.5	260.8	283.7	274.4	173493.76	1700670.27
MW-88	9/13/2001	Regional	DG	WL/WQ	511.2	513.68	248.5	229.7	239	281.5	272.2	174303.06	1701807.87
MW-89	11/12/2001	Regional	DG	WL/WQ	510.7	512.82	328.0	281.5	290.8	229.2	219.9	174319.44	1701799.57
MW-90	8/14/2002	Regional	DG	WL/WQ	500.2	502.22	300.0	265	274	235.2	226.2	174300.67	1702203.13
MW-91	10/26/2001	Regional	DG	WL/WQ	529.7	532.02	331.0	268.9	289	260.8	240.7	173423.94	1701023.09
MW-43	4/30/1985	Regional	DNF	WL/WQ	544.6	547.06	325.0	299	309	245.6	235.6	174327.14	1701274.23
WS-ATC-1	2/7/1972	Regional	--	WL	624.9	625.51	535.0	325	340	299.9	284.9	169823.34	1702268.95
WS-NPW-1	8/22/1990	Regional	--	WL	644.6	646.33	382.0	365.7	375.7	278.9	268.9	171138.99	1701906.96
WS-NPW-3	6/5/1990	Regional	--	WL	644.3	645.81	376.0	359.4	367.4	284.9	276.9	170663.28	1701922.88

TABLE 1
SUMMARY OF CEDAR HILLS REGIONAL LANDFILL GROUNDWATER WELLS

Well Number	Date Constructed	Aquifer	Zone ¹	Purpose ²	Ground	Top of	Total Well					Coordinates	
					Surface Elevation	Well Casing Elevation	Depth	Screened Interval Depth	Screened Interval Elevation	Screened Interval Depth	Screened Interval Elevation	Northing	Easting
MW-30A	9/6/1989	Perched	EPZ	WL/WQ	567.7	568.43	40.0	25	35	542.7	532.7	172345.48	1701628.59
MW-47	6/31/1985	Perched	EPZ	WL/WQ	633.6	634.60	50.0	23.5	43.5	610.1	590.1	171365.53	1701898.69
MW-48	5/24/1985	Perched	EPZ	WL	593.6	594.49	63.0	37	47	556.6	546.6	168758.73	1701985.17
MW-50	6/3/1985	Perched	EPZ	WL	636.2	637.02	39.5	27.5	37.5	608.7	598.7	170276.14	1701873.92
MW-62	2/1/1990	Perched	EPZ	WL/WQ	555.3	556.21	65.5	44	54	511.3	501.3	172397.77	1701719.18
MW-63	2/12/1990	Perched	EPZ	WL	513.8	515.88	22.0	12	17	501.8	496.8	172580.25	1701786.72
MW-102	1/27/2009	Perched	EPZ	WL	549.7	552.48	50	35	50	515.2	500.2	172313.75	1701858.76
MW-103	1/28/2009	Perched	EPZ	WL	636.8	639.08	40.00	25	35	611.8	601.8	170473.99	1702210.55
MW-104	1/29/2009	Perched	EPZ	WL	626.9	629.68	35.00	22	32	604.9	594.9	171153.34	1702169.14
MW-EB6	11/28/1990	Perched	EPZ	WL/WQ	587.9	589.61	50.0	20	30	567.9	557.9	171862.72	1702049.75
MW-27A	10/3/1985	Perched	NW	WL/WQ	583.2	584.23	80.0	59	69	524.2	514.2	169817.29	1697470.72
MW-28	6/21/1983	Perched	NW	WL/WQ	526.2	527.75	39.0	27	37	499.2	489.2	174231.84	1699966.20
MW-29	6/23/1983	Perched	NW	WL/WQ	531.7	532.92	60.0	17	27	514.7	504.7	173552.23	1700926.39
MW-55	10/2/1986	Perched	NW	WL/WQ	651.1	652.29	67.0	37.5	47.5	613.6	603.6	172364.53	1698110.11
MW-98	3/9/2001	Perched	NW	WL	501.6	503.73	22.5	10.7	20	490.9	481.6	174810.64	1699245.65
MW-25	6/3/1983	Perched	SSWA	WL	473.2	474.41	43.0	18	38	455.2	435.2	167760.97	1699580.14
MW-41S	7/12/1983	Perched	SSWA	WL	460.7	462.44	51.0	8	18	452.7	442.7	167171.51	1700100.82
MW-41D	7/12/1983	Perched	SSWA	WL	460.7	462.32	51.0	30	50	430.7	410.7	167171.51	1700100.82
MW-45	5/17/1985	Perched	SSWA	WL	487.7	488.40	64.0	31	41	447.6	457.6	167907.28	1699058.03
MW-79	11/5/1999	Perched	SSWA	WL	456.9	459.17	56.0	40.5	50	416.4	406.9	167175.91	1699495.56
MW-96	12/18/2001	Perched	SSWA	WL	545.4	547.74	102.9	88.8	97.5	456.6	447.9	168667.73	1699434.47
MW-97	9/5/2001	Perched	SSWA	WL	562.5	564.54	124.7	101	110	461.5	452.5	168380.87	1700636.96
MW-101	6/2/2006	Perched	SSWA	WL/WQ	472.1	474.72	57.50	44	54	428.1	418.1	167791.40	1699364
MW-105	1/30/2009	Perched	SSWA	WL	518.7	521.23	30.00	18	28	500.7	490.7	167697.49	1698320.49

Notes ¹Position of the well screen in the regional aquifer flow path analysis relative to waste placement and site utilities. .

Zone Designations

US = Upgradient South Site Wells

UNW = Upgradient Northwest

UNE = Upgradient Northeast

CG = Cross Gradient

DW = Westside Downgradient

V = Vertical Key Facilities

I = Interior

DNF = Downgradient of North End Facilities outside Refuse Cells

DG = Downgradient Groundwater Flow

²WL = Water Level WQ = Water Quality

TABLE 2
GROUNDWATER MONITORING ACTIVITIES 3rd QUARTER 2013

Well ID	Zone	Date	Planned Activity	Sample ID	Comment
MW-21	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-21	Regional	7/2/13	Groundwater Sampling	W21-130702-	
MW-22	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-24	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-24	Regional	7/2/13	Groundwater Sampling	W24-130702-	
MW-25	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-27A	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-27A	Perched	7/17/13	Groundwater Sampling	W27A130717	
MW-28	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-28	Perched	7/16/13	Groundwater Sampling	W28-130716-	
MW-29	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-29	Perched	7/16/13	Groundwater Sampling	W29-130716-	
MW-30A	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-30A	Perched	7/16/13	Groundwater Sampling	W30A130716-	
MW-41D	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-41S	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-43	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-43	Regional	7/2/13	Groundwater Sampling	W43-130702-	
MW-45	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-47	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-47	Perched	7/16/13	Groundwater Sampling	W47-130716-	
MW-48	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-50	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-54	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-55	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-55	Perched	7/15/13	Groundwater Sampling	W55-130715-	
MW-56	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-56	Regional	7/3/13	Groundwater Sampling	W56-130703-	
MW-57	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-57	Regional	7/3/13	Groundwater Sampling	W57-130703-	
MW-58A	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-58A	Regional		Groundwater Sampling	NA	No sample, pump inoperable.
MW-59	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-59	Regional	7/2/13	Groundwater Sampling	W59-130702-	
MW-60	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-60	Regional	7/3/13	Groundwater Sampling	W60-130702-	
MW-62	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-62	Perched	7/23/13	Groundwater Sampling	NA	No sample, low water level
MW-63	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-64	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-64	Regional	7/31/13	Groundwater Sampling	W64-130731-	
MW-65	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-65	Regional	7/8/13	Groundwater Sampling	W65-130708-	
MW-66	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-66	Regional	7/15/13	Groundwater Sampling	W66-130715-	
MW-67	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-67	Regional	7/12/13	Groundwater Sampling	W67-130712-	
MW-68	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-68	Regional	7/12/13	Groundwater Sampling	W68-130712-	
MW-69	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-69	Regional	7/19/13	Groundwater Sampling	W69-130719-	
MW-70	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-70	Regional	7/17/13	Groundwater Sampling	W70-130717-	
MW-72	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-72	Regional	7/22/13	Groundwater Sampling	W72-130722-	
MW-73	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-73	Regional	7/23/13	Groundwater Sampling	W73-130723-	
MW-74	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-74	Regional	7/18/13	Groundwater Sampling	W74R130718-	
MW-74	Regional	8/23/13	Groundwater Sampling	W74R130823-	
MW-74	Regional	9/19/13	Groundwater Sampling	W74R130919-	
MW-75	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-75	Regional	7/18/13	Groundwater Sampling	W75-130718-	
MW-75	Regional	8/23/13	Groundwater Sampling	W75-130823-	
MW-75	Regional	9/19/13	Groundwater Sampling	W75-130919-	
MW-76	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-76	Regional	7/15/13	Groundwater Sampling	W76-130715-	
MW-77	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-77	Regional	8/2/13	Groundwater Sampling	W77-130802-	
MW-78	Regional	7/1/13	Groundwater Elevation Measurement	NA	

TABLE 2
GROUNDWATER MONITORING ACTIVITIES 3rd QUARTER 2013

Well ID	Zone	Date	Planned Activity	Sample ID	Comment
MW-78	Regional	7/3/13	Groundwater Sampling	W78-130702-	
MW-79	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-80	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-80	Regional	7/18/13	Groundwater Sampling	W80-130718-	
MW-81	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-81	Regional	7/23/13	Groundwater Sampling	W81-130723-	
MW-82	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-82	Regional	7/23/13	Groundwater Sampling	W82-130723-	
MW-83	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-83	Regional	7/17/13	Groundwater Sampling	W83-130717-	
MW-84	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-84	Regional	7/9/13	Groundwater Sampling	W84-130709-	
MW-85	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-85	Regional	7/22/13	Groundwater Sampling	W85-130722-	
MW-86	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-86	Regional	7/22/13	Groundwater Sampling	W86-130722-	
MW-87	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-87	Regional	7/19/13	Groundwater Sampling	W87-130719-	
MW-87	Regional	8/23/13	Groundwater Sampling	W87-130823-	
MW-87	Regional	7/19/13	Groundwater Sampling	W87-130919-	
MW-88	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-88	Regional	7/17/13	Groundwater Sampling	W88-130717-	
MW-89	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-89	Regional	8/1/13	Groundwater Sampling	W89-130801-	
MW-90	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-90	Regional	7/22/13	Groundwater Sampling	W90-130722-	
MW-91	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-91	Regional	7/8/13	Groundwater Sampling	W91-130708-	
MW-93	Regional	7/9/13	Groundwater Sampling	W93-130709-	
MW-94	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-94	Regional	7/23/13	Groundwater Sampling	W94-130723-	
MW-95	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-95	Regional	7/9/13	Groundwater Sampling	W95-130709-	
MW-96	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-97	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-98	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-99	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-99	Regional	7/19/13	Groundwater Sampling	W99-130719-	
MW-99	Regional	8/23/13	Groundwater Sampling	W99-130823-	
MW-99	Regional	9/18/13	Groundwater Sampling	W99-130918-	
MW-100	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-100	Regional	7/9/13	Groundwater Sampling	W100130709-	
MW-101	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-101	Perched	7/18/13	Groundwater Sampling	W101130718-	
MW-102	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-103	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-104	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-105	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-106	Regional	7/1/13	Groundwater Elevation Measurement	NA	
MW-EB6	Perched	7/1/13	Groundwater Elevation Measurement	NA	
MW-EB6	Perched	7/24/13	Groundwater Sampling	NA	No Sample, low water level
Equipment Blank	NA	7/3/13	QA/QC Sample	WU1H130702E	
Equipment Blank	NA	7/3/13	QA/QC Sample	WU1M130702E	
Equipment Blank	NA	7/3/13	QA/QC Sample	WU1S130702E	
Field Blank	NA	7/2/13	QA/QC Sample	W78-130702F	
Field Blank	NA	7/22/13	QA/QC Sample	W86-130722F	
MW-28	Perched	7/16/13	QA/QC Sample	W28-130716D	Field Duplicate
MW-47	Perched	7/16/13	QA/QC Sample	W47-130716D	Field Duplicate
MW-74	Regional	9/19/13	QA/QC Sample	W74R130919D	Field Duplicate
WS-NPW-1	Regional	7/1/13	Groundwater Elevation Measurement	NA	
WS-NPW-3	Regional	7/1/13	Groundwater Elevation Measurement	NA	
WS-NPW	Regional	7/16/13	Water Supply Characterization	WNPW130716-	

NA = No sample ID assigned, No sample collected.

TABLE 3
SUMMARY OF EXCEEDANCES OF WAC 173-200-040
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
South, Northeast and Northwest Upgradient and Crossgradient Wells					
pH (field)	(pH units)	MW-76	7/15/2013	W76-130715-	6.47
Arsenic (Total)	(mg/L)	MW-56	7/3/2013	W56-130703-	0.00239 S
		MW-57	7/3/2013	W57-130703-	0.00244 S
		MW-60	7/3/2013	W60-130703-	0.00159 S
		MW-93	7/9/2013	W93-130709-	0.00132
		MW-95	7/9/2013	W95-130709-	0.001
		MW-99	7/19/2013	W99-130719-	0.00221
Iron (Dissolved)	(mg/L)	MW-21	7/2/2013	W21-130702-	1.68
		MW-24	7/2/2013	W24-130702-	3.53
		MW-57	7/3/2013	W57-130703-	8.58 S
		MW-59	7/2/2013	W59-130702-	4.57
		MW-65	7/8/2013	W65-130708-	5.13
Manganese (Dissolved)	(mg/L)	MW-21	7/2/2013	W21-130702-	0.0922
		MW-24	7/2/2013	W24-130702-	0.14
		MW-56	7/3/2013	W56-130703-	0.132 S
		MW-57	7/3/2013	W57-130703-	0.262 S
		MW-59	7/2/2013	W59-130702-	0.115
		MW-65	7/8/2013	W65-130708-	0.208
		MW-93	7/9/2013	W93-130709-	0.293
		MW-95	7/9/2013	W95-130709-	0.147
		MW-99	7/19/2013	W99-130719-	0.0764 D
Trichloroethene	(ug/L)	MW-76	7/15/2013	W76-130715-	6.69
		MW-82	7/23/2013	W82-130723-	5.63
Vinyl Chloride	(ug/L)	MW-65	7/8/2013	W65-130708-	0.044
Interior and Vertical to Facilities Wells					
Arsenic (Total)	(mg/L)	MW-64	7/31/2013	W64-130731-	0.00198
		MW-68	7/12/2013	W68-130712-	0.0493
		MW-78	7/3/2013	W78-130703-	0.0015 S
		MW-100	7/9/2013	W100130709-	0.00116
Iron (Dissolved)	(mg/L)	MW-68	7/12/2013	W68-130712-	1.07
		MW-100	7/9/2013	W100130709-	1.55
Manganese (Dissolved)	(mg/L)	MW-67	7/12/2013	W67-130712-	0.128
		MW-68	7/12/2013	W68-130712-	0.276
		MW-100	7/9/2013	W100130709-	0.257

TABLE 3
SUMMARY OF EXCEEDANCES OF WAC 173-200-040
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Wells Downgradient to Waste Cells and North end Facilities					
Arsenic (Total)	(mg/L)	MW-69	7/19/2013	W69-130719-	0.00386
		MW-80	7/18/2013	W80-130718-	0.00461
		MW-86	7/22/2013	W86-130722-	0.00217
		MW-87	7/19/2013	W87-130719-	0.00161
		MW-88	7/17/2013	W88-130717-	0.00101
		MW-89	8/1/2013	W89-130801-	0.00249
		MW-91	7/8/2013	W91-130708-	0.0442
Iron (Dissolved)	(mg/L)	MW-43	7/2/2013	W43-130702-	1.01
		MW-69	7/19/2013	W69-130719-	1.04
		MW-72	7/22/2013	W72-130722-	2.2
		MW-75	7/18/2013	W75-130718-	1.53
		MW-80	7/18/2013	W80-130718-	1.6
		MW-87	7/19/2013	W87-130719-	3.46
		MW-89	8/1/2013	W89-130801-	0.867
		MW-90	7/22/2013	W90-130722-	1.04
		MW-91	7/8/2013	W91-130708-	2.5
Manganese (Dissolved)	(mg/L)	MW-43	7/2/2013	W43-130702-	0.255
		MW-69	7/19/2013	W69-130719-	0.212 D
		MW-72	7/22/2013	W72-130722-	0.297 D
		MW-75	7/18/2013	W75-130718-	0.124 D
		MW-80	7/18/2013	W80-130718-	0.249 D
		MW-87	7/19/2013	W87-130719-	0.387 D
		MW-89	8/1/2013	W89-130801-	0.209 D
		MW-90	7/22/2013	W90-130722-	0.25 D
		MW-91	7/8/2013	W91-130708-	0.375

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID		Upgradient South																							
		MW-24 7/2/13			MW-56 7/3/13			MW-57 7/3/13			MW-59 7/2/13			MW-60 7/3/13			MW-65 7/8/13								
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)					
Calcium	40.1	2	15.0	0.7485	37.4	16.3	0.81337	46.9	17.5	0.87325	37.5	15.2	0.75848	37.9	19.2	0.95808	46.8	13.0	0.6487	37.1					
Magnesium	24.3	2	10.1	0.8311	41.6	7.8	0.64267	37.1	9.8	0.8023	34.4	9.6	0.78667	39.3	9.0	0.74388	36.3	7.9	0.64925	37.2					
Potassium	39.1	1	0.9	0.02376	1.2	1.2	0.03171	1.8	1.0	0.02634	1.1	1.1	0.02737	1.4	1.4	0.03632	1.8	1.1	0.02813	1.6					
Sodium	23.0	1	6.0	0.26186	13.1	5.5	0.23924	13.8	7.2	0.31101	13.3	6.0	0.26099	13.0	6.7	0.29274	14.3	5.2	0.22793	13.1					
Iron	55.8	2	3.53	0.12642	6.3	0.02	0.00064	0.0	8.58	0.30727	13.2	4.57	0.16366	8.2	0.05	0.00191	0.1	5.13	0.18372	10.5					
Manganese	54.9	2	0.14	0.0051	0.3	0.13	0.00481	0.3	0.26	0.00954	0.4	0.12	0.00419	0.2	0.00	9E-05	0.0	0.21	0.00757	0.4					
Ammonia-N	14.0	1	0.04	0.0029	0.1	0.01	0.00071	0.0	0.02	0.00143	0.1	0.01	0.00071	0.0	0.21	0.01471	0.7	0.01	0.00093	0.1					
Total Cations (meq/L)			2.0			1.7			2.3			2.0			2.0			1.7							
Anions																									
Alkalinity, Total			62			56			72			62			77			53							
Carbonate	60.0	2	0.0526	0.00175	0.1	0.0424	0.00141	0.1	0.0299	0.001	0.1	0.047	0.00157	0.1	0.0623	0.00208	0.1	0.0279	0.00093	0.1					
Bicarbonate	61.0	1	75.53	1.23806	73.4	68.36	1.12042	68.2	87.54	1.43479	72.5	75.67	1.24025	71.7	93.69	1.53569	66.8	65.09	1.06691	69.2					
Chloride	35.5	1	3.6	0.10013	5.9	4.0	0.11395	6.9	6.0	0.16952	8.6	4.1	0.11424	6.6	19.0	0.53592	23.3	4.2	0.11847	7.7					
Nitrate-N	14.0	1	0.01	0.00071	0.0	0.01	0.00071	0.0	0.03	0.00228	0.1	0.01	0.00071	0.0	1.12	0.07996	3.5	0.01	0.00071	0.0					
Sulfate	96.1	2	16.6	0.34563	20.5	19.5	0.40601	24.7	17.9	0.37269	18.8	17.9	0.37269	21.5	6.9	0.14366	6.3	17.0	0.35395	23.0					
Total Anions (meq/L)			1.7			1.6			2.0			1.7			2.3			1.5							
Total Ions (meq/L)			3.7			3.4			4.3			3.7			4.3			3.3							
Cation/Anion Ratio			1.19			1.06			1.18			1.16			0.89			1.13							
Percent Difference			8.5			2.7			8.1			7.3			-5.7			6.2							
Trilinear Diagram Data																									
sum (Ca, Mg, Na+K)			1.87			1.73			2.01			1.83			2.03			1.55							
Calcium					40.13					47.10					41.37					47.17					41.74
Magnesium					44.56					37.21					42.91					36.63					41.78
Sodium + Potassium					15.31					15.69					15.73					16.20					16.48
sum (SO ₄ , Cl, HCO ₃ +CO ₃)			1.69			1.64			1.98			1.73			2.22			1.54							
Sulfate					20.505					24.729					21.559					6.479					22.980
Chloride					5.941					6.941					6.608					24.169					7.691
Bicarbonate + Carbonate					73.554					68.330					71.833					69.352					69.328

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID			Upgradient South														
			MW-76 7/15/13			MW-82 7/23/13			MW-83 7/17/13			MW-94 7/23/13			MW-21 7/2/13		
	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Cations																	
Calcium	40.1	2	19.5	0.97305	46.9	25.9	1.29242	43.8	36.9	1.84132	53.7	27.4	1.36727	49.5	10.8	0.53892	39.0
Magnesium	24.3	2	8.7	0.71508	34.5	15.6	1.28369	43.5	14.5	1.19317	34.8	12.5	1.02859	37.2	6.2	0.50936	36.8
Potassium	39.1	1	1.5	0.03888	1.9	1.7	0.0445	1.5	2.4	0.06036	1.8	2.1	0.05243	1.9	1.1	0.02762	2.0
Sodium	23.0	1	8.0	0.34755	16.7	7.5	0.32754	11.1	7.7	0.33319	9.7	7.2	0.31362	11.4	5.6	0.24315	17.6
Iron	55.8	2	0.01	0.00036	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0	1.68	0.06016	4.3
Manganese	54.9	2	0.00	3.6E-05	0.0	0.00	3.6E-05	0.0	0.01	0.00031	0.0	0.00	3.6E-05	0.0	0.09	0.00336	0.2
Ammonia-N	14.0	1	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00079	0.1
Total Cations (meq/L)				2.1			2.9			3.4			2.8			1.4	
Anions																	
Alkalinity, Total			66			122			117			106			52		
Carbonate	60.0	2	0.0116	0.00039	0.0	0.0902	0.00301	0.1	0.0571	0.00191	0.1	0.0555	0.00185	0.1	0.0703	0.00234	0.2
Bicarbonate	61.0	1	80.01	1.31141	64.3	148.66	2.43663	81.3	142.62	2.33774	71.5	129.21	2.11783	74.8	63.66	1.0435	76.6
Chloride	35.5	1	13.4	0.37797	18.5	5.9	0.16585	5.5	24.8	0.69952	21.4	18.3	0.51618	18.2	7.6	0.21521	15.8
Nitrate-N	14.0	1	0.33	0.02385	1.2	0.70	0.04962	1.7	0.66	0.04726	1.4	0.98	0.07011	2.5	0.01	0.00071	0.1
Sulfate	96.1	2	15.6	0.32481	15.9	16.5	0.34354	11.5	8.9	0.18531	5.7	6.0	0.12555	4.4	4.8	0.10015	7.4
Total Anions (meq/L)				2.0			3.0			3.3			2.8			1.4	
Total Ions (meq/L)				4.1			5.9			6.7			5.6			2.7	
Cation/Anion Ratio				1.02			0.98			1.05			0.98			1.02	
Percent Difference				0.9			-0.8			2.4			-1.2			0.8	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)				2.07			2.95			3.43			2.76			1.32	
Calcium					46.90			43.84			53.71			49.50			40.86
Magnesium					34.47			43.54			34.81			37.24			38.62
Sodium + Potassium					18.63			12.62			11.48			13.25			20.53
sum (SO ₄ , Cl, HCO ₃ +CO ₃)				2.01			2.95			3.22			2.76			1.36	
Sulfate					16.123			11.649			5.747			4.547			7.357
Chloride					18.762			5.624			21.694			18.693			15.811
Bicarbonate + Carbonate					65.116			82.727			72.559			76.761			76.832

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID			Upgradient Northwest									Upgradient Northeast					
			MW-73 7/23/13			MW-84 7/9/13			MW-81 7/23/13			MW-99 7/19/13			MW-93 7/9/13		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Calcium	40.1	2	12.3	0.61377	44.3	11.9	0.59381	36.1	10.8	0.53892	41.5	9.8	0.48653	38.0	39.3	1.96108	48.1
Magnesium	24.3	2	6.2	0.50854	36.7	9.4	0.77103	46.8	6.0	0.49373	38.0	4.3	0.35466	27.7	19.9	1.63752	40.2
Potassium	39.1	1	0.8	0.01982	1.4	1.2	0.02941	1.8	0.7	0.01867	1.4	0.8	0.02102	1.6	1.9	0.04808	1.2
Sodium	23.0	1	5.6	0.24315	17.5	5.7	0.24968	15.2	5.7	0.24576	18.9	9.4	0.40888	32.0	9.5	0.41192	10.1
Iron	55.8	2	0.01	0.00036	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0	0.02	0.00068	0.1	0.01	0.00036	0.0
Manganese	54.9	2	0.00	3.6E-05	0.0	0.00	0.00014	0.0	0.00	3.6E-05	0.0	0.08	0.00278	0.2	0.29	0.01067	0.3
Ammonia-N	14.0	1	0.01	0.00071	0.1	0.04	0.00254	0.2	0.01	0.00071	0.1	0.07	0.00497	0.4	0.07	0.0047	0.1
Total Cations (meq/L)				1.4			1.6			1.3			1.3			4.1	
Anions																	
Alkalinity, Total			53			61			48			53			118		
Carbonate	60.0	2	0.0276	0.00092	0.1	0.0399	0.00133	0.1	0.0973	0.00324	0.2	0.2174	0.00725	0.6	0.1176	0.00392	0.1
Bicarbonate	61.0	1	64.24	1.05292	74.6	73.73	1.20849	74.2	58.24	0.95461	71.7	63.73	1.0446	79.5	143.72	2.35573	57.6
Chloride	35.5	1	2.5	0.07164	5.1	4.2	0.11734	7.2	3.4	0.09562	7.2	3.1	0.08603	6.5	2.7	0.07672	1.9
Nitrate-N	14.0	1	1.48	0.10566	7.5	0.62	0.04405	2.7	1.67	0.11923	9.0	0.18	0.01264	1.0	0.01	0.00071	0.0
Sulfate	96.1	2	8.6	0.17948	12.7	12.4	0.25818	15.8	7.6	0.15803	11.9	7.9	0.16386	12.5	79.4	1.65317	40.4
Total Anions (meq/L)				1.4			1.6			1.3			1.3			4.1	
Total Ions (meq/L)				2.8			3.3			2.6			2.6			8.2	
Cation/Anion Ratio				0.98			1.01			0.98			0.97			1.00	
Percent Difference				-0.9			0.5			-1.2			-1.3			-0.2	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)				1.39			1.64			1.30			1.27			4.06	
Calcium					44.31			36.12			41.55			38.28			48.32
Magnesium					36.71			46.90			38.06			27.90			40.35
Sodium + Potassium					18.98			16.98			20.39			33.82			11.33
					100.0			100.0			100.0						
sum (SO ₄ , Cl, HCO ₃ +CO ₃)				1.30			1.59			1.21			1.30			4.09	
Sulfate					13.753			16.285			13.044			12.588			40.424
Chloride					5.490			7.401			7.893			6.609			1.876
Bicarbonate + Carbonate					80.757			76.313			79.063			80.803			57.700

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID			Cross Gradient						Interior											
			MW-95 7/9/13			MW-70 7/17/13			MW-77 8/2/13			MW-78 7/3/13			MW-100 7/9/13			MW-64 7/31/13		
	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Cations																				
Calcium	40.1	2	21.1	1.05289	46.7	19.0	0.9481	46.7	20.2	1.00798	43.4	17.8	0.88822	45.3	28.9	1.44212	42.9	17.3	0.86327	38.9
Magnesium	24.3	2	11.0	0.90516	40.2	9.5	0.78173	38.5	11.6	0.95454	41.1	8.6	0.7052	35.9	17.1	1.40712	41.9	12.4	1.02037	46.0
Potassium	39.1	1	1.4	0.0353	1.6	1.5	0.03811	1.9	1.6	0.04169	1.8	2.2	0.05729	2.9	2.1	0.05448	1.6	1.5	0.03734	1.7
Sodium	23.0	1	5.8	0.25229	11.2	6.0	0.25925	12.8	7.3	0.31927	13.7	7.1	0.31014	15.8	8.9	0.38887	11.6	6.7	0.291	13.1
Iron	55.8	2	0.01	0.00036	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0	1.55	0.05551	1.7	0.09	0.00336	0.2
Manganese	54.9	2	0.15	0.00535	0.2	0.00	3.6E-05	0.0	0.00	7.1E-05	0.0	0.00	3.6E-05	0.0	0.26	0.00936	0.3	0.04	0.00136	0.1
Ammonia-N	14.0	1	0.02	0.00157	0.1	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00079	0.0	0.04	0.00289	0.1
Total Cations (meq/L)			2.3			2.0			2.3			2.0			3.4			2.2		
Anions																				
Alkalinity, Total			86			80			99			69			135			90		
Carbonate	60.0	2	0.1363	0.00454	0.2	0.1695	0.00565	0.3	0.0729	0.00243	0.1	0.0228	0.00076	0.0	0.069	0.0023	0.1	0.0742	0.00247	0.1
Bicarbonate	61.0	1	105.13	1.7232	77.9	96.89	1.58811	76.8	120.14	1.96927	84.5	84.26	1.38103	73.0	164.56	2.69729	83.9	109.04	1.78726	79.6
Chloride	35.5	1	5.0	0.14131	6.4	5.2	0.14639	7.1	4.4	0.12439	5.3	9.3	0.26091	13.8	2.9	0.08264	2.6	2.9	0.08208	3.7
Nitrate-N	14.0	1	0.01	0.00071	0.0	0.06	0.00393	0.2	0.87	0.06204	2.7	1.19	0.08496	4.5	0.01	0.00071	0.0	0.01	0.00093	0.0
Sulfate	96.1	2	16.5	0.34354	15.5	15.5	0.32272	15.6	8.3	0.1724	7.4	7.9	0.16344	8.6	20.7	0.43099	13.4	17.9	0.37269	16.6
Total Anions (meq/L)			2.2			2.1			2.3			1.9			3.2			2.2		
Total Ions (meq/L)			4.5			4.1			4.7			3.9			6.6			4.5		
Cation/Anion Ratio			1.02			0.98			1.00			1.04			1.04			0.99		
Percent Difference			0.9			-0.9			-0.1			1.8			2.2			-0.6		
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)			2.25			2.03			2.32			1.96			3.29			2.21		
Calcium					46.89			46.77			43.38			45.30			43.80			39.03
Magnesium					40.31			38.56			41.08			35.96			42.74			46.13
Sodium + Potassium					12.81			14.67			15.54			18.74			13.47			14.84
sum (SO ₄ , Cl, HCO ₃ +CO ₃)			2.21			2.06			2.27			1.81			3.21			2.24		
Sulfate					15.527			15.644			7.600			9.049			13.413			16.605
Chloride					6.387			7.096			5.483			14.446			2.572			3.657
Bicarbonate + Carbonate					78.086			77.259			86.917			76.505			84.015			79.738

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID			Vertical to Facilities												Downgradient Northwest					
			MW-66 7/15/13			MW-67 7/12/13			MW-68 7/12/13			MW-69 7/19/13			MW-72 7/22/13			MW-74 7/18/13		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Calcium	40.1	2	21.4	1.06786	37.6	31.6	1.57685	44.9	28.8	1.43713	45.3	29.9	1.49202	50.2	28.1	1.4022	44.2	44.8	2.23553	41.6
Magnesium	24.3	2	16.8	1.38243	48.7	18.4	1.51409	43.1	15.8	1.30014	41.0	12.9	1.06151	35.7	15.9	1.30837	41.3	31.2	2.56737	47.8
Potassium	39.1	1	1.5	0.03785	1.3	1.8	0.04527	1.3	1.9	0.04732	1.5	1.6	0.04118	1.4	1.7	0.04348	1.4	2.1	0.05243	1.0
Sodium	23.0	1	8.0	0.34755	12.3	8.4	0.36407	10.4	7.8	0.33928	10.7	7.6	0.33058	11.1	7.5	0.3258	10.3	11.9	0.51762	9.6
Iron	55.8	2	0.01	0.00036	0.0	0.17	0.00591	0.2	1.07	0.03832	1.2	1.04	0.03724	1.3	2.20	0.07879	2.5	0.01	0.00036	0.0
Manganese	54.9	2	0.00	3.6E-05	0.0	0.13	0.00466	0.1	0.28	0.01005	0.3	0.21	0.00772	0.3	0.30	0.01081	0.3	0.00	3.6E-05	0.0
Ammonia-N	14.0	1	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.001	0.0	0.02	0.00136	0.0	0.02	0.00146	0.0	0.01	0.00071	0.0
Total Cations (meq/L)				2.8	100.0		3.5			3.2			3.0			3.2			5.4	
Anions																				
Alkalinity, Total			117			125			131			129			115			218		
Carbonate	60.0	2	0.1063	0.00354	0.1	0.0843	0.00281	0.1	0.0863	0.00288	0.1	0.2035	0.00678	0.2	0.107	0.00357	0.1	0.1807	0.00602	0.1
Bicarbonate	61.0	1	142.52	2.3361	79.5	152.33	2.49681	72.9	159.64	2.61673	86.3	156.97	2.57283	86.7	140.08	2.29609	69.2	265.59	4.35332	77.6
Chloride	35.5	1	8.5	0.23975	8.2	4.6	0.1289	3.8	2.6	0.07193	2.4	3.8	0.10634	3.6	8.0	0.22593	6.8	25.0	0.70516	12.6
Nitrate-N	14.0	1	0.73	0.0524	1.8	0.43	0.03098	0.9	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.42	0.02977	0.5
Sulfate	96.1	2	14.8	0.30815	10.5	36.7	0.76412	22.3	16.4	0.34146	11.3	13.5	0.28108	9.5	38.0	0.79119	23.8	24.6	0.51219	9.1
Total Anions (meq/L)				2.9	100.0		3.4			3.0			3.0			3.3			5.6	
Total Ions (meq/L)				5.8			6.9			6.2			5.9			6.5			11.0	
Cation/Anion Ratio				0.96			1.03			1.05			1.00			0.96			0.96	
Percent Difference				-1.8			1.3			2.2			0.1			-2.3			-2.1	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.84			3.50			3.12			2.93			3.08			5.37	
Calcium					37.66			45.05			46.00			51.00			45.53			41.61
Magnesium					48.75			43.26			41.62			36.29			42.48			47.78
Sodium + Potassium					13.59			11.69			12.38			12.71			11.99			10.61
					100.0															
sum (SO ₄ , Cl, HCO ₃ +CO ₃)				2.89			3.39			3.03			2.97			3.32			5.58	
Sulfate					10.672			22.523			11.258			9.473			23.854			9.185
Chloride					8.303			3.799			2.371			3.584			6.812			12.645
Bicarbonate + Carbonate					81.025			73.678			86.370			86.943			69.334			78.171
					100.0															

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

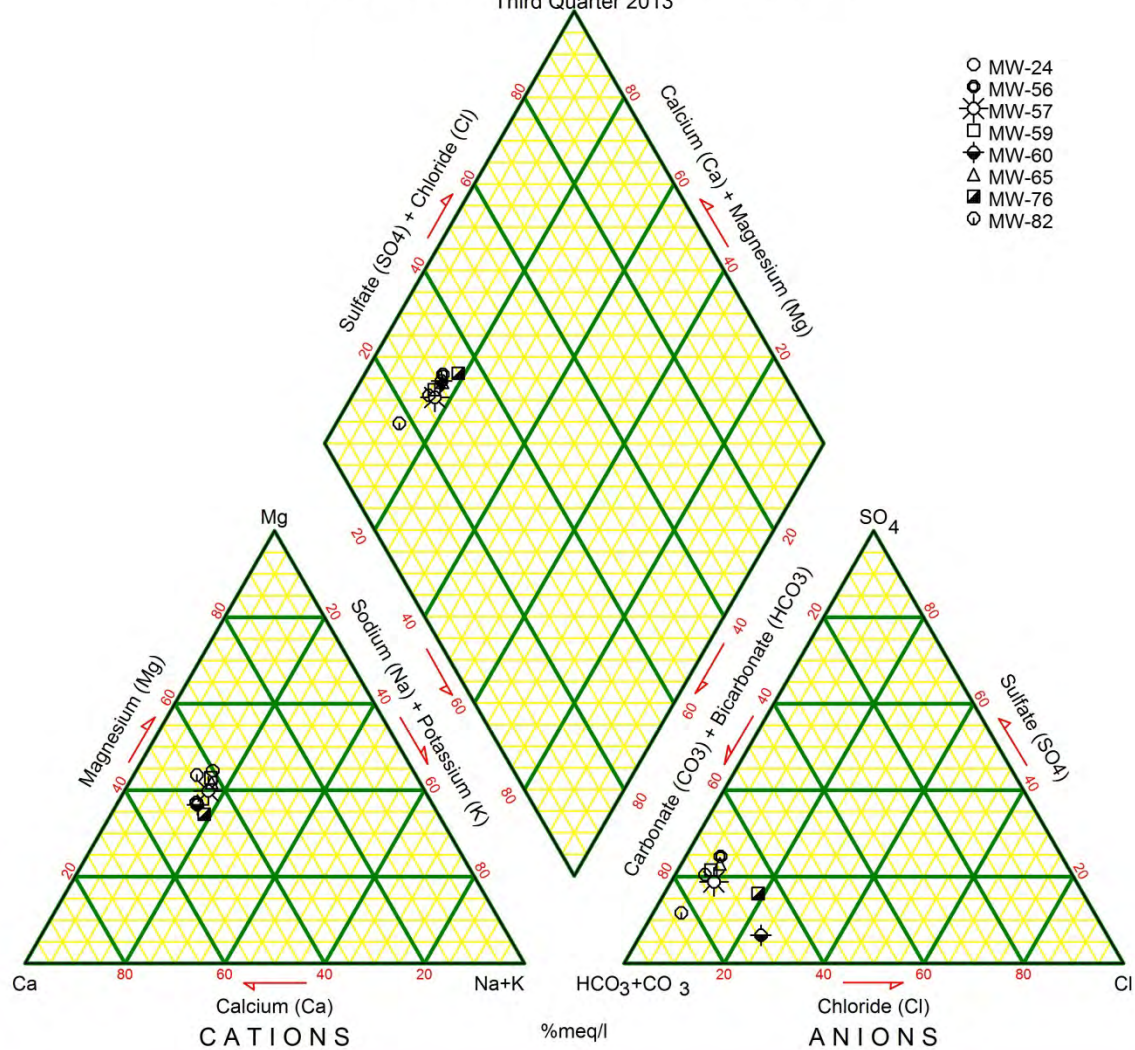
Site ID			Downgradient																	
			MW-75 7/18/13			MW-80 7/18/13			MW-85 7/22/13			MW-86 7/22/13			MW-87 7/19/13			MW-88 7/17/13		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Calcium	40.1	2	25.2	1.25749	39.8	28.1	1.4022	48.5	24.0	1.1976	44.1	13.6	0.67864	39.5	38.9	1.94112	43.1	9.4	0.46956	36.1
Magnesium	24.3	2	17.6	1.44826	45.8	13.1	1.07797	37.3	13.8	1.13557	41.8	8.9	0.73071	42.6	23.8	1.95844	43.5	7.0	0.5719	43.9
Potassium	39.1	1	1.8	0.04476	1.4	1.6	0.04016	1.4	1.3	0.03376	1.2	1.1	0.02813	1.6	2.1	0.05448	1.2	0.9	0.02384	1.8
Sodium	23.0	1	8.1	0.35233	11.1	7.0	0.30274	10.5	8.0	0.34711	12.8	6.2	0.27056	15.8	9.3	0.40583	9.0	5.4	0.23532	18.1
Iron	55.8	2	1.53	0.05479	1.7	1.60	0.0573	2.0	0.01	0.00036	0.0	0.21	0.00748	0.4	3.46	0.12391	2.8	0.01	0.00036	0.0
Manganese	54.9	2	0.12	0.00451	0.1	0.25	0.00906	0.3	0.00	3.6E-05	0.0	0.01	0.00021	0.0	0.39	0.01409	0.3	0.00	3.6E-05	0.0
Ammonia-N	14.0	1	0.01	0.00079	0.0	0.01	0.00086	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.02	0.00121	0.0	0.01	0.00071	0.1
Total Cations (meq/L)				3.2			2.9			2.7			1.7			4.5			1.3	
Anions																				
Alkalinity, Total			96			91			96			63			86			51		
Carbonate	60.0	2	0.0677	0.00226	0.1	0.0865	0.00288	0.1	0.1234	0.00411	0.1	0.0631	0.0021	0.1	0.0319	0.00106	0.0	0.0608	0.00203	0.2
Bicarbonate	61.0	1	116.86	1.91545	62.0	110.72	1.81484	63.0	117.11	1.9196	67.7	77.10	1.26371	73.3	105.10	1.72268	37.4	61.85	1.01382	78.3
Chloride	35.5	1	8.4	0.2375	7.7	4.6	0.13088	4.5	7.5	0.21239	7.5	4.0	0.11311	6.6	5.4	0.15231	3.3	3.4	0.09703	7.5
Nitrate-N	14.0	1	0.01	0.00071	0.0	0.01	0.00071	0.0	0.18	0.01278	0.5	0.46	0.03284	1.9	0.01	0.00071	0.0	0.63	0.04483	3.5
Sulfate	96.1	2	44.9	0.93486	30.2	44.8	0.93277	32.4	33.0	0.68709	24.2	15.0	0.31231	18.1	131.0	2.72753	59.2	6.6	0.13638	10.5
Total Anions (meq/L)				3.1			2.9			2.8			1.7			4.6			1.3	
Total Ions (meq/L)				6.3			5.8			5.6			3.4			9.1			2.6	
Cation/Anion Ratio				1.02			1.00			0.96			1.00			0.98			1.01	
Percent Difference				1.2			0.1			-2.2			-0.2			-1.2			0.3	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				3.10			2.82			2.71			1.71			4.36			1.30	
Calcium					40.53			49.67			44.13			39.73			44.52			36.10
Magnesium					46.68			38.18			41.84			42.78			44.92			43.97
Sodium + Potassium					12.80			12.15			14.03			17.49			10.56			19.93
sum (SO ₄ , Cl, HCO ₃ +CO ₃)				3.09			2.88			2.82			1.69			4.60			1.25	
Sulfate					30.254			32.372			24.337			18.467			59.248			10.917
Chloride					7.686			5.542			7.523			6.688			3.309			7.767
Bicarbonate + Carbonate					62.061			63.085			68.140			74.846			37.443			81.316

Table 4
Ion Balance Calculations
Cedar Hills Landfill Regional Aquifer Groundwater Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID			Downgradient of North End Facilities														
			MW-89 8/1/13			MW-90 7/22/13			MW-91 7/8/13			MW-43 7/2/13			MW-89 1/10/13		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Calcium	40.1	2	13.1	0.65369	34.5	17.0	0.8483	43.6	23.8	1.18762	40.2	14.7	0.73353	37.4	14.1	0.70359	34.4
Magnesium	24.3	2	10.1	0.8311	43.8	9.2	0.75458	38.8	15.7	1.29192	43.7	10.3	0.84756	43.2	10.6	0.87225	42.7
Potassium	39.1	1	1.7	0.04399	2.3	1.3	0.03274	1.7	1.9	0.04962	1.7	1.4	0.03555	1.8	1.4	0.03632	1.8
Sodium	23.0	1	7.5	0.32754	17.3	6.0	0.26186	13.5	7.3	0.31927	10.8	6.8	0.29752	15.2	9.0	0.39191	19.2
Iron	55.8	2	0.87	0.03105	1.6	1.04	0.03724	1.9	2.50	0.08953	3.0	1.01	0.03617	1.8	0.86	0.03066	1.5
Manganese	54.9	2	0.21	0.00761	0.4	0.25	0.0091	0.5	0.38	0.01365	0.5	0.26	0.00928	0.5	0.25	0.00896	0.4
Ammonia-N	14.0	1	0.02	0.00146	0.1	0.02	0.00121	0.1	0.03	0.00224	0.1	0.03	0.0018	0.1	0.01	0.00086	0.0
Total Cations (meq/L)			1.9			1.9			3.0			2.0			2.0		
Anions																	
Alkalinity, Total			72			68			87			69			75		
Carbonate	60.0	2	0.08439	0.00281	0.1	0.07612	0.00254	0.1	0.06276	0.00209	0.1	0.10368	0.00346	0.2	0.07606	0.00254	0.1
Bicarbonate	61.0	1	87.79	1.43897	76.2	82.93	1.35926	66.8	105.89	1.73565	62.0	83.73	1.37234	77.8	90.86	1.48924	76.8
Chloride	35.5	1	3.7	0.1038	5.5	4.9	0.13736	6.8	7.9	0.22368	8.0	3.8	0.10662	6.0	4.1	0.11424	5.9
Nitrate-N	14.0	1	0.01	0.00071	0.0	0.01	0.00071	0.0	0.03	0.00221	0.1	0.01	0.00071	0.0	0.01	0.00071	0.0
Sulfate	96.1	2	16.4	0.34146	18.1	25.7	0.5351	26.3	40.2	0.837	29.9	13.5	0.28108	15.9	16.0	0.33313	17.2
Total Anions (meq/L)			1.9			2.0			2.8			1.8			1.9		
Total Ions (meq/L)			3.8			4.0			5.8			3.7			4.0		
Cation/Anion Ratio			1.00			0.96			1.05			1.11			1.05		
Percent Difference			0.2			-2.3			2.7			5.3			2.6		
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)			1.86			1.90			2.85			1.91			2.00		
Calcium						35.21			44.71			41.69			38.32		
Magnesium						44.77			39.77			45.36			44.28		
Sodium + Potassium						20.01			15.53			12.95			17.40		
sum (SO ₄ , Cl, HCO ₃ +CO ₃)			1.89			2.03			2.80			1.76			1.94		
Sulfate						18.095			26.304			29.910			15.939		
Chloride						5.501			6.753			7.993			6.046		
Bicarbonate + Carbonate			76.404						66.943						76.930		

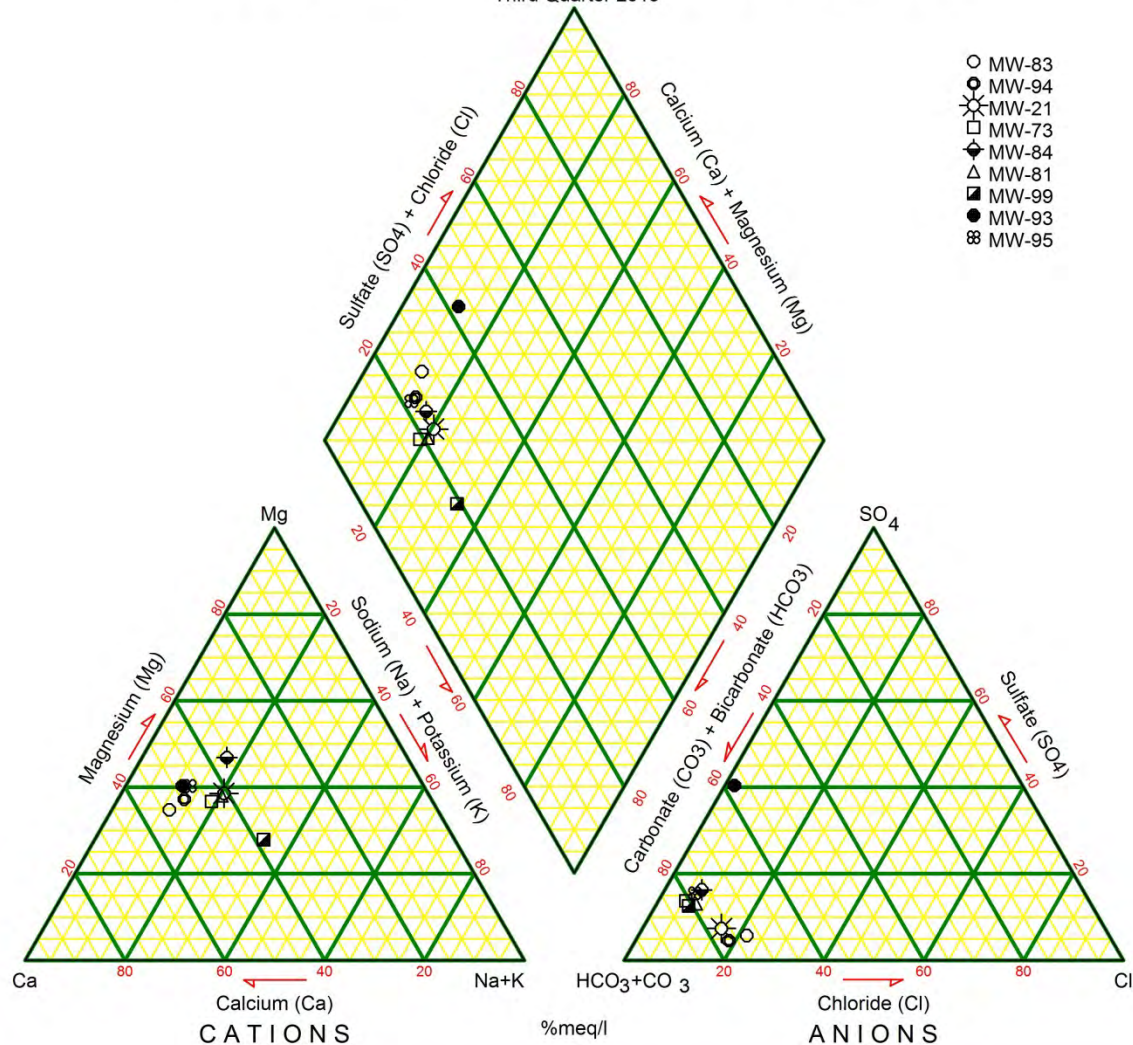
Cedar Hills Regional Landfill
Figure 2. Regional Aquifer South Upgradient Wells
 Third Quarter 2013



Cedar Hills Regional Landfill

Figure 3. Regional Aquifer S NE NW Upgradient and Crossgradient Wells

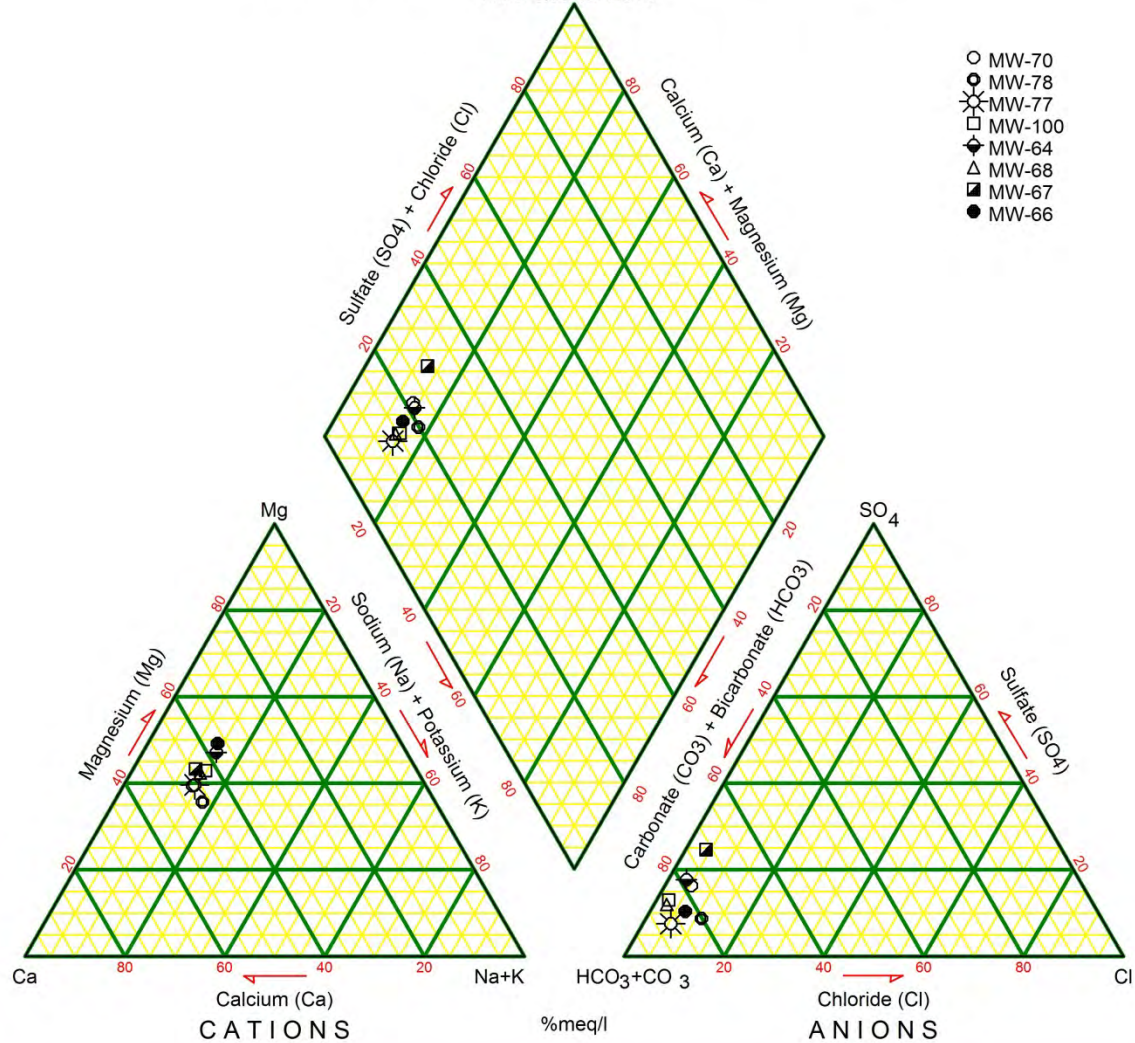
Third Quarter 2013



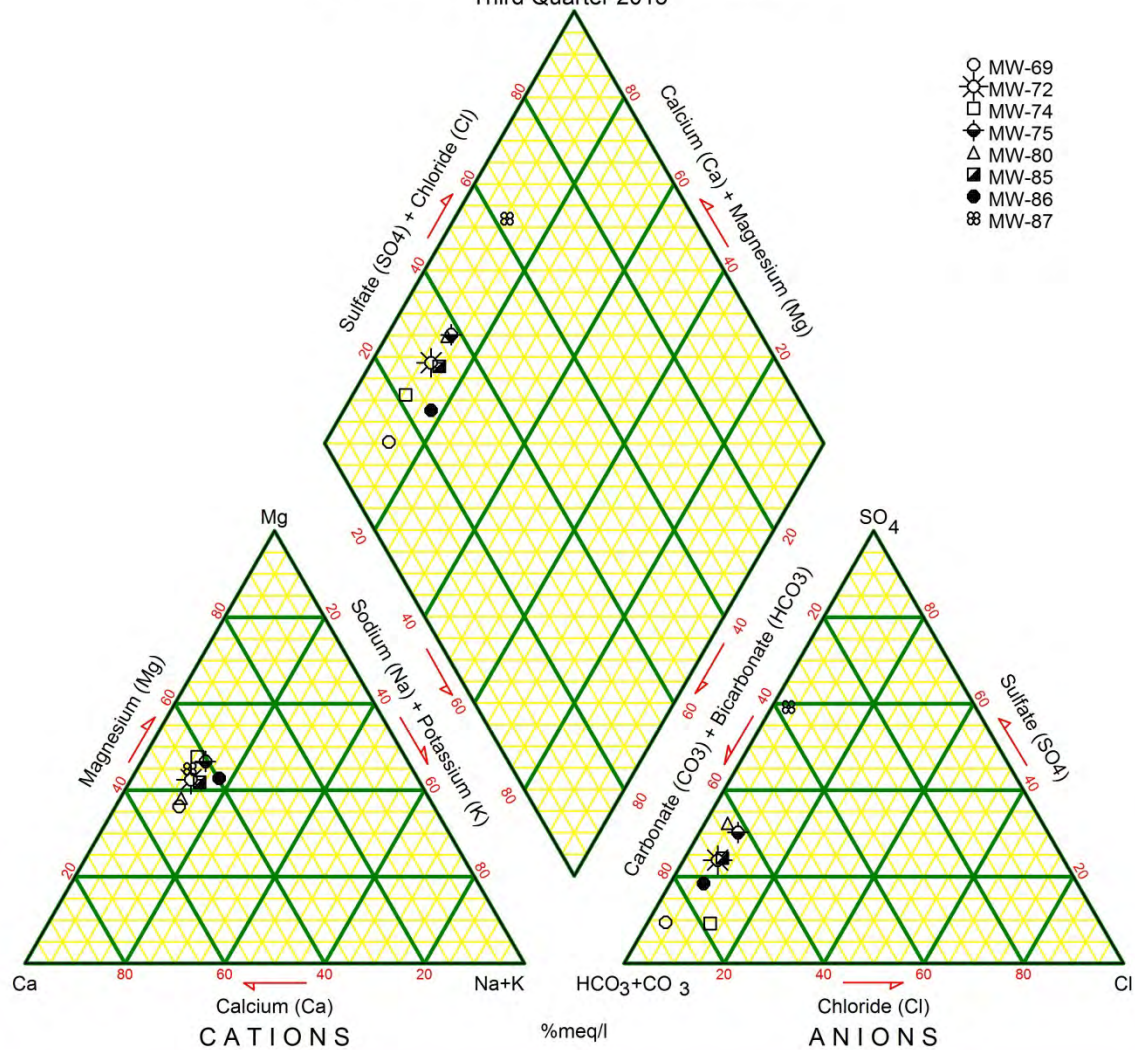
Cedar Hills Regional Landfill

Figure 4. Regional Aquifer Interior and Vertical to Facilities

Third Quarter 2013



Cedar Hills Regional Landfill
 Figure 5. Regional Aquifer Downgradient Wells
 Third Quarter 2013



Cedar Hills Regional Landfill

Figure 6. Regional Aquifer Wells Downgradient of North End Facilities

Third Quarter 2013

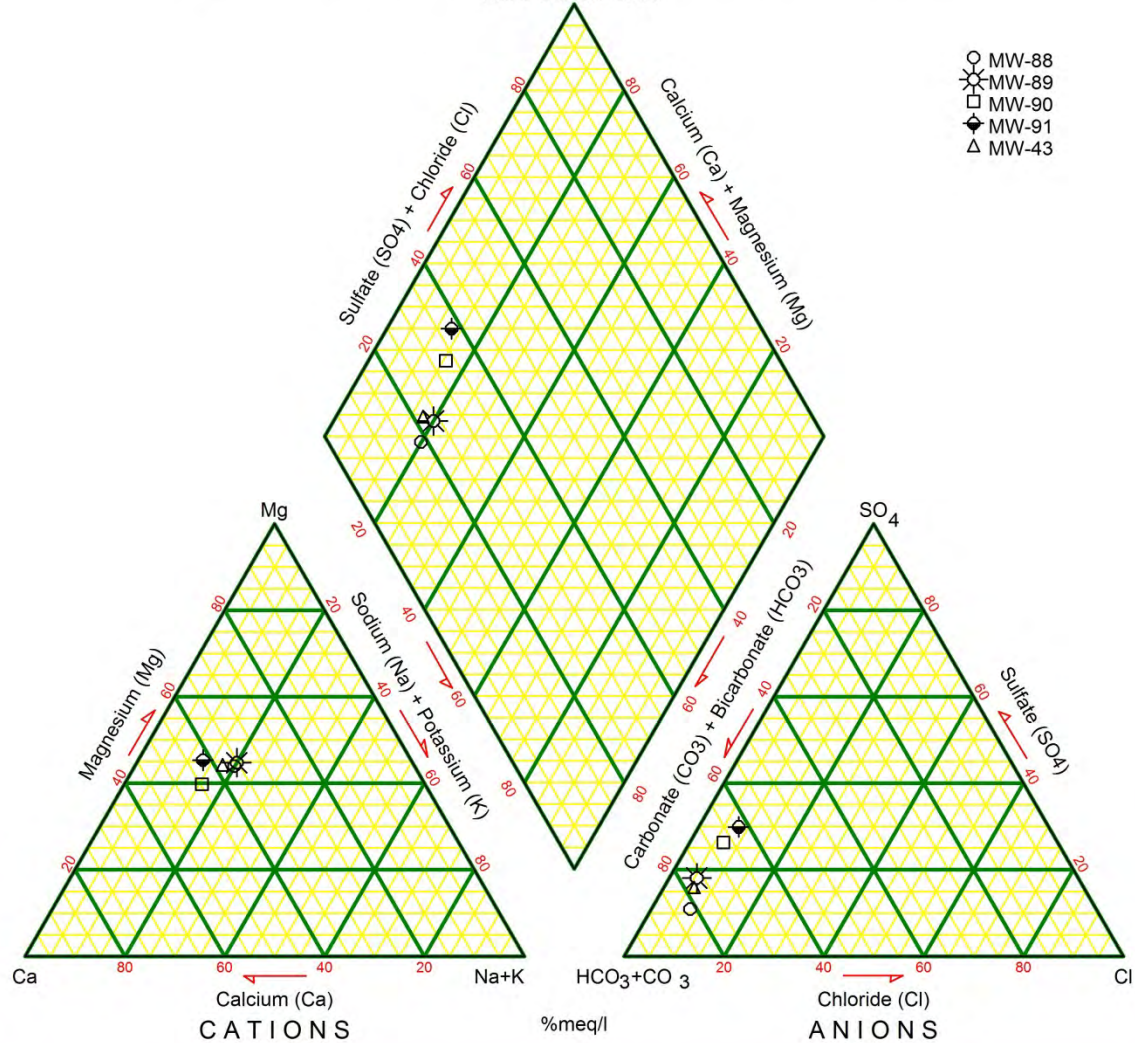


TABLE 5
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT EXCEEDANCES
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Units	Well ID	Sample Date	Sample Value	Intrawell Limit Value
Downgradient Weels					
Nitrate N	mg/L	MW-66	07/15/13	0.734	0.72

TABLE 6
CEDAR HILLS REGIONAL LANDFILL
VOLATILE ORGANIC COMPOUND DETECTIONS IN REGIONAL AQUIFER WELLS
(Data Collected from July 1, 2013 to September 30, 2013)

Analyte	Site ID	Date	Sample ID	ug/L
South, Northeast and Northwest Upgradient and Crossgradient Wells				
Acetone	MW-21	7/2/2013	W21-130702-	8.19
	MW-94	7/23/2013	W94-130723-	5.28
cis-1,2-Dichloroethene	MW-24	7/2/2013	W24-130702-	0.31 T
	MW-56	7/3/2013	W56-130703-	1.24
	MW-59	7/2/2013	W59-130702-	0.857
	MW-76	7/15/2013	W76-130715-	0.429
Tetrachloroethene	MW-76	7/15/2013	W76-130715-	0.37 T
Trichloroethene	MW-76	7/15/2013	W76-130715-	6.69
	MW-78	7/3/2013	W78-130703-	0.596
	MW-82	7/23/2013	W82-130723-	5.63
	MW-83	7/17/2013	W83-130717-	2.06
	MW-94	7/23/2013	W94-130723-	2.12
Vinyl Chloride	MW-65	7/8/2013	W65-130708-	0.044
Interior and Vertical to Facilities Wells				
Methylene Chloride	MW-67	07/12/13	W67-130712-	0.34 T
	MW-76	07/15/13	W76-130715-	0.23 T
	MW-78	07/03/13	W78-130703-	0.2 T
Downgradient Wells				
Acetone	MW-69	07/19/13	W69-130719-	6.64
	MW-74	08/23/13	W74R130823-	5.34 B
	MW-75	09/19/13	W75-130919-	4.3 B
	MW-87	09/19/13	W87-130919-	7.27 B

TABLE 7
SUMMARY OF EXCEEDANCES OF WAC 173-200-040
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
North and West Perched Wells					
pH (field)	(pH units)	MW-28	7/16/13	W28-130716-	5.92
		MW-29	7/16/13	W29-130716-	6.46
Arsenic (Total)	(mg/L)	MW-27A	7/17/2013	W27A130717-	0.0149
		MW-29	7/16/2013	W29-130716-	0.00277
Manganese (Dissolved)	(mg/L)	MW-55	7/15/2013	W55-130715-	0.162
East Perched Zone Wells					
pH (field)	(pH units)	MW-30A	7/16/13	W30A130716-	6.44
Manganese (Dissolved)	(mg/L)	MW-47	7/16/13	W47-130716-	1.83 D
1,1-Dichloroethane	(ug/L)	MW-30A	7/16/13	W30A130716-	1.94
Total Dissolved Solids	(mg/L)	MW-47	7/16/13	W47-130716-	719
Vinyl Chloride	(ug/L)	MW-47	7/16/13	W47-130716-	4.98
South Solid Waste Area Perched Wells					
Arsenic (Total)	(mg/L)	MW-101	7/18/2013	W101130718-	0.0104
Iron (Dissolved)	(mg/L)	MW-101	7/18/2013	W101130718-	1.51
Manganese (Dissolved)	(mg/L)	MW-101	7/18/2013	W101130718-	1.49 D
Vinyl Chloride	(ug/L)	MW-101	7/18/2013	W101130718-	0.553

See Data Qualifier List for Qualifier Information.

Table 8
Ion Balance Calculations
Cedar Hills Landfill Perched Zones GW Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID Date		North and West Perched Wells														
		MW-27A 7/17/13			MW-28 7/16/13			MW-29 7/16/13			MW-55 7/15/13					
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)		
Calcium	40.1	2	21.2	1.05788	54.7	9.8	0.49102	50.0	7.4	0.36826	50.3	12.7	0.63373	42.4		
Magnesium	24.3	2	5.7	0.46904	24.3	2.4	0.19996	20.3	2.0	0.16046	21.9	6.7	0.54968	36.8		
Potassium	39.1	1	3.6	0.0931	4.8	1.1	0.02813	2.9	0.6	0.01611	2.2	1.9	0.04936	3.3		
Sodium	23.0	1	6.9	0.301	15.6	6.0	0.26229	26.7	4.3	0.18617	25.4	5.6	0.24185	16.2		
Iron	55.8	2	0.0	0.00036	0.0	0.0	0.00036	0.0	0.0	0.00036	0.0	0.2	0.0087	0.6		
Manganese	54.9	2	0.0	0.00123	0.1	0.0	0.00013	0.0	0.0	3.6E-05	0.0	0.2	0.0059	0.4		
Ammonia-N	14.0	1	0.2	0.01142	0.6	0.0	0.00071	0.1	0.0	0.00071	0.1	0.1	0.00443	0.3		
Total Cations (meq/L)			1.9			1.0			99.9			0.7			1.5	
Anions																
Alkalinity, Total			78			26.4			23			62.9				
Carbonate	60.0	2	0.09377	0.00313	0.2	0.00132	4.4E-05	0.0	0.00399	0.00013	0.0	0.23719	0.00791	0.5		
Bicarbonate	61.0	1	95.34	1.56264	82.2	32.21	0.52788	56.6	28.05	0.4598	65.1	76.26	1.24991	81.1		
Chloride	35.5	1	4.5	0.12608	6.6	4.4	0.12439	13.3	2.5	0.0708	10.0	1.8	0.04964	3.2		
Nitrate-N	14.0	1	0.0	0.00236	0.1	0.2	0.01178	1.3	2.0	0.14064	19.9	0.0	0.00071	0.0		
Sulfate	96.1	2	10.0	0.20779	10.9	12.9	0.26859	28.8	1.7	0.03456	4.9	11.2	0.23319	15.1		
Total Anions (meq/L)			1.9			0.9			100.0			0.7			1.5	
Total Ions (meq/L)			3.8			1.9			1.4			3.0				
Cation/Anion Ratio			1.02			1.05			1.04			0.97				
Percent Difference			0.8			2.6			1.8			-1.6				
TRILINEAR DIAGRAM DATA																
sum (Ca, Mg, Na+K)			1.92			0.98			0.73			1.47				
Calcium			55.1			50.0			50.4			43.0				
Magnesium			24.4			20.4			22.0			37.3				
Sodium + Potassium			20.5			29.6			27.7			19.7				
						100.0										
sum (SO ₄ , Cl, HCO ₃ +CO ₃)			1.90			0.92			0.57			1.54				
Sulfate			10.9			29.2			6.1			15.1				
Chloride			6.6			13.5			12.5			3.2				
Bicarbonate + Carbonate			82.4			57.3			81.4			81.6				

Table 8
Ion Balance Calculations
Cedar Hills Landfill Perched Zones GW Monitoring Wells

Data Collected from July 1, 2013 to September 30, 2013

Site ID	Date	MW	n	East Perched Zone									SSWA		
				MW-30A			MW-47			MW-62			MW-EB6		
				7/16/13			7/16/13			No Sample			No Sample		
Cations				mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
Calcium	40.1	2		27.0	1.34731	41.7	145.0	7.23553	51.6						
Magnesium	24.3	2		13.7	1.12734	34.9	70.0	5.76013	41.1						
Potassium	39.1	1		1.7	0.04425	1.4	5.1	0.1307	0.9						
Sodium	23.0	1		16.4	0.71336	22.1	18.9	0.8221	5.9						
Iron	55.8	2		0.0	0.00036	0.0	0.2	0.00698	0.0						
Manganese	54.9	2		0.0	3.6E-05	0.0	1.8	0.06662	0.5						
Ammonia-N	14.0	1		0.0	0.00071	0.0	0.0	0.00314	0.0						
Total Cations (meq/L)					3.2			14.0						7.4	
Anions															
Alkalinity, Total				139			688							323	
Carbonate	60.0	2		0.02302	0.00077	0.0	0.3858	0.01286	0.1					0.1343	0.00448
Bicarbonate	61.0	1		169.53	2.77881	87.2	838.58	13.7451	97.7					393.79	6.45455
Chloride	35.5	1		5.9	0.1667	5.2	6.1	0.17262	1.2					3.6	0.10013
Nitrate-N	14.0	1		1.1	0.07782	2.4	0.0	0.00071	0.0					0.0	0.00071
Sulfate	96.1	2		7.8	0.16303	5.1	6.9	0.14283	1.0					4.4	0.0912
Total Anions (meq/L)					3.2			14.1						6.7	
Total Ions (meq/L)					6.4			28.1						14.1	
Cation/Anion Ratio					1.01			1.00						1.12	
Percent Difference					0.7			-0.2						6	
TRILINEAR DIAGRAM DATA															
sum (Ca, Mg, Na+K)					3.23			13.95						7.33	
Calcium						41.7			51.9						47.09
Magnesium						34.9			41.3						42.08
Sodium + Potassium						23.4			6.8						10.83
sum (SO ₄ , Cl, HCO ₃ +CO ₃)					3.11			14.07						6.65	
Sulfate						5.2			1.0						1.4
Chloride						5.4			1.2						1.5
Bicarbonate + Carbonate						89.4			97.8						97.1

TABLE 9
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT EXCEEDANCES
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Units	Well ID	Sample Date	Sample Value	Limit Value
NO PERCHED ZONE PREDICTION LIMIT EXCEEDANCES THIS QUARTER					

TABLE 10
CEDAR HILLS REGIONAL LANDFILL
VOLATILE ORGANIC COMPOUND DETECTIONS IN PERCHED ZONE WELLS
(Data Collected from July 1, 2013 to September 30, 2013)

Analyte	Site ID	Date	Sample ID	ug/L
East Perched Zone Wells				
1,1-Dichloroethane	MW-30A	7/16/2013	W30A130716-	1.94
	MW-47	7/16/2013	W47-130716-	0.637
cis-1,2-Dichloroethene	MW-30A	7/16/2013	W30A130716-	2.31
	MW-47	7/16/2013	W47-130716-	2.92
Dichlorodifluoromethane	MW-47	7/16/2013	W47-130716-	4.38
Trichloroethene	MW-30A	7/16/2013	W30A130716-	1.16
Vinyl Chloride	MW-47	7/16/2013	W47-130716-	4.98
South Solid Waste Area Perched Wells				
Vinyl Chloride	MW-101	7/18/2013	W101130718-	0.553

See Data Qualifier List for Qualifier Information.

Table 11
Surface Water Monitoring Activities 3rd Quarter 2013

Station ID	Date	Planned Activity	Sample ID	Comment
SW-E1	7/29/13	Quarterly Characterization Sample	NA ¹	
SW-E1	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-E1	9/24/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-GS1	7/29/13	Quarterly Characterization Sample	SGS1130729Q	
SW-GS1	8/21/13	NPDES Permit Sample	NA	No Flow, No Sample
SW-GS1	9/23/13	NPDES Permit Sample	SGS1130923P	NA ¹
SW-GS1	9/25/13	Monthly Characterization Sample	SGS1130925M	
SW-LP1	7/25/13	South Lagoon Inlet Characterization	SLP1130725P	
SW-LP1	8/27/13	South Lagoon Inlet Characterization	SLP1130827P	
SW-LP1	9/25/13	South Lagoon Inlet Characterization	SLP1130925P	
SW-LP2	7/25/13	South Lagoon Inlet Characterization	SLP2130725P	
SW-LP2	8/27/13	South Lagoon Inlet Characterization	SLP2130827P	
SW-LP2	9/25/13	South Lagoon Inlet Characterization	SLP2130925P	
SW-LP3	7/25/13	South Lagoon Inlet Characterization	NA	No Flow, No Sample
SW-LP3	8/27/13	South Lagoon Inlet Characterization	NA	No Flow, No Sample
SW-LP3	9/25/13	South Lagoon Inlet Characterization	NA	No Flow, No Sample
SW-MC	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-MC	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-MC	9/25/13	Quarterly Characterization Sample	SMC-130925Q	
SW-N1	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-N1	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-N1	9/24/13	Quarterly Characterization Sample	SN1-130924Q	
SW-N4	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-N4	8/21/13	NPDES Permit Sample	NA	No Flow, No Sample
SW-N4	9/23/13	NPDES Permit Sample	SN4-130923P	
SW-N4	9/24/13	Quarterly Characterization Sample	SN4-130924Q	
SW-N4	9/24/13	QA/QC Sample	SN4-130924D	
SW-S1	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-S1	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-S1	9/25/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-S2	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-S2	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-S2	9/25/13	Quarterly Characterization Sample	SS2-130925Q	
SW-SL3	7/25/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-SL3	7/29/13	NPDES Permit Sample	NA	No Flow, No Sample
SW-SL3	8/21/13	QA/QC Sample	NA	No Flow, No Sample
SW-SL3	8/27/13	NPDES Permit Sample	NA	No Flow, No Sample
SW-SL3	9/23/13	NPDES Permit Sample	SSL3130923P	
SW-SL3	9/25/13	NPDES Permit Sample	SSL3130925P	
SW-SL3	9/25/13	Quarterly Characterization Sample	SSL3130925Q	
SW-SSL	9/30/13	Siltation Pond Effluent Characterization	SSSL130930E	
SW-TD1	8/28/13	Area 5 Top Deck Monitoring	NA	No Flow, No Sample
SW-TD1	9/23/13	Area 5 Top Deck Monitoring	STD1130923-	
SW-TD2	8/28/13	Area 5 Top Deck Monitoring	NA	No Flow, No Sample
SW-TD4	8/28/13	Area 5 Top Deck Monitoring	NA	No Flow, No Sample
SW-TD6	8/28/13	Area 5 Top Deck Monitoring	NA	No Flow, No Sample
SW-TD6	9/23/13	Area 5 Top Deck Monitoring	STD6130923-	
SW-V	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-V	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample

Table 11
Surface Water Monitoring Activities 3rd Quarter 2013

Station ID	Date	Planned Activity	Sample ID	Comment
SW-V	9/24/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-W1	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-W1	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-W1	9/25/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-W	7/29/13	Quarterly Characterization Sample	SW1-130729Q	
SW-W	8/21/13	Monthly Characterization Sample	SW1-130821M	
SW-W	9/24/13	Monthly Characterization Sample	SW1-130924M	
SW-W2	7/29/13	Quarterly Characterization Sample	NA	No Flow, No Sample
SW-W2	8/21/13	Monthly Characterization Sample	NA	No Flow, No Sample
SW-W2	9/25/13	Monthly Characterization Sample	NA	No Flow, No Sample
Field Blank	7/29/13	QA/QC Sample	SGS1130729F	
Staff Gages	7/24/13	Monthly Stream Gage Levels	NA	
Staff Gages	7/26/13	Monthly Stream Gage Levels	NA	
Staff Gages	8/21/13	Monthly Stream Gage Levels	NA	
Staff Gages	9/23/13	Monthly Stream Gage Levels	NA	
Staff Gages	9/24/13	Monthly Stream Gage Levels	NA	

¹ No sample ID assigned, No sample collected.

TABLE 12
CEDAR HILLS LANDFILL
SUMMARY OF STORMWATER PERMIT EXCEEDANCES
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Sampling Location	Day/Month	Value	Regulatory Limit	Regulation
No Becnchmark or Effluent Limit exceedances this Quarter					

TABLE 13
CEDAR HILLS REGIONAL LANDFILL
VOLATILE ORGANIC COMPOUND DETECTIONS IN BLANKS
(Data Collected from July 1, 2013 to September 30, 2013)

Analyte	Site ID	Date	Sample ID	ug/L
Acetone	Field Blank	7/3/2013	W78-130703F	7.39
	Field Blank	7/22/2013	W86-130722F	4 BT
	VOA Trip Blank	7/22/2013	VTRP130723C	2.1 B
	VOA Trip Blank	9/18/2013	VTRP130919B	4.99
	Method Blank	8/23/2013	WG128492-1	8.21
	Method Blank	9/20/2013	WG128939-1	> 4
Methylene Chloride	VOA Trip Blank	7/10/2013	VTRP130712C	0.24 T
	VOA Trip Blank	7/15/2013	VTRP130716B	0.24 T

See Data Qualifier List for Qualifier Information.

Table 14
Groundwater Quality Criteria

		Ground Water Quality Criteria			
	Analyte	CAS No.	Criterion*		
I.	PRIMARY AND SECONDARY CONTAMINANTS AND RADIONUCLIDES				
	A. Primary Contaminants				
	Barium	7440-39-3	1.0	mg/L	
	Cadmium	7440-43-9	0.005	mg/L	
	Chromium	7440-47-3	0.05	mg/L	
	Lead	7439-92-1	0.015	mg/L	
	Mercury	7439-97-6	0.002	mg/L	
	Selenium	7782-49-2	0.01	mg/L	
	Silver	7440-22-4	0.05	mg/L	
	Fluoride	16984-48-8	4.0	mg/L	
	Nitrate	14797-55-8	10.0	mg/L	
	Endrin	72-20-8	0.2	ug/L	
	Methoxychlor	72-43-5	40	ug/L	
	1,1,1-Trichloroethane	71-55-6	200	ug/L	
	2,4-D	94-75-7	70	ug/L	
	2,4,5-TP	93-72-1	100	ug/L	
	Total Coliforms		1/100	mL	
	B. Secondary Standards				
	Copper	7440-50-8	1.0	mg/L	
	Iron	7439-89-6	0.3	mg/L	
	Manganese	7439-96-5	0.05	mg/L	
	Zinc	7440-66-6	5.0	mg/L	
	Chloride	16887-00-6	250	mg/L	
	Sulfate	14808-79-8	250	mg/L	
	Total Dissolved Solids		500	mg/L	
	Foaming Agents		0.5	mg/L	
	pH	12408-02-5	6.5-8.5	units	
	Corrosivity		non-corrosive		
	Color		15	units	
	Odor-Threshold		3	units	
	C. Radionuclides and Radioactivity				
	Gross Alpha particle activity		15	pCi/L	
	Gross Beta particle activity		50	pCi/L	
	Tritium	10028-17-8	20,000	pCi/L	
	Strontium	7440-24-6	8	pCi/L	
	Radium 226 & Radium 228		5	pCi/L	
	Radium 226	13982-63-3	3	pCi/L	
	II.	CARCINOGENS			
		1,1-Dichloroethane	75-34-3	1	ug/L
		1,2-Dichloroethane	107-06-2	0.5	ug/L
		1,2-Dichloropropane	78-87-5	0.6	ug/L
		1,2-Dimethylhydrazine	540-73-8	60	ug/L
		1,2-Diphenylhydrazine	122-66-7	0.09	ug/L
		1,3-Dichloropropene tot.	542-75-6	0.2	ug/L
		1,4-Dichlorobenzene	106-46-7	4	ug/L
1,4-Dioxane		123-91-1	7	ug/L	
2,3,7,8-Tetrachlorodibenzo-p-dioxin		1746-01-6	0.000006	ug/L	
2,4,6-Trichlorophenol		88-06-2	4.0	ug/L	
2,4-Dinitrotoluene		121-14-2	0.1	ug/L	
2,4-Toluenediamine		95-80-7	0.002	ug/L	
2,6-Dinitrotoluene		606-20-2	0.1	ug/L	
2-Methoxy-5-nitroaniline		99-59-2	2.0	ug/L	
2-Methylaniline		95-53-4	0.2	ug/L	
2-Methylaniline hydrochloride		636-21-5	0.5	ug/L	
3,3'-Dichlorobenzidine		91-94-1	0.2	ug/L	
3,3'-Dimethoxybenzidine		119-90-4	6.0	ug/L	
3,3-Dimethylbenzidine		119-93-7	0.007	ug/L	
4,4'-Methylene bis(N,N'-dimethyl) aniline		101-61-1	2.0	ug/L	
4-Chloro-2-methyl aniline		95-69-2	0.1	ug/L	
4-Chloro-2-methyl aniline hydrochloride		3165-93-3	0.2	ug/L	
Acrylamide		79-06-1	0.02	ug/L	
Acrylonitrile		107-13-1	0.07	ug/L	
Aldrin		309-00-2	0.005	ug/L	
Aniline		62-53-3	14	ug/L	
Aramite		140-57-8	3	ug/L	
Arsenic		7440-38-2	0.00005	mg/L	
Azobenzene		103-33-3	0.7	ug/L	
Benzene		71-43-2	1	ug/L	

Table 14
Groundwater Quality Criteria

Analyte	CAS No.	Ground Water Quality Criteria Criterion*	
Benzidine	92-87-5	0.0004	ug/L
Benzo(a)pyrene	50-32-8	0.008	ug/L
Benzotrachloride	98-07-7	0.007	ug/L
Benzyl chloride	100-44-7	0.5	ug/L
Bis(2-ethylhexyl)phthalate	117-81-7	6	ug/L
Bis(chloroethyl)ether	111-44-4	0.07	ug/L
Bis(chloromethyl)ether	542-88-1	0.0004	ug/L
Bromodichloromethane	75-27-4	0.3	ug/L
Bromoform	75-25-2	5	ug/L
Carbazole	86-74-8	5	ug/L
Carbon Tetrachloride	56-23-5	0.3	ug/L
Chlordane	5103-71-9	0.06	ug/L
Chlorodibromomethane	124-48-1	0.5	ug/L
Chloroform	67-66-3	7	ug/L
Chlorthalonil	1897-45-6	30	ug/L
DDT (includes DDE and DDD)	50-29-3, 72-55-9, 72-54-8	0.3	ug/L
Diallate	2303-16-4	1	ug/L
Dichlorovos	62-73-7	0.3	ug/L
Dieldrin	60-57-1	0.005	ug/L
Direct Black 38	1937-37-7	0.009	ug/L
Direct Blue 6	2602-46-2	0.009	ug/L
Direct Brown 95	16071-86-6	0.009	ug/L
Epichlorohydrin	106-89-8	8	ug/L
Ethyl acrylate	140-88-5	2	ug/L
Ethylene dibromide	106-93-4	0.001	ug/L
Ethylene thiourea	96-45-7	2	ug/L
Folpet	133-07-3	20	ug/L
Furazolidone	67-45-8	0.02	ug/L
Furium	531-82-8	0.002	ug/L
Furmecyclox	60568-05-0	3	ug/L
Heptachlor	76-44-8	0.02	ug/L
Heptachlor epoxide	1024-57-3	0.009	ug/L
Hexachlorobenzene	118-74-1	0.05	ug/L
Hexachlorocyclohexane (alpha)	319-84-6	0.001	ug/L
Hexachlorocyclohexane (technical)	608-73-1	0.05	ug/L
Hexachlorodibenzo-p-dioxin, mix	34465-46-8	0.00001	ug/L
Hydrazine/hydrazine sulfate	302-01-2/10034-93-2	0.03	ug/L
Lindane	58-89-9	0.06	ug/L
Methylene Chloride	75-09-2	5	ug/L
Mirex	2385-85-5	0.05	ug/L
Nitrofurazone	59-87-0	0.06	ug/L
N-Nitrosodiethanolamine	1116-54-7	0.03	ug/L
N-Nitrosodiethylamine	55-18-5	0.0005	ug/L
N-Nitrosodimethylamine	62-75-9	0.002	ug/L
N-Nitroso-di-n-butylamine	924-16-3	0.02	ug/L
N-Nitroso-di-n-propylamine	621-64-7	0.01	ug/L
N-Nitrosodiphenylamine	86-30-6	17.0	ug/L
N-Nitroso-N-methylethylylamine	10595-95-6	0.004	ug/L
N-Nitrosopyrrolidine	930-55-2	0.04	ug/L
o-Chloronitrobenzene	88-73-3	3	ug/L
o-Phenylenediamine	95-54-5	0.005	ug/L
o-Toluidine	95-53-4	0.2	ug/L
p,a,a,a-Tetrachlorotoluene	5216-25-1	0.004	ug/L
PAHs [Benzo(a)pyrene]		0.01	ug/L
PBBs	59536-65-1	0.01	ug/L
PCBs c	27323-18-8	0.01	ug/L
p-Chloronitrobenzene	100-00-5	5	ug/L
Propylene oxide	75-56-9]	0.01	ug/L
Tetrachloroethylene	127-18-4	0.8	ug/L
Toxaphene c	8001-35-2	0.08	ug/L
Trichloroethylene (TCE)	79-01-6	3	ug/L
Trimethyl phosphate	512-56-1	2.0	ug/L
Vinyl chloride	75-01-4	0.02	ug/L
NOTES: pCi/L=picocuries per liter mg/L=milligrams per liter ug/L=micrograms per liter *Ground Water Quality Criteria=173-200 WAC Water Quality Standards for Ground Waters of the State of Washington			

TABLE 15
CEDAR HILLS LANDFILL
INDUSTRIAL STORMWATER GENERAL PERMIT

BENCHMARKS and EFFLUENT LIMITS

Parameter	Units	Minimum Sampling Frequency	Benchmark	Effluent Limit	
				Monthly Average	Daily Maximum
pH	Std. Units	Quarterly	5.0 to 9.0	6.0 to 9.0	
Turbidity	NTU	Quarterly	25	--	--
Oil Sheen	Yes/No	Quarterly	None Visible	--	--
Copper, Total	ug/L	Quarterly	14	--	--
Zinc, Total	ug/L	Quarterly	117	110	200
BOD	mg/L	Quarterly	--	37	140
TSS	mg/L	Quarterly	--	27	88
Ammonia-N	mg/L	Quarterly	--	4.9	10
Alpha Terpineol	ug/L	Quarterly	--	16	33
Benzoic Acid	ug/L	Quarterly	--	71	120
4-Methylphenol*	ug/L	Quarterly	--	14	25
Phenol	ug/L	Quarterly	--	15	26

* Analytical result reported as the total of 3-Methylphenol (CAS RN 108-39-4) and 4-Methylphenol (CAS RN 106-44-5)

TABLE 16
CEDAR HILLS REGIONAL LANDFILL
LABORATORY DATA REVIEW - SUSPECT DATA ALL MATRICES
(Data Collected from July 1, 2013 to September 30, 2013)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value	Cause of Unuseability
Acetone	ug/L	MW-74	08/23/13	W74R130823-	5.34 B	Blank Contamination
		MW-75	41536.375	W75-130919-	4.3 B	Blank Contamination
		MW-87	41536.23958	W87-130919-	7.27 B	Blank Contamination

APPENDIX A

Potentiometric Surface Maps and Aquifer Flow Calculations



King County

Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
206.296.6519 Fax 206.296.0192

Memorandum

To: Tom Theno
King County Solid Waste Division

From: Sevin Bilir
King County Water & Land Resources Division

Re: **Potentiometric Groundwater Surface Mapping & Groundwater Velocity Calculations**
Third Quarter 2013 Results
Cedar Hills Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

Date: October 28, 2013

King County Water & Land Resources Division (KCWL RD) submits this letter report on groundwater conditions during the third quarter of 2013 for the Cedar Hills Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (KCWL RD, 2013). King County Solid Waste Division (KCSWD) personnel measured groundwater elevations at the landfill on July 1, 2013. These measurements were received by KCWL RD on October 1, 2013 and were used to:

1. Evaluate the potentiometric groundwater surface elevation for the regional aquifer;
2. Determine the groundwater flow direction and horizontal gradient for the regional aquifer; and
3. Calculate the groundwater velocity of the regional aquifer.

There have been no significant changes in the interpreted groundwater conditions since the report submitted for the second quarter of the 2013 monitoring event.

Groundwater Elevation Data

KCSWD attempted groundwater level measurements at 44 monitoring wells during the third quarter of 2013. These wells were completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table 1 lists the well identifications, locations, well details, measured groundwater levels and calculated groundwater elevations for the regional aquifer. Wells with screened intervals within ten feet of the water table were used for potentiometric surface mapping purposes. A total of 26 wells with water levels within ten feet of the top of screen were selected.

Figure 1 shows well locations, groundwater elevations at the 26 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the July 1, 2013 measurement event.

Direction of Groundwater Flow

Figure 1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the July 1, 2013 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern and central portions of the landfill with minor components of flow to the north-northwest and north-northeast. At the northern end of the landfill, groundwater generally flowed to the north and northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

$$\text{where: } v = \frac{1}{n_{eff}} K \frac{\Delta H}{\Delta L}$$

$$\begin{aligned} v &= \text{Groundwater velocity [L/t]} \\ n_{eff} &= \text{Effective porosity [dimensionless]} \\ K &= \text{Hydraulic conductivity [L/t]} \\ \frac{\Delta H}{\Delta L} &= \text{Hydraulic gradient [L/L]} \end{aligned}$$

Horizontal groundwater velocity was calculated for the regional aquifer below the landfill. Horizontal groundwater velocity was calculated for the southern, central, and northern portions of the regional aquifer, based on spatial differences in aquifer parameters and hydraulic gradients. The hydraulic conductivity and effective porosity values were based on the range referred to in the *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table 2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the third quarter 2013 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On July 1, 2013, average horizontal groundwater velocity within the regional aquifer ranged from 0.012 feet per day (ft/d) under the southern portion of the landfill to 2.1 ft/d under the central portion of the landfill.

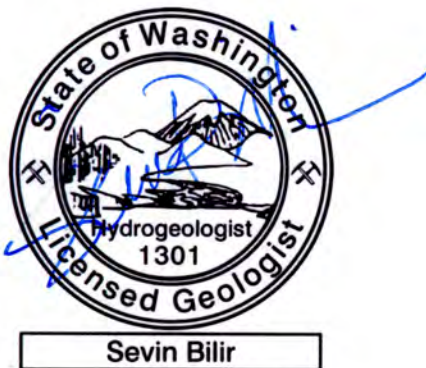
References

Aspect Consulting (Aspect). 2010. *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill*. Unpublished work. April 30.

King County Water & Land Resources Division (KCWL RD). 2013. *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations*. Unpublished.

Thank you for the opportunity to provide hydrogeologic services to the KCSWD. Please contact me if you have any questions.

Sincerely,



Sevin Bilir, WA LHG
Environmental Scientist III
King County Water & Land Resources Division

Attachments

- Table 1: Groundwater Elevations - Third Quarter 2013
- Table 2: Groundwater Parameters - Third Quarter 2013
- Figure 1: Groundwater Potentiometric Surface Map - Third Quarter 2013 – Regional Aquifer

Table 1: Groundwater Elevations – Third Quarter 2013

Cedar Hills Landfill
King County, Washington

							July 1, 2013	
Regional Aquifer Unit	Well Identification	X (ft)	Y (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	224.82	342.33
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.23	331.32
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.38	292.90
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	221.01	295.42
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	332.44	314.63
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	356.90	296.79
	MW-70	1698412.97	168699.89	530.57	322.75	309.05	204.77	325.80
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	361.95	309.92
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	190.97	294.73
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	240.20	291.06
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	135.98	355.73
	MW-77	1700007.63	168999.71	552.67	320.47	310.97	226.26	326.41
	MW-78	1698881.94	169027.58	537.35	322.34	309.84	212.12	325.23
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	184.52	309.14
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	121.10	353.75
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	143.00	353.81
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	236.23	294.57
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	246.14	285.62
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.18	286.86
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	248.47	288.84
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	226.90	286.78
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.60	323.55
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	140.22	355.29
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	251.45	320.09
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.82	322.50
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.61	284.86
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	125.23	295.43
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.60	284.49
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	144.51	331.48
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.28	283.78
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.18	302.25
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	125.07	355.26
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	101.03	355.61
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	148.47	330.80
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	123.02	334.11
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	208.40	337.43
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.80	286.60
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	239.40	291.01
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	231.97	280.85
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.60	280.62
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	247.08	284.94
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.74	292.90
	NPW-1	1701906.96	171138.99	646.33	299.87	284.87	333.61	312.72
	NPW-3	1701922.88	170663.28	645.81	284.87	276.87	331.62	314.19

Notes

1. Water level measurements made by KCSWD personnel.
2. Reference datum for XY coordinates is the North American Datum of 1927 (NAD27)
3. Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.

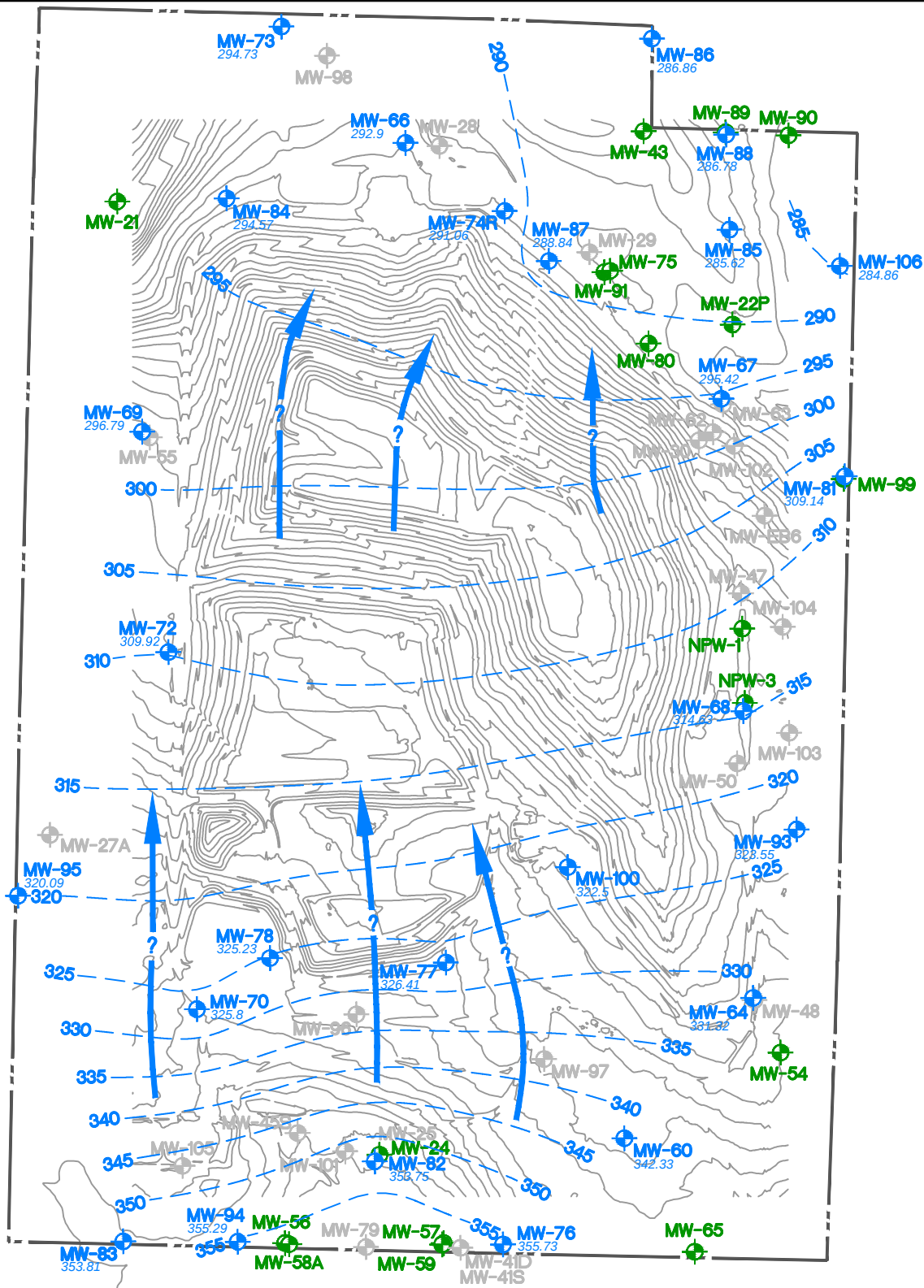
Table 2: Groundwater Parameters – Third Quarter 2013

Cedar Hills Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (K)			Horizontal Hydraulic Gradient	Effective Porosity (n _{eff})	Horizontal Groundwater Velocity (v)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.0077	24%	0.192	N, NE
	Maximum	4.20E-02	120	0.0077	24%	3.84	
	Mean	2.10E-02	60	0.0077	24%	1.92	
Central	Minimum	2.10E-03	6	0.0084	24%	0.21	N, NNW
	Maximum	4.20E-02	120	0.0084	24%	4.2	
	Mean	2.10E-02	60	0.0084	24%	2.1	
Southern	Minimum	6.40E-06	0.018	0.0172	26%	0.0012	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.0172	26%	0.12	
	Mean	6.40E-05	0.18	0.0172	26%	0.012	

Notes

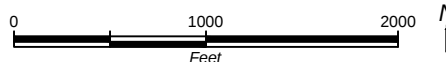
1. Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010)*.
2. Hydraulic gradients measured from the potentiometric surface map shown on Figure 1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.
4. NNE, north-northeast; NNW, north-northwest; NE, northeast; N, north



Legend

- MW-X** Well completed in Regional Aquifer within 10 feet of the water table
MW-X Wells completed in Regional Aquifer more than 10 ft below water table
MW-X Wells screened in discontinuous Perched Zones

- 300** Regional Aquifer Groundwater Elevation Contour (feet MSL).
 Inferred Horizontal Groundwater Flow Path



Notes:

- Groundwater measurements made on July 1, 2013.
- Only wells completed in the Regional Aquifer within 10 feet of the water table were used for contouring.



Groundwater Potentiometric Surface Map **Third Quarter 2013 - Regional Aquifer** Cedar Hills Landfill King County, Washington

DATE: October 2013	PROJECT NO. 1033379
DESIGNED BY: SB	FIGURE NO. 1
DRAWN BY: LT	
REVISED BY: SB	

APPENDIX B

Field and Analytical Test Results

Groundwater Analytical Data

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Elevation Data

Contact Person: ~~Sandy Jimenez (206) 296-4411~~

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground- Water Elevation (msl)	Comment
MW-21	10/1/2013	420.66	125.53	295.13	
MW-21	10/22/2013	420.66	125.21	295.45	
MW-22	10/1/2013	517.09	232.85	284.24	
MW-24	10/1/2013	475.99	146.05	329.94	
MW-24	10/17/2013	475.99	145.86	330.13	
MW-24	10/17/2013	475.99	145.86	330.13	
MW-25	10/1/2013	474.41	9.72	464.69	
MW-27A	10/2/2013	584.23	54.19	530.04	
MW-27A	10/8/2013	584.23	54.6	529.63	
MW-28	10/1/2013	527.75	30.06	497.69	
MW-28	10/18/2013	527.75	26.27	501.48	
MW-29	10/1/2013	532.92	13.85	519.07	
MW-30A	10/1/2013	568.43	30.51	537.92	
MW-30A	10/23/2013	568.43	30.32	538.11	
MW-41D	10/2/2013	462.32	28.14	434.18	
MW-41S	10/2/2013	462.44	10.14	452.30	
MW-43	10/17/2013	544.67	263.84	280.83	
MW-45	10/2/2013	488.4	13.84	474.56	
MW-47	10/1/2013	634.6	18.58	616.02	
MW-48	10/1/2013	594.49	46.2	548.29	
MW-50	10/2/2013	637.02	31.81	605.21	
MW-54	10/2/2013	580.43	278.79	301.64	
MW-55	10/1/2013	652.29	31.95	620.34	
MW-55	10/8/2013	652.29	31.53	620.76	
MW-56	10/1/2013	480.33	128.22	352.11	
MW-56	10/3/2013	480.33	128.25	352.08	
MW-57	10/1/2013	456.64	105.18	351.46	
MW-57	10/9/2013	456.64	104.97	351.67	
MW-58A	10/1/2013	479.27	149.88	329.39	
MW-59	10/1/2013	457.13	124.87	332.26	
MW-59	10/9/2013	457.13	124.47	332.66	
MW-60	10/1/2013	567.15	227.76	339.39	
MW-60	10/15/2013	567.15	227.78	339.37	
MW-62	10/1/2013	556.21	53.8	502.41	
MW-63	10/1/2013	515.88	16.35	499.53	
MW-64	10/1/2013	596.55	285.9	310.65	
MW-64	10/2/2013	596.55	285.92	310.63	
MW-64	10/7/2013	596.55	265.35	331.20	
MW-65	10/1/2013	545.83	210.08	335.75	
MW-65	10/15/2013	545.83	209.67	336.16	
MW-66	10/1/2013	531.28	238.85	292.43	
MW-66	10/16/2013	531.28	238.61	292.67	
MW-67	10/1/2013	516.43	221.2	295.23	
MW-67	10/15/2013	516.43	221.36	295.07	
MW-68	10/2/2013	647.07	332.98	314.09	

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Elevation Data

Contact Person: ~~Sandy Jimenez (206) 296-4411~~

Site	Date	Reference Elevation	Depth to Water	Ground- Water Elevation	Comment
		(msl)	(feet)	(msl)	
MW-68	10/18/2013	647.07	332.84	314.23	
MW-69	10/1/2013	653.69	362.14	291.55	
MW-69	10/17/2013	653.69	356.92	296.77	
MW-70	10/1/2013	530.57	205.57	325.00	
MW-72	10/1/2013	671.87	362.64	309.23	
MW-72	10/10/2013	671.87	362.12	309.75	
MW-73	10/1/2013	485.7	191.45	294.25	
MW-73	10/16/2013	485.7	191.13	294.57	
MW-74	10/1/2013	531.26	240.4	290.86	
MW-74	10/24/2013	531.26	240.15	291.11	
MW-75	10/1/2013	532.4	246.11	286.29	
MW-75	10/24/2013	532.4	246.29	286.11	
MW-76	10/1/2013	491.71	140.47	351.24	
MW-77	10/1/2013	552.67	227.24	325.43	
MW-78	10/1/2013	537.35	212.98	324.37	
MW-79	10/1/2013	459.17	37.48	421.69	
MW-80	10/1/2013	530.41	239.64	290.77	
MW-81	10/1/2013	493.66	184.68	308.98	
MW-82	10/2/2013	474.85	124.48	350.37	
MW-83	10/1/2013	496.81	144.73	352.08	
MW-83	10/3/2013	496.81	144.74	352.07	
MW-84	10/1/2013	530.8	236.64	294.16	
MW-84	10/10/2013	530.8	236.18	294.62	
MW-85	10/1/2013	531.76	246.64	285.12	
MW-86	10/1/2013	536.04	249.53	286.51	
MW-87	10/1/2013	537.31	248.66	288.65	
MW-87	10/22/2013	537.31	248.7	288.61	
MW-88	10/1/2013	513.68	227.36	286.32	
MW-89	10/1/2013	512.82	232.31	280.51	
MW-90	10/1/2013	502.22	222.11	280.11	
MW-90	10/18/2013	502.22	221.95	280.27	
MW-91	10/1/2013	532.02	247.41	284.61	
MW-93	10/2/2013	632.15	309.13	323.02	
MW-94	10/1/2013	495.51	143.12	352.39	
MW-95	10/1/2013	571.54	251.66	319.88	
MW-95	10/24/2013	571.54	251.45	320.09	
MW-96	10/1/2013	547.74	99.31	448.43	
MW-97	10/1/2013	564.54	112.94	451.60	
MW-98	10/1/2013	503.73	15.31	488.42	
MW-99	10/1/2013	493.64	200.98	292.66	
MW-99	10/22/2013	493.64	201.06	292.58	
MW-100	10/2/2013	620.32	298.32	322.00	
MW-100	10/17/2013	620.32	298.24	322.08	
MW-101	10/1/2013	474.72	34.74	439.98	
MW-101	10/31/2013	474.72	33.39	441.33	

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Elevation Data

Contact Person: ~~Sandy Jimenez (206) 296-4411~~

Site	Date	Reference Elevation	Depth to Water	Ground- Water Elevation	Comment
		(msl)	(feet)	(msl)	
MW-102	10/1/2013	552.48	47.19	505.29	
MW-103	10/2/2013	639.08	13.81	625.27	
MW-104	10/1/2013	629.68	28.12	601.56	
MW-105	10/1/2013	521.23	23.6	497.63	
MW-106	10/1/2013	475.47	191.27	284.20	
MW-EB6	10/1/2013	589.61	30	559.61	
WS-NPW-1	10/1/2013	646.33	333.95	312.38	
WS-NPW-3	10/1/2013	645.81	332.12	313.69	

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Field Parameters

Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field)	Conductance (Field)	Temperature	Purge Volume
			(std. Units)	(umho/cm)	(°C)	(gal)
MW-21	7/2/2013	W21-130702-	7.35	100	9.8	7
MW-24	7/2/2013	W24-130702-	7.15	175	10.5	10.6
MW-27A	7/17/2013	W27A130717-	7.3	170	10.3	7.5
MW-28	7/16/2013	W28-130716-	5.92	105	10.6	6.3
MW-29	7/16/2013	W29-130716-	6.46	80	10.9	10.5
MW-30A	7/16/2013	W30A130716-	6.44	240	12	3
MW-43	7/2/2013	W43-130702-	7.4	140	10	13
MW-47	7/16/2013	W47-130716-	6.97	680	10.6	16
MW-55	7/15/2013	W55-130715-	7.8	150	10.3	4.5
MW-56	7/3/2013	W56-130703-	7.1	155	11.1	21
MW-57	7/3/2013	W57-130703-	6.84	210	10.3	23.7
MW-59	7/2/2013	W59-130702-	7.1	185	11	28.3
MW-60	7/3/2013	W60-130703-	7.13	150	10.1	12.5
MW-64	7/31/2013	W64-130731-	7.14	200	12.5	9
MW-65	7/8/2013	W65-130708-	6.94	140	9.4	29
MW-66	7/15/2013	W66-130715-	7.18	230	9.9	12.5
MW-67	7/12/2013	W67-130712-	7.05	300	9.9	10.3
MW-68	7/12/2013	W68-130712-	7.04	265	11.1	17.5
MW-69	7/19/2013	W69-130719-	7.42	230	9.6	9
MW-70	7/17/2013	W70-130717-	7.55	170	10.5	25.5
MW-72	7/22/2013	W72-130722-	7.19	240	10.8	12.1
MW-73	7/23/2013	W73-130723-	6.94	140	10.5	10.8
MW-74	7/18/2013	W74R130718-	7.14	380	10.1	5.6
MW-74	8/23/2013	W74R130823-	7.22	380	10.3	6
MW-74	9/19/2013	W74R130919-	7.26	370	9.7	5.6
MW-75	7/18/2013	W75-130718-	7.07	250	9.6	11.5
MW-75	8/23/2013	W75-130823-	7.23	250	9.7	11.5
MW-75	9/19/2013	W75-130919-	7.23	250	9.2	11.5
MW-76	7/15/2013	W76-130715-	6.47	170	9.9	7.5
MW-77	8/2/2013	W77-130802-	7.09	210	11.6	10.3
MW-78	7/3/2013	W78-130703-	6.74	150	10.9	11.5
MW-80	7/18/2013	W80-130718-	7.2	270	10.4	9.3
MW-81	7/23/2013	W81-130723-	7.53	130	10.6	7
MW-82	7/23/2013	W82-130723-	7.09	255	10.2	6.2
MW-83	7/17/2013	W83-130717-	6.91	300	11.1	5
MW-84	7/9/2013	W84-130709-	7.04	140	10	5.6
MW-85	7/22/2013	W85-130722-	7.33	260	10.1	9.4
MW-86	7/22/2013	W86-130722-	7.22	165	10	8.5
MW-87	7/19/2013	W87-130719-	6.79	405	10.8	9.3
MW-87	8/23/2013	W87-130823-	6.99	405	11.4	6.2
MW-87	9/19/2013	W87-130919-	6.91	375	10.3	7
MW-88	7/17/2013	W88-130717-	7.3	110	9.7	6
MW-89	8/1/2013	W89-130801-	7.29	185	10.4	16.5
MW-90	7/22/2013	W90-130722-	7.27	170	9.7	10

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Field Parameters

Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field)	Conductance (Field)	Temperature	Purge Volume
			(std. Units)	(umho/cm)	(°C)	(gal)
MW-91	7/8/2013	W91-130708-	7.08	210	9.9	8
MW-93	7/9/2013	W93-130709-	7.22	350	12.4	9.2
MW-94	7/23/2013	W94-130723-	6.94	230	9.4	6
MW-95	7/9/2013	W95-130709-	7.42	205	10.6	9.4
MW-99	7/19/2013	W99-130719-	7.84	125	10.3	14
MW-99	8/23/2013	W99-130823-	7.85	125	10.5	11.7
MW-99	9/18/2013	W99-130918-	7.86	125	10.3	13
MW-100	7/9/2013	W100130709-	6.93	230	11	8.4
MW-101	7/18/2013	W101130718-	6.84	480	11.1	2.3
EQUIPMENT BLANK	7/3/2013	WU1H130703E	6.44	4.5	20	
EQUIPMENT BLANK	7/3/2013	WU1M130703E	6.44	4.5	20	
EQUIPMENT BLANK	7/3/2013	WU1S130703E	6.44	4.5	20	
FIELD BLANK	7/3/2013	W78-130703F	6.44	4.5	20	
FIELD BLANK	7/22/2013	W86-130722F	7.54	4.1	19.1	

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Conventional Analytical Data

Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Alkalinity, Total (CaCO ₃)	Ammonia, (NH ₃)	Chloride	Nitrate- Nitrogen, (NO ₃ as N)	Specific Conductanc	Sulfate (SO ₄)	Total Dissolved Solids	Total Organic Carbon	Total Solids	Suspended Solids
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(umho/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-21	7/2/2013	W21-130702-	52.3	0.011 T	7.63	< 0.01 U	124	4.81	79.7	< 1 U	84.3	3.9
MW-24	7/2/2013	W24-130702-	62	0.0406	3.55	< 0.01 U	173	16.6	117	< 1 U	117	4.9
MW-27A	7/17/2013	W27A130717-	78.3	0.16	4.47	0.033 T	195	9.98	140	< 1 U	146	2.7
MW-28	7/16/2013	W28-130716-	26.4	< 0.01 U	4.41	0.165	108	12.9	83.3	1.05	88.1	< 1 U
MW-28 Duplicate	7/16/2013	W28-130716D	26.1	< 0.01 U	4.36	0.157	108	12.3	87.2	1.04	88.2	1.2
MW-29	7/16/2013	W29-130716-	23	< 0.01 U	2.51	1.97	81	1.66	81.4	2.02	645	896
MW-30A	7/16/2013	W30A130716-	139	< 0.01 U	5.91	1.09	298	7.83	202	< 1 U	208	< 1 U
MW-43	7/2/2013	W43-130702-	68.8	0.0252	3.78	< 0.01 U	180	13.5	120	< 1 U	123	< 1 U
MW-47	7/16/2013	W47-130716-	688	0.044	6.12	< 0.01 U	1160	6.86	719	3.95	747	1.1
MW-47 Duplicate	7/16/2013	W47-130716D	672	0.0454	6.51	< 0.01 U	1160	6.7	723	4.24	749	2.3
MW-55	7/15/2013	W55-130715-	62.9	0.0621	1.76	< 0.01 U	157	11.2	121	< 1 U	130	1.3
MW-56	7/3/2013	W56-130703-	56.1	< 0.01 U	4.04	0.01 T	170	19.5	118	< 1 U	193	52
MW-57	7/3/2013	W57-130703-	71.8	0.0201	6.01	0.032 T	204	17.9	153	1 T	166	14.5
MW-59	7/2/2013	W59-130702-	62.1	< 0.01 U	4.05	< 0.01 U	178	17.9	117	< 1 U	120	< 1 U
MW-60	7/3/2013	W60-130703-	76.9	0.206	19	1.12	185	6.9	127	< 1 U	136	2.6
MW-64	7/31/2013	W64-130731-	89.5	0.0405	2.91	0.013 T	224	17.9	138	1.09	146	< 1 U
MW-65	7/8/2013	W65-130708-	53.4	0.013 T	4.2	< 0.01 U	159	17	111	< 1 U	122	5.33
MW-66	7/15/2013	W66-130715-	117	< 0.01 U	8.5	0.734	285	14.8	181	< 1 U	190	< 1 U
MW-67	7/12/2013	W67-130712-	125	< 0.01 U	4.57	0.434	336	36.7	211	< 1 U	228	1
MW-68	7/12/2013	W68-130712-	131	0.014 T	2.55	< 0.01 U	295	16.4	180	< 1 U	223	29.6
MW-69	7/19/2013	W69-130719-	129	0.019 T	3.77	< 0.01 U	290	13.5	175	< 1 U	192	12.6
MW-70	7/17/2013	W70-130717-	79.7	< 0.01 U	5.19	0.0551	207	15.5	138	< 1 U	138	< 1 U
MW-72	7/22/2013	W72-130722-	115	0.0204	8.01	< 0.01 U	319	38	198	< 1 U	210	4.8
MW-73	7/23/2013	W73-130723-	52.7	< 0.01 U	2.54	1.48	147	8.62	99.3	< 1 U	105	< 1 U
MW-74	7/18/2013	W74R130718-	218	< 0.01 U	25	0.417	533	24.6	326	< 1 U	345	< 1 U
MW-75	7/18/2013	W75-130718-	95.9	0.011 T	8.42	< 0.01 U	312	44.9	216	1.06	223	3.6
MW-76	7/15/2013	W76-130715-	65.6	< 0.01 U	13.4	0.334	217	15.6	153	2.31	162	< 1 U
MW-77	8/2/2013	W77-130802-	98.6	< 0.01 U	4.41	0.869	231	8.28	145	1.11	146	< 1 U
MW-78	7/3/2013	W78-130703-	69.1	< 0.01 U	9.25	1.19	191	7.85	134	< 1 U	141	< 1 U
MW-80	7/18/2013	W80-130718-	90.9	0.012 T	4.64	< 0.01 U	291	44.8	212	< 1 U	216	2.8
MW-81	7/23/2013	W81-130723-	47.9	< 0.01 U	3.39	1.67	139	7.59	95.9	< 1 U	98.1	< 1 U
MW-82	7/23/2013	W82-130723-	122	< 0.01 U	5.88	0.695	299	16.5	183	< 1 U	189	< 1 U
MW-83	7/17/2013	W83-130717-	117	< 0.01 U	24.8	0.662	339	8.9	230	2.59	243	< 1 U
MW-84	7/9/2013	W84-130709-	60.5	0.0356	4.16	0.617	165	12.4	110	< 1 U	115	< 1 U
MW-85	7/22/2013	W85-130722-	96.2	< 0.01 U	7.53	0.179	287	33	175	< 1 U	182	< 1 U
MW-86	7/22/2013	W86-130722-	63.3	< 0.01 U	4.01	0.46	179	15	114	< 1 U	119	4.4
MW-87	7/19/2013	W87-130719-	86.2	0.017 T	5.4	< 0.01 U	457	131	319	< 1 U	344	8.5
MW-88	7/17/2013	W88-130717-	50.8	< 0.01 U	3.44	0.628	128	6.55	89.8	< 1 U	93.4	< 1 U
MW-89	8/1/2013	W89-130801-	72.1	0.0204	3.68	< 0.01 U	191	16.4	129	< 1 U	139	2.4
MW-90	7/22/2013	W90-130722-	68.1	0.017 T	4.87	< 0.01 U	207	25.7	138	< 1 U	147	4.9
MW-91	7/8/2013	W91-130708-	86.9	0.0314	7.93	0.031 T	287	40.2	204	< 1 U	277	97
MW-93	7/9/2013	W93-130709-	118	0.0659	2.72	0.01 T	396	79.4	268	< 1 U	272	< 1 U
MW-94	7/23/2013	W94-130723-	106	< 0.01 U	18.3	0.982	295	6.03	188	2.13	198	< 1 U
MW-95	7/9/2013	W95-130709-	86.4	0.022	5.01	< 0.01 U	222	16.5	140	< 1 U	149	< 1 U
MW-99	7/19/2013	W99-130719-	52.6	0.0696	3.05	0.177	135	7.87	92.2	< 1 U	93.2	< 1 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Groundwater Conventional Analytical Data

Contact Person: ~~Sandy Jimenez (206) 296-4411~~

Site	Date	Sample ID	Alkalinity, Total (CaCO ₃)	Ammonia, (NH ₃)	Chloride	Nitrate- Nitrogen, (NO ₃ as N)	Specific Conductanc	Sulfate (SO ₄)	Total Dissolved Solids	Total Organic Carbon	Total Solids	Suspended Solids
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(umho/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-100	7/9/2013	W100130709-	135	0.011 T	2.93	< 0.01 U	309	20.7	175	< 1 U	194	7.2
MW-101	7/18/2013	W101130718-	323	0.013 T	3.55	< 0.01 U	609	4.38	422	5.57	476	9.1
WS-NPW	7/16/2013	WNPW130716-	150	0.018 T	3.21	< 0.01 U	343	22.6	212	< 1 U	225	6.4
EQUIPMENT BLANK	7/3/2013	WU1M130703E		< 0.01 U								
EQUIPMENT BLANK	7/3/2013	WU1S130703E		< 0.01 U								
EQUIPMENT BLANK	7/3/2013	WU1H130703E		0.0342								
FIELD BLANK	7/3/2013	W78-130703F	< 1 U	< 0.01 U	< 0.1 U	0.115	4 T	< 0.1 U	< 5 U	< 1 U	< 5 U	< 1 U
FIELD BLANK	7/22/2013	W86-130722F	< 1 U	< 0.01 U	< 0.1 U	0.0886	3.9 T	< 0.1 U	< 5 U	< 1 U	< 5 U	< 1 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Antimony, dissolved	Antimony, total	Arsenic, dissolved	Arsenic, total	Barium, dissolved	Barium, total	Beryllium, dissolved	Beryllium, total	Cadmium, dissolved	Cadmium, total	Calcium, dissolved	Calcium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-21	7/2/2013	W21-130702-	< 0.001 U		< 0.001 U		0.00284		< 0.001 U		< 0.002 U		10.8	
MW-24	7/2/2013	W24-130702-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00197	0.00191	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	15	13.8
MW-27A	7/17/2013	W27A130717-	< 0.001 U	< 0.001 U	0.0151	0.0149	0.00584	0.0115	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	21.2	20.8
MW-28	7/16/2013	W28-130716-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00561	0.00605	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	9.84	9.81
MW-28 Duplicate	7/16/2013	W28-130716D	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00577	0.00599	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	9.67	9.86
MW-29	7/16/2013	W29-130716-	< 0.001 U	< 0.001 U	< 0.001 U	0.00277	0.00121	0.072	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	7.38	9.61
MW-30A	7/16/2013	W30A130716-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00452	0.00489	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	27	24.1
MW-43	7/2/2013	W43-130702-	< 0.001 U		< 0.001 U		0.00701		< 0.001 U		< 0.002 U		14.7	
MW-47	7/16/2013	W47-130716-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0349	0.0384	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	145	139
MW-47 Duplicate	7/16/2013	W47-130716D	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0354	0.0375	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	144	138
MW-55	7/15/2013	W55-130715-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00394	0.00476	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	12.7	13
MW-56	7/3/2013	W56-130703-	< 0.001 SU	< 0.001 SU	< 0.001 SU	0.00239 S	0.00329 S	0.0182 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	16.3 S	16.2 S
MW-57	7/3/2013	W57-130703-	< 0.001 SU	< 0.001 SU	< 0.001 SU	0.00244 S	0.00163 S	0.0023 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	17.5 S	16.5 S
MW-59	7/2/2013	W59-130702-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00347	0.00336	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	15.2	14.7
MW-60	7/3/2013	W60-130703-	< 0.001 SU	< 0.001 SU	< 0.001 SU	0.00159 S	0.00285 S	0.00338 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	19.2 S	18 S
MW-64	7/31/2013	W64-130731-	< 0.001 U	< 0.001 U	< 0.001 U	0.00198	0.00816	0.00916	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	17.3	17.6
MW-65	7/8/2013	W65-130708-	< 0.001 U	< 0.001 DU	< 0.001 U	< 0.001 U	0.00729	0.00706	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	13	13.3
MW-66	7/15/2013	W66-130715-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0061	0.00645	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	21.4	21.7
MW-67	7/12/2013	W67-130712-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00921	0.00956	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	31.6	30.1
MW-68	7/12/2013	W68-130712-	< 0.001 U	< 0.001 U	0.00383	0.0493	0.0114	0.0197	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	28.8	27.6
MW-69	7/19/2013	W69-130719-	< 0.001 U	< 0.001 U	0.00216	0.00386	0.0108	0.0137 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	29.9	31.4
MW-70	7/17/2013	W70-130717-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00181	0.00198	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	19	19
MW-72	7/22/2013	W72-130722-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00999	0.0109 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	28.1	30.2
MW-73	7/23/2013	W73-130723-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00242	0.00249 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	12.3	13.3
MW-74	7/18/2013	W74R130718-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.011	0.0113	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	44.8	47.6
MW-75	7/18/2013	W75-130718-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00908	0.0102	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	25.2	25.7
MW-76	7/15/2013	W76-130715-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00329	0.00339	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	19.5	19.1
MW-77	8/2/2013	W77-130802-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00257	0.00323	< 0.001 DU	< 0.001 U	< 0.002 U	< 0.002 U	20.2	20
MW-78	7/3/2013	W78-130703-	< 0.001 SU	< 0.001 SU	< 0.001 SU	0.0015 S	0.0018 S	0.00193 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	17.8 S	17.3 S
MW-80	7/18/2013	W80-130718-	< 0.001 U	< 0.001 U	0.0038	0.00461	0.012	0.0128	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	28.1	30
MW-81	7/23/2013	W81-130723-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00252	0.00268 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	10.8	11.8
MW-82	7/23/2013	W82-130723-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00103	0.00106 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	25.9	27.9
MW-83	7/17/2013	W83-130717-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00451	0.00477	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	36.9	34.5
MW-84	7/9/2013	W84-130709-	< 0.001 U	< 0.001 DU	< 0.001 U	< 0.001 U	0.00349	0.00341	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	11.9	12.2
MW-85	7/22/2013	W85-130722-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00499	0.00506 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	24	25.9
MW-86	7/22/2013	W86-130722-	< 0.001 U	< 0.001 U	< 0.001 U	0.00217	0.00359	0.00402	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	13.6	14.7
MW-87	7/19/2013	W87-130719-	< 0.001 U	< 0.001 U	< 0.001 U	0.00161	0.0198	0.0212 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	38.9	40.9
MW-88	7/17/2013	W88-130717-	< 0.001 U	< 0.001 U	0.00107	0.00101	0.00227	0.00223	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	9.41	9.02
MW-89	8/1/2013	W89-130801-	< 0.001 U	< 0.001 U	0.00109	0.00249	0.0056	0.00673	< 0.001 DU	< 0.001 U	< 0.002 U	< 0.002 U	13.1	13.9
MW-90	7/22/2013	W90-130722-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00524	0.00623 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	17	18.9
MW-91	7/8/2013	W91-130708-	< 0.001 U	< 0.001 DU	0.00181	0.0442	0.0102	0.0189	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	23.8	25.2
MW-93	7/9/2013	W93-130709-	< 0.001 U	< 0.001 DU	0.00144	0.00132	0.00892	0.00845	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	39.3	39.8
MW-94	7/23/2013	W94-130723-	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00223	0.00228 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	27.4	30.2
MW-95	7/9/2013	W95-130709-	< 0.001 U	< 0.001 DU	< 0.001 U	0.001	0.00365	0.00437	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	21.1	21.3
MW-99	7/19/2013	W99-130719-	< 0.001 U	< 0.001 U	0.00195	0.00221	0.00277	0.00316	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	9.75	11.1

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Antimony, dissolved	Antimony, total	Arsenic, dissolved	Arsenic, total	Barium, dissolved	Barium, total	Beryllium, dissolved	Beryllium, total	Cadmium, dissolved	Cadmium, total	Calcium, dissolved	Calcium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-100	7/9/2013	W100130709-	< 0.001 U	< 0.001 DU	< 0.001 U	0.00116	0.00697	0.00692	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	28.9	28.4
MW-101	7/18/2013	W101130718-	< 0.001 U	< 0.001 U	0.0146	0.0104	0.0235	0.0359	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	69.2	67.9
WS-NPW	7/16/2013	WNPW130716-		< 0.001 U		< 0.001 U		0.0113		< 0.001 U		< 0.002 U		33.5
EQUIPMENT BLANK	7/3/2013	WU1S130703E	< 0.001 SU		< 0.001 SU		< 0.001 SU		< 0.001 SU		< 0.002 SU		< 0.01 SU	
EQUIPMENT BLANK	7/3/2013	WU1H130703E	< 0.001 SU		< 0.001 SU		< 0.001 SU		< 0.001 SU		< 0.002 SU		< 0.01 SU	
FIELD BLANK	7/3/2013	W78-130703F	< 0.001 SU	< 0.001 SU	< 0.001 SU	0.00132 S	< 0.001 SU	< 0.001 SU	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	< 0.01 SU	< 0.01 SU
FIELD BLANK	7/22/2013	W86-130722F	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 DU	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	< 0.01 U	< 0.01 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Chromium, dissolved	Chromium, total	Cobalt, dissolved	Cobalt, total	Copper, dissolved	Copper, total	Iron, dissolved	Iron, total	Lead, dissolved	Lead, total	Magnesium, dissolved	Magnesium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-21	7/2/2013	W21-130702-	< 0.005 U		< 0.003 U		< 0.002 U		1.68		< 0.001 U		6.19	
MW-24	7/2/2013	W24-130702-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	3.53	3.54	< 0.001 U	< 0.001 U	10.1	8.18
MW-27A	7/17/2013	W27A130717-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.0618	< 0.001 U	< 0.001 U	5.7	6.1
MW-28	7/16/2013	W28-130716-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.02 T	< 0.001 U	< 0.001 U	2.43	2.47
MW-28 Duplicate	7/16/2013	W28-130716D	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.019 T	< 0.01 U	< 0.001 U	< 0.001 U	2.5	2.49
MW-29	7/16/2013	W29-130716-	< 0.005 U	0.012	< 0.003 U	0.00397	< 0.002 U	0.0151	< 0.01 U	10.4	< 0.001 U	0.00442	1.95	5.12
MW-30A	7/16/2013	W30A130716-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.038 T	< 0.001 U	< 0.001 U	13.7	14.2
MW-43	7/2/2013	W43-130702-	< 0.005 U		< 0.003 U		< 0.002 U		1.01		< 0.001 U		10.3	
MW-47	7/16/2013	W47-130716-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.195	0.487	< 0.001 U	< 0.001 U	70 D	72.8
MW-47 Duplicate	7/16/2013	W47-130716D	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.179	0.557	< 0.001 U	< 0.001 U	69.5 D	71.9
MW-55	7/15/2013	W55-130715-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.243	0.331	< 0.001 U	< 0.001 U	6.68	7.23
MW-56	7/3/2013	W56-130703-	< 0.005 SU	< 0.005 SU	< 0.003 SU	< 0.003 SU	< 0.002 SU	0.00604 S	0.018 ST	5.37 S	< 0.001 SU	0.00127 S	7.81 S	7.66 S
MW-57	7/3/2013	W57-130703-	< 0.005 SU	< 0.005 SU	< 0.003 SU	< 0.003 DSL	< 0.002 SU	< 0.002 SU	8.58 S	8.58 S	< 0.001 SU	< 0.001 SU	9.75 S	8.43 S
MW-59	7/2/2013	W59-130702-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	4.57	4.57	< 0.001 U	< 0.001 U	9.56	8.16
MW-60	7/3/2013	W60-130703-	< 0.005 SU	< 0.005 SU	< 0.003 SU	< 0.003 SU	< 0.002 SU	< 0.002 SU	0.0534 S	0.211 S	< 0.001 SU	< 0.001 SU	9.04 S	7.72 S
MW-64	7/31/2013	W64-130731-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.0939	0.556	< 0.001 U	< 0.001 U	12.4	12.7
MW-65	7/8/2013	W65-130708-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	5.13	4.6	< 0.001 U	< 0.001 U	7.89	7.28
MW-66	7/15/2013	W66-130715-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.039 T	< 0.001 U	< 0.001 U	16.8	17.3
MW-67	7/12/2013	W67-130712-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.165	0.245	< 0.001 U	< 0.001 U	18.4	18.4
MW-68	7/12/2013	W68-130712-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	0.00478	1.07	11.1	< 0.001 U	< 0.001 U	15.8	16.2
MW-69	7/19/2013	W69-130719-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	1.04	2.39	< 0.001 U	< 0.001 DU	12.9	13.5
MW-70	7/17/2013	W70-130717-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 U	9.5	10.5
MW-72	7/22/2013	W72-130722-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	2.2	2.51	< 0.001 U	< 0.001 DU	15.9	15.8
MW-73	7/23/2013	W73-130723-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	0.011 T	< 0.001 U	< 0.001 DU	6.18	5.55
MW-74	7/18/2013	W74R130718-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.04 T	< 0.001 U	< 0.001 U	31.2	31.6
MW-75	7/18/2013	W75-130718-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	1.53	1.97	< 0.001 U	< 0.001 U	17.6	17
MW-76	7/15/2013	W76-130715-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.011 T	< 0.001 U	< 0.001 U	8.69	9.13
MW-77	8/2/2013	W77-130802-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.104	< 0.001 U	< 0.001 U	11.6	10.9
MW-78	7/3/2013	W78-130703-	< 0.005 SU	< 0.005 SU	< 0.003 SU	< 0.003 SU	< 0.002 SU	< 0.002 SU	< 0.01 SU	0.011 ST	< 0.001 SU	< 0.001 SU	8.57 S	7.46 S
MW-80	7/18/2013	W80-130718-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	1.6	2.06	< 0.001 U	< 0.001 U	13.1	13.2
MW-81	7/23/2013	W81-130723-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	0.026 T	< 0.001 U	< 0.001 DU	6	5.45
MW-82	7/23/2013	W82-130723-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 DU	15.6	14.2
MW-83	7/17/2013	W83-130717-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.026 T	< 0.001 U	< 0.001 U	14.5	15.1
MW-84	7/9/2013	W84-130709-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 U	9.37	8.85
MW-85	7/22/2013	W85-130722-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 DU	13.8	13.8
MW-86	7/22/2013	W86-130722-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.209	1.38	< 0.001 U	< 0.001 U	8.88	8.74
MW-87	7/19/2013	W87-130719-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	3.46	5.74	< 0.001 U	< 0.001 DU	23.8	23.8
MW-88	7/17/2013	W88-130717-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 U	6.95	7.01
MW-89	8/1/2013	W89-130801-	< 0.005 U	< 0.005 U	< 0.003 DU	< 0.003 U	< 0.002 U	< 0.002 U	0.867	1.49	< 0.001 U	< 0.001 U	10.1	10.1
MW-90	7/22/2013	W90-130722-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	1.04	2.42	< 0.001 U	< 0.001 DU	9.17	9.24
MW-91	7/8/2013	W91-130708-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	2.5	31	< 0.001 U	< 0.001 U	15.7	15
MW-93	7/9/2013	W93-130709-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	0.013 T	< 0.001 U	< 0.001 U	19.9	18.9
MW-94	7/23/2013	W94-130723-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 DU	12.5	11.6
MW-95	7/9/2013	W95-130709-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	0.031 T	< 0.001 U	< 0.001 U	11	10.6
MW-99	7/19/2013	W99-130719-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.019 T	0.16	< 0.001 U	< 0.001 U	4.31	4.35

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Chromium, dissolved	Chromium, total	Cobalt, dissolved	Cobalt, total	Copper, dissolved	Copper, total	Iron, dissolved	Iron, total	Lead, dissolved	Lead, total	Magnesium, dissolved	Magnesium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-100	7/9/2013	W100130709-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	1.55	2.56	< 0.001 U	< 0.001 U	17.1	15.8
MW-101	7/18/2013	W101130718-	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	0.00416	1.51	3.8	< 0.001 U	0.00109	37.5	35.2
WS-NPW	7/16/2013	WNPW130716-		< 0.005 U		< 0.003 U		< 0.002 U		3.09		< 0.001 U		18.2
EQUIPMENT BLANK	7/3/2013	WU1S130703E	< 0.005 SU		< 0.003 SU		< 0.002 SU		< 0.01 SU		< 0.001 SU		< 0.015 SU	
EQUIPMENT BLANK	7/3/2013	WU1H130703E	< 0.005 SU		< 0.003 SU		< 0.002 SU		< 0.01 SU		< 0.001 SU		< 0.015 SU	
FIELD BLANK	7/3/2013	W78-130703F	< 0.005 SU	< 0.005 SU	< 0.003 SU	< 0.003 SU	< 0.002 SU	< 0.002 SU	< 0.01 SU	< 0.01 SU	< 0.001 SU	< 0.001 SU	< 0.015 SU	< 0.015 SU
FIELD BLANK	7/22/2013	W86-130722F	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 DU	< 0.002 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.001 DU	< 0.015 U	< 0.015 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Manganese, dissolved	Manganese, total	Mercury, dissolved	Mercury, total	Nickel, dissolved	Nickel, total	Potassium, dissolved	Potassium, total	Selenium, dissolved	Selenium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-21	7/2/2013	W21-130702-	0.0922		< 0.0001 U		< 0.01 U		1.08		< 0.001 U	
MW-24	7/2/2013	W24-130702-	0.14	0.124	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	0.929	1.01	< 0.001 U	< 0.001 U
MW-27A	7/17/2013	W27A130717-	0.0337 D	0.181	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	3.64	3.49	< 0.001 U	< 0.001 U
MW-28	7/16/2013	W28-130716-	0.00359 D	0.00686	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.1	0.976	< 0.001 U	< 0.001 U
MW-28 Duplicate	7/16/2013	W28-130716D	0.00535	0.00381	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.03	0.985	< 0.001 U	< 0.001 U
MW-29	7/16/2013	W29-130716-	< 0.001 U	0.198	< 0.0001 U	< 0.0001 U	< 0.01 U	0.0133	0.63	1.29	< 0.001 U	< 0.001 U
MW-30A	7/16/2013	W30A130716-	< 0.001 DU	< 0.001 U	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.73	1.53	< 0.001 U	< 0.001 U
MW-43	7/2/2013	W43-130702-	0.255		< 0.0001 U		< 0.01 U		1.39		< 0.001 U	
MW-47	7/16/2013	W47-130716-	1.83 D	1.92 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	5.11	5.05	< 0.001 U	< 0.001 U
MW-47 Duplicate	7/16/2013	W47-130716D	1.79 D	2.03 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	5.08	4.99	< 0.001 U	< 0.001 U
MW-55	7/15/2013	W55-130715-	0.162	0.195	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.93	1.74	< 0.001 U	< 0.001 U
MW-56	7/3/2013	W56-130703-	0.132 S	0.192 S	< 0.0001 SU	0.000109 S	< 0.01 SU	< 0.01 SU	1.24 S	1.52 S	< 0.001 SU	< 0.001 SU
MW-57	7/3/2013	W57-130703-	0.262 S	0.242 S	< 0.0001 SU	< 0.0001 SU	< 0.01 SU	< 0.01 SU	1.03 S	1.14 S	< 0.001 SU	< 0.001 SU
MW-59	7/2/2013	W59-130702-	0.115	0.105	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.07	1.16	< 0.001 U	< 0.001 U
MW-60	7/3/2013	W60-130703-	0.00247 S	0.0065 S	< 0.0001 SU	< 0.0001 SU	< 0.01 SU	< 0.01 SU	1.42 S	1.25 S	< 0.001 SU	< 0.001 SU
MW-64	7/31/2013	W64-130731-	0.0373	0.152	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.46	1.53	< 0.001 U	< 0.001 U
MW-65	7/8/2013	W65-130708-	0.208	0.203 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.1	0.927	< 0.001 U	< 0.001 U
MW-66	7/15/2013	W66-130715-	< 0.001 U	< 0.001 U	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.48	1.3	< 0.001 U	< 0.001 U
MW-67	7/12/2013	W67-130712-	0.128	0.13	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.77	1.58	< 0.001 U	< 0.001 U
MW-68	7/12/2013	W68-130712-	0.276	0.306	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.85	1.7	< 0.001 U	< 0.001 U
MW-69	7/19/2013	W69-130719-	0.212 D	0.22 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.61	1.81	< 0.001 U	< 0.001 U
MW-70	7/17/2013	W70-130717-	< 0.001 DU	0.0019	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.49	1.53	< 0.001 U	< 0.001 U
MW-72	7/22/2013	W72-130722-	0.297 D	0.306 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.7	1.85	< 0.001 U	< 0.001 U
MW-73	7/23/2013	W73-130723-	< 0.001 U	< 0.001 DU	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	0.775	0.837	< 0.001 U	< 0.001 U
MW-74	7/18/2013	W74R130718-	< 0.001 DU	< 0.001 U	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	2.05	2.32	< 0.001 U	< 0.001 U
MW-75	7/18/2013	W75-130718-	0.124 D	0.127	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.75	1.9	< 0.001 U	< 0.001 U
MW-76	7/15/2013	W76-130715-	< 0.001 U	< 0.001 U	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.52	1.33	< 0.001 U	< 0.001 U
MW-77	8/2/2013	W77-130802-	0.00196 D	0.0316	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.63	1.23	0.00102	< 0.001 U
MW-78	7/3/2013	W78-130703-	< 0.001 SU	< 0.001 SU	< 0.0001 SU	< 0.0001 SU	< 0.01 SU	< 0.01 SU	2.24 S	2.29 S	< 0.001 SU	< 0.001 SU
MW-80	7/18/2013	W80-130718-	0.249 D	0.252	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.57	1.73	< 0.001 U	< 0.001 U
MW-81	7/23/2013	W81-130723-	< 0.001 U	< 0.001 DU	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	0.73	0.789	0.00103	< 0.001 U
MW-82	7/23/2013	W82-130723-	< 0.001 U	< 0.001 DU	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.74	1.84	< 0.001 U	< 0.001 U
MW-83	7/17/2013	W83-130717-	0.00846 D	0.016	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	2.36	2.33	< 0.001 U	< 0.001 U
MW-84	7/9/2013	W84-130709-	0.00395	0.0047 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.15	0.962	0.0011	< 0.001 U
MW-85	7/22/2013	W85-130722-	< 0.001 DU	< 0.001 DU	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.32	1.5	0.00117	0.00106
MW-86	7/22/2013	W86-130722-	0.00573 D	0.00938	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.1	1.18	0.00167	0.00157
MW-87	7/19/2013	W87-130719-	0.387 D	0.39 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	2.13	2.28	< 0.001 U	< 0.001 U
MW-88	7/17/2013	W88-130717-	< 0.001 U	< 0.001 U	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	0.932	0.84	< 0.001 U	< 0.001 U
MW-89	8/1/2013	W89-130801-	0.209 D	0.277	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.72	1.41	< 0.001 U	< 0.001 U
MW-90	7/22/2013	W90-130722-	0.25 D	0.255 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.28	1.41	< 0.001 U	< 0.001 U
MW-91	7/8/2013	W91-130708-	0.375	0.381 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 DU	1.94	1.57	< 0.001 U	< 0.001 U
MW-93	7/9/2013	W93-130709-	0.293	0.278 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.88	1.49	< 0.001 U	< 0.001 U
MW-94	7/23/2013	W94-130723-	< 0.001 U	< 0.001 DU	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	2.05	2.15	< 0.001 U	< 0.001 U
MW-95	7/9/2013	W95-130709-	0.147	0.319 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	1.38	1.12	< 0.001 U	< 0.001 U
MW-99	7/19/2013	W99-130719-	0.0764 D	0.0938	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	0.822	1.01	< 0.001 U	< 0.001 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Manganese, dissolved	Manganese, total	Mercury, dissolved	Mercury, total	Nickel, dissolved	Nickel, total	Potassium, dissolved	Potassium, total	Selenium, dissolved	Selenium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-100	7/9/2013	W100130709-	0.257	0.247 D	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	2.13	1.75	< 0.001 U	< 0.001 U
MW-101	7/18/2013	W101130718-	1.49 D	1.09	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	2.81	3.03	< 0.001 U	< 0.001 U
WS-NPW	7/16/2013	WNPW130716-		0.484		< 0.0001 U		< 0.01 U		1.8		< 0.001 U
EQUIPMENT BLANK	7/3/2013	WU1S130703E	< 0.001 SU		< 0.0001 SU		< 0.01 SU		< 0.3 SU		< 0.001 SU	
EQUIPMENT BLANK	7/3/2013	WU1H130703E	< 0.001 SU		< 0.0001 SU		< 0.01 SU		< 0.3 SU		< 0.001 SU	
FIELD BLANK	7/3/2013	W78-130703F	< 0.001 SU	< 0.001 SU	< 0.0001 SU	< 0.0001 SU	< 0.01 SU	< 0.01 SU	< 0.3 SU	< 0.3 SU	< 0.001 SU	< 0.001 SU
FIELD BLANK	7/22/2013	W86-130722F	< 0.001 DU	< 0.001 DU	< 0.0001 U	< 0.0001 U	< 0.01 U	< 0.01 U	< 0.3 U	< 0.3 U	< 0.001 U	< 0.001 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)	Thallium, total (mg/L)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-21	7/2/2013	W21-130702-	< 0.003 U		5.59		< 0.001 U		< 0.002 U		< 0.004 U	
MW-24	7/2/2013	W24-130702-	< 0.003 U	< 0.003 U	6.02	5.35	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-27A	7/17/2013	W27A130717-	< 0.003 U	< 0.003 U	6.92 D	7.41	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-28	7/16/2013	W28-130716-	< 0.003 U	< 0.003 U	6.03 D	6.43	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-28 Duplicate	7/16/2013	W28-130716D	< 0.003 U	< 0.003 U	5.9 D	6.48	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-29	7/16/2013	W29-130716-	< 0.003 U	< 0.003 U	4.28 D	6.32	< 0.001 U	< 0.001 U	< 0.002 U	0.0211	< 0.004 U	0.0241
MW-30A	7/16/2013	W30A130716-	< 0.003 U	< 0.003 U	16.4 D	17.6	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-43	7/2/2013	W43-130702-	< 0.003 U		6.84		< 0.001 U		< 0.002 U		< 0.004 U	
MW-47	7/16/2013	W47-130716-	< 0.003 U	< 0.003 U	18.9 D	19.5	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-47 Duplicate	7/16/2013	W47-130716D	< 0.003 U	< 0.003 U	18.8 D	19.3	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-55	7/15/2013	W55-130715-	< 0.003 U	< 0.003 U	5.56 D	6.23	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	0.00496
MW-56	7/3/2013	W56-130703-	< 0.003 SU	< 0.003 SU	5.5 S	5.25 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	< 0.004 SU	0.00966 S
MW-57	7/3/2013	W57-130703-	< 0.003 SU	< 0.003 SU	7.15 S	6.36 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	0.00745 S	0.00692 S
MW-59	7/2/2013	W59-130702-	< 0.003 U	< 0.003 U	6	5.55	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-60	7/3/2013	W60-130703-	< 0.003 SU	< 0.003 SU	6.73 S	5.63 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	< 0.004 SU	< 0.004 SU
MW-64	7/31/2013	W64-130731-	< 0.003 DU	< 0.003 U	6.69	7	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-65	7/8/2013	W65-130708-	< 0.003 U	< 0.003 U	5.24 D	5.22 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-66	7/15/2013	W66-130715-	< 0.003 U	< 0.003 U	7.99 D	8.54	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-67	7/12/2013	W67-130712-	< 0.003 U	< 0.003 U	8.37 D	9.21	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-68	7/12/2013	W68-130712-	< 0.003 U	< 0.003 U	7.8 D	8.93	< 0.001 U	< 0.001 U	< 0.002 U	0.00363	< 0.004 U	< 0.004 U
MW-69	7/19/2013	W69-130719-	< 0.003 U	< 0.003 DU	7.6 D	7.72	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	0.00809
MW-70	7/17/2013	W70-130717-	< 0.003 U	< 0.003 U	5.96 D	6.35	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-72	7/22/2013	W72-130722-	< 0.003 U	< 0.003 DU	7.49 D	6.99	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	0.0056
MW-73	7/23/2013	W73-130723-	< 0.003 DU	< 0.003 DU	5.59	5.16	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-74	7/18/2013	W74R130718-	< 0.003 U	< 0.003 U	11.9 D	11.5	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-75	7/18/2013	W75-130718-	< 0.003 U	< 0.003 U	8.1 D	7.87	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-76	7/15/2013	W76-130715-	< 0.003 U	< 0.003 U	7.99 D	8.24	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-77	8/2/2013	W77-130802-	< 0.003 U	< 0.003 U	7.34	7.04	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-78	7/3/2013	W78-130703-	< 0.003 SU	< 0.003 SU	7.13 S	6.27 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	< 0.004 SU	< 0.004 SU
MW-80	7/18/2013	W80-130718-	< 0.003 U	< 0.003 U	6.96 D	6.85	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-81	7/23/2013	W81-130723-	< 0.003 DU	< 0.003 DU	5.65	5.29	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-82	7/23/2013	W82-130723-	< 0.003 DU	< 0.003 DU	7.53	6.92	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-83	7/17/2013	W83-130717-	< 0.003 U	< 0.003 U	7.66 D	7.89	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-84	7/9/2013	W84-130709-	< 0.003 U	< 0.003 U	5.74 D	5.99 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-85	7/22/2013	W85-130722-	< 0.003 U	< 0.003 DU	7.98 D	7.56	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-86	7/22/2013	W86-130722-	< 0.003 U	< 0.003 U	6.22 D	6.27	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-87	7/19/2013	W87-130719-	< 0.003 U	< 0.003 DU	9.33 D	9.02	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-88	7/17/2013	W88-130717-	< 0.003 U	< 0.003 U	5.41 D	5.75	< 0.001 U	< 0.001 U	0.00303	0.0027	< 0.004 U	< 0.004 U
MW-89	8/1/2013	W89-130801-	< 0.003 U	< 0.003 U	7.53	7.86	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-90	7/22/2013	W90-130722-	< 0.003 U	< 0.003 DU	6.02 D	5.87	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-91	7/8/2013	W91-130708-	< 0.003 U	< 0.003 U	7.34 D	7.76 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-93	7/9/2013	W93-130709-	< 0.003 U	< 0.003 U	9.47 D	9.58 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	0.00846	0.0112
MW-94	7/23/2013	W94-130723-	< 0.003 DU	< 0.003 DU	7.21	6.72	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
MW-95	7/9/2013	W95-130709-	< 0.003 U	< 0.003 U	5.8 D	5.92 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-99	7/19/2013	W99-130719-	< 0.003 U	< 0.003 U	9.4 D	9.44	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill ---Groundwater Metals Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Silver, dissolved	Silver, total	Sodium, dissolved	Sodium, total	Thallium, dissolved	Thallium, total	Vanadium, dissolved	Vanadium, total	Zinc, dissolved	Zinc, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-100	7/9/2013	W100130709-	< 0.003 U	< 0.003 U	8.94 D	8.94 D	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
MW-101	7/18/2013	W101130718-	< 0.003 U	< 0.003 U	16.6 D	15.7	< 0.001 U	< 0.001 U	< 0.002 U	0.00387	< 0.004 U	0.00729
WS-NPW	7/16/2013	WNPW130716-		< 0.003 U		8.91		< 0.001 U		< 0.002 U		0.0134
EQUIPMENT BLANK	7/3/2013	WU1S130703E	< 0.003 SU		0.661 S		< 0.001 SU		< 0.002 SU		< 0.004 SU	
EQUIPMENT BLANK	7/3/2013	WU1H130703E	< 0.003 SU		0.617 S		< 0.001 SU		< 0.002 SU		< 0.004 SU	
FIELD BLANK	7/3/2013	W78-130703F	< 0.003 SU	< 0.003 SU	0.56 S	0.387 S	< 0.001 SU	< 0.001 SU	< 0.002 SU	< 0.002 SU	< 0.004 SU	< 0.004 SU
FIELD BLANK	7/22/2013	W86-130722F	< 0.003 U	< 0.003 DU	0.471 D	0.459	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)	1,2-Dibromo-ethane 106-93-4 (ug/L)	1,2-Dichloro-benzene 95-50-1 (ug/L)	1,2-Dichloro-ethane 107-06-2 (ug/L)	1,2-Dichloro-propane 78-87-5 (ug/L)
MW-21	7/2/2013	W21-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-24	7/2/2013	W24-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-27A	7/17/2013	W27A130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-28	7/16/2013	W28-130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-28 Duplicate	7/16/2013	W28-130716D	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-29	7/16/2013	W29-130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-30A	7/16/2013	W30A130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.94	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-43	7/2/2013	W43-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-47	7/16/2013	W47-130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.637	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-47 Duplicate	7/16/2013	W47-130716D	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.48	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-55	7/15/2013	W55-130715-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-56	7/3/2013	W56-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-57	7/3/2013	W57-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-59	7/2/2013	W59-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-60	7/3/2013	W60-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-64	7/31/2013	W64-130731-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-65	7/8/2013	W65-130708-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-66	7/15/2013	W66-130715-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-67	7/12/2013	W67-130712-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-68	7/12/2013	W68-130712-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-69	7/19/2013	W69-130719-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-70	7/17/2013	W70-130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-72	7/22/2013	W72-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-73	7/23/2013	W73-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74	7/18/2013	W74R130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74	8/23/2013	W74R130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74	9/19/2013	W74R130919-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74 Duplicate	9/19/2013	W74R130919D	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-75	7/18/2013	W75-130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-75	8/23/2013	W75-130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-75	9/19/2013	W75-130919-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-76	7/15/2013	W76-130715-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-77	8/2/2013	W77-130802-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-78	7/2/2013	W78-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-80	7/18/2013	W80-130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-81	7/23/2013	W81-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-82	7/23/2013	W82-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-83	7/17/2013	W83-130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-84	7/9/2013	W84-130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-85	7/22/2013	W85-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U

Data Collected from July 1, 2013 to September 30, 2013
Cedar Hills Landfill --- Groundwater VOA Analytical Data
Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	1,1,1,2- Tetrachloro- ethane 630-20-6 (ug/L)	1,1,1- Trichloro- ethane 71-55-6 (ug/L)	1,1,2,2- Tetrachloro- ethane 79-34-5 (ug/L)	1,1,2- Trichloro- ethane 79-00-5 (ug/L)	1,1-Dichloro- ethane 75-34-3 (ug/L)	1,1- Dichloro- ethene 75-35-4 (ug/L)	1,2,3- Trichloro- propane 96-18-4 (ug/L)	1,2-Dibromo-3- Chloropropane 96-12-8 (ug/L)	1,2-Dibromo- ethane 106-93-4 (ug/L)	1,2-Dichloro- benzene 95-50-1 (ug/L)	1,2-Dichloro- ethane 107-06-2 (ug/L)	1,2-Dichloro- propane 78-87-5 (ug/L)
MW-86	7/22/2013	W86-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-87	7/19/2013	W87-130719-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-87	8/23/2013	W87-130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-87	9/19/2013	W87-130919-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-88	7/17/2013	W88-130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-89	8/1/2013	W89-130801-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-90	7/22/2013	W90-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-91	7/8/2013	W91-130708-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-93	7/9/2013	W93-130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-94	7/23/2013	W94-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-95	7/9/2013	W95-130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-99	7/19/2013	W99-130719-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-99	8/23/2013	W99-130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-99	9/18/2013	W99-130918-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-100	7/9/2013	W100130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-101	7/18/2013	W101130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
WS-NPW	7/16/2013	WNPW130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
FIELD BLANK	7/3/2013	W78-130703F	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
FIELD BLANK	7/22/2013	W86-130722F	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/1/2013	VTRP130702C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/2/2013	VTRP130703B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/2/2013	VTRP130703C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/3/2013	VTRP130709C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/3/2013	VTRP130708B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/8/2013	VTRP130709B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/10/2013	VTRP130712C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/10/2013	VTRP130715B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/12/2013	VTRP130715C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/15/2013	VTRP130716C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/15/2013	VTRP130716B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/16/2013	VTRP130717C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/16/2013	VTRP130717B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/17/2013	VTRP130718C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/17/2013	VTRP130718B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/18/2013	VTRP130719C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/18/2013	VTRP130719B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/19/2013	VTRP130722B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/22/2013	VTRP130723C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/22/2013	VTRP130723B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/29/2013	VTRP130731C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sindy Jimenez (206) 296-4411

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)	1,2-Dibromo-ethane 106-93-4 (ug/L)	1,2-Dichloro-benzene 95-50-1 (ug/L)	1,2-Dichloro-ethane 107-06-2 (ug/L)	1,2-Dichloro-propane 78-87-5 (ug/L)
VOA TRIP BLANK	7/31/2013	VTRP130801C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/1/2013	VTRP130802C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/22/2013	VTRP130823C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/22/2013	VTRP130823B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	9/17/2013	VTRP130918C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	9/18/2013	VTRP130919C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	9/18/2013	VTRP130919B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	1,4-Dichloro- benzene	2-Butanone	2-Hexanone	4-Methyl-2- Pentanone	Acetone	Arylonitrile	Benzene	Bromochloro- methane	Bromodichloro- methane	Bromoform	Bromo- methane	Carbon Disulfide
			106-46-7 (ug/L)	78-93-3 (ug/L)	591-78-6 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)	74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)
MW-21	7/2/2013	W21-130702-	< 0.2 U	< 4 U	< 4 U	< 4 U	8.19	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-24	7/2/2013	W24-130702-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-27A	7/17/2013	W27A130717-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-28	7/16/2013	W28-130716-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-28 Duplicate	7/16/2013	W28-130716D	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-29	7/16/2013	W29-130716-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-30A	7/16/2013	W30A130716-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-43	7/2/2013	W43-130702-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-47	7/16/2013	W47-130716-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-47 Duplicate	7/16/2013	W47-130716D	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-55	7/15/2013	W55-130715-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-56	7/3/2013	W56-130703-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-57	7/3/2013	W57-130703-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-59	7/2/2013	W59-130702-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-60	7/3/2013	W60-130703-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-64	7/31/2013	W64-130731-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-65	7/8/2013	W65-130708-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-66	7/15/2013	W66-130715-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-67	7/12/2013	W67-130712-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-68	7/12/2013	W68-130712-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-69	7/19/2013	W69-130719-	< 0.2 U	< 4 U	< 4 U	< 4 U	6.64	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-70	7/17/2013	W70-130717-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-72	7/22/2013	W72-130722-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-73	7/23/2013	W73-130723-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74	7/18/2013	W74R130718-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74	8/23/2013	W74R130823-	< 0.2 U	< 4 U	< 4 U	< 4 U	5.34 B	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74	9/19/2013	W74R130919-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-74 Duplicate	9/19/2013	W74R130919D	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-75	7/18/2013	W75-130718-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-75	8/23/2013	W75-130823-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-75	9/19/2013	W75-130919-	< 0.2 U	< 4 U	< 4 U	< 4 U	4.3 B	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-76	7/15/2013	W76-130715-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-77	8/2/2013	W77-130802-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-78	7/3/2013	W78-130703-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-80	7/18/2013	W80-130718-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-81	7/23/2013	W81-130723-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-82	7/23/2013	W82-130723-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-83	7/17/2013	W83-130717-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-84	7/9/2013	W84-130709-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-85	7/22/2013	W85-130722-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	1,4-Dichloro- benzene	2-Butanone	2-Hexanone	4-Methyl-2- Pentanone	Acetone	Arylonitrile	Benzene	Bromochloro- methane	Bromodichloro- methane	Bromoform	Bromo- methane	Carbon Disulfide
			106-46-7 (ug/L)	78-93-3 (ug/L)	591-78-6 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)	74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)
MW-86	7/22/2013	W86-130722-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-87	7/19/2013	W87-130719-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-87	8/23/2013	W87-130823-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-87	9/19/2013	W87-130919-	< 0.2 U	< 4 U	< 4 U	< 4 U	7.27 B	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-88	7/17/2013	W88-130717-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-89	8/1/2013	W89-130801-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-90	7/22/2013	W90-130722-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-91	7/8/2013	W91-130708-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-93	7/9/2013	W93-130709-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-94	7/23/2013	W94-130723-	< 0.2 U	< 4 U	< 4 U	< 4 U	5.28	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-95	7/9/2013	W95-130709-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-99	7/19/2013	W99-130719-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-99	8/23/2013	W99-130823-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-99	9/18/2013	W99-130918-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-100	7/9/2013	W100130709-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
MW-101	7/18/2013	W101130718-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
WS-NPW	7/16/2013	WNPW130716-	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
FIELD BLANK	7/3/2013	W78-130703F	< 0.2 U	< 4 U	< 4 U	< 4 U	13.9	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
FIELD BLANK	7/22/2013	W86-130722F	< 0.2 U	< 4 U	< 4 U	< 4 U	5.04	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/1/2013	VTRP130702C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/2/2013	VTRP130703B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/2/2013	VTRP130703C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/3/2013	VTRP130709C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/3/2013	VTRP130708B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/8/2013	VTRP130709B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/10/2013	VTRP130712C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/10/2013	VTRP130715B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/12/2013	VTRP130715C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/15/2013	VTRP130716C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/15/2013	VTRP130716B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/16/2013	VTRP130717C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/16/2013	VTRP130717B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/17/2013	VTRP130718C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/17/2013	VTRP130718B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/18/2013	VTRP130719C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/18/2013	VTRP130719B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/19/2013	VTRP130722B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/22/2013	VTRP130723C	< 0.2 U	< 4 U	< 4 U	< 4 U	7.13	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/22/2013	VTRP130723B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/29/2013	VTRP130731C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	1,4-Dichloro- benzene	2-Butanone	2-Hexanone	4-Methyl-2- Pentanone	Acetone	Arylonitrile	Benzene	Bromochloro- methane	Bromodichloro- methane	Bromoform	Bromo- methane	Carbon Disulfide
			106-46-7 (ug/L)	78-93-3 (ug/L)	591-78-6 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)	74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)
VOA TRIP BLANK	7/31/2013	VTRP130801C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/1/2013	VTRP130802C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/22/2013	VTRP130823C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/22/2013	VTRP130823B	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	9/17/2013	VTRP130918C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	9/18/2013	VTRP130919C	< 0.2 U	< 4 U	< 4 U	< 4 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	9/18/2013	VTRP130919B	< 0.2 U	< 4 U	< 4 U	< 4 U	9.18 B	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U

Data Collected from July 1, 2013 to September 30, 2013
Cedar Hills Landfill --- Groundwater VOA Analytical Data
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[illegible]

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[illegible]

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Contact Person: Sandy Jimenez (206) 296-4411

[illegible]

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Methyl Iodide	Methylene Chloride	o-Xylene	Styrene	Tetrachloro- ethene	Toluene	trans-1,2- Dichloro- ethene	trans-1,3- Dichloro- propene	trans-1,4- Dichloro-2- butene	Trichloro- ethene	Trichloro- fluoro- methane	Vinyl Acetate	Vinyl Chloride
			74-88-4 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)	156-60-5 (ug/L)	10061-02-6 (ug/L)	110-57-6 (ug/L)	79-01-6 (ug/L)	75-69-4 (ug/L)	108-05-4 (ug/L)	75-01-4 (ug/L)
MW-21	7/2/2013	W21-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-24	7/2/2013	W24-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-27A	7/17/2013	W27A130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-28	7/16/2013	W28-130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-28 Duplicate	7/16/2013	W28-130716D	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-29	7/16/2013	W29-130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-30A	7/16/2013	W30A130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	1.16	< 0.2 U	< 0.2 U	< 0.02 U
MW-43	7/2/2013	W43-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-47	7/16/2013	W47-130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	4.98
MW-47 Duplicate	7/16/2013	W47-130716D	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	4.78
MW-55	7/15/2013	W55-130715-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-56	7/3/2013	W56-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-57	7/3/2013	W57-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-59	7/2/2013	W59-130702-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-60	7/3/2013	W60-130703-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-64	7/31/2013	W64-130731-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-65	7/8/2013	W65-130708-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	0.044
MW-66	7/15/2013	W66-130715-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-67	7/12/2013	W67-130712-	< 0.2 U	0.34 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-68	7/12/2013	W68-130712-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-69	7/19/2013	W69-130719-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-70	7/17/2013	W70-130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-72	7/22/2013	W72-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-73	7/23/2013	W73-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-74	7/18/2013	W74R130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-74	8/23/2013	W74R130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-74	9/19/2013	W74R130919-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-74 Duplicate	9/19/2013	W74R130919D	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-75	7/18/2013	W75-130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-75	8/23/2013	W75-130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-75	9/19/2013	W75-130919-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-76	7/15/2013	W76-130715-	< 0.2 U	0.23 T	< 0.2 U	< 0.2 U	0.37 T	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	6.69	< 0.2 U	< 0.2 U	< 0.02 U
MW-77	8/2/2013	W77-130802-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-78	7/3/2013	W78-130703-	< 0.2 U	0.2 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	0.596	< 0.2 U	< 0.2 U	< 0.02 U
MW-80	7/18/2013	W80-130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-81	7/23/2013	W81-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-82	7/23/2013	W82-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	5.63	< 0.2 U	< 0.2 U	< 0.02 U
MW-83	7/17/2013	W83-130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	2.06	< 0.2 U	< 0.2 U	< 0.02 U
MW-84	7/9/2013	W84-130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-85	7/22/2013	W85-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U

Data Collected from July 1, 2013 to September 30, 2013
Cedar Hills Landfill --- Groundwater VOA Analytical Data
Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Methyl Iodide	Methylene Chloride	o-Xylene	Styrene	Tetrachloro- ethene	Toluene	trans-1,2- Dichloro- ethene	trans-1,3- Dichloro- propene	trans-1,4- Dichloro-2- butene	Trichloro- ethene	Trichloro- fluoro- methane	Vinyl Acetate	Vinyl Chloride
			74-88-4 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)	156-60-5 (ug/L)	10061-02-6 (ug/L)	110-57-6 (ug/L)	79-01-6 (ug/L)	75-69-4 (ug/L)	108-05-4 (ug/L)	75-01-4 (ug/L)
MW-86	7/22/2013	W86-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-87	7/19/2013	W87-130719-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-87	8/23/2013	W87-130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-87	9/19/2013	W87-130919-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-88	7/17/2013	W88-130717-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-89	8/1/2013	W89-130801-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-90	7/22/2013	W90-130722-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-91	7/8/2013	W91-130708-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-93	7/9/2013	W93-130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-94	7/23/2013	W94-130723-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	2.12	< 0.2 U	< 0.2 U	< 0.02 U
MW-95	7/9/2013	W95-130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-99	7/19/2013	W99-130719-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-99	8/23/2013	W99-130823-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-99	9/18/2013	W99-130918-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-100	7/9/2013	W100130709-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-101	7/18/2013	W101130718-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	0.553
WS-NPW	7/16/2013	WNPW130716-	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
FIELD BLANK	7/3/2013	W78-130703F	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
FIELD BLANK	7/22/2013	W86-130722F	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/1/2013	VTRP130702C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/2/2013	VTRP130703B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/2/2013	VTRP130703C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/3/2013	VTRP130709C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/3/2013	VTRP130708B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/8/2013	VTRP130709B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/10/2013	VTRP130712C	< 0.2 U	1.07	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/10/2013	VTRP130715B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/12/2013	VTRP130715C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/15/2013	VTRP130716C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/15/2013	VTRP130716B	< 0.2 U	0.21 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/16/2013	VTRP130717C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/16/2013	VTRP130717B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/17/2013	VTRP130718C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/17/2013	VTRP130718B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/18/2013	VTRP130719C	< 0.2 U	0.25 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/18/2013	VTRP130719B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/19/2013	VTRP130722B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/22/2013	VTRP130723C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/22/2013	VTRP130723B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/29/2013	VTRP130731C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Groundwater VOA Analytical Data
 Contact Person: Sedy Jimenez (206) 296-4411

Site	Date	Sample ID	Methyl Iodide 74-88-4 (ug/L)	Methylene Chloride 75-09-2 (ug/L)	o-Xylene 95-47-6 (ug/L)	Styrene 100-42-5 (ug/L)	Tetrachloro- ethene 127-18-4 (ug/L)	Toluene 108-88-3 (ug/L)	trans-1,2- Dichloro- ethene 156-60-5 (ug/L)	trans-1,3- Dichloro- propene 10061-02-6 (ug/L)	trans-1,4- Dichloro-2- butene 110-57-6 (ug/L)	Trichloro- ethene 79-01-6 (ug/L)	Trichloro- fluoro- methane 75-69-4 (ug/L)	Vinyl Acetate 108-05-4 (ug/L)	Vinyl Chloride 75-01-4 (ug/L)
VOA TRIP BLANK	7/31/2013	VTRP130801C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/1/2013	VTRP130802C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/22/2013	VTRP130823C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/22/2013	VTRP130823B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	9/17/2013	VTRP130918C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	9/18/2013	VTRP130919C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	9/18/2013	VTRP130919B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U

Surface Water Analytical Data

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill ---Surface Water Elevation Data-Staff Gage Measurements

Contact Person: Sandy Jimenez (206) 296-4411

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Staff Gage Reading (feet)	Surface Water Elevation (msl)	Comment
SW-G1	SW-W1	7/24/2013	415.38	418.84	2.74		416.10	
SW-G1	SW-W1	8/21/2013	415.38	418.84	2.94		415.90	
SW-G1	SW-W1	9/24/2013	415.38	418.84		0.69	416.07	
SW-G2	SW-N1	7/24/2013	355.68	358.21	3.12		355.09	
SW-G2	SW-N1	8/21/2013	355.68	358.21			--	Station Dry
SW-G2	SW-N1	9/24/2013	355.68	358.21		0.51	356.19	
SW-G3	SW -V	7/24/2013	466.46	469.88			--	Station Dry
SW-G3	SW -V	8/21/2013	466.46	469.88			--	Station Dry
SW-G3	SW -V	9/24/2013	466.46	469.88	5.44		464.44	
SW-G4	Upstream of SW-E1	7/24/2013	502.41	505.85			--	Station Dry
SW-G4	Upstream of SW-E1	8/21/2013	502.41	505.85			--	Station Dry
SW-G4	Upstream of SW-E1	9/24/2013	502.41	505.85	5.42		500.43	
SW-G5	SW-E1	7/24/2013	486.92	490.34			--	Station Dry
SW-G5	SW-E1	8/21/2013	486.92	490.34			--	Station Dry
SW-G5	SW-E1	9/24/2013	486.92	490.34	4.30		486.04	
SW-G6	Upstream of SW-GS1	7/26/2013	490.72	494.12	7.2		486.92	
SW-G6	Upstream of SW-GS1	8/21/2013	490.72	494.12	7.2		486.92	
SW-G6	Upstream of SW-GS1	9/23/2013	490.72	494.12		0.55	491.27	
SW-G7	SW-S2	7/26/2013	453.03	456.41	7.7		448.71	
SW-G7	SW-S2	8/21/2013	453.03	456.41	9		447.41	
SW-G7	SW-S2	9/23/2013	453.03	456.41		0.48	453.51	
SW-G8	Upstream of SW-S1	7/26/2013	510.61	515.56	4.75		510.81	
SW-G8	Upstream of SW-S1	8/21/2013	510.61	515.56	4.8		510.76	
SW-G8	Upstream of SW-S1	9/23/2013	510.61	515.56	4.72		510.84	
SW-G9	SW-S1	7/26/2013	490.93	494.35	4.18		490.17	
SW-G9	SW-S1	8/21/2013	490.93	494.35	6.33		488.02	
SW-G9	SW-S1	9/23/2013	490.93	494.35	3.51		490.84	

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Surface Water Field Parameters

Contact Person: Sindy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field)	Conductance (Field)	Temperature	Turbidity	Oxygen, Dissolved
			(std. Units)	(umho/cm)	(°C)	(NTU)	(mg/L)
SW-GS1	7/29/2013	SGS1130729Q	7.98	150	14.8	5.32	10.62
SW-GS1	9/23/2013	SGS1130923P	7.26	145	16.1	11.3	7.2
SW-GS1	9/25/2013	SGS1130925M	7.97	160	14.5	22.3	9.62
SW-MC	9/25/2013	SMC-130925Q	7.51	110	12.9	2.44	9.31
SW-N1	9/24/2013	SN1-130924Q	7.41	110	13.8	3.49	8.65
SW-N4	9/23/2013	SN4-130923P	7.92	120	16.7	2.07	8.59
SW-N4	9/24/2013	SN4-130924D	7.85	110	15.1	2.82	9.77
SW-N4	9/24/2013	SN4-130924Q	7.85	110	15.1	2.82	9.77
SW-S2	9/25/2013	SS2-130925Q	6.84	135	13.4	1.84	8.07
SW-SL3	9/23/2013	SSL3130923P	6.99	135	14.5	6.86	8.06
SW-SL3	9/25/2013	SSL3130925Q	6.98	200	13.4	2.19	6.68
SW-SL3	9/25/2013	SSL3130925P	7.01	130	12.7	1.59	5.88
SW-SLP1	7/25/2013	SLP1130725P	7.56	300	14.6	9.56	7.28
SW-SLP1	8/27/2013	SLP1130827P	7.61	300	15.8	8.21	7.05
SW-SLP1	9/25/2013	SLP1130925P	7.26	100	13.5	53.9	9.07
SW-SLP2	7/25/2013	SLP2130725P	7.62	240	14.8	6.57	9.86
SW-SLP2	8/27/2013	SLP2130827P	7.96	270	16.3	3.25	9.39
SW-SLP2	9/25/2013	SLP2130925P	7.28	160	13.2	4.38	9.37
SW-SSL	9/30/2013	SSSL130930E	7.4	120	12.4	821	7.19
SW-TD1	9/23/2013	STD1130923-	7.34	56	13.9	4.29	8.47
SW-TD6	9/23/2013	STD6130923-	7.91	135	13.7	4.42	8.12
SW-W1	7/29/2013	SW1-130729Q	7.65	150	13.1	2.13	10.38
SW-W1	8/21/2013	SW1-130821M	7.82	200	12.7	0.87	10.42
SW-W1	9/24/2013	SW1-130924M	7.92	130	12.2	2.4	10.33

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Surface Water Conventional Analytical Data

Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Hardness (mg/L)	Nitrate- Nitrogen, (NO3 as N) (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
SW-GS1	7/29/2013	SGS1130729Q	66.9	0.0559	< 2 U	11 T	1.56	750	1100	< 0.02 U	0.131	63.9	0.198	0.198
SW-GS1	9/23/2013	SGS1130923P		< 0.01 U	< 2 U									
SW-GS1	9/25/2013	SGS1130925M	50.9	< 0.01 U		21.4	3.81	1900	2300			70	0.073	0.073
SW-MC	9/25/2013	SMC-130925O	39.4	< 0.01 U	< 2 U	16 T	4.85	66	440	< 0.02 U	< 0.1 U	46.8	0.883	0.883
SW-N1	9/24/2013	SN1-130924O	38.6	< 0.01 U	4.73	21.1	5.35	69	810	< 0.02 U	< 0.1 U	47.4	1.04	1.06
SW-N4	9/23/2013	SN4-130923P		0.0336	2.96									
SW-N4	9/24/2013	SN4-130924Q	34.4	0.0189	5.68	18 T	5.55	32	140	< 0.02 U	< 0.1 U	45.8	1.4	1.46
SW-N4 Duplicate	9/24/2013	SN4-130924D	34	0.0205	5.57	23.9	5.68	21	100	< 0.02 U	0.11 T	46	1.4	1.46
SW-S2	9/25/2013	SS2-130925Q	42.8	< 0.01 U	< 2 U	25	3.36	28	400	< 0.02 U	< 0.1 U	56.8	0.0825	0.0825
SW-SL3	9/23/2013	SSL3130923P		< 0.01 U	4.28									
SW-SL3	9/25/2013	SSL3130925O	27.7	< 0.01 U	2.35	31.3	5.49	230	1500	< 0.02 U	0.212	83.7	< 0.01 U	< 0.01 U
SW-SL3	9/25/2013	SSL3130925P		< 0.01 U	2.56			190	2000					
SW-SLP1	7/25/2013	SLP1130725P		0.397	8.12			< 1 U	1700					
SW-SLP1	8/27/2013	SLP1130827P		0.711	4.19			390	4400					
SW-SLP1	9/25/2013	SLP1130925P		0.054	2.55			1100	31000					
SW-SLP2	7/25/2013	SLP2130725P		0.011 T	< 2 U			300	3500					
SW-SLP2	8/27/2013	SLP2130827P		0.019 T	< 2 U			450	6700					
SW-SLP2	9/25/2013	SLP2130925P		0.0185	< 2 U			150	900					
SW-SSL	9/30/2013	SSSL130930E	40.3	0.309		22.2	3.75	6400	51000			70.1	0.645	0.668
SW-TD1	9/23/2013	STD1130923-	16.6			70.5	1.05							
SW-TD6	9/23/2013	STD6130923-	23.7			60.7	4.73							
SW-W1	7/29/2013	SW1-130729Q	62.9	< 0.01 U	3.12	7.9 T	3.98	180	320	< 0.02 U	< 0.1 U	62.9	1.07	1.07
SW-W1	8/21/2013	SW1-130821M	64.1	< 0.01 U		8.3 T	3.87	33	140			62.4	1.12	1.12
SW-W1	9/24/2013	SW1-130924M	54.8	< 0.01 U		21.7	4.48	60	270			53.7	0.587	0.587
FIELD BLANK	7/29/2013	SGS1130729F	< 1 U	< 0.01 U	< 2 U	< 5 U	< 0.1 U	< 1 U	< 1 U	< 0.02 U	< 0.1 U	< 1 U	0.0852	0.0852

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Surface Water Conventional Analytical Data

Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Soluble Reactive Phosphorus (mg/L)	Phosphorus, Total (as P) (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)	Turbidity (NTU)
SW-GS1	7/29/2013	SGS1130729Q	0.02 T		153	5.64	103	0.229	3.95	111	5.5	3.69
SW-GS1	9/23/2013	SGS1130923P									1.41	11.7
SW-GS1	9/25/2013	SGS1130925M	0.0157		170	22	130	0.562	7.77	145	9.8	21.3
SW-MC	9/25/2013	SMC-130925O	0.0118		125	8.01	104	0.574	6.82	110	3	1.88
SW-N1	9/24/2013	SN1-130924O	0.0121		127	8.48	103	0.972	7.41	115	5.5	3.21
SW-N4	9/23/2013	SN4-130923P									2.9	2.38
SW-N4	9/24/2013	SN4-130924Q	0.016		128	9.87	107	1.14	9	119	6	2.61
SW-N4 Duplicate	9/24/2013	SN4-130924D	0.0164		127	9.65	107	1.2	8.42	120	6.5	2.47
SW-S2	9/25/2013	SS2-130925Q	< 0.01 U		144	18.2	110	0.363	6.81	115	3.5	2.9
SW-SL3	9/23/2013	SSL3130923P									2.32	7.71
SW-SL3	9/25/2013	SSL3130925O	< 0.01 U		214	54	171	0.359	11.7	185	< 1 U	1.2
SW-SL3	9/25/2013	SSL3130925P									< 1 U	1.05
SW-SLP1	7/25/2013	SLP1130725P									17.6	15.2
SW-SLP1	8/27/2013	SLP1130827P									6.2	9.25
SW-SLP1	9/25/2013	SLP1130925P									23	50.2
SW-SLP2	7/25/2013	SLP2130725P									2	7.01
SW-SLP2	8/27/2013	SLP2130827P									1.4	2.99
SW-SLP2	9/25/2013	SLP2130925P									1.7	3.87
SW-SSL	9/30/2013	SSSL130930E	0.221		148	19	383	3.27	12.1	529	142	535
SW-TD1	9/23/2013	STD1130923-				5.18			19.5			
SW-TD6	9/23/2013	STD6130923-				28.4			15.2			
SW-W1	7/29/2013	SW1-130729Q	0.036 T		157	4.72	113	0.19 T	2.39	127	33.2	5.71
SW-W1	8/21/2013	SW1-130821M	0.02 T		160	4.72	111	< 0.1 U	1.45	116	< 1 U	1.3
SW-W1	9/24/2013	SW1-130924M	0.0129		138	3.32	106 J	0.794	7.16	118 J	52.5 J	2.15
FIELD BLANK	7/29/2013	SGS1130729F	< 0.01 U		3.4 T	< 0.1 U	< 5 U	< 0.1 U	< 1 U	< 5 U	< 1 U	< 0.2 U

Data Collected from July 1, 2013 to September 30, 2013
Cedar Hills Landfill --- Surface Water Metal Analytical Data
Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Aluminum, dissolved	Aluminum, total	Antimony, dissolved	Antimony, total	Arsenic, dissolved	Arsenic, total	Barium, dissolved	Barium, total	Beryllium, dissolved	Beryllium, total	Cadmium, dissolved	Cadmium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW-GS1	7/29/2013	SGS1130729Q	< 0.02 U	0.188	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00538	0.0044	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-GS1	9/23/2013	SGS1130923P												
SW-GS1	9/25/2013	SGS1130925M	< 0.02 U	1.19 D	< 0.001 U	< 0.001 U	0.00209	0.00291	0.00826	0.0153	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-MC	9/25/2013	SMC-130925O	< 0.02 U	0.0935	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00495	0.00587	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-N1	9/24/2013	SN1-130924Q	< 0.02 U	0.0673	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00431	0.00503	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-N4	9/23/2013	SN4-130923P												
SW-N4	9/24/2013	SN4-130924Q	< 0.02 U	0.0338	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00469	0.00549	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-N4 Duplicate	9/24/2013	SN4-130924D	< 0.02 U	0.0317	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00487	0.0053	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-S2	9/25/2013	SS2-130925Q	0.0233	0.19	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00996	0.0115	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-SL3	9/23/2013	SSL3130923P												
SW-SL3	9/25/2013	SSL3130925Q	< 0.02 U	0.0517	0.0293	0.0297	0.0967	0.0984	0.0193	0.0208	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-SL3	9/25/2013	SSL3130925P												
SW-SLP1	7/25/2013	SLP1130725P												
SW-SLP1	8/27/2013	SLP1130827P												
SW-SLP1	9/25/2013	SLP1130925P												
SW-SLP2	7/25/2013	SLP2130725P												
SW-SLP2	8/27/2013	SLP2130827P												
SW-SLP2	9/25/2013	SLP2130925P												
SW-SSL	9/30/2013	SSSL130930E	< 0.02 U	14.6 D	< 0.001 U	< 0.001 U	0.00209	0.00753	0.00596	0.138	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-TD1	9/23/2013	STD1130923-												
SW-TD6	9/23/2013	STD6130923-												
SW-W1	7/29/2013	SW1-130729Q	< 0.02 U	0.0377	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00328	0.00608	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U
SW-W1	8/21/2013	SW1-130821M	< 0.02 U	0.0371	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00566	0.00601	< 0.001 U	< 0.001 DU	< 0.002 U	< 0.002 U
SW-W1	9/24/2013	SW1-130924M	< 0.02 U	0.0331	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00559	0.00602	< 0.001 U	< 0.001 U	< 0.002 U	< 0.002 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Surface Water Metal Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Calcium, dissolved	Calcium, total	Chromium, dissolved	Chromium, total	Cobalt, dissolved	Cobalt, total	Copper, dissolved	Copper, total	Iron, dissolved	Iron, total	Lead, dissolved	Lead, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW-GS1	7/29/2013	SGS1130729Q	15	17.4	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	0.0021	< 0.01 U	0.225	< 0.001 U	< 0.001 U
SW-GS1	9/23/2013	SGS1130923P								0.00519				
SW-GS1	9/25/2013	SGS1130925M	17.3	17.8	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	0.0038	0.00628	0.022 T	1.28	< 0.001 U	< 0.001 U
SW-MC	9/25/2013	SMC-130925Q	10.6	12.2	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	0.00433	0.00469	0.0791	0.155	< 0.001 U	< 0.001 U
SW-N1	9/24/2013	SN1-130924Q	10.6	12	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	0.00459	0.00485	0.0945	0.185	< 0.001 U	< 0.001 U
SW-N4	9/23/2013	SN4-130923P								0.00644				
SW-N4	9/24/2013	SN4-130924Q	10.4	12	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	0.00567	0.00621	0.0815	0.15	< 0.001 U	< 0.001 U
SW-N4 Duplicate	9/24/2013	SN4-130924D	10.4	11.6	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	0.00564	0.00602	0.0909	0.147	< 0.001 U	< 0.001 U
SW-S2	9/25/2013	SS2-130925Q	13.9	15	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	0.00303	0.00362	0.035 T	0.189	< 0.001 U	< 0.001 U
SW-SL3	9/23/2013	SSL3130923P								0.00377				
SW-SL3	9/25/2013	SSL3130925Q	18.8	21.1	0.0105	0.0109	< 0.003 U	< 0.003 U	0.00333	0.00388	0.195	0.432	< 0.001 U	< 0.001 U
SW-SL3	9/25/2013	SSL3130925P								0.00365				
SW-SLP1	7/25/2013	SLP1130725P								0.00437				
SW-SLP1	8/27/2013	SLP1130827P								0.00599				
SW-SLP1	9/25/2013	SLP1130925P								0.00855				
SW-SLP2	7/25/2013	SLP2130725P								< 0.002 U				
SW-SLP2	8/27/2013	SLP2130827P								< 0.002 U				
SW-SLP2	9/25/2013	SLP2130925P								0.00662				
SW-SSL	9/30/2013	SSSL130930E	13.7	13.6	< 0.005 U	0.0302	< 0.003 U	0.0074	0.00505	0.0448	0.011 T	21.9	< 0.001 U	0.0134
SW-TD1	9/23/2013	STD1130923-									0.156	0.232		
SW-TD6	9/23/2013	STD6130923-									0.102	0.255		
SW-W1	7/29/2013	SW1-130729Q	16.7	15.6	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.018 T	0.044 T	< 0.001 U	< 0.001 U
SW-W1	8/21/2013	SW1-130821M	16	15.3	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.044 T	< 0.001 U	< 0.001 U
SW-W1	9/24/2013	SW1-130924M	13.1	14	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	0.701	0.861	< 0.001 U	< 0.001 U
FIELD BLANK	7/29/2013	SGS1130729F	< 0.01 U	< 0.01 U	< 0.005 U	< 0.005 U	< 0.003 U	< 0.003 U	< 0.002 U	< 0.002 U	< 0.01 U	0.011 T	< 0.001 U	< 0.001 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Surface Water Metal Analytical Data
 Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Magnesium, dissolved	Magnesium, total	Manganese, dissolved	Manganese, total	Mercury, total	Nickel, dissolved	Nickel, total	Potassium, dissolved	Potassium, total	Selenium, dissolved	Selenium, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW-GS1	7/29/2013	SGS1130729O	5.66	4.97	< 0.001 U	0.0406	< 0.0001 U	< 0.01 U	< 0.01 U	0.947	0.991	< 0.001 U	< 0.001 U
SW-GS1	9/23/2013	SGS1130923P											
SW-GS1	9/25/2013	SGS1130925M	5.64	6.18	0.0169	0.0528	< 0.0001 U	< 0.01 U	< 0.01 U	2.71	2.81	< 0.001 U	< 0.001 U
SW-MC	9/25/2013	SMC-130925O	3.57	3.95	0.00194	0.00463	< 0.0001 U	< 0.01 U	< 0.01 U	2.13	2.24	< 0.001 U	< 0.001 U
SW-N1	9/24/2013	SN1-130924Q	3.46	4.23	0.017	0.0217 D	< 0.0001 U	< 0.01 U	< 0.01 U	2.35	2.52	< 0.001 U	< 0.001 U
SW-N4	9/23/2013	SN4-130923P											
SW-N4	9/24/2013	SN4-130924Q	3.5	3.85	0.00583	0.0171	< 0.0001 U	< 0.01 U	< 0.01 U	2.82	2.93	< 0.001 U	< 0.001 U
SW-N4 Duplicate	9/24/2013	SN4-130924D	3.43	4.11	0.00595	0.0168 D	< 0.0001 U	< 0.01 U	< 0.01 U	2.89	2.81	< 0.001 U	< 0.001 U
SW-S2	9/25/2013	SS2-130925O	4.41	4.67	0.0133	0.0429	< 0.0001 U	< 0.01 U	< 0.01 U	1.52	1.58	< 0.001 U	< 0.001 U
SW-SL3	9/23/2013	SSL3130923P											
SW-SL3	9/25/2013	SSL3130925Q	6.56	7.56	0.01	0.0126	< 0.0001 U	< 0.01 U	< 0.01 U	3.22	3.43	< 0.001 U	< 0.001 U
SW-SL3	9/25/2013	SSL3130925P											
SW-SLP1	7/25/2013	SLP1130725P											
SW-SLP1	8/27/2013	SLP1130827P											
SW-SLP1	9/25/2013	SLP1130925P											
SW-SLP2	7/25/2013	SLP2130725P											
SW-SLP2	8/27/2013	SLP2130827P											
SW-SLP2	9/25/2013	SLP2130925P											
SW-SSL	9/30/2013	SSSL130930E	4.93	8.78	0.0674	0.367	< 0.0001 U	< 0.01 U	0.0382	2.87	4.16	< 0.001 U	< 0.001 U
SW-TD1	9/23/2013	STD1130923-											
SW-TD6	9/23/2013	STD6130923-											
SW-W1	7/29/2013	SW1-130729O	4.79	5.82	0.0319	0.00457	< 0.0001 U	< 0.01 U	< 0.01 U	0.977	0.992	< 0.001 U	< 0.001 U
SW-W1	8/21/2013	SW1-130821M	6.51	5.88	< 0.001 DU	0.00669	< 0.0001 U	< 0.01 U	< 0.01 U	1.12	0.999	< 0.001 U	< 0.001 U
SW-W1	9/24/2013	SW1-130924M	3.93	4.52	0.00266	0.00614	< 0.0001 U	< 0.01 U	< 0.01 U	1.46	1.43	< 0.001 U	< 0.001 U
FIELD BLANK	7/29/2013	SGS1130729F	< 0.015 U	< 0.015 U	< 0.001 U	< 0.001 U	< 0.0001 U	< 0.01 U	< 0.01 U	< 0.3 U	< 0.3 U	< 0.001 U	< 0.001 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013
 Cedar Hills Landfill --- Surface Water Metal Analytical Data
 Contact Person: Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Silver, dissolved	Silver, total	Sodium, dissolved	Sodium, total	Thallium, dissolved	Thallium, total	Tin, dissolved	Tin, total	Vanadium, dissolved	Vanadium, total	Zinc, dissolved	Zinc, total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW-GS1	7/29/2013	SGS1130729Q	< 0.003 DU	< 0.003 U	6.04	5.77	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
SW-GS1	9/23/2013	SGS1130923P												< 0.004 U
SW-GS1	9/25/2013	SGS1130925M	< 0.003 U	< 0.003 U	4.38	4.68	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	0.00374	< 0.004 U	0.00441
SW-MC	9/25/2013	SMC-130925Q	< 0.003 U	< 0.003 U	4.59	5.26	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	0.00578	0.00704
SW-N1	9/24/2013	SN1-130924Q	< 0.003 U	< 0.003 U	4.7	5.02	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	0.0107	0.0105
SW-N4	9/23/2013	SN4-130923P												0.0325
SW-N4	9/24/2013	SN4-130924Q	< 0.003 U	< 0.003 U	4.69	5.29	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	0.0125	0.0177
SW-N4 Duplicate	9/24/2013	SN4-130924D	< 0.003 U	< 0.003 U	4.68	4.73	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	0.0129	0.0157
SW-S2	9/25/2013	SS2-130925Q	< 0.003 U	< 0.003 U	3.84	4.23	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	0.00405	0.00515
SW-SL3	9/23/2013	SSL3130923P												0.0125
SW-SL3	9/25/2013	SSL3130925Q	< 0.003 U	< 0.003 U	5.01	5.75	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	0.00982	0.0112
SW-SL3	9/25/2013	SSL3130925P												0.0104
SW-SLP1	7/25/2013	SLP1130725P												0.0165
SW-SLP1	8/27/2013	SLP1130827P												0.0151
SW-SLP1	9/25/2013	SLP1130925P												0.0603
SW-SLP2	7/25/2013	SLP2130725P												0.0446
SW-SLP2	8/27/2013	SLP2130827P												0.0199
SW-SLP2	9/25/2013	SLP2130925P												0.0355
SW-SSL	9/30/2013	SSSL130930E	< 0.003 U	< 0.003 U	3.39	3.84	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	0.00282	0.0451	< 0.004 U	0.0586
SW-TD1	9/23/2013	STD1130923-												
SW-TD6	9/23/2013	STD6130923-												
SW-W1	7/29/2013	SW1-130729Q	< 0.003 DU	< 0.003 U	5.51	6.38	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U
SW-W1	8/21/2013	SW1-130821M	< 0.003 U	< 0.003 U	6.71	6.25	< 0.001 U	< 0.001 DU	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
SW-W1	9/24/2013	SW1-130924M	< 0.003 U	< 0.003 U	5.39	5.47	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 U	< 0.004 U	< 0.004 U
FIELD BLANK	7/29/2013	SGS1130729F	< 0.003 DU	< 0.003 U	0.459	0.466	< 0.001 U	< 0.001 U	< 0.01 U	< 0.01 U	< 0.002 U	< 0.002 DU	< 0.004 U	< 0.004 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Surface Water Pesticide/Herbicide Analytical Data

Contact Person: Sindy Jimenez (206) 296-4411

Site	Date	Sample ID	2,4,5-T	2,4,5-TP	2,4-D	Dinoseb	Endrin	Lindane	Methoxy-chlor	Toxaphene	4-Methyl-phenol	alpha Terpineol	Benzoic Acid	Phenol
			93-76-5 (ug/L)	93-72-1 (ug/L)	94-75-7 (ug/L)	88-85-7 (ug/L)	72-20-8 (ug/L)	58-89-9 (ug/L)	72-43-5 (ug/L)	8001-35-2 (ug/L)	106-44-5 (ug/L)	98-55-5 (ug/L)	65-85-0 (ug/L)	108-95-2 (ug/L)
SW-GS1	7/29/2013	SGS1130729Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-GS1	9/25/2013	SGS1130925M	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-GS1	9/23/2013	SGS1130923P									< 10 U	< 5 U	< 50 U	< 4 U
SW-MC	9/25/2013	SMC-130925Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-N1	9/24/2013	SN1-130924Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-N4	9/24/2013	SN4-130924Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-N4	9/24/2013	SN4-130924D	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-N4	9/23/2013	SN4-130923P									< 10 U	< 5 U	< 50 U	< 4 U
SW-S2	9/25/2013	SS2-130925Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-SL3	9/25/2013	SSL3130925Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-SL3	9/23/2013	SSL3130923P									< 10 U	< 5 U	< 50 U	< 4 U
SW-SL3	9/25/2013	SSL3130925P									< 10 U	< 5 U	< 50 U	< 4 U
SW-SLP1	7/25/2013	SLP1130725P									< 10 U	< 5 GU	< 50 U	< 4 U
SW-SLP1	8/27/2013	SLP1130827P									< 10 U	< 5 U	< 50 GU	< 4 U
SW-SLP1	9/25/2013	SLP1130925P									< 10 U	< 5 U	< 50 U	< 4 U
SW-SLP2	7/25/2013	SLP2130725P									< 10 U	< 5 GU	< 50 U	< 4 U
SW-SLP2	8/27/2013	SLP2130827P									< 10 U	< 5 U	< 50 GU	< 4 U
SW-SLP2	9/25/2013	SLP2130925P									< 10 U	5.61	< 50 U	< 4 U
SW-SSL	9/30/2013	SSSL130930E	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-W1	7/29/2013	SW1-130729Q	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-W1	8/21/2013	SW1-130821M	< 2 U	< 1 U	< 5 U	< 1 GU	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
SW-W1	9/24/2013	SW1-130924M	< 2 U	< 1 U	< 5 U	< 1 U	< 0.1 U	< 0.025 U	< 2 U	< 2.5 U				
FIELD BLANK	7/29/2013	SGS1130729F	< 2 U	< 1 U	< 5 U	< 1 U								

Leachate Analytical Data

Leachate Monitoring Activities 3rd Quarter 2013

Station ID	Date	Activity	Sample ID	Comment
API	7/10/13	Monthly Characterization Sample	LAPI130710M	
API	8/7/13	Monthly Characterization Sample	LAPI130807M	
API	9/4/13	Monthly Characterization Sample	LAPI130904M	
LEPS	7/10/13	Permit Sample	LEPS130710P	
LEPS	7/10/13	Monthly Characterization Sample	LEPS130710M	
LEPS	7/24/13	Permit Sample	LEPS130724P	
LEPS	8/7/13	Monthly Characterization Sample	LEPS130807M	
LEPS	8/7/13	Permit Sample	LEPS130807P	
LEPS	8/21/13	Permit Sample	LEPS130821P	
LEPS	9/4/13	Monthly Characterization Sample	LEPS130904M	
LEPS	9/4/13	Permit Sample	LEPS130904P	
LEPS	9/18/13	Permit Sample	LEPS130918P	
46N	7/10/13	Monthly Characterization Sample	L46N130710M	
46N	8/7/13	Monthly Characterization Sample	L46N130807M	
46N	9/4/13	Monthly Characterization Sample	L46N130904M	
PS2A	7/10/13	Monthly Characterization Sample	LP2A130710M	
PS2A	8/7/13	Monthly Characterization Sample	LP2A130807M	
PS2A	9/4/13	Monthly Characterization Sample	LP2A130904M	
Field Blank	7/10/13	QA/QC Sample	L46N130710F	

Environmental Monitoring Data

Data Collected from (Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Field Parameters

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field)	Conductance (Field)	Temperature
			(std. Units)	(umho/cm)	(o C)
LS-API	7/10/2013	LAPI130710M	7.68	14500	17.1
LS-API	8/7/2013	LAPI130807M	7.88	17000	17.1
LS-API	9/4/2013	LAPI130904M	8.17	8100	15.3
LS-LEPS	7/10/2013	LEPS130710M	8.52	7100	20.5
LS-LEPS	7/10/2013	LEPS130710P	8.52	7100	20.5
LS-LEPS	7/24/2013	LEPS130724P	8.64	7550	19.5
LS-LEPS	8/7/2013	LEPS130807M	8.4	7550	21.1
LS-LEPS	8/7/2013	LEPS130807P	8.4	7550	21.1
LS-LEPS	8/21/2013	LEPS130821P	8.47	7200	16.5
LS-LEPS	9/4/2013	LEPS130904M	8.58	7000	15.1
LS-LEPS	9/18/2013	LEPS130918P	8.46	5350	12
LS-MH46N	7/10/2013	L46N130710M	7.33	9050	22.5
LS-MH46N	8/7/2013	L46N130807M	7.23	8900	27.6
LS-MH46N	9/4/2013	L46N130904M	7.31	10200	23.8
LS-MH46N	10/2/2013	L46N131002M	7.32	8200	23.3
LS-PS2A	7/10/2013	LP2A130710M	6.92	1400	13.1
LS-PS2A	8/7/2013	LP2A130807M	7.32	3800	13.7
LS-PS2A	9/4/2013	LP2A130904M	6.95	690	14.5
FIELD BLANK	7/10/2013	L46N130710F	7.87	4	21.7

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Conventional Analytical Data

Contact Person --- Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Alkalinity, Total (CaCO3)	Ammonia, (NH3 as N)	Biological Oxygen Demand	Chemical Oxygen Demand	Chloride	Coliforms, Fecal	Coliforms, Total	Cyanide	Fluoride	Nitrate+Nitrite (NO3+NO2 as N)	Phosphorus, Total (as P)	Specific Conductance
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(CFU/100mL)	(CFU/100mL)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(umho/cm)
LS-API	7/10/2013	LAPI130710M	7750	1510	6460	12100	1930	70000	10000 C	< 0.02 SU	< 0.1 U	< 0.01 U	0.18 T	19400
LS-API	8/7/2013	LAPI130807M	11700	1390	4430	10400	2160	250000	4700000	< 0.02 SU	< 0.1 U	< 0.01 U	1.75	19800
LS-API	9/4/2013	LAPI130904M	6890	1330	3910	7250	1810	320000	3600000	< 0.02 SU	< 0.1 U	0.071 T	6.19	14700
LS-LEPS	7/10/2013	LEPS130710M	3170	526	266	1620	808	3300	28000	< 0.02 SU	< 0.1 U	0.05 T	0.204	8020
LS-LEPS	8/7/2013	LEPS130807M	2590	354	< 2 R	1060	1030	1100	32000	0.025 ST	1.21	122	0.367	8760
LS-LEPS	9/4/2013	LEPS130904M	2430	226	226	822	1170	3700	53000	< 0.02 SU	1.36	9.5	0.0994	7250
LS-MH46N	7/10/2013	L46N130710M	3060	614	127	1700	1630	< 1 U	21	< 0.02 SU	3.82	0.15 T	0.958	10600
LS-MH46N	8/7/2013	L46N130807M	3450	597	115	1970	1790	< 1 U	220	< 0.02 SU	4.78	1.25	2.83	11600
LS-MH46N	9/4/2013	L46N130904M	3470	714	142	1160	1930	< 1 U	130	< 0.02 SU	< 0.1 U	2.62	2.92	10900
LS-PS2A	7/10/2013	LP2A130710M	187	66.8	20.3	188	128	< 1 U	780000	< 0.02 U	< 0.1 U	7.18	0.0346	1450
LS-PS2A	8/7/2013	LP2A130807M	488	243	118	808	500	750	9900000	< 0.02 U	0.928	13.1	0.36	4580
LS-PS2A	9/4/2013	LP2A130904M	114	27.9	7.46	74.2	52.4	1	50000	< 0.02 U	0.11 T	6.36	0.0719	703
FIELD BLANK	7/10/2013	L46N130710F	< 1 U	< 0.01 U	< 2 U	< 5 U	< 0.1 U	< 1 U	< 1 U	< 0.02 U	< 0.1 U	0.0701	< 0.01 U	4.4 T

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Conventional Analytical Data

Contact Person --- Sandy Jimenez (206) 296-4411

Site	Date	Sample ID	Sulfate (SO4)	Sulfide Total	Total Fats, Oils and Grease	Total Kjeldahl Nitrogen (TKN as N)	Total Organic Carbon	Total Suspended Solids	Total Volatile Solids	Volatile Suspended Solids
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
LS-API	7/10/2013	LAPI130710M	111	3.03	6.6	1550	3420 S	292	5680	192
LS-API	8/7/2013	LAPI130807M	54	17.3	5.3	1600	2440 S	148	5060	108
LS-API	9/4/2013	LAPI130904M	64.1	3.91	3.9 BT	1320	2240 S	120	5410	90
LS-LEPS	7/10/2013	LEPS130710M	61.9	0.306	2.1 T	573	388	380	1170	312
LS-LEPS	8/7/2013	LEPS130807M	85.3	3.3 T	< 2 U	380	445	148	1480	140
LS-LEPS	9/4/2013	LEPS130904M	104	0.63 T	3.3 BT	273	306	204	1270	164
LS-MH46N	7/10/2013	L46N130710M	2.35	0.452	5.3 T	626	568 S	5.2	1130	3.4
LS-MH46N	8/7/2013	L46N130807M	6.76	0.303	4.4 T	685	525	8	1180	6.5
LS-MH46N	9/4/2013	L46N130904M	8.27	0.354	4.4 BT	729	546	3	1460	1.7
LS-PS2A	7/10/2013	LP2A130710M	217	0.076 T	< 2 GU	68.8	65.7	5.4	184	2.8
LS-PS2A	8/7/2013	LP2A130807M	873	0.068 T	2.2 GT	274	312	13.5	793	12.5
LS-PS2A	9/4/2013	LP2A130904M	95	0.038 T	2.6 BT	27.8	24.9	1.4 T	157	< 1 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.1 U	< 0.01 U	< 2 U	< 0.1 U	< 1 U	< 1 U	< 5 U	< 1 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Metal Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Aluminum,	Antimony,	Arsenic,	Barium,	Beryllium,	Cadmium,	Calcium,	Chromium,	Cobalt,	Copper,	Iron,	Lead,
			total	total	total	total	total	total	total	total	total	total	total	total
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
LS-API	7/10/2013	LAPI130710M	0.49 T	0.026 T	0.195	0.263	< 0.001 U	< 0.002 U	474	0.199	0.0692	0.0083 T	48 D	< 0.001 U
LS-API	8/7/2013	LAPI130807M	0.636	0.03 T	0.219	0.266	< 0.001 U	< 0.002 U	309	0.21	0.0738	0.014 T	24.9	< 0.001 U
LS-API	9/4/2013	LAPI130904M	0.808	0.032 T	0.204	0.224	< 0.001 U	< 0.002 U	246	0.175	0.0542	0.008 T	12.1	< 0.001 U
LS-LEPS	7/10/2013	LEPS130710P								0.0737		0.0061 T		
LS-LEPS	7/10/2013	LEPS130710M	1.04	< 0.001 U	0.091 T	0.0531	< 0.001 U	< 0.002 U	76.1	0.0744	0.0309	0.009 T	13.8	< 0.001 U
LS-LEPS	7/24/2013	LEPS130724P						< 0.002 U		0.0954		0.014 T		< 0.001 U
LS-LEPS	8/7/2013	LEPS130807M	0.38 T	0.021 T	0.126	0.041	< 0.001 U	< 0.002 U	62	0.0892	0.0411	0.012 T	7.62	< 0.001 U
LS-LEPS	8/7/2013	LEPS130807P			0.156			< 0.002 U		0.131		0.0375		0.021 T
LS-LEPS	8/21/2013	LEPS130821P						< 0.002 U		0.0903		0.0074 T		< 0.001 U
LS-LEPS	9/4/2013	LEPS130904M	0.25 T	0.026 T	0.12 T	0.0586	< 0.001 U	< 0.002 U	81.1	0.0901	0.0425	0.0062 T	9.17	< 0.001 U
LS-LEPS	9/4/2013	LEPS130904P			0.129			< 0.002 U		0.0882		0.0073 T		< 0.001 U
LS-LEPS	9/18/2013	LEPS130918P						< 0.002 U		0.0646		0.0097 T		< 0.001 U
LS-MH46N	7/10/2013	L46N130710M	0.16 T	< 0.001 U	0.075 T	0.389	< 0.001 U	< 0.002 U	83.7	0.0881	0.0311	< 0.002 U	3.21	< 0.001 U
LS-MH46N	8/7/2013	L46N130807M	< 0.02 U	< 0.001 U	0.087 T	0.436	< 0.001 U	< 0.002 U	90.2	0.102	0.0332	< 0.002 U	2.34	< 0.001 U
LS-MH46N	9/4/2013	L46N130904M	0.15 T	< 0.001 U	0.096 T	0.45	< 0.001 U	< 0.002 U	94.9	0.105	0.0371	0.0075 T	2.81	< 0.001 U
LS-PS2A	7/10/2013	LP2A130710M	< 0.02 U	< 0.001 U	< 0.001 U	0.0217	< 0.001 U	< 0.002 U	21.6	< 0.005 U	0.0043 T	0.015 T	2.23	< 0.001 U
LS-PS2A	8/7/2013	LP2A130807M	0.17 T	0.034 T	0.052 T	0.0477	< 0.001 U	< 0.002 U	32.9	0.0173	0.0159	0.0244	3.97	< 0.001 U
LS-PS2A	9/4/2013	LP2A130904M	< 0.02 U	< 0.001 U	< 0.001 U	0.0331	< 0.001 U	< 0.002 U	30.1	< 0.005 U	0.0051 T	0.012 T	0.274	< 0.001 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.02 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.002 U	< 0.01 U	< 0.005 U	< 0.003 U	< 0.002 U	< 0.01 U	< 0.001 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Metal Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Magnesium, total (mg/L)	Manganese, total (mg/L)	Mercury, total (mg/L)	Nickel, total (mg/L)	Potassium, total (mg/L)	Selenium, total (mg/L)	Silver, total (mg/L)	Sodium, total (mg/L)	Thallium, total (mg/L)	Tin, total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
LS-API	7/10/2013	LAPI130710M	175	5.43	< 0.0001 U	0.396	797 D	< 0.001 U	< 0.003 U	2180	< 0.001 DU	0.056 T	0.0783	1.63
LS-API	8/7/2013	LAPI130807M	150	3.05	< 0.0001 U	0.393	805 D	< 0.001 U	< 0.003 U	2050	< 0.001 DU	0.062 T	0.0885	1.67
LS-API	9/4/2013	LAPI130904M	132	2.23	< 0.0001 U	0.318	636 D	< 0.001 U	< 0.003 U	1730	< 0.001 U	0.044 T	0.0759	1.12
LS-LEPS	7/10/2013	LEPS130710P				0.166								0.331
LS-LEPS	7/10/2013	LEPS130710M	69.2	0.584	< 0.0001 U	0.161	319	< 0.001 U	< 0.003 U	835	< 0.001 U	0.034 T	0.034 T	0.454
LS-LEPS	7/24/2013	LEPS130724P				0.192								0.49
LS-LEPS	8/7/2013	LEPS130807M	82.7	0.439	< 0.0001 U	0.213	395	< 0.001 U	< 0.003 U	1140	< 0.001 U	0.03 T	0.042 T	0.373
LS-LEPS	8/7/2013	LEPS130807P				0.227								1.17
LS-LEPS	8/21/2013	LEPS130821P				0.221								0.342
LS-LEPS	9/4/2013	LEPS130904M	87.6	0.372	< 0.0001 U	0.215	412 D	< 0.001 U	< 0.003 U	1140	< 0.001 U	< 0.01 U	0.041 T	0.3
LS-LEPS	9/4/2013	LEPS130904P				0.212								0.285
LS-LEPS	9/18/2013	LEPS130918P				0.148								0.196
LS-MH46N	7/10/2013	L46N130710M	54.4	0.548	< 0.0001 U	0.141	361	< 0.001 U	< 0.003 U	1140	< 0.001 U	0.023 T	0.122	0.0601
LS-MH46N	8/7/2013	L46N130807M	58.6	0.509	< 0.0001 U	0.157	392	< 0.001 U	< 0.003 U	1280	< 0.001 U	0.024 T	0.139	0.0094 T
LS-MH46N	9/4/2013	L46N130904M	63.5	0.505	< 0.0001 U	0.165	431 D	< 0.001 U	< 0.003 U	1320	< 0.001 U	< 0.01 U	0.15	0.0473
LS-PS2A	7/10/2013	LP2A130710M	9.26	0.362	< 0.0001 U	0.023 T	42.2	< 0.001 U	< 0.003 U	119	< 0.001 U	< 0.01 U	< 0.002 U	0.0262
LS-PS2A	8/7/2013	LP2A130807M	17.2	0.36	0.00016 T	0.0623	135	< 0.001 U	< 0.003 U	415	< 0.001 U	0.03 T	< 0.002 U	0.055
LS-PS2A	9/4/2013	LP2A130904M	11.4	0.18	< 0.0001 U	0.023 T	15.1	< 0.001 U	< 0.003 U	46.7	< 0.001 U	< 0.01 U	< 0.002 U	0.017 T
FIELD BLANK	7/10/2013	L46N130710F	< 0.015 U	< 0.001 U	< 0.0001 U	< 0.01 U	< 0.3 U	< 0.001 U	< 0.003 U	0.51 T	< 0.001 U	< 0.01 U	< 0.002 U	< 0.004 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate VOA Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	1,1,1,2- Tetrachloro- ethane 630-20-6 (ug/L)	1,1,1- Trichloro- ethane 71-55-6 (ug/L)	1,1,2,2- Tetrachloro- ethane 79-34-5 (ug/L)	1,1,2- Trichloro- ethane 79-00-5 (ug/L)	1,1-Dichloro- ethane 75-34-3 (ug/L)	1,1-Dichloro- ethene 75-35-4 (ug/L)	1,1-Dichloro- propene 563-58-6 (ug/L)	1,2,3- Trichloro- propane 96-18-4 (ug/L)	1,2-Dibromo- 3- Chloropropan 96-12-8 (ug/L)	1,2- Dibromo- ethane 106-93-4 (ug/L)	1,2-Dichloro- benzene 95-50-1 (ug/L)	1,2-Dichloro- ethane 107-06-2 (ug/L)
LS-API	7/10/2013	LAPI130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	9.7 T
LS-API	8/7/2013	LAPI130807M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	7.5
LS-API	9/4/2013	LAPI130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-LEPS	7/10/2013	LEPS130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-LEPS	8/7/2013	LEPS130807M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-LEPS	9/4/2013	LEPS130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-MH46N	7/10/2013	L46N130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-MH46N	8/7/2013	L46N130807M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-MH46N	9/4/2013	L46N130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-PS2A	7/10/2013	LP2A130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-PS2A	8/7/2013	LP2A130807M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
LS-PS2A	9/4/2013	LP2A130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/9/2013	VTRP130710C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	7/9/2013	VTRP130710B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/6/2013	VTRP130807B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/6/2013	VTRP130807C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/29/2013	VTRP130904C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U
VOA TRIP BLANK	8/30/2013	VTRP130904B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate VOA Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	1,2-Dichloro- propane	1,3 Dichloro- benzene	1,3-Dichloro- propane	1,4-Dichloro- benzene	2,2-Dichloro- propane	2-Butanone	2-Hexanone	2-Methyl-1- propanol	3-Chloro- propene	4-Methyl-2- Pentanone	Acetone	Acetonitrile
			78-87-5 (ug/L)	541-73-1 (ug/L)	142-28-9 (ug/L)	106-46-7 (ug/L)	594-20-7 (ug/L)	78-93-3 (ug/L)	591-78-6 (ug/L)	78-83-1 (ug/L)	107-05-1 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	75-05-8 (ug/L)
LS-API	7/10/2013	LAPI130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	5210 D	< 4 U	1060	< 10 U	134	5590 D	210 T
LS-API	8/7/2013	LAPI130807M	< 0.2 U	< 0.2 U	< 0.2 U	2.3 T	< 0.2 U	4780 D	34 T	< 100 U	< 10 U	59.9	3800 D	< 100 U
LS-API	9/4/2013	LAPI130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	5680 D	67 T	< 100 U	< 10 U	52 T	9370 D	< 100 U
LS-LEPS	7/10/2013	LEPS130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
LS-LEPS	8/7/2013	LEPS130807M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	79.4	< 100 U
LS-LEPS	9/4/2013	LEPS130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	46.6	< 100 U
LS-MH46N	7/10/2013	L46N130710M	< 0.2 U	< 0.2 U	< 0.2 U	7 T	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
LS-MH46N	8/7/2013	L46N130807M	< 0.2 U	< 0.2 U	< 0.2 U	6.16	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
LS-MH46N	9/4/2013	L46N130904M	< 0.2 U	< 0.2 U	< 0.2 U	4.42	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
LS-PS2A	7/10/2013	LP2A130710M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	85 T	< 100 U
LS-PS2A	8/7/2013	LP2A130807M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	79.7	< 100 U
LS-PS2A	9/4/2013	LP2A130904M	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	21 T	< 100 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	5.72	< 100 U
VOA TRIP BLANK	7/9/2013	VTRP130710C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
VOA TRIP BLANK	7/9/2013	VTRP130710B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
VOA TRIP BLANK	8/6/2013	VTRP130807B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
VOA TRIP BLANK	8/6/2013	VTRP130807C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
VOA TRIP BLANK	8/29/2013	VTRP130904C	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U
VOA TRIP BLANK	8/30/2013	VTRP130904B	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 4 U	< 100 U	< 10 U	< 4 U	< 4 U	< 100 U

Data Collected from July 1, 2013 to September 30, 2013
Cedar Hills Landfill --- Leachate VOA Analytical Data
Contact Person --- Sendy Jimenez (206) 296-4411

[illegible]

Data Collected from July 1, 2013 to September 30, 2013
Cedar Hills Landfill --- Leachate VOA Analytical Data
Contact Person --- Sendy Jimenez (206) 296-4411

[illegible]

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate VOA Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Methylene Chloride	o-Xylene	Propionitrile	Styrene	Tetrachloro- ethene	Toluene	trans-1,2- Dichloro- ethene	trans-1,3- Dichloro- propene	trans-1,4- Dichloro-2- butene	Trichloro- ethene	Trichloro- fluoro- methane	Vinyl Acetate	Vinyl Chloride
			75-09-2 (ug/L)	95-47-6 (ug/L)	107-12-0 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)	156-60-5 (ug/L)	10061-02-6 (ug/L)	110-57-6 (ug/L)	79-01-6 (ug/L)	75-69-4 (ug/L)	108-05-4 (ug/L)	75-01-4 (ug/L)
LS-API	7/10/2013	LAPI130710M	7.1 T	8.3 T	< 60 U	< 0.2 U	< 0.2 U	26.6	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	0.38 T
LS-API	8/7/2013	LAPI130807M	5.32	5.6	< 60 U	< 0.2 U	< 0.2 U	16.2	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	0.235
LS-API	9/4/2013	LAPI130904M	5.8 T	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	6.3 T	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
LS-LEPS	7/10/2013	LEPS130710M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
LS-LEPS	8/7/2013	LEPS130807M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
LS-LEPS	9/4/2013	LEPS130904M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
LS-MH46N	7/10/2013	L46N130710M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	1.71
LS-MH46N	8/7/2013	L46N130807M	< 0.2 U	3.5 T	< 60 U	< 0.2 U	< 0.2 U	3.5 T	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	1.56
LS-MH46N	9/4/2013	L46N130904M	< 0.2 U	2.9 T	< 60 U	< 0.2 U	< 0.2 U	3.1 T	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	1.39
LS-PS2A	7/10/2013	LP2A130710M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
LS-PS2A	8/7/2013	LP2A130807M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	0.544
LS-PS2A	9/4/2013	LP2A130904M	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/9/2013	VTRP130710C	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	7/9/2013	VTRP130710B	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/6/2013	VTRP130807B	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/6/2013	VTRP130807C	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/29/2013	VTRP130904C	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
VOA TRIP BLANK	8/30/2013	VTRP130904B	< 0.2 U	< 0.2 U	< 60 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 100 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Pesticide/Herbicide Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	2,4,5-T	2,4,5-TP	2,4-D	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha BHC	Alpha Chlordane	Aroclor 1016	Aroclor 1221	Aroclor 1232
			93-76-5 (ug/L)	93-72-1 (ug/L)	94-75-7 (ug/L)	72-54-8 (ug/L)	72-55-9 (ug/L)	50-29-3 (ug/L)	309-00-2 (ug/L)	319-84-6 (ug/L)	57-74-9 (ug/L)	12674-11-2 (ug/L)	11104-28-2 (ug/L)	11141-16-5 (ug/L)
LS-API	7/10/2013	LAPI130710M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-API	8/7/2013	LAPI130807M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 GU	< 0.01 GU	< 0.01 GU
LS-API	9/4/2013	LAPI130904M	< 2 U	< 1 U	< 5 U	< 0.1 U	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-LEPS	7/10/2013	LEPS130710M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-LEPS	8/7/2013	LEPS130807M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 GU	< 0.01 GU	< 0.01 GU
LS-LEPS	9/4/2013	LEPS130904M	< 2 U	< 1 U	< 5 U	< 0.1 U	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-MH46N	7/10/2013	L46N130710M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-MH46N	8/7/2013	L46N130807M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-MH46N	9/4/2013	L46N130904M	< 2 U	< 1 U	< 5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.01 U	< 0.01 U	< 0.01 U
LS-PS2A	7/10/2013	LP2A130710M	< 2 U	< 1 U	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 U	< 0.01 U	< 0.01 U
LS-PS2A	8/7/2013	LP2A130807M	< 2 U	1.3 T	< 5 U	< 0.1 GU	< 0.1 GU	< 0.1 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.01 GU	< 0.01 GU	< 0.01 GU
LS-PS2A	9/4/2013	LP2A130904M	< 2 U	< 1 U	< 5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.01 U	< 0.01 U	< 0.01 U
FIELD BLANK	7/10/2013	L46N130710F	< 2 U	< 1 U	< 5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.01 U	< 0.01 U	< 0.01 U

Environmental Monitoring Data

Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Pesticide/Herbicide Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Beta BHC	Delta BHC	Dieldrin	Dinoseb	Endo- sulfan I	Endo- sulfan II	Endo- sulfan Sulfate	Endrin
			53469-21-9 (ug/L)	12672-29-6 (ug/L)	11097-69-1 (ug/L)	11096-82-5 (ug/L)	319-85-7 (ug/L)	319-86-8 (ug/L)	60-57-1 (ug/L)	88-85-7 (ug/L)	959-98-8 (ug/L)	33213-65-9 (ug/L)	1031-07-8 (ug/L)	72-20-8 (ug/L)
LS-API	7/10/2013	LAPI130710M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 GU	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-API	8/7/2013	LAPI130807M	0.25 GT	< 0.01 GU	< 0.01 GU	< 0.01 GU	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 GU	< 0.1 U	< 0.5 U	< 0.1 GU
LS-API	9/4/2013	LAPI130904M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 GU	< 0.025 U	< 0.1 U	< 0.1 U	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-LEPS	7/10/2013	LEPS130710M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 GU	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-LEPS	8/7/2013	LEPS130807M	< 0.01 GU	< 0.01 GU	< 0.01 GU	< 0.01 GU	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 GU	< 0.1 U	< 0.5 U	< 0.1 GU
LS-LEPS	9/4/2013	LEPS130904M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 GU	< 0.025 U	< 0.1 U	< 0.1 U	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-MH46N	7/10/2013	L46N130710M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-MH46N	8/7/2013	L46N130807M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 GU	< 0.1 U	< 0.5 U	< 0.1 GU
LS-MH46N	9/4/2013	L46N130904M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U	< 0.1 U	< 0.1 U	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-PS2A	7/10/2013	LP2A130710M	0.059 T	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
LS-PS2A	8/7/2013	LP2A130807M	0.29 G	< 0.01 GU	0.077 GT	0.039 GT	< 0.025 U	< 0.1 U	< 0.1 GU	< 1 U	< 0.1 GU	< 0.1 U	< 0.5 U	< 0.1 GU
LS-PS2A	9/4/2013	LP2A130904M	0.245	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U	< 0.1 U	< 0.1 U	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U	< 0.1 U	< 0.1 U	< 1 U	< 0.1 U	< 0.1 U	< 0.5 U	< 0.1 U

Environmental Monitoring Data

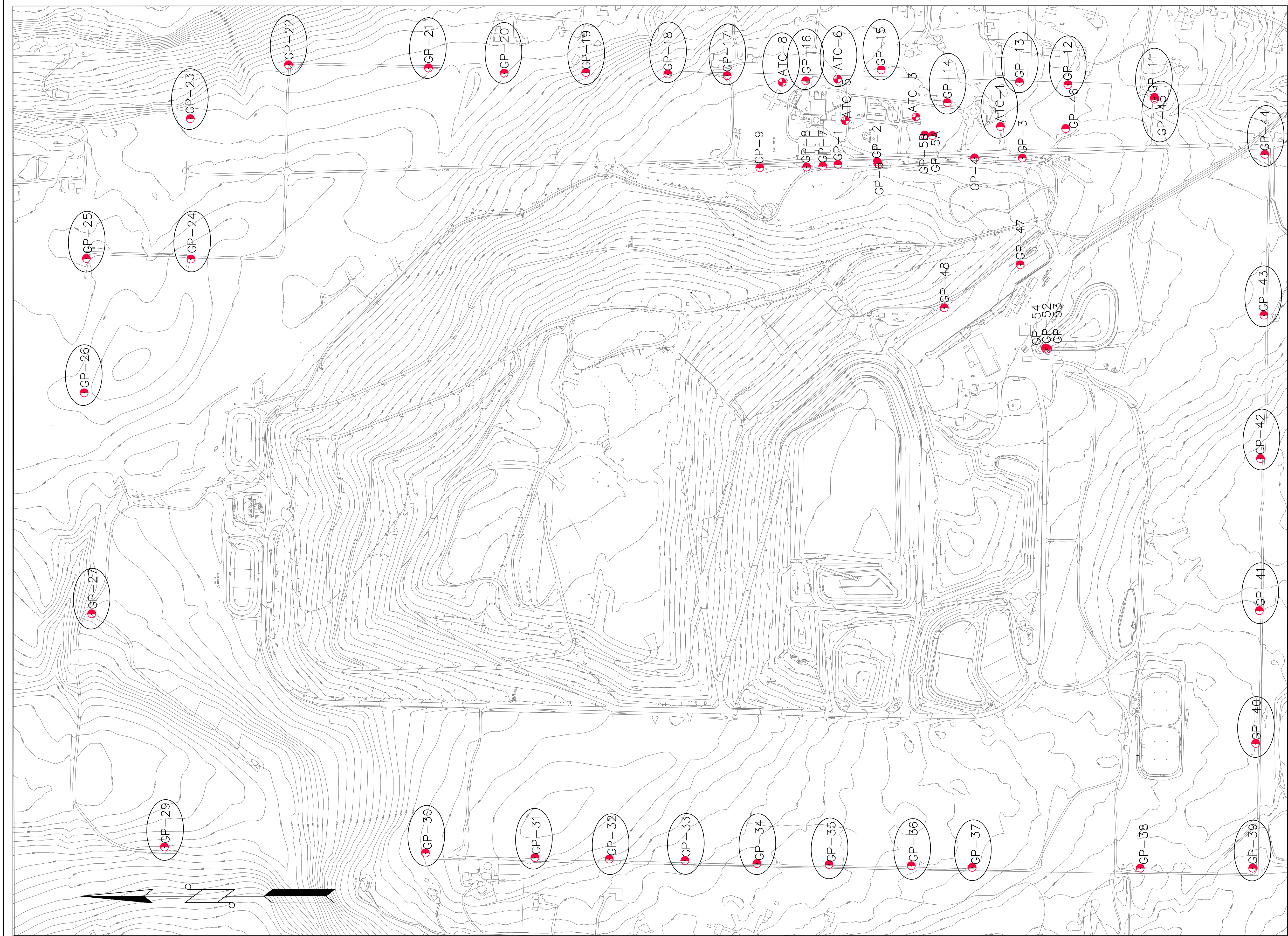
Data Collected from July 1, 2013 to September 30, 2013

Cedar Hills Landfill --- Leachate Pesticide/Herbicide Analytical Data

Contact Person --- Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	Endrin Aldehyde	Heptachlor	Heptachlor Epoxide	Isodrin	Lindane	Methoxy- chlor	Toxaphene
			7421-93-4 (ug/L)	76-44-8 (ug/L)	1024-57-3 (ug/L)	465-73-6 (ug/L)	58-89-9 (ug/L)	72-43-5 (ug/L)	8001-35-2 (ug/L)
LS-API	7/10/2013	LAPI130710M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-API	8/7/2013	LAPI130807M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-API	9/4/2013	LAPI130904M	< 0.2 GU	< 0.025 GU	< 0.025 U	< 10 U	< 0.025 U	< 2 U	< 2.5 U
LS-LEPS	7/10/2013	LEPS130710M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-LEPS	8/7/2013	LEPS130807M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-LEPS	9/4/2013	LEPS130904M	< 0.2 GU	< 0.025 GU	< 0.025 U	< 10 U	< 0.025 U	< 2 U	< 2.5 U
LS-MH46N	7/10/2013	L46N130710M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-MH46N	8/7/2013	L46N130807M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-MH46N	9/4/2013	L46N130904M	< 0.2 U	< 0.025 U	< 0.025 U	< 10 U	< 0.025 U	< 2 U	< 2.5 U
LS-PS2A	7/10/2013	LP2A130710M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-PS2A	8/7/2013	LP2A130807M	< 0.2 GU	< 0.025 GU	< 0.025 GU	< 10 U	< 0.025 U	< 2 GU	< 2.5 U
LS-PS2A	9/4/2013	LP2A130904M	< 0.2 U	< 0.025 U	< 0.025 U	< 10 U	< 0.025 U	< 2 U	< 2.5 U
FIELD BLANK	7/10/2013	L46N130710F	< 0.2 U	< 0.025 U	< 0.025 U	< 10 U	< 0.025 U	< 2 U	< 2.5 U

Landfill Gas Monitoring Data



Northing	Easting	Elev	Description	Inst. Date
170,000.33	1,701,942.93	640.02	GP-1 CASE EL	1985/86
169,740.00	1,701,960.00	622.00	GP-2 CASE EL	1985/86
168,758.11	1,701,985.28	594.21	GP-3 CASE EL	1985/86
169,058.18	1,701,972.94	606.19	GP-4 CASE EL	1985/86
169,370.19	1,702,134.95	616.23	GP-5A GRND EL	1988
169,422.02	1,702,138.87	619.63	GP-5B CASE EL	1988
169,731.73	1,701,946.48	635.59	GP-6 CASE EL	1988
170,101.22	1,701,930.58	640.66	GP-7 CASE EL	1988
170,208.37	1,701,925.10	642.67	GP8 CASE EL	1988
170,519.95	1,701,919.34	645.27	GP-9 CASE EL	1988
			GP-10 NOT INSTALLED	1988
167,890.09	1,702,389.27	567.15	GP-11 CASE EL	1988
168,466.64	1,702,473.27	568.08	GP-12 CASE EL	1988
168,790.03	1,702,490.84	588.15	GP-13 CASE EL	1988
169,271.56	1,702,354.75	613.32	GP-14 CASE EL	1988
169,724.93	1,702,446.19	618.75	GP-15 CASE EL	1988
170,214.28	1,702,500.56	630.19	GP-16 CASE EL	1988
170,738.83	1,702,535.09	625.18	GP-17 CASE EL	1988
171,132.85	1,702,543.29	600.83	GP-18 CASE EL	1988
171,634.52	1,702,554.91	544.15	GP-19 CASE EL	1988
172,224.83	1,702,550.70	496.61	GP-20 CASE EL	1988
172,729.15	1,702,584.65	489.79	GP-21 CASE EL	1988
173,662.40	1,702,607.81	374.84	GP-22 CASE EL	1988
174,317.16	1,702,248.74	501.77	GP-23 CASE EL	1988
174,313.44	1,701,311.74	544.72	GP-24 CASE EL	1988
175,011.63	1,701,324.89	533.86	GP-25 CASE EL	1988
175,043.82	1,700,364.55	541.69	GP-26 CASE EL	1988
174,983.78	1,698,935.68	484.75	GP-27 CASE EL	1988
			GP-28 NOT INSTALLED	1988
174,455.39	1,697,385.67	431.05	GP-29 CASE EL	1988
172,787.40	1,697,339.61	644.62	GP-30 CASE EL	1988
172,013.96	1,697,321.72	673.37	GP-31 CASE EL	1988
171,524.28	1,697,308.08	647.57	GP-32 CASE EL	1988
171,017.18	1,697,293.36	625.03	GP-33 CASE EL	1988
170,537.12	1,697,287.04	604.93	GP-34 CASE EL	1988
170,083.32	1,697,286.32	596.28	GP-35 CASE EL	1988
169,510.89	1,697,265.94	574.92	GP-36 CASE EL	1988
169,049.03	1,697,252.08	557.38	GP-37 CASE EL	1988
167,909.72	1,697,243.54	523.57	GP-38 CASE EL	1988
167,239.45	1,697,232.41	541.03	GP-39 CASE EL	1988
167,205.68	1,698,100.32	502.77	GP-40 CASE EL	1988
167,191.96	1,698,965.50	482.97	GP-41 CASE EL	1988
167,183.37	1,699,979.90	457.95	GP-42 CASE EL	1988
167,160.00	1,700,961.11	536.86	GP-43 CASE EL	1988
167,135.28	1,702,007.20	529.11	GP-44 CASE EL	1994
167,888.74	1,702,378.77	567.47	GP-45 CASE EL	1994
168,482.15	1,702,182.52	589.79	GP-46 CASE EL	1994
168,783.75	1,701,272.71	600.07	GP-47 CASE EL	1994
169,289.65	1,700,985.98	616.56	GP-48 CASE EL	1994
168,612.91	1,700,710.62	561.13	GP-52 GRND EL	2001
168,601.99	1,700,711.34	561.02	GP-53 GRND EL	2001
168,617.89	1,700,717.53	561.20	GP-54 GRND EL	2001
168,916.92	1,702,195.87	591.29	GP-ATC-1 GRND EL	1985/86
169,479.79	1,702,259.97	616.25	GP-ATC-3 GRND EL	1985/86
			GP-ATC-4 ABANDONED/REMOVED	
169,950.42	1,702,235.30	625.65	GP-ATC-5 GRND EL	1985/86
170,002.70	1,702,512.99	620.16	GP-ATC-6 GRND EL	1985/86
170,371.26	1,702,490.56	629.94	GP-ATC-8 GRND EL	1985/86



KING COUNTY DEPARTMENT OF
NATURAL RESOURCES AND PARKS
SOLID WASTE DIVISION

CEDAR HILLS REGIONAL LANDFILL
LANDFILL GAS MIGRATION MONITORING PLAN

APPROVED VICTOR O. OKEREKE DATE 03-19-07
RECOMMENDED TOM THENO DATE 09-28-07
DESIGNED N/A DRAWN PHAM / McEWEN
PROJECT NO. SURVEY NO. SHEET 1 OF 1
\\c:\data\cewpm\lgas-prob-loc\alt-llg-loc\006-geom\probonly.dwg

LEGEND

 INTERIOR LFG MONITORING PROBES

 LFG MIGRATION MONITORING PROBES

DATE	REVISION	BY

CEDAR HILLS REGIONAL LANDFILL

Landfill Gas Migration Probes

July 2013 Monitoring

Beginning Barometer: 30.02
 Ending Barometer: 30.04
 Ambient Temp: 68 F
 Tech: DB

Probe ID	Date/Time	CH4 %vol	CO2 %vol	O2 %vol	Lower Explosive Limit %LEL	Static Pressure in INWC	Comments
ATC-01D	7/22/2013 11:02	0.0	0.1	21.0	0	0.01	
ATC-01S	7/22/2013 11:00	0.0	3.5	16.5	0	0.03	
ATC-06D	7/22/2013 11:40	0.0	0.2	20.6	0	-0.22	
ATC-06S	7/22/2013 11:39	0.0	2.4	19.5	0	0.09	
ATC-08D	7/22/2013 11:52	0.0	0.3	20.5	0	0.08	
ATC-08S	7/22/2013 11:51	0.0	3.2	18.8	0	0.11	
GP-11A	7/22/2013 10:04	0.0	1.8	17.6	0	0	
GP-11B	7/22/2013 10:06	0.0	0.1	20.7	0	-0.21	
GP-11C	7/22/2013 10:07	0.0	0.1	20.2	0	-0.6	
GP-11D	7/22/2013 10:09	0.0	0.1	20.6	0	0.05	
GP-12A	7/22/2013 10:28	0.0	0.1	20.8	0	0.02	
GP-12B	7/22/2013 10:30	0.0	0.0	20.9	0	0.01	
GP-12C	7/22/2013 10:31	0.0	0.1	19.2	0	-18.05	
GP-12D	7/22/2013 10:33	0.0	0.1	20.9	0	-0.09	
GP-13A	7/22/2013 10:38	0.0	2.2	19.1	0	0.01	
GP-13B	7/22/2013 10:40	0.0	0.1	20.8	0	0.01	
GP-13C	7/22/2013 10:41	0.0	0.0	20.9	0	0.01	
GP-13D	7/22/2013 10:43	0.0	0.0	21.0	0	-0.77	
GP-14A	7/22/2013 10:50	0.0	0.3	18.5	0	-0.62	
GP-14B	7/22/2013 10:52	0.0	0.0	21.0	0	-0.7	
GP-15A	7/22/2013 11:17	0.0	0.7	20.5	0	0.02	
GP-15C	7/22/2013 11:19	0.0	2.3	7.2	0	-0.85	
GP-15D	7/22/2013 11:20	0.0	0.2	20.8	0	-4.53	
GP-16A	7/22/2013 11:44	0.0	5.0	18.1	0	0.35	
GP-16B	7/22/2013 11:45	0.0	0.2	20.1	0	-0.88	
GP-16C	7/22/2013 11:47	0.0	0.3	18.9	0	-0.8	
GP-17A	7/22/2013 16:08	0.0	0.0	0.0	0	0.3	No Reading -Water
GP-17B	7/22/2013 16:09	0.0	0.7	17.6	0	-0.27	
GP-17C	7/22/2013 16:11	0.0	0.0	20.7	0	-0.32	
GP-18A	7/22/2013 16:02	0.0	1.5	16.8	0	-0.01	
GP-18B	7/22/2013 16:03	0.0	0.2	12.8	0	-0.01	
GP-18C	7/22/2013 16:05	0.0	0.3	17.3	0	0.5	
GP-19A	7/22/2013 15:54	0.0	0.0	20.7	0	0	
GP-19B	7/22/2013 15:56	0.0	0.5	16.0	0	0.11	
GP-19C	7/22/2013 15:57	0.0	0.0	20.7	0	0.07	
GP-20A	7/22/2013 15:48	0.0	0.7	19.6	0	0.06	
GP-20B	7/22/2013 15:49	0.0	0.2	17.4	0	0	
GP-20C	7/22/2013 15:51	0.0	0.1	6.6	0	0.38	
GP-21A	7/22/2013 15:39	0.0	0.0	20.5	0	-1.13	
GP-21B	7/22/2013 15:41	0.0	0.0	9.3	0	-0.01	
GP-21C	7/22/2013 15:42	0.0	0.5	18.5	0	0.35	
GP-22A	7/22/2013 15:32	0.0	3.4	10.6	0	0.13	
GP-22C	7/22/2013 15:34	0.6	3.0	13.4	12	0	
GP-23A	7/22/2013 15:21	0.0	1.2	19.7	0	0.09	
GP-23B	7/22/2013 15:22	0.0	0.0	20.5	0	0.08	
GP-23C	7/22/2013 15:24	0.0	0.0	20.5	0	0	
GP-24A	7/22/2013 15:15	0.0	6.2	12.7	0	0.1	
GP-24B	7/22/2013 15:17	0.0	0.1	20.4	0	-0.19	
GP-025	7/22/2013 15:11	0.0	3.2	17.2	0	0.12	
GP-026	7/22/2013 15:08	0.0	0.6	20.1	0	-0.24	
GP-027	7/22/2013 14:57	0.0	10.2	7.4	0	0	
GP-29A	7/22/2013 14:37	0.0	0.5	20.0	0	0.02	
GP-29B	7/22/2013 14:39	0.0	0.4	20.0	0	0.03	
GP-30A	7/22/2013 16:21	0.0	2.5	18.2	0	0.15	
GP-30B	7/22/2013 16:23	0.0	1.1	19.1	0	-0.44	
GP-31A	7/22/2013 16:26	0.0	9.1	8.6	0	0.22	

CEDAR HILLS REGIONAL LANDFILL

Landfill Gas Migration Probes

July 2013 Monitoring

Beginning Barometer: 30.02

Ending Barometer: 30.04

Ambient Temp: 68 F

Tech: DB

Probe ID	Date/Time	CH4 %vol	CO2 %vol	O2 %vol	Lower Explosive Limit %LEL	Static Pressure in INWC	Comments
GP-31B	7/22/2013 16:27	0.0	9.1	8.7	0	-0.18	
GP-31C	7/22/2013 16:30	0.0	1.2	15.2	0	0	
GP-32A	7/22/2013 16:33	0.0	0.1	20.5	0	0.13	
GP-32B	7/22/2013 16:34	0.0	0.1	20.5	0	0.13	
GP-32C	7/22/2013 16:36	0.0	0.2	20.4	0	0.03	
GP-33A	7/22/2013 16:39	0.0	2.6	17.3	0	0.09	
GP-33B	7/22/2013 16:40	0.0	0.0	20.6	0	0.09	
GP-33C	7/22/2013 16:42	0.0	0.0	20.8	0	-0.92	
GP-34A	7/22/2013 16:45	0.2	1.2	18.0	4	0.25	
GP-34B	7/22/2013 16:47	0.0	0.0	20.7	0	0.02	
GP-34C	7/22/2013 16:48	0.0	0.0	18.8	0	-0.15	
GP-35A	7/22/2013 16:51	0.0	0.0	0.0	0	0.1	No Reading -Water
GP-35B	7/22/2013 16:52	0.0	0.0	20.7	0	0	
GP-35C	7/22/2013 16:54	0.0	0.0	20.7	0	0	
GP-36A	7/22/2013 16:57	0.0	1.5	19.5	0	-0.08	
GP-36B	7/22/2013 16:58	0.0	3.1	13.5	0	0.18	
GP-36C	7/22/2013 17:00	0.0	0.3	7.4	0	0.01	
GP-37A	7/22/2013 17:02	0.0	0.4	8.1	0	0.78	
GP-37B	7/22/2013 17:03	0.0	0.2	19.8	0	0.37	
GP-37C	7/22/2013 17:05	0.0	0.5	1.3	0	0.07	
GP-039	7/22/2013 17:09	0.0	1.9	18.0	0	0	
GP-040	7/22/2013 17:12	0.0	0.0	14.2	0	0.22	
GP-41A	7/22/2013 17:14	0.0	4.1	15.0	0	0.11	
GP-41B	7/22/2013 17:16	0.0	0.6	5.3	0	0.24	
GP-41C	7/22/2013 17:17	0.0	0.0	20.5	0	0	
GP-42A	7/22/2013 17:20	0.0	0.0	20.6	0	0.19	
GP-42B	7/22/2013 17:22	0.0	0.3	20.2	0	0.08	
GP-43A	7/22/2013 17:24	0.0	0.0	20.5	0	0.35	
GP-43B	7/22/2013 17:26	0.0	0.0	20.7	0	0.14	
GP-43C	7/22/2013 17:27	0.0	0.0	20.2	0	0.04	
GP-44A	7/22/2013 17:31	0.0	0.0	20.7	0	-1.28	
GP-44B	7/22/2013 17:33	0.0	0.1	20.1	0	-0.38	
GP-44C	7/22/2013 17:34	0.0	0.0	20.7	0	0.01	
GP-45D	7/22/2013 10:14	0.0	0.0	20.8	0	-0.31	
GP-45I	7/22/2013 10:13	0.0	0.0	20.8	0	0.03	
GP-45S	7/22/2013 10:11	0.0	0.0	20.8	0	0.34	

CEDAR HILLS REGIONAL LANDFILL

Landfill Gas Migration Probes

August 2013 Monitoring

Beginning Barometer: 29.98

Ending Barometer: 29.92

Ambient Temp: 67 F.

Tech: JP

Probe ID	Date/Time	CH4 %vol	CO2 %vol	O2 %vol	Lower Explosive Limit %LEL	Static Pressure in INWC	Comments
ATC-01D	8/22/2013 10:41	0.0	0.1	20.0	0	0	
ATC-01S	8/22/2013 10:40	0.0	3.5	18.2	0	0	
ATC-06D	8/22/2013 9:58	0.0	0.1	20.0	0	-0.08	
ATC-06S	8/22/2013 9:57	0.0	1.4	19.5	0	0	
ATC-08D	8/22/2013 9:53	0.0	0.1	18.0	0	0	
ATC-08S	8/22/2013 9:52	0.0	1.7	19.2	0	0	
GP-11A	8/22/2013 9:35	0.0	1.8	18.6	0	0	
GP-11B	8/22/2013 9:37	0.0	0.0	19.9	0	0.64	
GP-11C	8/22/2013 9:38	0.0	0.0	20.0	0	0.45	
GP-11D	8/22/2013 9:40	0.0	0.1	19.9	0	0.14	
GP-12A	8/22/2013 10:56	0.0	0.3	19.9	0	0	
GP-12B	8/22/2013 10:57	0.0	0.0	20.2	0	0	
GP-12C	8/22/2013 10:58	0.0	0.1	19.1	0	0.01	
GP-12D	8/22/2013 11:00	0.0	0.1	19.3	0	0.52	
GP-13A	8/22/2013 10:47	0.0	1.5	19.1	0	0	
GP-13B	8/22/2013 10:48	0.0	0.0	20.1	0	-0.02	
GP-13C	8/22/2013 10:50	0.0	0.1	14.2	0	0	
GP-13D	8/22/2013 10:51	0.0	0.2	18.2	0	1.28	
GP-14A	8/22/2013 11:07	0.0	0.0	18.8	0	1.28	
GP-14B	8/22/2013 11:08	0.0	0.4	17.3	0	1.05	
GP-15A	8/22/2013 10:11	0.0	6.9	2.3	0	0.01	
GP-15C	8/22/2013 10:12	0.0	3.3	0.3	0	1.27	
GP-15D	8/22/2013 10:14	0.0	0.1	19.9	0	-2.6	
GP-16A	8/22/2013 10:01	0.0	2.7	18.7	0	0	
GP-16B	8/22/2013 10:03	0.0	0.0	20.1	0	0.31	
GP-16C	8/22/2013 10:04	0.0	0.0	20.2	0	1.18	
GP-17A	8/22/2013 12:12	0.0	3.8	12.5	0	0	
GP-17B	8/22/2013 12:14	0.0	0.7	16.4	0	0	
GP-17C	8/22/2013 12:15	0.0	0.0	19.6	0	1.36	
GP-18A	8/22/2013 12:19	0.0	1.9	17.0	0	0	
GP-18B	8/22/2013 12:20	0.0	0.2	12.9	0	-0.01	
GP-18C	8/22/2013 12:22	0.0	0.3	15.2	0	1.59	
GP-19A	8/22/2013 12:25	0.0	1.2	17.5	0	0	
GP-19B	8/22/2013 12:26	0.0	0.5	15.3	0	0	
GP-19C	8/22/2013 12:28	0.0	0.0	19.7	0	0	
GP-20A	8/22/2013 12:31	0.0	1.1	18.9	0	0	
GP-20B	8/22/2013 12:33	0.0	0.2	16.7	0	0	
GP-20C	8/22/2013 12:34	0.0	0.1	5.4	0	0	
GP-21A	8/22/2013 12:37	0.0	1.4	17.4	0	0	
GP-21B	8/22/2013 12:39	0.0	0.0	8.8	0	0	
GP-21C	8/22/2013 12:40	0.0	0.5	16.7	0	-0.12	
GP-22A	8/22/2013 12:44	0.0	3.5	14.9	0	0	
GP-22C	8/22/2013 12:45	0.0	3.5	11.6	0	1.78	
GP-23A	8/22/2013 12:52	0.0	1.1	19.1	0	0	
GP-23B	8/22/2013 12:54	0.0	0.0	19.8	0	0	
GP-23C	8/22/2013 12:55	0.0	0.0	19.9	0	0	
GP-24A	8/22/2013 12:59	0.0	5.2	14.4	0	-0.01	
GP-24B	8/22/2013 13:01	0.0	0.3	18.2	0	0.5	
GP-025	8/22/2013 13:04	0.0	3.0	17.8	0	0.01	
GP-026	8/22/2013 13:07	0.0	0.6	19.3	0	0.84	
GP-027	8/22/2013 13:10	0.0	9.6	10.7	0	0	
GP-29A	8/22/2013 13:16	0.0	1.5	18.7	0	0	
GP-29B	8/22/2013 13:17	0.0	0.3	19.5	0	0.07	
GP-30A	8/22/2013 13:26	0.0	2.4	18.0	0	0.06	
GP-30B	8/22/2013 13:28	0.0	0.6	19.3	0	0.16	
GP-31A	8/22/2013 13:31	0.0	6.2	11.4	0	0	
GP-31B	8/22/2013 13:32	0.0	0.2	15.5	0	-0.01	
GP-31C	8/22/2013 13:34	0.0	1.3	14.4	0	0.03	
GP-32A	8/22/2013 13:36	0.0	0.3	19.4	0	0.02	

CEDAR HILLS REGIONAL LANDFILL

Landfill Gas Migration Probes

August 2013 Monitoring

Beginning Barometer: 29.98

Ending Barometer: 29.92

Ambient Temp: 67 F.

Tech: JP

Probe ID	Date/Time	CH4 %vol	CO2 %vol	O2 %vol	Lower Explosive Limit %LEL	Static Pressure in INWC	Comments
GP-32B	8/22/2013 13:38	0.0	0.1	19.6	0	0.08	
GP-32C	8/22/2013 13:39	0.0	0.1	19.6	0	0.1	
GP-33A	8/22/2013 13:42	0.0	2.4	17.5	0	0	
GP-33B	8/22/2013 13:43	0.0	0.6	17.6	0	0	
GP-33C	8/22/2013 13:45	0.0	0.0	19.7	0	-0.25	
GP-34A	8/22/2013 13:47	0.0	10.1	3.0	0	0	
GP-34B	8/22/2013 13:49	0.0	0.2	19.3	0	0	
GP-34C	8/22/2013 13:50	0.0	0.0	5.0	0	1.29	
GP-35A	8/22/2013 14:00	0.0	3.6	16.7	0	0	
GP-35B	8/22/2013 14:02	0.0	0.0	19.6	0	0	
GP-35C	8/22/2013 14:04	0.0	0.0	19.6	0	0	
GP-36A	8/22/2013 14:07	0.0	0.3	18.8	0	0.59	
GP-36B	8/22/2013 14:08	0.0	3.8	16.6	0	0.02	
GP-36C	8/22/2013 14:10	0.0	0.3	6.5	0	1.89	
GP-37A	8/22/2013 14:12	0.0	1.7	16.0	0	1.24	
GP-37B	8/22/2013 14:14	0.0	1.5	15.7	0	0.51	
GP-37C	8/22/2013 14:15	0.0	0.4	0.7	0	2.18	
GP-039	8/22/2013 14:21	0.0	1.5	17.2	0	0.05	
GP-040	8/22/2013 14:24	0.0	0.0	13.0	0	0	
GP-41A	8/22/2013 14:27	0.0	4.0	15.7	0	0	
GP-41B	8/22/2013 14:28	0.0	0.6	6.2	0	0	
GP-41C	8/22/2013 14:29	0.0	0.0	19.2	0	0.01	
GP-42A	8/22/2013 14:33	0.0	4.5	12.4	0	0	
GP-42B	8/22/2013 14:34	0.0	0.5	15.7	0	0.85	
GP-43A	8/22/2013 14:38	0.0	0.0	19.2	0	0	
GP-43B	8/22/2013 14:39	0.0	0.0	19.4	0	0	
GP-43C	8/22/2013 14:41	0.0	0.0	18.9	0	0.11	
GP-44A	8/22/2013 14:45	0.0	6.6	10.0	0	0	
GP-44B	8/22/2013 14:46	0.0	0.1	18.5	0	0.38	
GP-44C	8/22/2013 14:47	0.0	0.0	19.1	0	0.01	
GP-45D	8/22/2013 9:45	0.0	0.0	19.8	0	0.33	
GP-45I	8/22/2013 9:43	0.0	0.0	19.7	0	0.01	
GP-45S	8/22/2013 9:42	0.0	0.0	20.1	0	0	

CEDAR HILLS REGIONAL LANDFILL

Landfill Gas Migration Probes

September 2013 Monitoring

Beginning Barometer: 30.03
Ending Barometer: 30.08
Ambient Temp: 61F
Tech: JB

Probe ID	Date/Time	CH4 %vol	CO2 %vol	O2 %vol	Lower Explosive Limit %LEL	Static Pressure in INWC	Comments
ATC-01D	9/18/2013 8:36	0.0	0.2	20.6	0	0	
ATC-01S	9/18/2013 8:34	0.0	3.2	18.7	0	0	
ATC-06D	9/18/2013 9:18	0.0	0.5	20.0	0	-0.08	
ATC-06S	9/18/2013 9:17	0.0	1.4	19.8	0	0	
ATC-08D	9/18/2013 9:28	0.0	0.4	14.3	0	-0.1	
ATC-08S	9/18/2013 9:26	0.0	2.4	18.7	0	0	
GP-11A	9/18/2013 8:25	0.0	1.9	19.8	0	-0.01	
GP-11B	9/18/2013 8:26	0.0	0.1	21.0	0	-0.92	
GP-11C	9/18/2013 8:28	0.0	0.1	21.0	0	-1.08	
GP-11D	9/18/2013 8:30	0.0	0.2	20.6	0	-0.01	
GP-12A	9/18/2013 8:41	0.0	0.3	20.6	0	0	
GP-12B	9/18/2013 8:43	0.0	0.1	20.8	0	0	
GP-12C	9/18/2013 8:44	0.0	0.2	19.7	0	0.01	
GP-12D	9/18/2013 8:46	0.0	0.3	20.3	0	-2.11	
GP-13A	9/18/2013 8:49	0.0	1.6	19.3	0	0	
GP-13B	9/18/2013 8:50	0.0	0.1	20.7	0	-0.1	
GP-13C	9/18/2013 8:52	0.0	0.1	20.8	0	-0.03	
GP-13D	9/18/2013 8:53	0.0	0.1	20.7	0	-2.17	
GP-14A	9/18/2013 8:57	0.0	0.1	20.8	0	-2.12	
GP-14B	9/18/2013 8:59	0.0	0.1	20.8	0	-2.15	
GP-15A	9/18/2013 9:03	0.0	1.4	19.4	0	0	
GP-15C	9/18/2013 9:04	0.0	2.3	7.7	0	-0.1	
GP-15D	9/18/2013 9:06	0.0	0.2	20.5	0	-3.8	
GP-16A	9/18/2013 9:21	0.0	2.9	18.4	0	0	
GP-16B	9/18/2013 9:22	0.0	0.2	20.6	0	-2.35	
GP-16C	9/18/2013 9:24	0.0	0.2	20.7	0	-2.24	
GP-17A	9/18/2013 11:02	0.0	4.0	14.9	0	0.02	
GP-17B	9/18/2013 11:04	0.0	0.9	16.5	0	0.01	
GP-17C	9/18/2013 11:06	0.0	0.1	20.4	0	-2.19	
GP-18A	9/18/2013 11:10	0.0	2.1	17.5	0	0	
GP-18B	9/18/2013 11:11	0.0	0.4	13.6	0	0	
GP-18C	9/18/2013 11:13	0.0	0.4	16.5	0	0	
GP-19A	9/18/2013 11:16	0.0	1.1	19.5	0	0	
GP-19B	9/18/2013 11:17	0.0	0.6	15.8	0	0	
GP-19C	9/18/2013 11:19	0.0	0.1	20.5	0	-0.13	
GP-20A	9/18/2013 11:22	0.0	0.8	20.0	0	0	
GP-20B	9/18/2013 11:23	0.0	0.3	17.5	0	-0.02	
GP-20C	9/18/2013 11:25	0.0	0.2	4.2	0	0.01	
GP-21A	9/18/2013 11:28	0.0	1.5	18.2	0	-0.03	
GP-21B	9/18/2013 11:29	0.0	0.2	9.3	0	0	
GP-21C	9/18/2013 11:31	0.0	0.6	14.3	0	-0.38	No Reading -Water
GP-22A	9/18/2013 11:49	0.0	4.0	14.7	0	0	
GP-22C	9/18/2013 11:51	0.0	3.7	11.4	0	-2.1	
GP-23A	9/18/2013 11:59	0.0	1.4	19.5	0	0	
GP-23B	9/18/2013 12:00	0.0	0.1	20.6	0	0.01	
GP-23C	9/18/2013 12:02	0.0	0.1	20.7	0	0	
GP-24A	9/18/2013 12:05	0.0	5.5	14.8	0	0	
GP-24B	9/18/2013 12:07	0.0	0.3	20.4	0	-0.59	
GP-025	9/18/2013 12:09	0.0	3.0	17.9	0	0	
GP-026	9/18/2013 12:12	0.0	0.4	20.3	0	-1.22	
GP-027	9/18/2013 12:16	0.0	10.8	7.8	0	0	
GP-29A	9/18/2013 12:20	0.0	0.7	20.0	0	0	
GP-29B	9/18/2013 12:22	0.0	0.4	20.2	0	-0.07	
GP-30A	9/18/2013 7:15	0.0	2.5	18.3	0	-0.11	
GP-30B	9/18/2013 7:16	0.0	1.4	19.6	0	-1.08	
GP-31A	9/18/2013 7:18	0.0	6.8	14.0	0	0	
GP-31B	9/18/2013 7:20	0.0	0.3	18.6	0	-0.9	
GP-31C	9/18/2013 7:21	0.0	1.5	15.3	0	-0.01	
GP-32A	9/18/2013 7:24	0.0	0.2	20.6	0	-0.01	
GP-32B	9/18/2013 7:25	0.0	0.2	20.6	0	0	

CEDAR HILLS REGIONAL LANDFILL

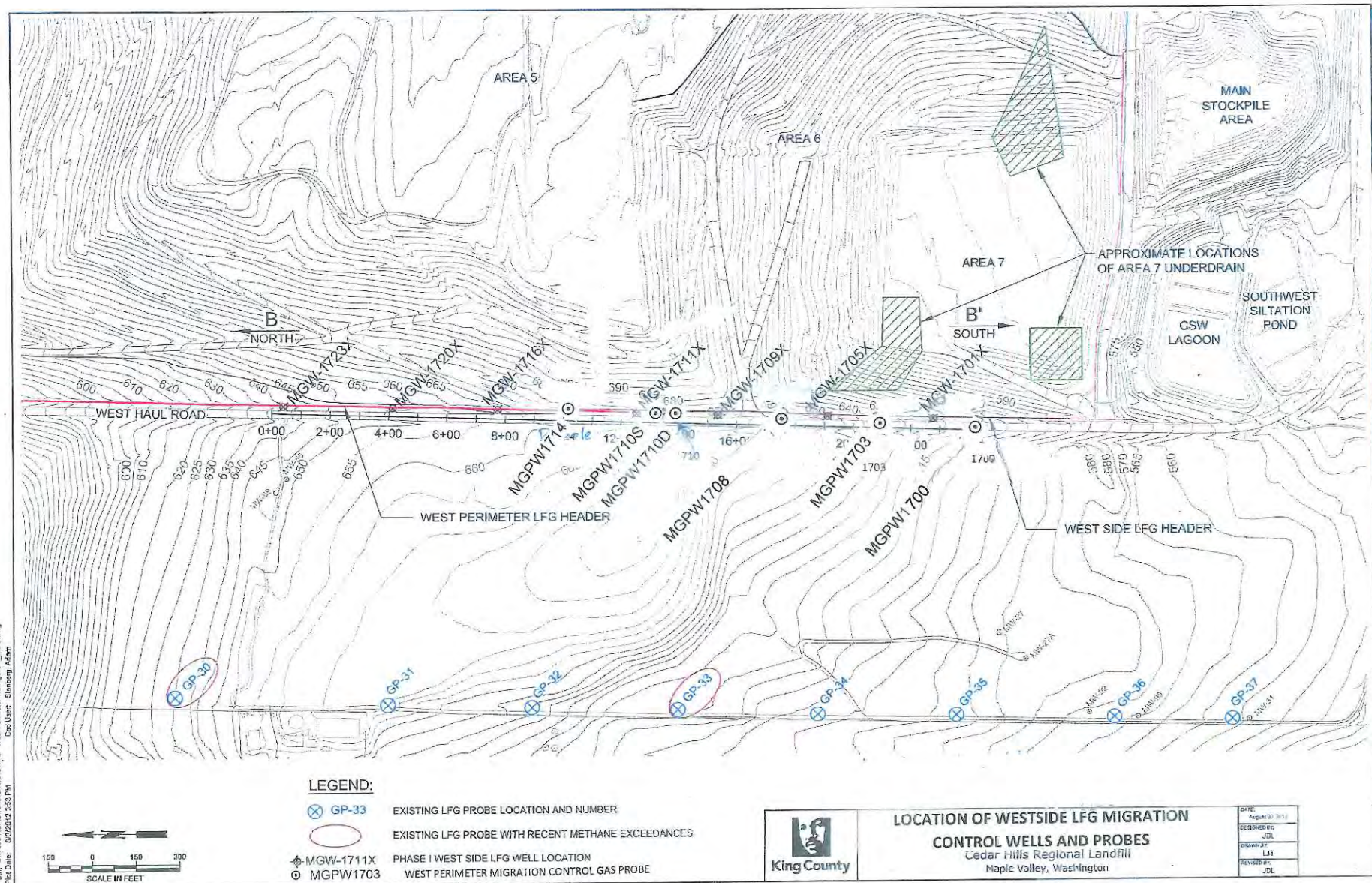
Landfill Gas Migration Probes

September 2013 Monitoring

Beginning Barometer: 30.03
Ending Barometer: 30.08
Ambient Temp: 61F
Tech: JB

Probe ID	Date/Time	CH4 %vol	CO2 %vol	O2 %vol	Lower Explosive Limit %LEL	Static Pressure in INWC	Comments
GP-32C	9/18/2013 7:27	0.0	0.4	20.5	0	0.02	
GP-33A	9/18/2013 7:29	0.0	3.0	17.5	0	0	
GP-33B	9/18/2013 7:30	0.0	1.0	18.2	0	-0.01	
GP-33C	9/18/2013 7:32	0.0	0.1	20.7	0	-2.02	
GP-34A	9/18/2013 7:34	0.0	10.4	8.4	0	-0.01	
GP-34B	9/18/2013 7:36	0.0	0.3	20.7	0	-0.14	
GP-34C	9/18/2013 7:37	0.0	0.2	19.3	0	-1.7	
GP-35A	9/18/2013 7:39	0.0	5.7	15.7	0	0	
GP-35B	9/18/2013 7:41	0.0	0.2	20.8	0	0	
GP-35C	9/18/2013 7:42	0.0	0.2	20.8	0	-0.07	
GP-36A	9/18/2013 7:44	0.0	0.5	20.5	0	-1.41	
GP-36B	9/18/2013 7:46	0.0	4.0	16.5	0	-0.01	
GP-36C	9/18/2013 7:47	0.0	0.5	8.9	0	-1.99	
GP-37A	9/18/2013 7:49	0.0	2.1	17.2	0	0	
GP-37B	9/18/2013 7:51	0.0	1.9	17.2	0	0	
GP-37C	9/18/2013 7:53	0.0	0.6	3.1	0	-1.93	
GP-039	9/18/2013 13:57	0.0	1.6	18.3	0	-0.14	
GP-040	9/18/2013 14:00	0.0	0.1	18.8	0	-0.04	
GP-41A	9/18/2013 14:02	0.0	4.9	16.0	0	0	
GP-41B	9/18/2013 14:04	0.0	0.8	5.3	0	0	
GP-41C	9/18/2013 14:06	0.0	0.1	20.3	0	0.01	
GP-42A	9/18/2013 14:09	0.0	0.1	20.5	0	0	
GP-42B	9/18/2013 14:10	0.0	0.3	20.0	0	-0.79	
GP-43A	9/18/2013 14:13	0.0	0.1	20.6	0	0	
GP-43B	9/18/2013 14:15	0.0	0.0	20.8	0	0	
GP-43C	9/18/2013 14:16	0.0	0.0	20.8	0	-0.05	
GP-44A	9/18/2013 14:19	0.0	0.2	20.7	0	0.01	
GP-44B	9/18/2013 14:21	0.0	0.1	20.6	0	0	
GP-44C	9/18/2013 14:22	0.0	0.0	20.9	0	0	
GP-45D	9/18/2013 8:23	0.0	0.1	21.0	0	-0.55	
GP-45I	9/18/2013 8:22	0.0	0.1	21.0	0	-0.06	
GP-45S	9/18/2013 8:20	0.0	0.2	20.9	0	0	

 King County	INSTRUMENT: Place check by instrument used : HEATH DetectoPak III (sn:8746-4) Foxboro TVA 1000 FID/PID (sn: 7785301)				WEATHER: mostly cloudy		DATE: 07/31/13 TECH: JP
					X		
ENVIS ID	BLDG #	DESCRIPTION	CH ₄ (ppm)	BAR PRESS (in. Hg)	TIME	REMARKS	
GOC- 07/31/13	1	FRONT OFFICE	0	30.12	2:41pm		
GCR- 07/31/13	2	CONF ROOM	0	30.12	2:43pm		
GAO- 07/31/13	3	PAYROLL OFFICE	0	30.12	2:46pm		
GEO- 07/31/13	4	ENGR. OFFICE	0	30.12	2:48pm		
GLRC- 07/31/13	5	LUNCHROOM	0	30.12	2:49pm		
GSPC 07/31/13		SPOC	0	30.12	3:02pm		
GELO- 07/31/13 A	6A	DRY STORAGE	0	30.12	3:00pm		
GELO- 07/31/13 B	6B	ELECTRICIAN OFFICE	0	30.12	2:57pm		
GAP- 07/31/13		ACCOUNT PAYABLE	0	30.12	2:55pm		
GSO- 07/31/13 A	7A	SHOP OFFICE	0	30.12	3:03pm		
GPR- 07/31/13 B	7B	PARTS ROOM	0	30.12	3:05pm		
GMS- 07/31/13 C	7C	SHOP PIT AREA/BAY	0	30.12	3:06pm		
GTB- 07/31/13 D	7D	SHOP TIRE BAY	0	30.12	3:09pm		
GEW- 07/31/13 E	7E	EAST WELD SHOP	0	30.12	3:10pm		
GWV- 07/31/13 F	7F	WEST WELD SHOP	0	30.12	3:12pm		
GCS- 07/31/13	8	CARPENTER'S	0	30.12	3:14pm		
GSS- 07/31/13	9	WASTEWATER	0	30.12	3:16pm		
GSS- 07/31/13 B	9B	CARPENTER/STORAGE	0	30.12	3:18pm		
GSH- 07/31/13	10	SCALEHOUSE	0	30.12	2:39pm		
GB13- 07/31/13	13	WW COMPRESSOR	0	30.12	3:35pm		
GB16- 07/31/13	16	GENERATOR	0	30.12	3:25pm		
GB19- 07/31/13	19	LEPS (P.S.# 5)	0	30.12	3:28pm		
GB19- 07/31/13 B	19B	LEPS/H ₂ O ₂ ROOM	0	30.12	3:30pm		
GB20- 07/31/13	20	LEPS ELEC PANALS	0	30.12	3:27pm		
GB21- 07/31/13	21	STORAGE(OLD PS 1)	0	30.12	3:41pm		
GB22- 07/31/13	22	STORAGE/N FLARE	0	30.12	3:44pm		
GB23- 07/31/13	23	LFGAS	0	30.12	3:46pm		
GB24- 07/31/13	24	NE GENERATOR BLDG	0	30.12	3:43pm		
GBWW- 07/31/13	30	WOMEN BRK RM	0	30.12	3:01pm		
GPWT- 07/31/13	PW	PRESSURE WASH RM	0	30.12	2:30pm		
GBRR- 07/31/13	RR	TRUCKWASH RR W	0	30.12	2:32pm		
GBSS- 07/31/13	SS	TRUCKWASH RR E	0	30.12	2:33pm		
GBZZ- 07/31/13	29	MANAGERS TRAILER	0	30.12	2:51pm		
GBPT- 07/31/13		CCG FASTER	0	30.12	2:52pm		
GCLS- 07/31/13		CHLORINE SHED	0	30.12	2:36pm		



CEDAR HILLS REGIONAL LANDFILL
West Perimeter Landfill Gas Migration Control Probes
Third Quarter 2013 Monitoring

Probe ID	Date	Time	Barometric			O2 %vol	Static Pressure in INWC
			Pressure in Hg	CH4 %vol	CO2 %vol		
MGPW1700	7/2/2013	9:38am	30.08	0	0	20.8	0
MGPW1700	7/9/2013	8:44am	30.1	0	0.1	20.9	-0.1
MGPW1700	7/16/2013	7:40am	29.91	0	0	19.7	0.07
MGPW1700	7/23/2013	8:49am	30.05	0	0.1	21	0
MGPW1700	7/30/2013	9:54am	30.1	0	0.1	20.7	-0.11
MGPW1700	8/6/2013	8:59am	30.01	0	0.1	20.9	-0.1
MGPW1700	8/13/2013	9:05am	30.09	0	0	20.9	-0.1
MGPW1700	8/20/2013	8:50am	30.14	0	0	20.9	-0.3
MGPW1700	8/27/2013	9:54am	29.98	0	0	20.6	-0.04
MGPW1700	9/3/2013	9:15am	29.99	0	0	21	-0.3
MGPW1700	9/10/2013	8:39am	30.02	0	0.1	20.7	-0.09
MGPW1700	9/17/2013	9:30am	29.92	0	0.1	21	-0.14
MGPW1700	9/24/2013	9:36am	29.94	0.0	0.0	21.0	-0.6
MGPW1703	7/2/2013	9:35am	30.08	0	0.1	20.8	-2.10
MGPW1703	7/9/2013	8:46am	30.1	0	0	20.9	-1.90
MGPW1703	7/16/2013	8:00am	29.91	0	0.4	3.6	1.36
MGPW1703	7/23/2013	8:52am	30.05	0	0	21	-1.24
MGPW1703	7/30/2013	9:57am	30.1	0	0	20.7	-1.99
MGPW1703	8/6/2013	9:05am	30.01	0	0.1	18.2	-0.44
MGPW1703	8/13/2013	9:39am	30.09	0	0	20.8	-1.67
MGPW1703	8/20/2013	8:57am	30.14	0	0.2	20.6	-1.90
MGPW1703	8/27/2013	9:56am	29.98	0	0	20.6	-0.92
MGPW1703	9/3/2013	9:25am	29.99	0	0.2	20.9	-1.40
MGPW1703	9/10/2013	8:41am	30.02	0	0.1	30.7	-0.43
MGPW1703	9/17/2013	9:32am	29.92	0	0.1	21	-0.54
MGPW1703	9/24/2013	9:40am	29.94	0	0	21	-1.82
MGPW1708	7/2/2013	9:31am	30.08	0	0.1	20.8	-2.9
MGPW1708	7/9/2013	8:49am	30.1	0	0	20.9	-2.6
MGPW1708	7/16/2013	8:05am	29.91	0	0	20.9	-1.08
MGPW1708	7/23/2013	8:55am	30.05	0	0	21	-2.76
MGPW1708	7/30/2013	10:00am	30.1	0	0	20.7	-3.07
MGPW1708	8/6/2013	9:25am	30.01	0	0	21	-2.15
MGPW1708	8/13/2013	9:36am	30.09	0	0	20.9	-2.16
MGPW1708	8/20/2013	9:03am	30.14	0	0.2	20.6	-2.3
MGPW1708	8/27/2013	9:58am	29.98	0	0	20.6	-2.31
MGPW1708	9/9/2013	9:33am	29.99	0	0.2	20.9	-2.4
MGPW1708	9/10/2013	8:43am	30.02	0	0.1	20.7	-1.91
MGPW1708	9/17/2013	9:34am	29.92	0	0.1	21	-1.76
MGPW1708	9/24/2013	9:24am	29.94	0	0	21	-2.08
MGPW1710S	7/2/2013	9:27am	30.08	0	0.2	20.7	-1.8
MGPW1710S	7/9/2013	8:52am	30.1	0	0	20.8	-1.8
MGPW1710S	7/16/2013	8:10am	29.91	0	0	21	-0.83
MGPW1710S	7/23/2013	8:59am	30.05	0	0	20.9	-2
MGPW1710S	7/30/2013	10:03am	30.1	0	0	20.7	-2.18
MGPW1710S	8/6/2013	9:29am	30.01	0.0	0.0	21.0	-1.59
MGPW1710S	8/13/2013	9:32am	30.09	0.0	0.0	20.8	-1.59
MGPW1710S	8/20/2013	9:09am	30.14	0.0	0.1	20.6	-1.70
MGPW1710S	8/27/2013	10:01am	29.98	0.0	0.0	20.6	-1.68
MGPW1710S	9/3/2013	9:38am	29.99	0.0	0.2	20.8	-1.80
MGPW1710S	9/10/2013	8:46am	30.02	0.0	0.1	20.7	-1.70
MGPW1710S	9/17/2013	9:36am	29.92	0.0	0.1	21.0	-1.33
MGPW1710S	9/24/2013	9:19am	29.94	0.0	0.0	21.0	-1.63

CEDAR HILLS REGIONAL LANDFILL
West Perimeter Landfill Gas Migration Control Probes
Third Quarter 2013 Monitoring

Probe ID	Date	Time	Barometric			O2 %vol	Static Pressure in INWC
			Pressure in Hg	CH4 %vol	CO2 %vol		
MGPW1710D	7/2/2013	9:29am	30.08	0.0	0.1	20.8	-2.70
MGPW1710D	7/9/2013	8:54am	30.10	0.0	0.0	20.8	-2.40
MGPW1710D	7/16/2013	8:07am	29.91	0.0	0.0	20.8	-1.07
MGPW1710D	7/23/2013	9:00am	30.05	0.0	0.0	21.0	-2.66
MGPW1710D	7/30/2013	10:05am	30.10	0.0	0.0	20.7	-2.91
MGPW1710D	8/6/2013	9:33am	30.01	0.0	0.0	21.0	-2.07
MGPW1710D	8/13/2013	9:34am	30.09	0.0	0.0	20.8	-2.07
MGPW1710D	8/20/2013	9:11am	9:11am	0.0	0.1	20.6	-2.2
MGPW1710D	8/27/2013	10:03am	29.98	0.0	0.0	20.6	-2.13
MGPW1710D	9/3/2013	9:40am	29.99	0.0	0.1	21.0	-2.2
MGPW1710D	9/10/2013	8:48am	30.02	0.0	0.1	20.8	-1.78
MGPW1710D	9/17/2013	9:38am	29.92	0.0	0.1	21.0	-1.38
MGPW1710D	9/24/2013	9:16am	29.94	0.0	0.0	21.0	-1.91
MGPW1714	7/2/2013	7:30am	30.08	0.0	0.3	20.7	-2.6
MGPW1714	7/9/2013	8:56am	30.10	0.0	0.0	20.8	-2.2
MGPW1714	7/16/2013	8:12am	29.91	0.0	0.0	20.7	-0.86
MGPW1714	7/23/2013	9:03am	30.05	0.0	0.0	21.0	-2.35
MGPW1714	7/30/2013	10:08am	30.10	0.0	0.0	20.7	-2.62
MGPW1714	8/6/2013	9:36am	30.01	0.0	0.0	21.0	-1.81
MGPW1714	8/13/2013	9:29am	30.09	0.0	0.0	20.8	-1.82
MGPW1714	8/20/2013	9:15am	30.14	0.0	0.1	20.6	-1.9
MGPW1714	8/27/2013	10:05am	29.98	0.0	0.0	20.6	-1.12
MGPW1714	9/3/2013	9:46am	29.99	0.0	0.1	21.0	-1.9
MGPW1714	9/10/2013	8:51am	30.02	0.0	0.1	20.8	-1.56
MGPW1714	9/17/2013	9:41am	29.92	0.0	0.1	21.0	-1.38
MGPW1714	9/24/2013	9:12am	29.94	0.0	0.0	21.0	-1.66

CEDAR HILLS REGIONAL LANDFILL
Supplemental Gas Migration Monitoring
Compliance Probes GP-30B and GP-33C
Third Quarter 2013

Probe ID	Date	Time	Barometric	CH ₄	CO ₂	O ₂	Static
			Pressure in. Hg				Pressure in. WC
GP-30B	7/2/13	7:45am	30.08	0	1.3	19.2	-1.20
GP-30B	7/9/13	8:30am	30.10	0	1.4	19.2	-0.80
GP-30B	7/16/13	8:30am	29.91	0	1.2	19	0.02
GP-30B	7/23/13	8:41am	30.05	0	1.2	19.4	-0.82
GP-30B	7/30/13	9:40am	30.10	0	1.3	19.1	-1.22
GP-30B	8/6/13	8:48am	30.01	0	0.3	20.8	-0.72
GP-30B	8/13/13	9:54am	30.09	0	1.1	19.8	-0.48
GP-30B	8/20/13	8:35am	30.14	0	0.1	20.8	0.00
GP-30B	8/27/13	9:37am	29.98	0	1	19.4	-0.49
GP-30B	9/3/13	8:33am	29.99	0	1.5	19.8	-0.50
GP-30B	9/10/13	8:27am	30.02	0	1.3	19.5	-0.39
GP-30B	9/17/13	9:16am	29.92	0	1.3	19.6	-0.30
GP-30B	9/24/13	9:44am	29.94	0	1.2	19.8	-0.32
GP-33C	7/2/13	7:49am	30.08	0	0.1	21	-1.60
GP-33C	7/9/13	8:35am	30.10	0	0.2	20.9	-1.40
GP-33C	7/16/13	8:35am	29.91	0	0	20.7	-0.33
GP-33C	7/23/13	8:45am	30.05	0	0.1	20.9	-1.59
GP-33C	7/30/13	9:45am	30.10	0	0.1	20.6	-1.89
GP-33C	8/6/13	8:53am	30.01	0	0.1	21	-1.39
GP-33C	8/13/13	10:00am	30.09	0	0	20.9	-1.04
GP-33C	8/20/13	8:40am	30.14	0	0.1	20.9	-1.30
GP-33C	8/27/13	9:43am	29.98	0	0.1	20.5	-1.29
GP-33C	9/3/13	8:40am	29.99	0	0.1	21	-1.30
GP-33C	9/10/13	8:32am	30.02	0	0.1	20.7	-1.03
GP-33C	9/17/13	9:21am	29.92	0	0.1	20.9	-0.98
GP-33C	9/24/13	9:49am	29.94	0	0	21	-1.07

KING COUNTY SOLID WASTE DIVISION
QUALIFIER INFORMATION
(Effective 4/1/2009)

QUAL	QUALIFIER DESCRIPTION
U	Undetected Analyte concentration <MDL – Less than Method detection limit
T	Estimated, Less than Reporting Detection Limit but greater than Method detection limit
J	Reported value is an estimate
B	Contamination present in Blank
C	Confluent Growth
E	Estimated, outside expected accuracy
H	Exceeds holding time
R	Data Rejected
S	Sample handling errors
X	Too numerous to count
D	Dilution
P	PASS – Qualitative result acceptable
F	FAIL – Qualitative result is not acceptable
G	Greater than
L	Less than

APPENDIX C

Meteorological Data

WIND SPEED FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF JULY , 2013

IN MILES PER HOUR

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								AVG.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	4.0	5.3	6.9	5.1	5.9	5.3	7.6	9.4	11.6	8.2	5.6	4.5	3.8	5.2	5.8	4.7	3.5	3.8	4.7	6.4	4.7	2.2	5.2	3.3	5.5
2	4.5	2.2	3.2	4.6	6.9	4.7	2.6	2.1	1.8	3.2	7.7	7.0	7.0	7.2	7.6	8.8	9.6	8.8	8.4	7.4	5.9	7.2	4.5	6.4	5.8
3	9.6	6.7	5.0	5.1	9.3	9.0	7.1	8.6	4.8	5.5	5.3	6.3	5.6	7.1	7.6	7.6	6.9	7.1	6.5	8.2	11.1	11.5	8.0	5.0	7.3
4	4.6	3.3	3.6	4.1	2.8	5.2	4.5	6.2	5.5	3.5	5.0	5.0	6.6	6.5	6.2	4.6	4.9	3.2	4.4	2.7	1.4	1.9	2.9	1.9	4.2
5	4.6	2.7	3.4	4.5	2.8	3.8	5.4	4.1	3.9	2.7	2.7	4.6	3.4	4.7	5.3	4.4	3.9	3.1	3.0	3.1	1.2	1.2	2.7	2.6	3.5
6	3.1	2.5	3.2	2.5	3.0	1.9	2.8	3.0	3.3	3.3	4.0	5.4	5.4	3.7	4.4	6.2	8.4	8.6	8.2	6.5	4.7	2.0	7.2	8.7	4.7
7	3.9	4.2	3.3	4.0	4.1	4.3	5.3	4.5	3.2	3.9	4.9	3.7	4.9	4.1	4.8	5.2	5.2	5.4	4.5	5.8	2.7	4.0	5.0	5.9	4.4
8	4.1	4.9	6.0	5.1	4.8	4.7	5.6	4.4	3.2	3.0	3.6	4.5	6.3	6.2	7.0	7.4	7.5	5.8	4.8	6.2	5.7	2.2	1.8	5.4	5.0
9	5.6	3.8	2.2	2.8	1.7	1.3	1.5	2.9	4.0	4.8	6.5	6.6	8.1	6.4	7.9	8.5	8.5	8.8	8.8	8.1	10.2	10.6	9.0	6.4	6.0
10	5.6	2.9	4.4	5.0	4.2	4.6	4.4	5.4	5.0	6.2	6.9	6.5	5.0	4.3	5.0	6.9	6.1	3.0	3.0	3.8	2.1	4.8	2.8	3.5	4.6
11	3.2	2.9	4.4	6.5	3.1	3.4	3.1	3.7	3.0	2.6	3.2	3.4	4.2	5.1	3.5	4.6	6.1	7.2	8.7	8.2	6.6	7.6	8.4	8.1	5.0
12	8.1	6.2	7.1	6.0	2.1	1.8	3.3	8.0	5.7	4.1	3.0	3.5	5.2	6.0	5.3	4.1	5.8	5.2	3.7	3.9	3.2	2.7	2.8	4.1	4.6
13	2.3	3.8	2.6	3.5	3.6	1.3	2.3	1.8	3.6	5.0	7.4	8.8	8.6	8.2	10.1	10.7	9.1	8.5	8.0	7.9	8.2	3.8	8.4	8.9	6.1
14	10.1	6.1	3.7	2.4	1.8	0.7	0.9	1.4	3.2	4.4	6.2	6.3	6.3	8.2	7.9	6.7	5.1	5.6	5.0	8.5	12.8	9.8	6.6	8.4	5.8
15	10.1	9.8	6.3	5.4	6.4	2.9	5.7	7.1	6.9	7.0	8.5	8.9	9.6	12.6	11.0	10.2	9.2	9.3	6.7	6.4	6.3	8.6	10.6	13.0	8.3
16	10.8	10.7	7.4	5.5	5.7	7.2	6.6	4.2	3.6	5.5	6.1	6.2	6.5	7.9	6.9	6.1	7.9	9.0	6.5	3.3	3.9	2.2	5.7	4.6	6.3
17	7.4	5.8	5.7	6.4	5.8	4.3	6.8	5.9	7.1	6.2	7.3	9.4	8.0	6.6	5.7	5.7	5.9	3.6	1.9	1.4	1.9	2.4	2.9	3.3	5.3
18	2.4	2.2	0.3	1.1	1.0	2.6	2.3	1.0	1.7	2.0	2.7	3.7	2.8	4.4	5.6	6.8	5.8	5.2	4.9	6.6	5.1	5.4	8.9	8.7	3.9
19	6.8	4.6	3.5	2.4	3.2	3.8	4.4	3.3	2.0	2.3	3.6	4.8	6.4	7.1	7.8	7.5	6.5	8.4	7.3	5.9	6.1	10.0	9.9	6.8	5.6
20	2.5	4.5	4.1	4.8	4.0	1.9	1.7	3.0	4.1	3.1	2.7	3.0	3.8	4.9	4.5	4.9	5.7	6.0	6.1	4.0	3.2	1.4	2.6	3.1	3.7
21	4.3	3.0	3.3	4.0	4.7	2.8	3.4	3.0	2.3	3.0	3.0	4.5	4.7	4.6	4.1	3.9	4.1	4.7	6.2	5.8	3.6	3.8	4.1	3.5	3.9
22	4.1	3.6	3.2	3.8	3.2	3.5	4.0	3.4	3.2	3.2	2.7	2.0	2.6	3.2	3.8	5.0	5.3	4.7	4.7	5.8	3.4	3.1	3.8	3.8	3.7
23	4.0	5.6	6.4	5.8	2.4	0.8	1.3	2.2	2.6	4.1	5.0	5.8	9.0	8.2	8.5	8.4	9.8	9.6	8.8	5.5	3.6	7.5	14.8	10.9	6.3
24	5.1	2.9	3.2	2.3	2.2	2.5	3.8	2.5	2.5	4.6	6.9	6.1	4.5	6.1	8.8	10.2	8.4	8.0	8.0	9.9	10.4	9.8	8.8	8.2	6.1
25	5.7	2.2	1.8	2.4	1.7	4.5	4.1	2.3	3.6	6.9	6.8	6.8	6.5	6.2	7.2	7.4	7.9	8.9	9.1	9.6	7.7	10.9	9.6	8.6	6.2
26	4.6	5.6	1.9	1.5	1.2	3.3	2.0	3.1	2.4	3.5	4.9	6.6	7.5	8.4	10.0	9.5	8.7	9.5	9.4	8.8	15.9	12.9	5.0	4.3	6.3
27	3.0	3.7	4.3	3.4	3.3	4.3	4.1	4.8	4.7	5.2	5.9	7.1	7.9	8.2	7.7	7.6	6.4	6.1	6.7	5.1	1.6	2.8	3.1	4.1	5.0
28	3.3	4.6	3.9	4.0	3.7	4.4	4.8	4.4	5.2	5.5	5.6	5.2	5.1	6.3	9.3	8.0	5.9	6.0	7.6	6.3	5.9	4.5	3.6	3.8	5.3
29	3.0	1.4	2.6	2.2	1.5	0.8	2.7	2.0	1.5	1.5	2.2	3.2	2.9	3.4	5.1	3.5	4.5	4.2	1.7	2.2	2.4	2.2	4.7	3.0	2.7
30	4.2	4.8	3.4	4.6	5.3	3.9	3.2	3.2	3.2	3.2	3.9	6.4	7.2	5.9	5.2	5.5	5.9	5.4	5.3	4.2	2.5	3.6	3.1	3.7	4.4
31	4.0	4.2	2.2	3.0	4.6	2.9	2.4	1.1	1.6	1.8	3.9	3.3	2.8	3.8	4.3	4.6	5.4	5.1	4.2	3.0	2.4	3.5	4.5	6.7	3.6

MONTHLY AVERAGE = 5.13

WIND DIRECTION FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF JULY , 2013

IN DEGREES

(MEASURED CLOCKWISE FROM NORTH)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVG.
										HOUR ENDING	(TIME SHOWN IS PACIFIC STANDARD TIME)														
1	49.	37.	32.	40.	35.	34.	29.	18.	6.	354.	286.	265.	250.	257.	283.	278.	250.	247.	288.	269.	256.	153.	266.	264.	177.
2	234.	170.	270.	294.	298.	266.	194.	291.	63.	323.	275.	283.	293.	358.	347.	320.	323.	338.	4.	10.	19.	46.	46.	56.	213.
3	47.	48.	84.	66.	44.	22.	25.	28.	34.	48.	354.	324.	324.	300.	306.	293.	293.	302.	312.	360.	21.	22.	32.	69.	157.
4	193.	217.	196.	202.	161.	26.	187.	168.	172.	163.	166.	211.	198.	220.	202.	205.	207.	237.	236.	225.	130.	178.	257.	213.	190.
5	250.	270.	278.	241.	219.	207.	204.	201.	156.	157.	172.	235.	257.	306.	252.	240.	217.	39.	127.	107.	218.	197.	110.	202.	203.
6	180.	188.	203.	254.	270.	195.	192.	237.	264.	280.	255.	267.	293.	355.	323.	292.	292.	296.	298.	292.	320.	42.	38.	36.	236.
7	81.	183.	154.	156.	186.	186.	158.	191.	206.	218.	215.	205.	222.	225.	220.	229.	228.	215.	251.	278.	310.	246.	243.	214.	209.
8	205.	203.	215.	224.	191.	181.	222.	188.	194.	210.	226.	267.	264.	270.	263.	284.	296.	346.	336.	309.	335.	46.	81.	35.	225.
9	23.	15.	47.	51.	320.	27.	111.	228.	263.	268.	280.	270.	272.	308.	307.	310.	306.	306.	321.	347.	23.	35.	30.	44.	188.
10	40.	60.	171.	184.	173.	208.	195.	195.	199.	235.	227.	209.	225.	249.	241.	239.	237.	240.	331.	311.	348.	212.	137.	238.	213.
11	258.	46.	207.	207.	139.	119.	115.	100.	64.	126.	63.	308.	296.	266.	264.	330.	25.	358.	14.	6.	354.	21.	36.	33.	156.
12	37.	31.	40.	49.	197.	43.	341.	30.	31.	25.	339.	302.	271.	265.	167.	246.	261.	271.	262.	276.	330.	53.	65.	32.	165.
13	79.	89.	143.	168.	178.	132.	173.	170.	320.	341.	14.	332.	326.	355.	328.	321.	324.	337.	332.	344.	356.	359.	44.	45.	234.
14	29.	58.	56.	61.	97.	136.	215.	75.	262.	278.	269.	296.	280.	256.	255.	276.	282.	307.	327.	12.	12.	13.	7.	41.	163.
15	22.	29.	28.	35.	36.	59.	27.	43.	36.	347.	325.	353.	3.	357.	358.	353.	345.	355.	350.	360.	42.	35.	21.	24.	164.
16	31.	37.	40.	32.	31.	37.	40.	39.	53.	51.	40.	34.	357.	22.	317.	299.	36.	29.	50.	54.	57.	37.	176.	130.	85.
17	151.	174.	239.	233.	177.	158.	179.	137.	163.	168.	199.	212.	221.	227.	200.	212.	268.	234.	83.	63.	318.	308.	197.	184.	196.
18	163.	187.	333.	172.	240.	272.	272.	136.	57.	243.	348.	321.	356.	282.	272.	263.	276.	298.	322.	312.	15.	36.	37.	35.	219.
19	39.	39.	38.	50.	145.	173.	187.	206.	181.	271.	281.	279.	275.	275.	289.	304.	360.	312.	309.	300.	342.	27.	37.	34.	198.
20	76.	182.	179.	192.	190.	174.	175.	236.	262.	250.	240.	250.	233.	222.	269.	297.	276.	298.	297.	288.	337.	346.	217.	199.	237.
21	199.	226.	225.	224.	219.	262.	265.	251.	236.	189.	226.	233.	216.	201.	235.	217.	261.	267.	280.	294.	305.	250.	228.	243.	240.
22	258.	254.	225.	220.	240.	271.	278.	262.	236.	214.	204.	188.	25.	247.	322.	264.	296.	305.	309.	317.	4.	35.	51.	35.	211.
23	51.	34.	41.	49.	39.	44.	7.	30.	309.	313.	300.	295.	323.	12.	334.	345.	317.	308.	318.	332.	7.	24.	29.	28.	162.
24	47.	61.	238.	189.	106.	167.	208.	195.	246.	331.	306.	289.	309.	332.	319.	326.	0.	350.	4.	17.	26.	33.	36.	31.	173.
25	77.	121.	144.	60.	156.	167.	185.	175.	354.	349.	17.	326.	314.	327.	328.	339.	2.	331.	6.	5.	4.	14.	29.	29.	161.
26	19.	51.	122.	144.	13.	78.	236.	212.	20.	320.	296.	289.	292.	299.	304.	299.	315.	322.	8.	18.	24.	26.	17.	346.	170.
27	353.	210.	166.	178.	176.	191.	177.	184.	214.	235.	256.	275.	268.	265.	268.	268.	304.	299.	322.	316.	51.	258.	182.	178.	233.
28	161.	182.	177.	174.	164.	183.	197.	205.	188.	193.	193.	167.	176.	184.	228.	227.	223.	249.	261.	264.	250.	240.	224.	224.	206.
29	255.	294.	316.	307.	340.	316.	192.	174.	260.	246.	234.	235.	300.	342.	278.	286.	315.	238.	214.	343.	60.	116.	186.	135.	249.
30	175.	175.	158.	167.	201.	179.	146.	187.	228.	204.	222.	261.	264.	272.	258.	261.	254.	275.	269.	273.	342.	285.	262.	216.	231.
31	198.	200.	182.	183.	200.	215.	221.	185.	187.	155.	241.	252.	206.	242.	230.	169.	176.	340.	165.	115.	147.	140.	190.	243.	199.

MONTHLY AVERAGE = 195.50

SIGMA THETA FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF JULY , 2013

IN DEGREES

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								AVG.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	8.9	10.5	9.6	10.9	7.7	11.3	11.2	14.1	12.7	20.7	28.4	35.2	41.2	28.0	21.3	24.1	32.7	21.6	15.1	8.1	13.2	35.4	12.9	12.3	18.6
2	4.8	28.7	19.6	4.3	5.9	11.0	26.1	41.0	57.3	57.0	20.1	24.3	19.9	25.5	23.5	21.4	12.6	11.8	14.9	15.4	20.7	12.6	36.8	18.1	22.2
3	13.1	24.6	34.0	62.0	28.6	13.0	11.3	11.6	19.2	21.5	31.1	23.8	29.0	22.6	28.5	19.9	16.2	15.9	8.8	13.2	10.1	9.8	11.0	14.3	20.5
4	10.9	9.8	19.9	8.8	39.2	11.9	10.5	11.6	19.3	29.3	17.2	21.7	19.3	18.5	25.1	40.5	33.0	31.6	13.5	10.2	35.8	15.1	42.4	19.8	21.5
5	7.6	14.6	11.9	8.7	18.1	11.7	9.4	14.6	22.0	32.1	46.6	27.2	45.3	36.4	26.8	25.6	33.8	19.6	11.3	8.3	33.9	28.5	10.2	20.4	21.9
6	13.8	19.7	11.4	19.2	8.9	19.9	18.1	17.7	33.8	45.4	53.3	33.3	38.6	44.8	54.3	49.0	15.1	15.2	8.3	6.2	8.6	21.2	9.6	8.1	23.9
7	16.3	9.0	14.1	23.5	7.7	7.8	12.6	21.3	26.8	20.9	22.0	35.5	26.8	31.6	29.7	23.4	31.0	21.0	13.0	5.4	17.5	9.6	11.7	4.3	18.4
8	7.8	8.0	5.0	7.9	10.5	9.7	9.6	15.9	40.6	41.7	46.3	33.9	30.7	29.6	25.7	21.5	15.3	20.7	16.1	5.1	10.0	19.8	24.7	14.7	19.6
9	6.6	6.8	17.6	19.0	46.4	28.6	26.8	24.2	28.6	30.3	20.7	24.8	20.2	34.7	20.0	16.4	12.6	10.6	11.5	16.7	13.4	10.4	7.1	9.8	19.3
10	8.0	12.5	11.6	7.0	7.9	8.4	9.9	13.8	22.4	17.3	15.0	17.4	31.9	50.1	40.1	21.6	23.3	45.0	20.0	8.5	38.9	36.2	31.0	40.2	22.4
11	16.6	29.5	23.8	9.4	16.0	11.7	18.1	20.4	23.4	44.1	43.2	52.3	40.0	40.1	46.3	29.8	19.3	29.0	10.6	14.8	21.6	22.2	19.0	18.0	25.8
12	17.8	21.2	16.2	18.4	38.3	37.6	28.1	10.3	13.1	15.7	21.2	30.4	37.9	25.0	26.4	35.0	14.3	12.7	9.4	7.1	19.2	8.9	8.7	10.4	20.1
13	30.0	9.4	12.6	12.2	8.8	17.0	17.3	35.8	52.0	30.0	27.6	20.9	19.0	25.1	18.4	14.0	13.7	14.9	10.1	9.8	8.3	25.2	11.9	15.3	19.1
14	11.5	12.8	32.7	35.4	15.2	28.1	44.8	55.3	52.9	30.6	17.7	24.8	27.6	24.4	21.8	26.6	29.9	28.2	14.6	13.2	13.7	23.6	26.9	17.9	26.3
15	10.3	8.5	8.7	9.5	12.5	34.1	26.7	17.1	15.7	21.4	19.1	23.6	21.4	14.5	17.0	16.1	14.2	17.3	21.8	30.6	17.8	14.7	10.8	9.2	17.2
16	9.5	7.8	7.0	8.3	10.3	8.8	9.9	13.2	34.8	18.0	16.5	13.9	23.4	18.0	17.9	29.2	25.9	14.8	21.9	20.1	24.5	56.9	19.1	11.5	18.4
17	15.4	40.5	28.7	17.0	10.9	42.4	13.6	10.4	14.7	16.0	16.5	14.5	13.1	14.4	15.3	18.5	14.1	12.7	18.8	4.6	16.1	19.0	10.4	16.4	17.2
18	15.7	17.0	17.8	7.4	19.0	9.8	16.8	35.9	27.3	44.8	47.3	40.8	54.1	43.3	36.8	27.8	24.7	21.6	20.0	11.1	13.2	8.4	7.6	8.0	24.0
19	8.7	8.3	8.9	8.8	10.9	11.1	10.8	14.2	41.2	36.4	36.8	42.9	29.9	24.8	21.9	17.7	21.5	10.8	9.1	6.9	8.6	8.9	9.1	9.4	17.4
20	21.5	12.4	6.8	4.5	8.3	11.9	16.4	16.2	13.1	20.5	32.3	41.7	32.5	36.6	37.5	40.2	26.9	14.9	9.4	8.5	14.2	19.6	8.0	6.2	19.2
21	5.0	14.5	6.9	6.6	6.3	14.9	11.5	16.6	26.8	23.2	28.6	22.2	27.2	39.5	41.9	41.0	38.3	23.5	10.4	6.3	22.1	7.0	6.5	6.3	18.9
22	5.9	8.0	10.7	12.2	8.9	9.7	9.9	14.6	13.6	21.0	31.8	49.4	55.7	40.3	43.0	44.1	23.9	20.7	12.9	10.0	10.5	10.1	12.0	6.9	20.2
23	17.9	8.4	7.8	8.6	16.3	22.1	25.6	25.6	58.8	41.1	26.8	28.0	16.6	28.3	26.5	23.3	13.8	10.1	8.9	9.8	13.8	27.0	7.6	7.8	20.0
24	7.7	17.1	8.6	17.5	12.2	10.9	12.3	27.4	45.9	32.2	22.1	31.2	48.9	32.9	16.0	17.9	20.0	17.8	12.8	8.8	10.3	12.1	8.7	8.8	19.2
25	10.3	23.9	19.6	19.8	24.4	9.9	12.9	34.1	42.5	24.0	29.0	34.0	30.6	25.6	20.9	21.9	17.7	15.6	10.1	8.2	12.7	8.2	7.8	8.6	19.7
26	8.1	15.7	25.9	37.3	53.7	20.3	27.8	26.9	66.3	45.0	34.2	24.0	20.6	18.3	16.1	16.3	14.8	12.1	13.4	17.2	11.5	21.8	51.6	59.3	27.4
27	63.7	17.6	11.6	7.5	8.1	12.3	11.7	26.1	29.5	23.5	43.0	24.2	25.5	21.7	21.1	21.8	27.1	20.1	8.0	4.8	11.1	15.1	16.0	10.5	20.1
28	7.3	8.0	11.4	9.6	8.4	7.4	11.0	14.7	11.8	12.8	16.3	28.9	31.0	27.4	19.9	23.5	29.6	22.5	9.9	11.6	10.7	5.6	9.2	8.3	14.9
29	13.6	27.0	9.9	9.9	14.6	18.9	17.2	33.9	62.0	48.1	32.7	40.3	42.4	48.3	33.2	49.1	32.9	25.4	36.8	11.5	6.0	9.6	24.9	14.2	27.6
30	9.8	7.1	11.1	5.9	3.4	12.3	9.7	28.2	41.4	43.6	32.7	26.9	24.4	31.3	31.0	29.7	21.1	15.4	8.6	13.6	11.6	13.3	14.3	6.8	18.9
31	8.6	6.9	18.7	9.5	4.8	11.0	15.1	25.5	36.3	28.7	42.1	28.8	43.6	49.3	18.8	30.8	38.5	46.8	29.2	38.4	18.1	16.6	15.0	8.3	24.5

MONTHLY AVERAGE = 20.79

MAX.GUST FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF JULY , 2013

IN MILES PER HOUR

DAY	HOUR ENDING										(TIME SHOWN IS PACIFIC STANDARD TIME)														MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	7.5	11.3	10.9	7.8	10.5	12.0	13.5	16.5	17.9	16.8	10.7	8.8	8.5	10.3	9.8	9.3	7.3	8.3	8.4	10.5	9.7	5.9	9.6	5.7	17.9
2	6.5	5.0	5.3	6.0	9.7	7.5	5.1	5.8	4.8	9.5	13.7	12.9	13.2	14.5	12.7	13.7	13.5	12.1	14.1	13.1	15.7	12.2	10.5	11.5	15.7
3	17.0	15.0	16.1	15.0	19.4	15.3	10.9	13.0	8.2	9.4	12.1	11.5	10.5	13.5	12.9	12.3	11.3	10.6	9.2	15.3	16.3	17.8	14.2	10.5	19.4
4	6.3	4.6	5.9	6.1	6.5	9.6	7.6	9.1	9.5	7.3	9.6	10.1	10.1	10.0	11.8	10.4	8.9	8.1	7.2	5.0	2.5	4.0	8.8	4.0	11.8
5	7.2	5.4	6.3	6.2	5.4	5.5	8.3	7.6	6.9	6.2	8.4	9.6	9.3	9.4	9.7	8.9	7.5	7.1	5.0	5.0	3.6	2.7	11.0	4.3	11.0
6	5.9	4.9	5.0	3.5	4.5	4.1	4.8	4.9	6.6	6.8	9.8	11.1	12.0	10.3	12.5	11.2	12.9	12.8	11.2	9.5	6.7	6.8	11.2	13.2	13.2
7	10.2	6.0	5.3	7.1	5.9	5.8	8.0	7.4	6.2	6.8	8.5	7.7	9.8	8.5	9.4	9.8	10.1	8.7	7.3	7.8	6.3	8.0	6.8	7.7	10.2
8	7.4	6.8	7.6	6.9	7.1	6.8	7.6	7.4	6.3	6.7	7.8	9.7	11.3	10.9	12.4	12.7	12.1	12.4	9.3	8.1	8.8	4.6	4.1	10.6	12.7
9	9.3	5.5	4.8	5.9	5.5	5.1	3.8	6.2	8.8	8.0	11.2	12.7	12.4	11.5	13.7	14.4	12.7	12.3	13.0	17.9	16.8	16.2	13.0	11.2	17.9
10	13.0	5.1	7.6	7.4	6.9	6.4	7.1	8.8	8.8	9.3	10.0	10.9	9.2	10.8	10.4	11.4	10.7	6.6	5.0	4.7	4.7	9.1	6.2	6.5	13.0
11	5.7	5.3	7.1	10.9	8.4	6.2	6.1	6.1	5.9	6.6	7.3	9.3	10.5	10.5	8.8	9.9	10.4	14.1	12.7	15.0	17.8	16.0	19.2	16.6	19.2
12	15.9	12.6	13.4	11.7	5.1	8.0	8.6	11.9	9.9	7.0	6.9	9.1	10.9	17.0	10.5	8.4	8.6	8.4	6.3	5.5	5.7	4.4	4.9	6.8	17.0
13	6.5	5.7	4.7	5.7	4.8	3.0	4.2	4.9	8.8	12.4	13.7	13.1	13.9	16.6	16.3	17.7	15.7	12.4	11.8	12.9	11.8	7.5	13.6	16.7	17.7
14	15.3	12.0	7.7	6.9	3.4	2.6	3.0	5.5	8.6	8.5	11.1	12.2	11.8	15.5	13.2	12.5	10.3	10.2	11.5	17.7	21.8	24.7	14.9	14.9	24.7
15	16.5	14.1	13.1	9.0	11.2	6.9	12.7	13.8	10.8	12.1	14.5	14.4	16.2	18.4	16.2	18.2	13.7	17.1	15.7	13.3	12.6	15.7	16.0	18.8	18.8
16	16.6	16.2	12.0	8.6	9.9	10.5	10.7	7.4	6.9	11.0	11.2	10.5	10.8	13.7	12.7	10.3	15.1	16.5	11.6	6.3	6.6	7.1	8.5	8.3	16.6
17	11.0	14.6	12.5	11.2	8.8	10.4	11.8	11.1	11.2	10.2	12.7	14.1	12.4	9.7	10.2	10.1	9.1	7.7	3.5	3.1	5.0	4.6	5.5	5.4	14.6
18	3.9	3.9	1.5	1.9	2.4	4.1	3.6	3.1	3.8	4.6	6.4	7.6	7.3	9.8	10.9	12.1	10.9	9.8	8.4	9.2	9.3	8.5	12.4	12.5	12.5
19	11.1	7.1	5.5	4.2	5.0	6.2	6.2	5.9	4.6	5.4	7.9	8.7	11.7	12.8	13.7	12.2	11.2	12.7	11.3	8.3	10.7	15.4	14.8	10.5	15.4
20	6.3	7.2	5.8	6.0	5.3	4.3	3.2	5.5	5.9	5.6	6.9	6.9	8.4	14.0	9.4	10.6	11.8	9.3	8.2	6.1	5.0	3.2	4.4	4.5	14.0
21	5.6	4.8	4.8	6.0	6.1	5.1	4.9	5.1	4.9	6.3	6.4	7.3	9.0	8.6	8.7	8.3	7.9	8.1	9.4	7.2	7.3	7.1	6.2	4.7	9.4
22	5.6	5.2	5.3	5.8	4.4	5.1	5.4	5.5	5.9	6.8	5.8	5.6	7.3	7.4	7.9	11.4	11.2	8.1	6.9	7.9	5.6	5.8	7.6	5.8	11.4
23	8.4	8.6	10.1	8.1	5.9	1.9	3.7	4.2	6.9	8.4	10.1	11.9	15.7	18.8	13.9	14.0	14.7	13.9	12.8	9.2	6.3	20.1	22.8	16.0	22.8
24	11.1	5.3	5.2	4.3	3.9	3.8	5.9	5.0	5.9	9.1	12.9	12.4	11.2	11.2	13.5	14.4	15.0	11.9	12.2	14.4	16.6	14.9	14.4	13.5	16.6
25	8.2	5.0	4.6	3.9	5.6	7.4	6.4	4.8	10.1	14.9	11.4	12.2	11.2	11.6	12.4	13.3	13.5	12.7	12.8	13.0	12.0	15.8	14.2	13.9	15.8
26	9.2	11.2	5.2	3.9	4.1	5.3	3.7	5.6	7.3	7.4	10.9	12.3	12.8	12.5	14.6	15.6	14.1	15.2	16.9	17.1	27.0	27.7	15.8	19.7	27.7
27	9.8	5.4	6.4	5.8	5.8	6.2	7.2	9.1	8.6	9.7	12.1	13.6	14.3	14.1	12.8	13.7	10.4	10.4	9.6	9.0	4.4	8.2	7.3	7.0	14.3
28	4.9	6.6	6.2	5.7	4.9	5.7	7.2	7.1	7.9	10.6	9.2	10.0	11.2	12.2	15.2	14.1	12.8	10.2	10.6	10.4	10.5	7.6	6.1	6.0	15.2
29	5.1	2.9	3.6	3.5	2.8	3.2	4.8	4.3	3.8	4.8	5.8	7.7	6.6	10.0	9.8	9.1	9.8	9.6	5.0	3.4	3.5	3.5	10.0	4.8	10.0
30	6.9	6.3	5.6	6.9	6.8	6.3	4.9	6.0	6.6	8.8	8.0	11.2	11.6	12.9	12.1	9.8	9.3	7.9	7.6	5.9	5.0	4.3	4.7	5.3	12.9
31	6.3	5.5	3.9	4.4	6.3	4.1	3.8	3.6	4.8	4.3	8.0	7.4	5.9	9.0	8.5	11.1	12.9	11.3	11.7	5.3	5.9	6.1	8.5	12.1	12.9

MONTHLY MAXIMUM = 27.71

2 M TEMPERATURE FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF JULY , 2013

IN DEGREES C

											HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																	
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVG			
1	20.7	20.0	19.7	19.3	18.5	19.8	21.2	22.5	23.8	25.1	26.1	27.0	28.3	29.1	29.2	29.7	30.1	30.1	29.1	27.2	24.9	23.5	21.8	20.1	24.5			
2	19.3	18.3	17.9	16.5	15.8	15.7	16.2	16.9	18.6	21.0	21.9	23.1	23.8	25.3	26.0	26.4	26.1	25.2	23.5	22.0	21.1	19.6	19.1	17.9	20.7			
3	17.0	16.6	16.6	16.8	16.0	15.7	16.7	17.8	19.1	20.4	21.5	22.4	23.3	24.1	24.6	24.6	24.6	24.0	23.1	21.1	18.9	18.0	16.7	15.3	19.8			
4	14.4	14.5	14.2	13.9	13.2	13.0	13.0	12.9	13.2	14.4	15.1	15.7	15.9	16.7	17.8	18.7	19.5	19.7	18.7	18.0	16.6	15.8	15.1	14.9	15.6			
5	14.6	14.1	13.8	13.4	13.2	13.2	13.2	13.3	14.2	15.4	16.3	17.2	18.3	19.4	19.7	19.9	20.6	20.2	19.2	18.2	17.8	16.9	15.8	15.5	16.4			
6	14.9	14.1	13.6	12.9	12.2	12.1	12.5	13.0	14.4	16.5	18.4	19.8	21.2	22.3	23.2	24.0	24.0	23.6	22.7	21.2	19.7	18.5	17.4	16.9	17.9			
7	15.6	16.1	15.4	14.2	14.0	14.1	14.1	14.6	14.9	15.3	15.7	16.6	17.7	19.2	19.9	21.1	22.0	22.1	22.0	20.5	19.2	18.3	16.5	15.1	17.3			
8	14.2	14.0	13.3	13.0	12.8	12.6	12.7	12.9	14.1	15.3	17.0	19.5	21.2	22.2	23.0	23.9	24.2	24.2	23.5	22.0	20.2	19.1	19.0	18.1	18.0			
9	16.8	15.8	15.3	14.7	14.8	15.7	17.5	18.4	20.0	21.5	23.0	24.6	26.0	27.2	27.8	28.0	27.9	27.3	26.0	24.0	21.2	20.2	19.1	18.0	21.3			
10	16.5	15.7	14.8	13.9	13.6	13.4	13.4	14.3	15.1	15.0	15.3	15.9	16.5	17.6	18.9	19.9	20.2	20.3	19.3	18.3	16.9	16.2	15.1	14.5	16.3			
11	13.8	12.8	12.3	11.7	10.8	11.0	11.5	12.0	12.6	13.5	15.1	16.1	17.1	18.2	18.7	19.6	19.7	19.3	17.9	16.6	16.0	15.1	13.8	12.5	14.9			
12	12.2	12.1	11.9	12.0	11.9	11.7	12.2	12.5	13.4	14.1	14.3	14.9	16.8	17.1	17.5	17.5	17.0	16.9	16.5	16.1	14.7	13.5	12.8	11.8	14.2			
13	11.7	11.4	11.8	10.9	10.7	11.4	11.8	13.6	15.6	17.3	19.2	20.4	21.4	22.0	22.8	23.2	23.2	22.8	21.8	20.2	18.5	17.1	15.8	15.4	17.1			
14	14.6	13.6	13.9	13.7	13.0	14.2	15.1	17.2	18.3	19.7	21.4	23.1	24.5	24.9	25.4	25.9	25.9	25.5	24.7	22.0	19.7	18.5	17.4	16.2	19.5			
15	15.4	14.8	13.7	13.2	13.1	14.4	15.8	17.1	18.5	19.9	21.0	22.7	23.5	24.3	25.0	25.4	25.5	25.0	24.1	22.5	20.9	20.3	19.7	19.1	19.8			
16	18.1	17.1	16.0	14.7	14.1	14.4	16.6	19.1	22.0	24.0	25.5	25.9	27.0	29.1	28.5	27.0	25.7	26.3	26.2	24.3	23.2	22.0	20.5	20.0	22.0			
17	19.7	18.3	17.4	15.3	14.6	14.4	14.5	15.0	15.7	16.1	17.2	17.8	18.1	18.3	18.9	18.9	18.5	18.6	18.6	17.7	16.7	15.8	14.8	14.1	16.9			
18	13.9	14.0	13.7	13.5	13.5	13.7	13.7	14.4	15.3	16.4	18.1	19.0	20.1	21.7	22.5	23.2	23.7	23.6	23.1	21.1	19.9	18.1	16.7	15.4	17.8			
19	14.6	13.9	13.4	13.3	13.3	13.4	13.4	13.6	14.8	16.3	18.2	20.2	22.1	23.8	24.7	25.6	25.8	25.4	24.5	22.5	21.1	19.0	17.8	16.6	18.6			
20	15.9	15.3	13.9	13.3	13.1	13.1	13.4	13.8	13.7	14.1	15.0	15.9	18.1	20.2	22.2	23.2	23.7	23.3	22.5	21.3	20.1	18.8	17.8	16.8	17.4			
21	15.3	14.3	14.1	13.8	13.4	13.1	12.9	13.1	13.6	14.7	15.4	16.2	17.0	18.9	20.5	22.1	22.9	23.0	22.2	20.7	19.5	17.9	16.7	15.4	16.9			
22	14.5	14.2	13.7	13.4	13.2	13.1	13.0	13.2	13.6	14.4	15.0	16.4	18.3	21.1	22.6	23.8	24.2	24.0	23.5	21.7	20.4	19.2	17.8	17.2	17.6			
23	16.1	14.9	14.6	14.3	14.4	15.0	16.5	18.2	20.1	21.3	23.4	24.9	26.5	27.4	28.2	28.7	28.5	27.8	26.6	24.8	23.0	20.5	20.0	19.5	21.5			
24	18.9	17.9	17.3	16.8	16.1	16.0	16.4	18.4	20.8	22.6	24.2	25.2	26.5	27.6	28.4	28.4	28.2	27.9	26.4	24.2	22.2	21.3	20.0	17.9	22.1			
25	16.7	17.0	16.5	15.5	15.1	14.2	15.1	17.3	20.5	22.6	24.0	25.2	26.0	27.0	27.9	28.4	28.1	27.6	26.0	24.1	22.6	20.3	18.5	17.6	21.4			
26	16.1	15.4	16.2	16.2	14.9	14.6	16.0	17.6	20.5	22.0	23.5	24.9	26.2	27.5	27.8	28.0	27.8	27.0	25.2	22.9	21.1	19.8	19.3	18.7	21.2			
27	18.0	15.4	13.5	13.1	12.3	12.1	12.8	14.1	15.5	16.9	18.5	19.6	20.6	22.1	22.9	23.3	23.3	23.1	22.2	20.8	19.5	17.7	16.6	15.4	17.9			
28	14.7	13.9	12.9	12.1	11.1	11.0	11.0	11.2	11.7	12.1	12.7	14.1	15.9	18.3	18.9	19.0	19.4	19.4	18.5	16.5	15.1	14.0	14.0	13.7	14.6			
29	13.3	13.1	13.0	13.1	13.0	13.2	13.4	13.8	14.3	14.9	15.7	16.7	17.7	19.3	20.6	21.7	22.1	21.9	21.9	20.4	18.5	17.5	16.4	14.9	16.7			
30	14.6	14.4	14.0	13.5	12.8	12.2	12.7	13.6	14.1	16.3	18.5	20.2	21.0	21.7	22.7	23.2	23.6	23.3	22.5	21.2	20.2	19.1	17.6	16.3	17.9			
31	15.3	14.6	14.2	13.9	13.4	13.2	13.2	13.5	14.1	14.7	15.6	16.4	17.2	18.9	18.8	18.0	17.0	17.0	18.3	17.5	17.1	16.2	16.0	15.1	15.8			

MONTHLY AVERAGE = 18.37

IN INCHES

MONTHLY TOTAL = 0.07

WIND SPEED/DIRECTION CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF JULY , 2013

IN MPH/DIR

											Hour	Ending	(Time Shown is Pacific Standard Time)															
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1	4NE	5NE	7NE	5NE	6NE	5NE	8NE	9N	12N	8N	6W	5W	4W	5W	6W	5W	4W	4SW	5W	6W	5W	2SE	5W	3W				
2	4SW	2S	3W	5NW	7NW	5W	3S	2W	2NE	3NW	8W	7W	7NW	7N	8N	9NW	10NW	9N	8N	7N	6N	7NE	5NE	6NE				
3	10NE	7NE	5E	5NE	9NE	9N	7NE	9NE	5NE	5NE	5N	6NW	6NW	7NW	8NW	8NW	7NW	7NW	6NW	8N	11N	12N	8NE	5E				
4	5S	3SW	4S	4S	3S	5NE	5S	6S	5S	4S	5S	5SW	7S	7SW	6S	5SW	5SW	3SW	4SW	3SW	1SE	2S	3W	2SW				
5	5W	3W	3W	4SW	3SW	4SW	5SW	4S	4SE	3SE	3S	5SW	3W	5NW	5W	4SW	4SW	3NE	3SE	3E	1SW	1S	3E	3S				
6	3S	2S	3SW	3W	3W	2S	3S	3SW	3W	3W	4W	5W	5NW	4N	4NW	6W	8W	9NW	8NW	6W	5NW	2NE	7NE	9NE				
7	4E	4S	3SE	4SE	4S	4S	5S	5S	3SW	4SW	5SW	4SW	5SW	4SW	5SW	5SW	5SW	5SW	5W	6W	3NW	4SW	5SW	6SW				
8	4SW	5SW	6SW	5SW	5S	5S	6SW	4S	3S	3SW	4SW	5W	6W	6W	7W	7W	8NW	6N	5NW	6NW	6NW	2NE	2E	5NE				
9	6NE	4N	2NE	3NE	2NW	1NE	1E	3SW	4W	5W	7W	7W	8W	6NW	8NW	8NW	9NW	9NW	9NW	8N	10NE	11NE	9NE	6NE				
10	6NE	3NE	4S	5S	4S	5SW	4S	5S	5S	6SW	7SW	7SW	5SW	4W	5SW	7SW	6SW	3SW	3NW	4NW	2N	5SW	3SE	3SW				
11	3W	3NE	4SW	7SW	3SE	3SE	3SE	4E	3NE	3SE	3NE	3NW	4NW	5W	3W	5NW	6NE	7N	9N	8N	7N	8N	8NE	8NE				
12	8NE	6NE	7NE	6NE	2S	2NE	3N	8NE	6NE	4NE	3N	4NW	5W	6W	5S	4SW	6W	5W	4W	4W	3NW	3NE	3NE	4NE				
13	2E	4E	3SE	3S	4S	1SE	2S	2S	4NW	5N	7N	9NW	9NW	8N	10NW	11NW	9NW	8NW	8NW	8N	8N	4N	8NE	9NE				
14	10NE	6NE	4NE	2NE	2E	1SE	1SW	1E	3W	4W	6W	6NW	6W	8W	8W	7W	5W	6NW	5NW	9N	13N	10N	7N	8NE				
15	10N	10NE	6NE	5NE	6NE	3NE	6NE	7NE	7NE	7N	9NW	9N	10N	13N	11N	10N	9N	9N	7N	6N	6NE	9NE	11N	13NE				
16	11NE	11NE	7NE	6NE	6NE	7NE	7NE	4NE	4NE	5NE	6NE	6NE	7N	8N	7NW	6NW	8NE	9NE	6NE	3NE	4NE	2NE	6S	5SE				
17	7SE	6S	6SW	6SW	6S	4S	7S	6SE	7S	6S	7S	9SW	8SW	7SW	6S	6SW	6W	4SW	2E	1NE	2NW	2NW	3S	3S				
18	2S	2S	0NW	1S	1SW	3W	2W	1SE	2NE	2SW	3N	4NW	3N	4W	6W	7W	6W	5NW	5NW	7NW	5N	5NE	9NE	9NE				
19	7NE	5NE	3NE	2NE	3SE	4S	4S	3SW	2S	2W	4W	5W	6W	7W	8W	8NW	6N	8NW	7NW	6NW	6N	10NE	10NE	7NE				
20	2E	5S	4S	5S	4S	2S	2S	3SW	4W	3W	3SW	3W	4SW	5SW	5W	5NW	6W	6NW	6NW	4W	3NW	1N	3SW	3S				
21	4S	3SW	3SW	4SW	5SW	3W	3W	3W	2SW	3S	3SW	4SW	5SW	5S	4SW	4SW	4W	5W	6W	6NW	4NW	4W	4SW	3SW				
22	4W	4W	3SW	4SW	3SW	3W	4W	3W	3SW	3SW	3SW	2S	3NE	3SW	4NW	5W	5NW	5NW	5NW	6NW	3N	3NE	4NE	4NE				
23	4NE	6NE	6NE	6NE	2NE	1NE	1N	2NE	3NW	4NW	5NW	6NW	9NW	8N	9NW	8N	10NW	10NW	9NW	6NW	4N	8NE	15NE	11NE				
24	5NE	3NE	3SW	2S	2E	3S	4SW	3S	2SW	5NW	7NW	6W	5NW	6NW	9NW	10NW	8N	8N	8N	10N	10NE	10NE	9NE	8NE				
25	6E	2SE	2SE	2NE	2SE	4S	4S	2S	4N	7N	7N	7NW	6NW	6NW	7NW	7N	8N	9NW	9N	10N	8N	11N	10NE	9NE				
26	5N	6NE	2SE	1SE	1N	3E	2SW	3SW	2N	3NW	5NW	7W	7W	8NW	10NW	9NW	9NW	10NW	9N	9N	16NE	13NE	5N	4N				
27	3N	4SW	4S	3S	3S	4S	4S	5S	5SW	5SW	6W	7W	8W	8W	8W	8W	6NW	6NW	7NW	5NW	2NE	3W	3S	4S				
28	3S	5S	4S	4S	4S	4S	5S	4SW	5S	5S	6S	5S	5S	6S	9SW	8SW	6SW	6W	8W	6W	6W	4SW	4SW	4SW				
29	3W	1NW	3NW	2NW	1N	1NW	3S	2S	1W	2SW	2SW	3SW	3NW	3N	5W	4W	5NW	4SW	2SW	2N	2NE	2SE	5S	3SE				
30	4S	5S	3S	5S	5S	4S	3SE	3S	3SW	3SW	4SW	6W	7W	6W	5W	5W	6W	5W	5W	4W	3N	4W	3W	4SW				
31	4S	4S	2S	3S	5S	3SW	2SW	1S	2S	2SE	4SW	3W	3SW	4SW	4SW	5S	5S	5N	4S	3SE	2SE	3SE	5S	7SW				

WIND SPEED FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF AUGUST , 2013

IN MILES PER HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVG.
										HOUR	ENDING		(TIME SHOWN IS PACIFIC STANDARD TIME)												
1	2.7	4.9	5.0	3.2	4.6	3.9	3.5	5.5	6.1	6.1	4.8	4.7	4.3	4.8	7.4	4.7	5.1	5.2	6.2	5.2	5.5	4.8	4.6	4.1	4.9
2	4.0	5.4	7.3	6.7	6.0	4.7	4.8	6.1	6.2	4.9	3.9	2.0	3.0	2.5	1.7	1.8	1.9	3.2	2.9	3.1	3.0	3.4	1.7	1.6	3.8
3	1.1	0.8	0.8	0.2	2.2	1.5	1.1	1.8	3.5	3.5	4.7	5.1	4.7	6.4	5.8	4.0	3.5	2.3	2.6	1.9	3.0	5.0	7.7	7.4	3.4
4	5.9	6.7	6.7	6.0	3.8	2.1	1.5	1.2	1.2	6.5	7.3	7.2	7.3	6.9	8.6	8.3	8.6	8.8	8.4	5.2	3.7	7.3	11.4	9.4	6.2
5	7.9	5.8	3.5	3.3	2.8	1.9	1.7	2.4	2.2	4.1	5.2	8.4	7.7	6.3	8.1	8.2	7.8	7.7	7.2	5.7	5.7	7.3	9.5	8.7	5.8
6	3.9	3.0	3.0	4.1	3.9	3.0	1.8	2.6	2.7	3.1	4.7	6.7	6.8	6.7	6.4	7.0	6.6	6.7	6.3	6.9	4.8	4.1	2.8	3.9	4.7
7	2.2	3.1	1.3	2.4	3.4	4.0	3.1	4.2	3.1	3.8	4.0	4.7	5.0	5.5	8.0	9.0	8.6	8.1	6.0	4.9	6.6	9.0	3.7	4.7	4.9
8	5.1	4.5	3.5	2.6	3.6	2.5	2.3	4.0	4.5	4.4	5.0	6.0	8.2	8.5	7.4	5.9	8.0	9.0	7.8	7.8	10.3	10.2	6.3	4.8	5.9
9	3.0	4.2	2.9	1.7	2.5	1.7	2.6	2.5	2.0	4.6	6.6	6.1	8.9	8.1	5.3	9.4	7.7	6.4	5.7	3.9	2.4	2.7	7.4	5.2	4.7
10	5.7	2.9	3.6	4.4	2.5	1.6	2.0	2.4	4.2	6.0	3.6	4.7	4.1	5.0	5.4	5.5	7.5	4.8	1.9	1.1	1.9	6.3	4.5	5.1	4.0
11	4.7	4.1	3.5	4.4	3.3	4.0	4.4	3.9	3.6	4.4	3.4	5.8	5.8	6.6	7.3	7.1	6.4	4.7	2.5	1.2	1.8	4.6	5.3	5.1	4.5
12	4.5	3.2	3.2	3.5	1.3	3.3	2.0	1.5	2.5	3.3	4.1	5.5	4.6	5.6	6.0	5.7	5.0	7.3	6.3	5.5	5.2	5.0	3.5	2.1	4.2
13	2.4	2.4	4.2	1.6	2.0	0.9	0.9	2.9	3.7	5.4	5.3	4.2	5.6	5.0	5.4	6.6	5.6	5.9	4.9	4.0	7.1	7.3	6.4	2.8	4.3
14	3.9	3.9	3.4	3.4	3.6	3.2	3.8	4.4	3.1	3.4	2.8	3.9	4.2	5.6	9.1	5.6	9.1	6.8	5.1	4.7	2.4	5.1	2.8	2.7	4.4
15	2.5	2.7	2.6	2.7	1.2	1.4	1.2	1.7	3.6	1.7	2.2	2.3	3.0	3.4	3.9	2.5	3.1	3.4	4.3	1.3	0.6	1.6	1.8	1.7	2.3
16	1.6	2.1	1.2	1.3	0.7	2.7	3.0	1.7	2.7	3.2	4.5	5.9	5.0	5.6	4.9	5.2	8.2	8.4	5.6	5.8	6.0	5.1	6.8	4.2	4.2
17	2.3	4.2	4.4	6.4	4.8	6.5	7.0	7.0	6.7	5.8	6.5	7.2	6.8	8.1	9.0	9.8	8.6	7.2	6.4	4.1	4.4	4.7	3.3	5.9	6.1
18	5.9	3.5	0.5	3.1	3.8	2.6	4.4	4.8	5.7	6.8	6.6	7.0	8.6	8.4	9.7	10.1	9.9	8.1	5.2	7.1	9.4	8.5	7.7	7.2	6.4
19	4.6	2.5	3.9	4.5	5.2	2.9	3.7	3.5	5.1	6.7	6.3	5.2	5.5	6.7	8.5	5.4	6.0	7.5	10.0	7.1	10.1	13.1	11.4	11.9	6.5
20	7.3	3.1	3.7	3.6	3.3	3.6	2.2	5.0	11.0	10.7	9.8	8.4	7.2	7.5	9.9	10.4	9.9	10.2	8.9	7.3	4.6	7.7	9.5	10.1	7.3
21	12.3	7.4	3.8	5.2	4.5	4.1	4.5	3.4	2.4	5.9	10.3	9.6	10.4	10.4	10.2	9.1	8.2	8.2	7.6	8.8	11.6	10.6	9.5	7.7	7.7
22	8.7	4.9	3.4	3.7	3.1	1.7	2.7	2.1	2.9	3.2	4.6	3.5	4.0	5.4	5.3	6.1	5.6	4.0	2.8	1.9	2.4	2.8	4.5	2.7	3.8
23	5.6	6.0	6.0	5.9	7.2	4.2	7.0	6.8	8.3	6.6	5.4	5.6	3.9	4.2	5.3	4.9	5.2	7.9	6.8	4.0	4.7	5.1	4.1	1.7	5.5
24	3.8	3.6	2.0	2.0	3.6	3.5	1.9	2.3	2.9	5.6	5.2	3.4	4.1	2.8	3.8	3.6	4.6	4.1	1.3	1.3	3.5	5.1	8.8	9.1	3.8
25	4.9	3.3	5.8	7.3	6.2	3.9	5.0	6.4	3.7	3.4	5.2	4.5	5.4	4.6	6.0	3.9	2.1	1.2	3.1	2.8	4.8	3.7	4.4	3.8	4.4
26	3.4	2.9	2.4	3.0	2.8	2.5	1.3	2.7	2.2	2.7	2.5	5.8	6.3	8.6	9.7	4.3	5.4	4.3	4.9	2.2	3.6	4.2	4.7	2.5	4.0
27	1.8	1.7	1.5	1.8	2.4	4.1	1.6	3.5	2.7	4.3	4.5	3.2	4.1	5.9	8.7	8.5	6.9	4.2	2.7	3.2	6.7	5.4	4.3	4.0	4.1
28	2.8	0.4	3.1	4.5	5.0	4.1	4.4	2.1	2.5	3.2	2.4	4.4	4.9	4.2	4.2	5.1	5.5	3.1	3.3	4.0	3.7	2.7	4.0	4.0	3.7
29	3.5	3.3	2.9	3.8	4.4	4.7	5.1	7.8	11.0	12.9	8.8	4.2	4.1	4.6	2.9	2.4	8.7	3.3	5.8	4.4	5.8	7.5	8.4	7.0	5.7
30	5.8	4.3	3.0	1.2	1.7	2.3	2.2	4.3	5.7	5.5	5.5	3.2	3.0	4.4	4.2	4.7	3.7	4.4	3.3	3.6	5.3	6.9	8.3	5.3	4.2
31	4.6	4.7	4.0	3.9	4.5	3.4	1.9	1.8	2.4	5.0	8.2	9.0	9.2	8.6	9.1	7.5	8.2	4.1	2.3	2.4	4.0	1.8	2.4	3.7	4.9

MONTHLY AVERAGE = 4.86

WIND DIRECTION FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF AUGUST , 2013

IN DEGREES

(MEASURED CLOCKWISE FROM NORTH)

HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVG.
1	242.	230.	240.	253.	261.	254.	206.	179.	188.	178.	161.	147.	133.	162.	196.	160.	136.	118.	162.	190.	213.	229.	181.	170.	191.
2	161.	167.	190.	188.	181.	165.	144.	156.	146.	142.	112.	289.	316.	3.	347.	341.	220.	191.	163.	114.	112.	127.	172.	193.	181.
3	151.	169.	170.	152.	316.	334.	84.	35.	3.	31.	31.	39.	28.	19.	28.	28.	13.	1.	349.	341.	352.	3.	1.	17.	112.
4	27.	32.	32.	32.	45.	52.	66.	54.	68.	30.	35.	31.	333.	336.	27.	11.	344.	321.	315.	330.	14.	30.	27.	34.	109.
5	30.	52.	69.	72.	41.	222.	142.	191.	149.	351.	324.	270.	282.	298.	303.	303.	313.	324.	325.	0.	31.	37.	43.	42.	175.
6	49.	144.	173.	186.	187.	210.	221.	173.	209.	256.	279.	282.	283.	303.	284.	304.	303.	306.	303.	343.	37.	51.	75.	40.	208.
7	18.	45.	108.	111.	140.	183.	214.	210.	196.	203.	244.	262.	261.	298.	5.	14.	346.	320.	334.	343.	28.	31.	45.	168.	172.
8	206.	197.	228.	159.	180.	187.	223.	217.	214.	239.	277.	266.	273.	275.	315.	17.	16.	328.	343.	17.	28.	27.	34.	35.	179.
9	58.	40.	43.	136.	168.	157.	174.	191.	170.	340.	324.	289.	264.	272.	280.	253.	271.	302.	302.	326.	304.	294.	188.	89.	218.
10	281.	27.	11.	208.	168.	182.	284.	193.	246.	245.	207.	211.	241.	204.	254.	260.	282.	249.	199.	26.	141.	233.	277.	268.	204.
11	234.	235.	177.	163.	139.	190.	201.	195.	208.	173.	198.	226.	216.	229.	230.	238.	244.	247.	72.	104.	134.	219.	272.	243.	199.
12	183.	172.	171.	192.	296.	318.	247.	190.	248.	275.	238.	269.	267.	268.	262.	270.	248.	268.	269.	255.	266.	268.	342.	27.	242.
13	137.	156.	172.	194.	176.	215.	73.	234.	284.	260.	257.	269.	267.	310.	293.	294.	282.	303.	330.	9.	27.	30.	52.	71.	196.
14	153.	164.	122.	174.	166.	145.	209.	205.	193.	234.	227.	254.	165.	270.	272.	262.	267.	278.	256.	265.	105.	133.	309.	271.	213.
15	146.	263.	279.	307.	104.	319.	47.	337.	239.	354.	293.	96.	119.	165.	126.	168.	133.	307.	319.	328.	97.	237.	134.	86.	208.
16	243.	310.	316.	24.	81.	148.	140.	153.	209.	179.	227.	238.	243.	270.	258.	271.	268.	262.	243.	245.	249.	197.	175.	139.	212.
17	172.	179.	132.	152.	153.	150.	153.	181.	173.	165.	193.	218.	231.	263.	271.	255.	234.	261.	248.	219.	233.	244.	178.	208.	203.
18	212.	236.	136.	226.	240.	259.	223.	208.	190.	192.	183.	210.	216.	246.	263.	264.	246.	261.	264.	21.	25.	23.	26.	31.	183.
19	50.	84.	164.	177.	208.	175.	222.	217.	210.	159.	185.	223.	181.	261.	263.	279.	306.	296.	336.	351.	31.	26.	28.	33.	186.
20	23.	62.	63.	41.	352.	14.	52.	55.	33.	34.	29.	20.	360.	30.	327.	326.	327.	331.	335.	326.	331.	43.	14.	26.	148.
21	25.	46.	42.	38.	40.	30.	45.	38.	36.	17.	15.	25.	32.	31.	20.	8.	348.	336.	7.	10.	11.	18.	33.	35.	54.
22	43.	30.	37.	32.	46.	107.	17.	6.	194.	85.	38.	338.	323.	278.	270.	278.	287.	252.	213.	230.	122.	132.	174.	158.	154.
23	184.	178.	202.	177.	204.	174.	203.	184.	184.	156.	130.	162.	237.	146.	142.	198.	240.	256.	256.	240.	230.	230.	204.	159.	195.
24	181.	211.	234.	185.	230.	220.	126.	111.	114.	192.	160.	125.	75.	52.	234.	277.	246.	228.	171.	246.	357.	37.	25.	40.	170.
25	48.	41.	31.	36.	44.	38.	24.	30.	33.	325.	289.	328.	43.	349.	273.	225.	57.	113.	180.	101.	131.	109.	149.	150.	131.
26	167.	153.	148.	156.	189.	226.	159.	152.	135.	58.	324.	273.	265.	266.	265.	250.	254.	302.	310.	191.	125.	109.	116.	171.	198.
27	111.	82.	29.	95.	108.	133.	144.	148.	186.	174.	98.	130.	298.	335.	300.	298.	308.	334.	11.	341.	338.	282.	28.	44.	181.
28	78.	101.	262.	248.	116.	49.	25.	15.	25.	299.	259.	281.	316.	326.	330.	310.	301.	312.	329.	315.	311.	125.	172.	200.	213.
29	196.	144.	138.	129.	103.	102.	87.	133.	117.	122.	166.	153.	126.	107.	100.	64.	272.	189.	146.	142.	153.	184.	191.	184.	144.
30	198.	192.	218.	310.	285.	111.	127.	154.	158.	170.	163.	208.	23.	345.	291.	294.	274.	358.	12.	21.	30.	40.	41.	41.	169.
31	31.	43.	9.	26.	35.	35.	48.	44.	8.	38.	30.	33.	29.	27.	24.	350.	288.	342.	319.	310.	69.	60.	48.	347.	108.

MONTHLY AVERAGE = 176.07

SIGMA THETA FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF AUGUST , 2013

IN DEGREES

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								AVG.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	16.6	7.6	8.1	9.3	7.8	8.8	11.0	9.6	10.4	11.3	11.8	20.2	14.5	21.0	12.7	15.9	11.5	12.1	17.8	13.3	10.8	11.3	15.6	11.3	12.5
2	16.5	14.9	8.1	9.9	10.6	11.1	9.5	11.4	13.5	13.4	15.5	27.6	14.6	14.4	18.6	15.9	28.4	10.8	11.9	7.8	7.5	8.3	13.4	11.3	13.5
3	16.0	11.0	8.4	9.4	5.6	4.8	10.0	19.6	17.2	16.4	13.1	13.0	21.5	21.7	13.5	25.8	26.8	34.8	19.7	12.6	10.6	6.8	8.3	6.7	14.7
4	7.1	7.6	9.0	7.6	9.5	23.7	17.8	15.8	43.6	16.9	17.7	20.1	28.1	30.2	15.4	22.5	17.4	10.2	7.6	21.5	17.9	9.6	9.5	8.9	16.5
5	8.6	8.6	10.1	13.8	9.0	21.1	27.5	21.6	54.4	34.5	31.6	19.8	23.0	36.7	22.8	18.8	15.6	11.7	9.1	13.9	7.2	9.6	10.3	8.7	18.7
6	10.9	15.3	7.1	7.1	10.8	7.6	13.2	28.7	34.5	45.3	35.2	21.2	26.5	32.9	25.1	25.3	20.1	14.1	7.2	12.9	8.5	8.7	26.5	9.4	18.9
7	15.8	7.5	17.0	25.8	14.6	14.4	12.7	16.1	31.6	31.6	36.3	30.2	38.9	36.7	27.4	25.1	19.2	11.2	12.1	21.4	10.5	11.1	34.8	13.8	21.5
8	6.2	6.2	8.6	15.1	9.9	10.7	14.0	20.1	18.8	28.5	31.5	32.4	19.8	16.4	21.5	22.7	20.8	11.6	11.9	8.9	6.3	6.6	8.3	10.3	15.3
9	15.1	8.4	10.8	19.2	8.7	30.2	23.9	36.2	62.8	35.9	23.0	22.7	11.2	12.3	31.0	12.8	15.7	14.4	9.7	8.9	33.5	26.0	13.5	36.9	21.8
10	47.4	15.0	24.1	12.5	13.9	18.9	21.9	33.8	16.2	12.5	31.1	25.6	45.2	30.3	36.1	25.8	11.2	21.5	27.7	22.8	65.6	15.2	26.9	14.2	25.6
11	15.4	11.9	18.8	10.4	9.8	10.3	15.4	18.9	36.8	25.3	28.4	23.2	27.1	27.7	19.4	32.3	16.6	17.1	28.8	18.3	11.0	19.2	7.3	10.1	19.1
12	10.3	17.0	11.0	11.9	13.5	6.0	23.2	46.2	38.4	42.3	42.2	35.9	52.6	35.7	39.5	41.8	38.6	15.1	9.7	7.2	9.1	7.6	24.0	13.1	24.7
13	15.4	12.3	10.6	8.3	22.8	15.0	31.6	21.6	25.5	27.2	37.5	55.1	42.0	40.2	36.8	22.9	20.0	18.5	11.1	12.6	9.1	10.5	13.0	17.5	22.4
14	11.1	14.3	7.1	15.4	11.7	20.8	14.1	14.4	16.0	20.0	34.5	33.0	27.5	46.5	12.4	16.9	8.4	11.9	16.8	19.0	19.6	28.8	42.2	23.3	20.2
15	29.3	21.2	15.9	25.8	22.8	34.3	39.8	30.0	16.8	28.6	32.1	15.0	14.5	14.9	19.6	25.9	43.0	24.4	24.0	22.1	22.8	30.8	21.6	22.4	24.9
16	17.5	20.0	5.6	17.8	14.8	13.0	8.6	26.1	36.2	44.5	24.2	27.8	46.2	32.8	39.0	48.1	21.4	14.2	9.5	10.7	14.2	12.1	6.9	16.5	22.0
17	11.8	11.2	17.0	8.9	10.2	5.9	7.3	11.8	18.8	23.8	24.5	20.4	24.6	24.5	22.1	22.6	17.8	17.1	10.7	5.9	7.8	12.1	13.5	6.7	14.9
18	9.7	22.5	12.6	6.7	10.0	14.4	11.2	12.9	19.0	20.1	25.4	29.4	22.0	27.6	22.2	17.8	13.1	15.4	45.6	10.9	8.9	8.8	8.6	8.7	16.8
19	13.5	12.3	13.2	8.3	4.5	15.5	11.8	14.1	17.3	23.6	24.9	37.3	51.0	38.7	20.8	25.3	16.5	17.0	12.2	19.0	15.9	13.7	17.5	16.5	19.2
20	34.6	57.1	39.1	39.9	21.6	22.7	28.9	35.9	13.7	12.4	21.4	24.0	31.6	28.3	17.1	21.6	14.2	10.7	11.6	14.8	23.8	41.2	11.9	17.9	24.8
21	8.5	13.2	21.6	9.8	11.2	8.3	12.9	16.4	45.8	19.2	14.6	18.7	13.7	12.4	13.7	18.7	17.5	14.6	14.2	9.9	9.2	10.1	10.6	9.2	14.8
22	10.3	8.8	8.9	6.7	8.6	15.6	13.5	42.7	31.3	31.6	22.1	52.1	39.3	35.0	17.4	10.4	11.5	9.4	10.6	27.9	11.7	16.7	11.4	17.8	19.6
23	10.7	11.6	7.2	13.3	9.6	13.6	9.7	10.9	12.0	12.1	15.3	18.6	31.8	29.6	22.3	21.9	21.3	13.2	9.8	9.7	14.1	14.5	18.5	14.9	15.3
24	11.7	10.2	17.6	19.6	22.2	11.9	16.5	19.5	13.6	18.5	19.1	38.0	25.4	39.1	54.3	51.2	20.4	16.3	20.7	13.2	18.4	16.0	9.4	14.5	21.6
25	9.6	10.1	8.9	10.3	9.3	8.4	9.7	9.4	20.8	44.0	26.4	38.9	22.1	25.8	11.4	12.7	18.2	7.4	11.9	10.6	9.7	9.5	9.5	13.1	15.3
26	12.3	13.6	17.0	11.5	19.3	22.9	64.8	29.6	32.4	37.0	49.5	26.4	20.8	17.8	10.8	32.7	13.7	13.8	29.8	18.0	8.0	8.0	8.1	30.6	22.8
27	20.5	9.3	16.2	32.1	9.7	10.9	12.8	14.1	19.7	20.5	23.4	58.3	55.4	31.7	11.5	10.1	10.9	13.0	17.3	15.6	18.6	14.6	14.5	14.3	19.8
28	14.2	20.7	19.4	39.5	24.5	11.9	9.3	17.8	20.1	23.8	28.3	23.0	33.8	36.0	42.4	27.8	16.4	20.2	9.9	7.1	15.3	15.0	16.3	15.9	21.2
29	21.7	33.8	15.4	13.0	10.3	16.6	27.9	25.5	12.2	10.1	19.0	34.2	28.5	19.4	31.6	27.7	36.2	43.9	19.6	9.3	10.5	9.6	10.3	10.2	20.7
30	10.2	10.6	16.6	19.6	16.2	12.2	11.4	19.0	15.4	19.8	24.7	56.5	31.9	37.5	41.8	30.2	40.1	18.5	13.1	15.7	17.6	14.6	11.0	11.4	21.5
31	10.2	8.1	19.5	8.1	9.7	8.2	13.3	12.7	31.0	20.0	12.7	10.1	13.1	17.6	12.2	32.5	14.7	21.3	45.8	31.8	9.6	47.2	13.6	23.4	18.6

MONTHLY AVERAGE = 19.33

MAX. GUST FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF AUGUST , 2013

IN MILES PER HOUR

DAY											HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																		MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1	5.3	6.9	7.0	5.0	6.2	6.2	5.2	8.4	8.7	8.5	7.2	9.1	7.3	8.9	11.3	7.1	7.8	8.0	12.9	10.1	9.9	7.2	8.5	9.8	12.9				
2	8.8	10.1	11.6	11.8	10.1	7.8	7.8	9.0	11.9	7.3	6.6	5.1	5.1	4.8	4.1	3.4	5.7	4.4	4.9	4.8	4.6	5.3	3.0	3.4	11.9				
3	2.5	2.1	2.2	1.8	3.2	3.4	2.9	3.9	5.8	6.1	7.1	8.1	8.4	12.4	10.6	8.6	7.2	5.7	4.5	5.3	5.5	8.0	12.1	10.4	12.4				
4	9.1	11.4	10.4	9.6	7.5	5.4	4.3	2.7	4.1	12.9	11.8	12.2	13.0	12.0	13.4	14.8	13.9	13.2	12.4	9.7	8.6	14.1	16.5	15.2	16.5				
5	13.4	8.4	5.7	5.5	4.8	2.8	3.7	4.1	5.1	7.9	12.1	12.6	13.6	11.9	14.1	12.6	13.3	10.8	10.6	9.5	8.6	12.0	14.1	13.9	14.1				
6	7.2	6.7	5.0	6.4	6.4	5.4	3.4	5.2	6.0	6.8	10.4	10.8	11.3	11.7	12.0	10.8	11.2	9.9	8.2	11.1	8.0	6.5	4.4	8.2	12.0				
7	3.8	4.4	3.6	6.2	5.4	6.1	5.3	7.2	6.6	7.9	7.8	8.7	12.1	12.4	13.7	15.3	14.1	11.3	10.1	10.3	10.6	13.6	10.3	8.1	15.3				
8	6.4	6.2	5.9	4.8	6.4	3.5	5.3	5.7	7.8	8.4	9.4	12.0	13.5	14.0	13.4	12.7	15.1	14.2	11.5	12.4	14.0	14.3	10.1	8.4	15.1				
9	5.4	6.1	4.5	4.2	4.4	3.3	5.3	5.2	6.2	11.8	11.2	11.2	12.6	11.0	10.4	14.9	13.1	8.9	8.0	6.5	4.6	7.7	17.0	10.6	17.0				
10	13.6	5.7	7.0	7.2	5.2	4.8	4.1	6.2	7.6	9.0	6.7	8.7	9.6	9.6	10.3	9.2	14.0	9.1	4.1	3.6	4.6	10.5	13.3	9.2	14.0				
11	8.9	9.4	9.3	7.2	5.4	7.4	6.6	7.9	7.9	8.0	8.6	10.7	11.9	14.7	12.3	13.6	10.8	9.1	4.6	3.7	3.2	7.6	7.8	7.2	14.7				
12	7.6	5.5	4.6	7.0	4.2	4.6	4.0	4.5	6.1	7.7	8.9	11.0	10.9	12.1	12.4	12.3	9.3	11.5	9.9	8.4	8.7	7.9	7.9	4.6	12.4				
13	5.2	5.4	6.8	3.3	3.4	2.1	2.5	5.4	8.4	13.0	10.1	10.3	11.9	10.6	12.7	12.0	10.4	8.6	7.5	8.3	12.7	11.4	12.1	7.4	13.0				
14	8.7	6.1	4.8	5.2	5.6	5.0	6.8	8.2	4.7	6.3	7.6	8.9	9.1	10.7	13.2	9.6	15.6	14.2	10.1	9.2	6.0	9.1	4.3	6.5	15.6				
15	5.1	4.3	4.7	5.6	4.2	3.0	3.4	3.5	7.1	4.1	5.3	4.1	5.2	6.4	6.9	4.9	6.5	6.1	7.4	4.3	2.5	3.2	4.2	4.2	7.4				
16	3.6	3.6	3.4	2.9	2.0	6.2	5.7	3.9	5.3	7.9	8.6	10.7	11.1	11.1	10.1	11.9	13.1	12.6	11.3	10.8	10.7	9.3	11.1	9.7	13.1				
17	4.1	8.7	9.4	11.1	9.1	9.7	9.7	10.6	11.1	12.4	10.5	13.0	14.0	15.3	15.5	17.6	13.8	11.5	9.8	7.0	8.4	8.4	7.5	7.7	17.6				
18	8.9	7.6	2.5	4.8	5.6	4.5	7.0	7.4	10.2	11.5	13.6	13.2	15.0	16.7	15.6	15.8	15.5	12.4	10.4	12.8	13.4	12.9	12.4	11.3	16.7				
19	8.4	4.2	6.8	6.5	6.4	5.3	5.5	5.7	9.6	11.6	12.0	10.3	10.9	13.4	14.7	10.8	11.2	12.4	14.5	15.9	18.6	26.3	20.7	20.8	26.3				
20	16.3	11.9	8.8	11.4	9.2	9.7	5.6	16.0	16.7	16.5	14.1	13.6	13.6	13.9	17.5	18.9	15.6	15.5	14.9	11.2	9.7	17.0	16.4	18.2	18.9				
21	18.7	14.3	8.5	8.9	8.5	5.7	7.1	5.6	6.4	13.5	15.1	16.2	15.6	16.1	15.5	14.5	13.5	14.8	13.2	15.0	17.3	16.8	13.9	13.2	18.7				
22	13.3	10.9	5.3	4.9	4.8	3.8	4.1	4.7	7.4	6.5	8.4	8.4	9.7	10.3	8.0	8.8	7.8	5.9	5.0	4.9	3.7	4.3	6.4	5.3	13.3				
23	9.2	8.8	8.0	8.9	12.1	7.1	10.6	10.9	12.0	10.0	8.5	9.4	7.8	8.1	10.5	9.9	10.6	12.3	10.3	7.1	8.3	10.0	10.1	4.4	12.3				
24	6.9	6.0	3.8	3.5	7.2	5.3	3.7	3.7	7.1	10.1	9.0	6.9	8.8	6.3	9.8	8.5	8.8	6.4	3.3	5.3	5.7	10.1	14.2	15.9	15.9				
25	10.6	7.5	9.0	12.9	9.4	6.6	10.1	11.3	5.9	9.3	9.4	8.9	9.9	8.0	8.9	7.8	3.2	3.6	5.0	5.7	7.0	5.3	7.2	5.5	12.9				
26	6.1	4.4	3.9	4.2	4.7	5.7	4.1	7.2	5.4	6.7	7.7	10.5	11.6	15.1	16.8	11.3	10.5	8.8	11.5	5.2	5.2	5.6	7.2	6.2	16.8				
27	3.4	4.9	2.8	3.6	6.9	7.7	5.1	6.1	5.4	8.5	9.0	8.0	11.2	11.2	13.5	13.6	10.1	6.7	4.9	12.6	11.5	10.7	8.6	7.3	13.6				
28	6.0	2.6	5.6	12.7	12.4	6.0	5.6	3.8	4.4	5.3	5.8	8.8	10.2	10.3	9.8	10.4	10.1	5.4	4.8	6.1	6.1	5.5	6.1	6.6	12.7				
29	6.8	6.2	4.7	7.0	6.8	8.6	8.6	14.5	19.9	18.9	19.9	7.5	8.7	7.3	6.7	5.9	21.5	7.7	15.4	6.9	12.3	14.8	17.0	10.6	21.5				
30	10.5	8.8	6.7	7.5	6.0	4.6	4.0	7.0	8.8	9.6	10.7	9.4	10.2	10.4	9.7	11.1	9.8	7.6	5.4	8.0	12.2	12.6	12.7	8.5	12.7				
31	9.6	7.2	6.0	6.4	6.8	5.6	4.5	3.8	5.4	8.5	14.4	12.9	14.1	14.4	14.1	12.9	12.4	8.6	4.9	5.4	6.4	4.0	6.1	5.5	14.4				

MONTHLY MAXIMUM = 26.33

2 M TEMPERATURE FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF AUGUST , 2013

IN DEGREES C

DAY	HOUR ENDING												(TIME SHOWN IS PACIFIC STANDARD TIME)												AVG
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	14.3	14.0	13.6	13.2	12.6	12.2	12.5	12.6	12.7	12.9	13.6	14.7	15.5	16.5	16.8	17.0	16.8	16.6	16.5	16.2	15.7	15.5	15.2	14.9	14.7
2	14.5	14.4	14.3	14.2	14.1	14.0	14.1	14.5	14.9	15.2	15.1	15.1	15.0	14.7	15.0	14.6	14.7	14.7	14.6	14.3	14.0	14.1	14.2	14.2	14.5
3	14.1	14.1	14.0	14.0	14.1	14.1	14.2	15.2	15.9	16.4	16.9	18.0	18.7	19.4	19.6	20.3	20.5	20.5	20.1	19.5	18.4	17.9	17.3	16.3	17.1
4	15.6	14.9	14.6	14.4	14.7	14.7	15.2	16.1	17.7	20.2	21.7	23.1	24.4	25.6	26.2	26.6	26.7	26.1	24.8	22.8	21.5	20.0	19.6	18.3	20.2
5	17.6	17.0	17.0	16.7	15.9	15.7	17.6	18.7	21.2	22.8	24.3	25.4	26.5	27.6	28.3	28.6	28.3	27.9	26.7	24.8	22.1	20.5	19.2	18.4	22.0
6	18.0	17.6	16.9	15.6	14.8	14.6	15.3	16.9	18.7	21.1	23.5	24.9	26.3	27.3	28.0	28.7	28.9	28.4	27.4	24.8	22.3	20.9	19.6	17.2	21.6
7	17.4	16.9	16.7	16.6	15.7	14.7	16.2	17.1	18.7	20.7	22.4	24.0	25.6	27.3	27.9	28.3	28.4	27.8	26.5	24.6	22.6	21.4	20.1	18.5	21.5
8	16.9	15.9	14.9	13.9	13.6	13.7	14.4	15.2	16.6	18.5	20.9	22.4	23.4	24.5	24.8	25.8	25.8	25.6	24.1	21.4	19.7	19.1	18.5	17.3	19.4
9	16.8	16.1	16.0	15.6	15.5	15.3	15.9	17.2	20.0	21.8	23.6	24.7	24.2	23.9	25.6	26.2	25.9	25.4	24.6	23.4	22.4	21.6	20.0	19.7	20.9
10	17.9	17.1	17.2	16.6	16.2	16.2	16.5	17.0	17.7	17.5	18.7	20.6	22.4	23.7	24.1	23.9	22.1	21.7	22.2	21.2	20.3	19.1	17.5	16.7	19.3
11	15.6	15.0	14.5	14.1	14.3	14.5	14.3	15.1	16.3	17.5	17.9	19.2	20.8	21.9	22.4	22.4	21.9	21.6	21.0	20.4	20.0	19.4	17.6	16.0	18.1
12	15.2	15.1	15.3	15.4	15.5	15.1	15.6	16.3	17.0	18.6	19.7	21.2	22.2	23.1	23.1	23.3	23.6	23.2	22.0	21.2	20.2	18.5	17.5	16.2	18.9
13	16.0	16.2	15.6	15.4	15.1	14.7	16.0	16.9	18.2	19.7	21.2	22.3	23.7	24.7	25.8	26.1	26.0	25.8	23.9	22.4	20.5	19.4	18.6	18.3	20.1
14	17.7	16.8	17.1	16.6	16.5	16.8	16.8	18.2	18.6	19.7	21.4	22.7	25.2	26.7	26.1	25.0	23.8	21.7	19.8	18.3	17.5	16.9	16.8	16.9	19.7
15	16.5	16.6	16.6	16.6	16.3	16.8	17.1	17.9	18.0	18.8	18.9	18.3	18.5	19.0	18.6	18.8	19.0	19.0	18.9	18.6	18.3	18.4	18.2	18.0	18.0
16	17.8	17.6	17.6	17.3	17.3	17.1	17.1	18.2	19.6	21.7	22.7	23.9	25.1	25.9	26.4	27.0	26.7	26.0	24.8	23.0	21.6	20.4	19.6	18.4	21.4
17	18.7	17.8	16.5	16.8	16.7	17.0	17.7	18.3	18.7	19.9	20.7	21.6	22.4	23.0	23.3	23.6	23.6	23.0	22.0	20.4	19.7	18.8	18.1	17.4	19.8
18	17.0	16.7	16.3	16.2	15.9	15.5	15.6	16.0	17.2	18.5	20.6	22.2	23.1	23.6	24.1	23.6	23.6	22.3	21.2	19.5	18.4	18.0	17.5	17.0	19.1
19	16.5	16.3	16.1	15.9	15.7	15.5	15.9	16.5	17.3	18.8	19.8	21.2	22.7	23.0	23.3	23.7	23.5	23.5	21.4	19.2	17.7	16.8	16.2	16.2	18.9
20	16.1	16.1	15.7	15.1	14.7	14.5	15.7	16.6	17.7	18.5	19.9	21.2	21.8	22.5	23.2	23.4	23.1	22.2	20.7	18.7	18.2	17.1	16.5	15.6	18.5
21	15.0	13.6	13.1	12.5	11.9	12.2	12.6	14.8	17.9	20.1	22.0	23.3	24.5	25.7	26.1	26.8	26.6	25.5	24.0	22.5	21.4	20.5	19.6	18.6	19.6
22	17.7	17.0	16.3	15.9	15.4	15.4	15.9	17.6	19.9	22.0	23.1	24.6	26.3	27.6	27.0	26.0	25.8	25.1	24.6	23.3	22.3	21.1	20.2	19.9	21.2
23	19.4	18.6	17.1	16.3	16.0	15.5	15.5	16.1	16.3	16.5	17.1	18.0	18.3	19.3	20.4	20.6	21.1	20.7	19.6	18.9	18.3	17.2	16.6	16.3	17.9
24	16.3	16.2	16.0	15.8	14.8	14.2	14.3	14.7	15.2	16.1	17.3	18.7	19.1	20.1	21.2	21.3	21.6	21.1	20.4	19.5	17.5	15.9	15.6	14.9	17.4
25	14.8	14.3	13.7	13.7	13.4	13.4	13.6	14.5	16.8	18.7	19.4	19.8	20.4	20.4	19.7	18.9	18.0	17.8	17.6	16.5	16.5	15.7	15.6	15.6	16.6
26	15.8	15.7	15.7	15.6	15.0	14.9	15.2	16.9	18.4	19.3	20.9	22.0	22.0	22.2	20.4	20.0	19.5	17.0	16.4	16.3	16.1	16.3	16.6	17.1	17.7
27	16.5	16.6	16.7	15.6	15.7	15.9	16.0	16.7	18.5	19.5	19.9	22.6	23.7	24.6	24.6	23.9	23.4	22.7	22.0	21.6	19.5	17.8	17.4	16.8	19.5
28	16.6	16.7	16.4	15.6	15.2	15.4	15.6	16.1	17.8	19.5	20.5	21.4	22.2	23.2	24.1	24.2	24.1	23.7	22.6	21.9	21.1	20.2	19.8	19.3	19.7
29	18.2	17.9	17.6	17.6	17.4	17.1	16.9	17.0	17.3	18.1	18.4	18.5	18.1	19.4	21.2	22.0	18.9	18.2	18.0	18.1	18.2	18.0	17.8	17.6	18.2
30	17.5	17.2	17.1	16.8	16.3	16.1	16.2	16.8	17.8	18.5	19.7	20.5	20.6	21.8	23.0	23.4	23.6	22.6	21.2	18.9	17.5	17.0	16.2	15.0	18.8
31	14.3	13.8	13.8	13.1	12.7	12.6	13.8	15.8	17.6	19.1	20.9	22.5	24.0	25.5	26.2	26.5	25.9	25.3	23.9	22.0	20.0	19.7	18.4	17.6	19.4

MONTHLY AVERAGE = 19.03

PRECIPITATION FOR CEDAR HILLS LANDFILL
 METEOROLOGICAL MONITORING SYSTEM FOR
 THE MONTH OF AUGUST , 2013

IN INCHES

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								TOT
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.08	0.10	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.25	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.36
29	0.00	0.02	0.05	0.10	0.15	0.13	0.06	0.11	0.05	0.01	0.00	0.05	0.10	0.00	0.00	0.04	0.02	0.12	0.10	0.00	0.14	0.01	0.00	0.00	1.26
30	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MONTHLY TOTAL = 2.09

WIND SPEED/DIRECTION CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF AUGUST , 2013

IN MPH/DIR

DAY	HOUR										ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3SW	5SW	5SW	3W	5W	4W	3SW	5S	6S	6S	5S	5SE	4SE	5S	7S	5S	5SE	5SE	6S	5S	5SW	5SW	5S	4S		
2	4S	5S	7S	7S	6S	5S	5SE	6SE	6SE	5SE	4E	2W	3NW	3N	2N	2N	2SW	3S	3S	3SE	3E	3SE	2S	2S		
3	1SE	1S	1S	0SE	2NW	2NW	1E	2NE	4N	4NE	5NE	5NE	5NE	6N	6NE	4NE	4N	2N	3N	2N	3N	5N	8N	7N		
4	6NE	7NE	7NE	6NE	4NE	2NE	1NE	1NE	1E	6NE	7NE	7NE	7NW	7NW	9NE	8N	9N	9NW	8NW	5NW	4N	7NE	11NE	9NE		
5	8NE	6NE	4E	3E	3NE	2SW	2SE	2S	2SE	4N	5NW	8W	8W	6NW	8NW	8NW	8NW	8NW	7NW	6N	6NE	7NE	10NE	9NE		
6	4NE	3SE	3S	4S	4S	3SW	2SW	3S	3SW	3W	5W	7W	7W	7NW	6W	7NW	7NW	7NW	6NW	7N	5NE	4NE	3E	4NE		
7	2N	3NE	1E	2E	3SE	4S	3SW	4SW	3S	4SW	4SW	5W	5W	5NW	8N	9N	9N	8NW	6NW	5N	7NE	9NE	4NE	5S		
8	5SW	5S	4SW	3S	4S	2S	2SW	4SW	5SW	4SW	5W	6W	8W	8W	7NW	6N	8N	9NW	8N	8N	10NE	10NE	6NE	5NE		
9	3NE	4NE	3NE	2SE	2S	2SE	3S	2S	2S	5N	7NW	6W	9W	8W	5W	9W	8W	6NW	6NW	4NW	2NW	3NW	7S	5E		
10	6W	3NE	4N	4SW	3S	2S	2W	2S	4SW	6SW	4SW	5SW	4SW	5SW	5W	5W	8W	5W	2S	1NE	2SE	6SW	5W	5W		
11	5SW	4SW	4S	4S	3SE	4S	4S	4S	4SW	4S	3S	6SW	6SW	7SW	7SW	7SW	6SW	5SW	2E	1E	2SE	5SW	5W	5SW		
12	5S	3S	3S	3S	1NW	3NW	2SW	2S	3W	3W	4SW	5W	5W	6W	6W	6W	5W	7W	6W	6W	5W	5W	4N	2NE		
13	2SE	2SE	4S	2S	2S	1SW	1E	3SW	4W	5W	5W	4W	6W	5NW	5NW	7NW	6W	6NW	5NW	4N	7NE	7NE	6NE	3E		
14	4SE	4S	3SE	3S	4S	3SE	4SW	4SW	3S	3SW	3SW	4W	4S	6W	9W	6W	9W	7W	5W	5W	2E	5SE	3NW	3W		
15	2SE	3W	3W	3NW	1E	1NW	1NE	2NW	4SW	2N	2NW	2E	3SE	3S	4SE	3S	3SE	3NW	4NW	1NW	1E	2SW	2SE	2E		
16	2SW	2NW	1NW	1NE	1E	3SE	3SE	2SE	3SW	3S	5SW	6SW	5SW	6W	5W	5W	8W	8W	6SW	6SW	6W	5S	7S	4SE		
17	2S	4S	4SE	6SE	5SE	7SE	7SE	7S	7S	6S	7S	7SW	7SW	8W	9W	10W	9SW	7W	6W	4SW	4SW	5SW	3S	6SW		
18	6SW	4SW	1SE	3SW	4SW	3W	4SW	5SW	6S	7S	7S	7SW	9SW	8SW	10W	10W	10SW	8W	5W	7N	9NE	9NE	8NE	7NE		
19	5NE	3E	4S	4S	5SW	3S	4SW	3SW	5SW	7S	6S	5SW	6S	7W	9W	5W	6NW	8NW	10NW	7N	10NE	13NE	11NE	12NE		
20	7NE	3NE	4NE	4NE	3N	4N	2NE	5NE	11NE	11NE	10NE	8N	7N	7NE	10NW	10NW	10NW	10NW	9NW	7NW	5NW	8NE	10N	10NE		
21	12NE	7NE	4NE	5NE	4NE	4NE	5NE	3NE	2NE	6N	10N	10NE	10NE	10NE	10N	9N	8N	8NW	8N	9N	12N	11N	9NE	8NE		
22	9NE	5NE	3NE	4NE	3NE	2E	3N	2N	3S	3E	5NE	4N	4NW	5W	5W	6W	6W	4W	3SW	2SW	2SE	3SE	4S	3S		
23	6S	6S	6S	6S	7SW	4S	7SW	7S	8S	7SE	5SE	6S	4SW	4SE	5SE	5S	5SW	8W	7W	4SW	5SW	5SW	4SW	2S		
24	4S	4SW	2SW	2S	4SW	4SW	2SE	2E	3SE	6S	5S	3SE	4E	3NE	4SW	4W	5SW	4SW	1S	1SW	4N	5NE	9NE	9NE		
25	5NE	3NE	6NE	7NE	6NE	4NE	5NE	6NE	4NE	3NW	5W	4NW	5NE	5N	6W	4SW	2NE	1SE	3S	3E	5SE	4E	4SE	4SE		
26	3S	3SE	2SE	3SE	3S	3SW	1S	3SE	2SE	3NE	3NW	6W	6W	9W	10W	4W	5W	4NW	5NW	2S	4SE	4E	5SE	2S		
27	2E	2E	1NE	2E	2E	4SE	2SE	4SE	3S	4S	5E	3SE	4NW	6NW	9NW	8NW	7NW	4NW	3N	3N	7N	5W	4NE	4NE		
28	3E	0E	3W	4W	5SE	4NE	4NE	2N	2NE	3NW	2W	4W	5NW	4NW	4NW	5NW	5NW	3NW	3NW	4NW	4NW	3SE	4S	4S		
29	3S	3SE	3SE	4SE	4E	5E	5E	8SE	11SE	13SE	9S	4SE	4SE	5E	3E	2NE	9W	3S	6SE	4SE	6SE	8S	8S	7S		
30	6S	4S	3SW	1NW	2W	2E	2SE	4SE	6S	5S	6S	3SW	3NE	4N	4W	5NW	4W	4N	3N	4N	5NE	7NE	8NE	5NE		
31	5NE	5NE	4N	4NE	4NE	3NE	2NE	2NE	2N	5NE	8NE	9NE	9NE	9NE	9NE	7N	8W	4N	2NW	2NW	4E	2NE	2NE	4N		

WIND SPEED FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN MILES PER HOUR

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								AVG.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	2.6	5.0	6.0	5.9	5.4	3.8	4.9	3.1	2.8	3.9	5.0	6.3	6.5	6.1	5.6	6.0	6.2	6.4	6.1	8.1	3.3	3.8	2.6	4.0	5.0
2	3.0	5.1	4.9	2.6	2.0	0.8	2.1	3.8	2.9	4.5	4.3	7.3	8.8	7.6	7.1	7.5	7.3	7.3	8.1	4.7	2.8	3.3	1.4	1.8	4.6
3	3.7	3.4	2.4	1.8	3.2	2.3	3.3	3.2	2.4	2.9	2.3	3.7	3.7	6.1	6.1	7.0	6.4	4.2	4.0	3.3	2.4	4.2	4.8	3.5	3.8
4	3.8	3.7	3.9	4.6	5.4	5.6	2.9	4.4	6.2	4.9	4.8	5.0	8.5	8.2	4.8	7.8	4.8	3.4	2.0	3.5	2.8	2.0	1.9	2.2	4.5
5	4.0	4.5	5.0	2.5	4.0	4.6	5.3	4.2	3.7	7.3	9.1	7.6	6.3	10.7	9.0	7.6	6.7	4.7	2.2	4.6	7.2	6.1	6.6	3.2	5.7
6	1.5	2.5	4.8	0.7	2.6	4.0	4.0	3.9	4.5	5.2	5.4	4.3	5.5	7.7	7.2	6.9	7.9	10.2	5.3	4.0	4.8	3.5	3.4	2.9	4.7
7	2.6	1.8	1.2	2.4	3.2	1.5	1.2	2.9	1.5	4.6	2.4	2.8	4.2	7.6	3.7	4.6	5.0	5.6	4.4	4.6	8.5	5.9	6.9	6.6	4.0
8	2.2	1.0	4.9	4.7	3.6	3.5	0.7	1.8	1.2	3.7	3.2	4.5	6.1	7.7	6.5	6.7	5.6	6.1	5.5	3.1	3.4	4.3	1.9	2.9	4.0
9	3.7	3.0	1.2	1.2	2.4	2.3	2.8	2.6	2.9	4.3	5.0	7.3	6.9	6.4	5.5	5.7	5.5	6.6	6.9	9.2	6.2	9.5	6.0	5.6	4.9
10	9.3	6.5	5.5	5.8	5.6	4.4	2.0	4.9	2.6	2.5	5.7	6.8	10.6	9.8	10.1	10.5	10.8	9.0	8.8	10.5	10.4	7.5	8.6	7.2	7.3
11	5.3	3.8	4.2	5.1	5.1	6.7	6.2	4.6	2.7	2.8	3.3	3.6	3.5	4.5	4.8	6.5	7.6	8.4	8.6	7.7	2.3	0.4	2.6	4.5	4.8
12	4.9	3.7	2.3	3.8	4.8	2.5	2.6	1.9	2.0	2.5	3.6	3.6	5.2	5.3	4.8	3.8	4.2	4.7	4.3	1.0	0.6	2.3	2.2	2.4	3.3
13	2.7	2.0	5.0	5.9	3.2	2.6	2.8	1.8	2.7	2.2	3.5	3.3	3.3	2.8	3.0	3.2	3.3	2.0	2.2	1.1	0.8	0.9	0.7	2.3	2.6
14	1.6	2.5	2.7	2.5	2.3	2.1	1.5	2.0	2.9	2.7	3.2	2.4	2.7	2.7	4.6	4.6	4.7	5.3	1.1	2.3	2.3	1.4	2.1	4.9	2.8
15	2.2	0.5	1.2	0.4	1.6	2.0	2.5	5.6	4.5	3.0	3.5	5.3	6.6	6.2	6.4	6.4	7.2	3.4	5.5	6.8	6.4	7.7	7.7	8.0	4.6
16	6.6	6.2	7.2	6.8	7.4	5.0	4.7	5.6	7.5	6.9	7.0	9.1	8.5	7.2	4.1	3.4	3.8	2.9	10.9	9.8	10.5	9.7	6.1	4.8	6.7
17	5.0	5.9	6.0	3.7	4.3	3.5	1.5	1.9	2.5	3.8	4.2	4.5	6.5	5.7	2.8	4.2	3.4	2.6	1.9	2.1	2.2	3.7	4.4	4.1	3.8
18	4.6	6.0	5.5	5.7	4.2	4.6	4.3	4.4	6.1	7.7	7.6	5.2	4.4	4.6	3.9	5.4	4.1	3.9	4.7	4.3	2.5	3.3	1.6	2.7	4.6
19	3.3	2.1	2.2	1.9	2.7	3.0	3.2	3.1	3.5	2.2	2.8	4.4	8.3	7.5	8.2	8.2	9.3	9.6	10.5	7.2	6.3	7.8	7.1	6.3	5.4
20	3.7	3.6	4.0	5.1	3.5	2.8	3.9	2.8	1.7	3.0	2.6	4.0	6.5	7.8	8.8	7.7	11.9	10.2	6.1	2.8	3.1	2.4	1.8	1.9	4.6
21	3.4	3.7	5.9	5.7	5.2	3.9	4.5	3.1	4.3	4.5	6.4	5.6	5.2	5.7	6.6	6.2	6.8	7.3	8.4	7.1	5.7	5.4	5.0	4.2	5.4
22	7.5	4.0	7.8	4.8	10.9	7.2	8.7	7.3	10.3	8.7	9.8	7.1	10.3	10.8	13.2	12.7	13.0	11.9	7.5	9.3	7.6	7.3	8.4	10.3	9.0
23	9.6	5.8	9.7	6.2	5.4	7.8	8.6	6.5	8.9	11.6	7.9	9.2	9.2	6.6	6.6	8.9	7.7	5.4	5.8	5.8	4.4	2.0	2.1	3.4	6.9
24	3.0	3.9	5.0	3.9	3.5	4.2	4.0	3.5	4.0	6.0	7.1	5.2	2.3	7.3	6.1	6.9	8.3	6.4	5.5	4.6	4.0	2.9	1.2	2.2	4.6
25	1.6	1.9	1.7	0.1	1.7	2.7	3.9	3.7	7.4	6.6	5.0	3.8	6.0	3.6	3.7	4.1	5.1	4.1	2.9	2.3	2.3	0.5	0.7	0.3	3.1
26	1.9	2.8	2.5	2.2	2.7	1.7	4.2	2.8	2.5	3.5	5.3	4.9	5.7	6.1	8.8	7.5	5.1	2.9	2.0	2.9	4.9	4.8	5.0	5.6	4.1
27	4.9	6.1	6.5	6.7	6.3	6.6	8.5	6.8	7.7	7.6	6.6	4.8	4.2	6.5	6.4	8.2	9.2	7.8	7.0	7.0	7.7	6.7	5.7	5.4	6.7
28	4.9	6.5	7.3	8.9	7.8	14.0	12.0	12.8	12.6	11.1	8.0	12.0	13.1	15.2	15.2	11.9	20.6	12.3	16.9	10.7	12.0	12.4	13.2	8.5	11.7
29	12.6	12.1	12.8	14.6	10.5	8.4	9.3	10.3	14.4	12.9	11.9	12.6	12.0	10.8	12.6	15.6	17.1	19.9	17.1	15.6	17.6	18.6	14.2	13.0	13.6
30	11.9	10.8	14.0	9.9	11.9	13.4	10.1	9.6	10.7	12.6	13.8	17.6	13.4	8.5	8.1	9.0	10.8	10.0	8.5	7.7	10.0	10.0	6.9	8.8	10.7

MONTHLY AVERAGE = 5.59

WIND DIRECTION FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN DEGREES

(MEASURED CLOCKWISE FROM NORTH)

HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVG.
1	41.	188.	160.	146.	164.	179.	218.	234.	167.	232.	259.	246.	279.	229.	224.	272.	262.	270.	264.	258.	205.	178.	164.	194.	210.
2	149.	129.	168.	114.	151.	166.	198.	168.	188.	256.	256.	269.	270.	270.	265.	270.	255.	257.	269.	276.	181.	194.	203.	124.	210.
3	146.	200.	36.	30.	132.	358.	33.	179.	183.	215.	294.	306.	328.	290.	294.	284.	290.	7.	321.	7.	33.	51.	34.	38.	170.
4	50.	25.	41.	17.	350.	27.	310.	39.	37.	45.	24.	1.	296.	300.	360.	17.	355.	340.	8.	11.	357.	69.	36.	28.	131.
5	35.	343.	336.	226.	181.	218.	21.	328.	31.	313.	9.	346.	300.	301.	294.	288.	295.	300.	294.	257.	263.	198.	143.	136.	227.
6	88.	142.	151.	158.	96.	106.	123.	130.	152.	195.	175.	152.	194.	203.	204.	227.	216.	218.	189.	139.	141.	160.	166.	147.	161.
7	159.	153.	251.	309.	312.	10.	262.	18.	338.	21.	17.	34.	17.	33.	10.	32.	358.	11.	336.	40.	22.	24.	32.	31.	118.
8	79.	57.	37.	29.	73.	322.	64.	134.	340.	265.	303.	274.	300.	346.	15.	333.	340.	321.	313.	39.	62.	65.	71.	10.	175.
9	23.	78.	61.	180.	177.	187.	212.	217.	220.	268.	289.	272.	275.	262.	287.	340.	358.	324.	6.	19.	31.	30.	19.	16.	173.
10	38.	34.	27.	37.	35.	31.	315.	34.	11.	15.	36.	36.	31.	31.	21.	15.	14.	19.	23.	36.	39.	33.	37.	44.	41.
11	28.	19.	22.	37.	34.	25.	21.	26.	12.	348.	14.	47.	342.	293.	276.	312.	2.	6.	34.	44.	81.	114.	121.	168.	101.
12	206.	243.	245.	174.	202.	213.	191.	218.	198.	210.	226.	251.	267.	263.	259.	270.	259.	266.	284.	28.	119.	237.	164.	189.	216.
13	218.	173.	187.	220.	190.	176.	174.	215.	283.	269.	248.	250.	235.	235.	220.	231.	244.	173.	195.	130.	195.	298.	340.	299.	225.
14	336.	357.	20.	6.	13.	11.	5.	44.	35.	43.	47.	58.	32.	345.	284.	284.	334.	29.	5.	27.	28.	33.	57.	37.	103.
15	30.	21.	275.	274.	176.	182.	194.	199.	179.	150.	201.	210.	172.	187.	166.	172.	190.	188.	150.	152.	150.	164.	162.	170.	171.
16	162.	184.	185.	158.	157.	150.	136.	152.	169.	168.	162.	179.	176.	144.	115.	143.	117.	96.	30.	18.	22.	25.	32.	18.	121.
17	34.	44.	42.	45.	23.	11.	10.	277.	21.	30.	19.	334.	302.	272.	331.	317.	88.	126.	100.	80.	145.	126.	122.	140.	127.
18	167.	186.	188.	189.	178.	176.	156.	181.	196.	186.	193.	214.	202.	33.	46.	30.	42.	31.	57.	71.	139.	164.	134.	96.	136.
19	44.	26.	142.	137.	49.	43.	42.	276.	342.	29.	26.	89.	120.	119.	133.	125.	124.	143.	145.	128.	163.	160.	178.	205.	124.
20	240.	143.	146.	160.	167.	148.	138.	161.	173.	200.	209.	229.	269.	270.	247.	257.	252.	248.	241.	99.	81.	46.	56.	181.	182.
21	150.	191.	190.	188.	176.	186.	175.	201.	187.	233.	245.	229.	234.	243.	268.	260.	263.	246.	233.	153.	172.	156.	155.	194.	205.
22	187.	132.	170.	179.	209.	143.	142.	157.	156.	153.	141.	146.	135.	132.	159.	184.	186.	184.	151.	160.	167.	158.	175.	187.	162.
23	194.	134.	177.	177.	143.	151.	155.	152.	175.	192.	186.	188.	187.	145.	144.	153.	143.	136.	133.	148.	146.	145.	142.	140.	158.
24	132.	145.	145.	157.	132.	154.	148.	154.	152.	177.	207.	216.	178.	224.	141.	194.	216.	139.	126.	129.	115.	103.	80.	32.	150.
25	12.	354.	324.	355.	11.	11.	22.	6.	20.	32.	346.	348.	319.	352.	306.	324.	339.	303.	160.	135.	104.	50.	135.	40.	184.
26	95.	123.	96.	61.	7.	354.	163.	142.	161.	249.	253.	265.	281.	260.	264.	256.	277.	263.	114.	105.	132.	140.	151.	196.	184.
27	164.	144.	146.	148.	152.	158.	154.	148.	158.	154.	147.	139.	139.	144.	142.	158.	172.	155.	144.	153.	156.	164.	154.	177.	153.
28	147.	154.	144.	132.	139.	132.	139.	136.	137.	175.	184.	192.	153.	154.	168.	185.	238.	176.	161.	151.	166.	175.	195.	144.	162.
29	168.	163.	164.	165.	151.	147.	146.	158.	166.	160.	150.	149.	138.	132.	126.	125.	128.	127.	129.	171.	222.	205.	180.	178.	156.
30	230.	183.	172.	150.	167.	182.	170.	181.	174.	176.	187.	188.	200.	156.	161.	180.	186.	159.	155.	150.	171.	163.	161.	162.	174.

MONTHLY AVERAGE = 160.30

SIGMA THETA FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN DEGREES

DAY											HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)														AVG.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	24.7	8.1	9.0	8.6	7.2	7.9	8.3	18.5	35.7	21.4	23.2	19.8	25.3	23.6	25.4	25.6	19.7	12.5	9.0	9.1	22.6	9.5	19.2	7.2	16.7
2	13.2	8.2	15.6	12.8	11.3	10.9	15.3	10.7	23.7	26.3	30.5	25.6	22.8	20.7	23.1	18.6	22.2	12.6	7.2	15.3	7.3	11.6	11.6	20.2	16.6
3	47.1	49.3	37.2	26.2	49.7	28.0	27.0	58.0	23.8	44.2	33.2	20.4	25.5	15.3	14.9	14.2	15.5	18.5	11.9	12.9	13.4	6.8	7.5	14.7	25.6
4	13.1	13.8	18.0	45.3	27.5	28.4	22.3	12.4	17.6	19.2	26.0	30.9	13.3	11.3	17.4	10.5	18.1	16.8	13.9	12.6	44.6	35.2	38.1	21.2	22.0
5	18.7	19.0	46.8	50.6	50.3	37.4	45.5	56.8	44.8	26.9	10.9	23.7	34.2	10.7	11.7	13.0	10.1	15.7	15.1	15.3	6.7	25.1	42.1	27.1	27.4
6	11.2	14.8	6.7	18.5	7.6	10.2	8.1	11.2	18.0	11.1	16.0	20.7	13.1	12.8	15.0	14.4	9.9	8.4	13.2	8.5	10.7	13.9	17.7	8.8	12.5
7	17.2	17.2	16.0	9.6	7.0	25.4	24.2	10.1	34.0	13.6	47.2	44.0	23.0	12.2	38.5	21.8	23.5	11.0	19.2	15.4	8.5	15.7	19.7	7.8	20.1
8	21.8	42.3	11.6	9.7	13.6	34.5	20.7	30.4	52.8	32.5	37.8	43.3	26.4	23.1	23.8	20.5	23.7	8.5	3.1	15.1	8.1	5.0	26.6	19.4	23.1
9	10.1	14.4	27.4	19.3	14.0	12.9	11.7	12.7	16.9	25.8	20.5	13.1	18.2	18.1	20.7	23.4	22.0	11.1	14.1	13.1	14.5	15.6	19.6	14.8	16.8
10	7.9	8.3	8.5	8.7	7.3	7.6	16.4	11.3	21.2	28.9	13.6	12.0	8.6	9.2	10.5	11.0	11.0	10.7	8.9	9.5	8.6	8.1	9.3	14.3	11.3
11	12.4	24.5	12.1	11.4	8.8	8.3	9.7	15.7	21.5	30.1	25.7	20.7	34.8	25.1	35.7	22.0	12.6	12.6	7.4	8.9	16.8	37.9	25.1	17.2	19.0
12	15.4	13.8	19.6	7.6	4.5	13.8	13.4	14.6	24.5	21.6	20.4	36.3	20.1	19.2	24.7	25.0	23.3	7.1	8.8	15.9	6.3	13.2	25.6	13.1	17.0
13	22.1	20.1	6.9	7.8	8.9	15.0	9.7	20.4	13.4	25.8	18.2	19.9	16.6	21.1	33.2	17.9	17.9	23.0	18.7	16.6	12.2	24.0	25.7	15.7	17.9
14	16.5	20.5	12.4	12.9	18.5	17.2	25.5	20.7	15.3	14.9	18.7	25.0	24.9	39.8	28.8	14.0	21.5	8.7	15.5	9.5	13.1	6.4	9.4	10.9	17.5
15	12.0	7.7	24.8	19.5	17.2	8.4	8.1	7.5	20.6	23.9	24.9	13.3	18.9	14.5	10.5	13.8	9.6	29.3	12.2	7.1	7.5	7.0	8.6	9.3	14.0
16	13.1	9.6	13.5	8.2	8.0	8.0	9.5	13.6	12.6	14.8	12.6	13.8	11.4	13.3	12.8	25.3	11.4	23.4	8.6	11.4	13.5	13.2	17.6	29.5	13.7
17	24.4	23.9	17.5	32.8	23.3	39.9	64.4	50.4	51.5	26.0	16.3	24.2	14.0	20.9	20.4	20.6	18.0	8.6	16.5	7.6	20.2	14.0	9.5	9.3	23.9
18	9.8	7.4	8.7	8.5	13.0	13.6	23.7	17.7	8.2	12.7	19.3	35.6	49.4	16.4	16.0	9.5	14.4	7.2	6.0	5.6	21.2	16.8	33.9	13.4	16.2
19	11.2	17.6	18.1	15.7	11.4	13.6	13.7	29.7	23.6	43.1	57.0	33.9	27.9	19.8	22.9	16.3	11.7	10.9	8.5	12.3	15.5	9.7	14.3	11.9	19.6
20	18.7	9.2	5.5	5.6	9.8	11.2	8.1	37.8	30.5	26.1	27.0	23.5	19.9	18.1	14.4	14.9	10.4	10.5	25.4	17.4	13.6	18.9	50.9	27.3	19.0
21	15.0	15.8	7.6	9.3	10.5	11.2	8.8	12.6	17.4	18.5	14.2	25.9	27.9	35.0	23.2	21.8	16.7	7.7	15.0	8.8	7.2	8.1	28.3	20.5	16.1
22	12.0	23.9	17.3	17.0	13.9	9.4	9.5	6.5	7.0	8.7	9.7	23.9	18.5	10.2	10.2	11.9	8.9	11.9	10.5	7.5	10.6	8.4	9.4	8.0	11.9
23	12.8	8.8	10.2	15.8	9.9	7.3	6.8	9.2	8.4	9.1	9.4	8.7	10.5	11.0	12.6	11.0	17.2	22.5	8.6	8.3	7.9	26.7	33.0	15.8	12.6
24	24.4	20.1	11.4	11.0	8.6	8.8	9.3	11.6	13.7	14.6	20.1	17.4	57.3	19.8	24.2	29.7	12.2	10.5	8.8	7.4	7.1	9.1	15.2	7.3	15.8
25	12.6	14.3	39.9	1.3	14.2	22.6	9.6	15.3	9.7	9.4	17.2	21.9	12.1	21.0	21.8	22.8	23.5	7.9	39.4	20.0	15.2	10.9	17.5	6.0	16.9
26	11.2	9.6	13.1	6.8	10.4	23.0	10.2	12.0	19.1	17.6	17.5	28.0	25.8	26.9	16.5	13.5	14.4	7.9	7.2	10.3	8.9	8.1	10.0	19.4	14.5
27	11.1	7.1	8.8	8.2	6.6	9.4	7.4	8.6	10.0	8.6	9.4	11.2	14.8	14.8	9.3	11.0	10.1	10.6	9.6	10.0	7.1	8.9	7.9	8.8	9.5
28	8.9	8.9	8.8	9.9	10.2	10.2	9.2	9.4	10.9	13.7	24.7	19.1	11.2	8.5	9.7	13.4	27.1	13.4	8.8	10.4	7.7	9.6	15.0	8.0	11.9
29	8.2	8.0	7.3	8.0	8.8	9.0	8.7	7.1	7.9	9.4	9.2	9.1	9.2	9.9	9.8	10.2	9.7	9.6	10.2	14.9	12.1	11.5	8.5	8.1	9.3
30	17.4	11.0	8.7	13.3	11.1	10.8	9.3	9.7	10.4	9.4	9.5	10.0	11.6	15.8	55.8	14.2	11.3	7.7	8.7	9.5	12.9	8.7	13.5	11.2	13.0

MONTHLY AVERAGE = 16.72

MAX. GUST FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN MILES PER HOUR

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MAX
1	4.1	6.6	8.9	8.3	7.2	6.0	7.3	5.3	5.8	6.7	8.9	10.2	12.1	11.0	11.8	12.5	10.6	9.3	10.9	12.8	8.6	6.1	5.7	5.5	12.8
2	5.2	6.7	7.4	4.0	3.7	2.8	4.9	5.3	5.3	9.6	9.3	14.5	15.0	13.6	14.1	13.8	12.8	11.2	11.2	9.3	5.3	5.9	4.3	4.7	15.0
3	7.0	7.3	5.1	4.7	7.1	6.4	7.3	5.6	4.3	6.5	7.6	7.2	8.3	9.5	9.5	10.4	9.7	7.1	6.1	6.1	4.7	5.7	7.4	6.5	10.4
4	6.4	7.3	6.3	10.7	13.9	12.1	6.3	7.9	13.1	9.4	8.9	11.5	12.0	11.8	8.8	12.5	9.9	6.2	4.3	6.7	6.4	5.1	4.2	4.7	13.9
5	8.6	6.6	12.2	6.9	11.9	10.0	15.9	11.7	12.9	12.1	14.0	13.4	13.0	15.6	12.8	11.2	11.2	8.2	5.1	8.4	10.7	14.2	15.4	9.6	15.9
6	4.7	5.1	8.1	2.8	5.1	6.9	6.4	6.4	7.1	9.0	8.5	7.0	9.7	10.8	11.4	11.7	14.0	16.4	10.3	7.0	7.2	7.6	6.9	4.1	16.4
7	5.4	4.0	2.7	5.2	4.3	3.5	3.0	6.6	3.5	10.6	7.1	4.8	9.3	11.1	10.1	7.7	8.2	9.6	7.0	8.0	12.2	11.4	11.5	10.5	12.2
8	5.7	3.3	7.8	8.1	6.0	6.5	2.2	4.3	3.2	8.4	8.1	10.5	10.7	14.0	11.1	12.5	9.0	9.0	7.3	4.7	4.6	5.3	5.0	5.5	14.0
9	6.4	4.9	2.8	2.9	4.4	4.3	4.0	4.0	5.8	7.3	8.9	10.5	11.1	11.1	9.7	9.8	9.0	9.3	16.5	15.9	14.2	14.3	12.1	15.1	16.5
10	15.9	9.6	9.2	9.4	8.7	6.1	4.4	8.7	5.7	5.7	10.2	13.1	14.6	13.6	15.4	16.2	17.0	14.4	13.9	16.3	14.6	15.2	14.6	13.6	17.0
11	9.9	6.9	8.0	9.0	7.5	9.2	8.9	8.8	6.2	5.4	6.8	6.6	6.7	7.5	8.6	13.3	12.8	13.6	12.5	11.6	9.5	2.5	6.4	6.8	13.6
12	7.7	7.5	4.9	5.0	6.5	5.0	3.9	4.3	4.5	5.5	5.8	6.7	8.4	8.9	9.9	6.9	7.2	6.3	5.9	2.3	2.5	4.8	5.0	5.6	9.9
13	4.6	3.4	7.6	7.8	4.6	5.0	3.9	3.9	4.6	4.3	5.6	5.3	6.2	5.1	5.2	5.6	6.4	4.2	4.3	2.4	2.7	2.5	2.1	3.9	7.8
14	4.2	4.3	4.5	4.8	4.9	4.4	3.0	4.2	5.0	4.8	5.3	4.9	5.6	5.5	7.6	6.9	8.9	8.8	2.7	4.3	4.1	2.7	4.5	7.4	8.9
15	4.7	2.5	2.6	1.5	2.8	3.1	4.3	7.7	8.4	5.5	6.7	9.8	9.5	10.2	8.8	12.2	11.4	8.2	8.7	9.5	10.1	10.7	11.8	13.8	13.8
16	11.1	9.0	11.3	11.0	11.1	8.4	7.4	11.1	15.2	11.4	13.4	15.7	12.3	11.1	8.2	7.1	5.5	10.5	16.4	15.3	16.4	17.2	12.0	12.3	17.2
17	13.9	14.3	12.1	12.4	11.0	9.0	5.3	6.4	6.7	7.6	9.8	9.9	11.0	12.1	5.3	6.7	7.1	4.2	3.7	3.1	7.8	7.5	7.6	6.0	14.3
18	8.5	8.8	8.4	8.6	7.5	7.1	6.7	7.3	9.1	10.7	11.7	9.8	9.6	7.8	9.2	9.5	8.3	6.9	5.9	6.0	5.2	6.6	4.1	4.2	11.7
19	5.4	3.4	3.7	4.3	4.8	5.2	5.5	5.5	6.3	4.7	6.3	13.0	15.4	13.7	14.6	13.9	13.2	16.3	15.9	14.8	12.0	11.7	11.3	9.4	16.3
20	6.1	5.2	5.2	7.1	5.1	4.4	5.6	6.4	4.4	5.9	6.0	10.3	10.8	12.6	14.1	12.2	22.1	18.4	16.2	4.5	5.8	4.2	4.0	5.3	22.1
21	5.3	6.5	8.9	10.0	7.6	6.9	7.1	4.6	7.4	7.6	10.7	9.6	9.2	10.4	12.0	11.4	11.2	10.5	12.1	12.2	8.1	8.3	8.6	7.9	12.2
22	10.7	8.0	16.0	8.4	26.8	12.2	13.6	11.6	17.2	16.5	14.6	12.4	16.5	15.7	20.4	19.9	22.4	21.8	13.6	14.3	13.4	10.1	12.5	15.0	26.8
23	22.3	8.8	16.7	13.4	9.2	12.5	13.2	10.7	13.7	19.6	12.7	13.2	16.2	9.9	11.9	14.6	14.3	10.5	9.2	8.4	7.1	5.3	5.1	5.8	22.3
24	5.9	7.6	9.3	6.1	5.4	5.9	5.9	5.6	7.1	11.9	11.0	8.8	7.2	16.7	15.4	17.7	15.4	11.8	8.8	7.4	5.6	4.7	2.9	3.2	17.7
25	2.7	2.8	3.2	1.1	5.0	6.7	6.9	7.9	13.4	11.1	10.0	10.9	11.1	8.8	8.0	7.5	8.0	6.7	4.5	5.0	4.0	2.9	3.5	2.0	13.4
26	3.9	4.6	4.5	3.3	4.7	4.8	6.2	4.8	4.7	6.1	8.4	9.1	10.5	11.6	13.3	14.0	9.2	6.3	4.6	5.3	6.5	7.2	7.2	8.4	14.0
27	7.0	9.6	10.6	10.1	9.3	10.3	12.0	10.2	11.4	12.4	11.8	6.8	7.2	9.6	8.9	13.2	13.7	14.4	10.9	12.2	10.9	10.7	8.9	7.4	14.4
28	7.4	10.3	10.4	14.8	16.9	22.0	20.9	18.5	19.1	16.1	28.5	23.1	19.1	23.4	22.5	22.8	37.9	18.2	24.7	19.7	18.1	18.4	24.4	12.7	37.9
29	18.1	19.0	17.6	22.8	18.8	14.8	13.4	15.6	23.6	22.6	18.5	18.0	18.0	16.8	19.1	21.9	25.0	29.3	24.0	35.1	29.7	37.2	20.5	18.4	37.2
30	27.2	19.8	20.1	22.8	19.9	20.2	20.4	15.6	16.7	19.5	21.9	26.3	25.3	17.7	18.0	16.7	20.3	16.0	13.4	12.7	17.8	14.9	11.5	17.3	27.2

MONTHLY MAXIMUM = 37.86

2 M TEMPERATURE FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN DEGREES C

DAY											(TIME SHOWN IS PACIFIC STANDARD TIME)														AVG
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	17.2	16.1	16.0	16.5	16.5	16.0	15.7	16.0	17.9	19.2	21.4	22.6	23.2	24.0	24.9	25.2	25.0	24.7	23.8	22.3	21.4	20.7	20.2	19.3	20.2
2	18.1	17.7	16.5	16.9	17.2	17.2	16.2	16.9	20.0	21.9	23.1	24.1	24.8	25.0	25.5	24.8	25.0	24.3	22.5	21.0	20.4	19.3	18.4	17.9	20.6
3	16.6	16.2	15.7	15.8	15.4	15.4	15.5	15.8	16.4	17.0	17.6	17.5	18.5	19.3	20.7	22.0	22.2	21.4	20.3	19.0	17.9	17.1	16.4	15.9	17.7
4	15.2	14.8	14.9	14.6	14.8	14.8	15.0	15.2	16.6	18.2	18.9	19.2	19.4	18.4	18.4	18.6	19.0	18.7	18.1	17.2	16.9	16.0	16.0	15.6	16.9
5	15.3	15.3	15.2	15.2	14.6	14.7	14.9	16.5	17.5	18.4	19.3	20.1	20.0	19.8	18.9	17.8	16.9	16.5	16.4	16.0	15.9	15.5	15.0	14.7	16.7
6	14.6	14.6	14.6	14.7	14.6	14.7	14.7	15.3	15.8	16.0	16.1	16.8	17.2	18.4	19.0	19.4	18.9	18.0	17.1	16.6	16.7	16.8	16.4	16.4	16.4
7	16.5	16.5	16.4	16.2	15.8	15.4	15.4	15.6	16.4	16.6	17.3	17.6	18.8	19.8	20.7	21.4	21.4	20.7	19.1	17.7	17.5	17.0	16.1	15.8	17.6
8	15.4	15.2	14.3	14.4	14.1	13.8	14.4	14.6	16.8	18.6	20.0	21.7	22.8	24.1	24.1	24.3	24.0	23.0	21.5	20.2	19.7	18.7	17.8	16.9	18.8
9	16.3	15.9	15.9	15.5	15.0	14.6	13.8	14.3	16.0	18.0	19.5	20.4	21.8	23.1	23.8	24.2	24.1	23.0	21.4	20.3	18.6	18.0	17.1	16.8	18.6
10	15.5	15.0	14.6	14.5	14.2	14.0	13.9	14.2	14.6	15.9	18.7	20.7	22.2	23.6	24.3	24.9	25.1	24.3	22.2	21.1	20.0	18.9	18.2	17.7	18.7
11	17.1	16.8	16.1	15.4	15.0	14.7	15.2	16.9	20.8	23.6	26.2	27.8	29.9	31.1	32.0	32.5	32.3	30.8	28.3	26.6	25.2	24.1	22.9	22.2	23.5
12	20.3	19.2	17.9	16.6	15.7	15.5	15.3	15.3	15.5	16.0	17.3	21.1	22.6	23.6	24.2	24.8	24.8	24.0	22.6	21.7	20.4	19.5	18.4	17.6	19.6
13	16.6	16.0	15.7	15.0	14.8	14.8	14.8	15.0	15.4	15.8	16.1	16.3	16.5	16.8	17.0	17.2	17.0	16.8	16.6	16.4	16.4	16.6	16.2	16.0	16.1
14	16.0	16.0	15.9	15.9	15.8	15.7	15.7	15.8	16.1	16.5	16.9	17.5	18.0	18.3	18.4	18.2	18.4	17.9	17.5	16.9	16.5	16.2	15.8	15.4	16.7
15	15.2	15.4	15.1	15.1	15.0	14.9	14.9	15.0	15.1	15.5	16.1	16.5	16.9	17.3	17.2	17.3	16.7	16.1	15.8	15.6	15.6	15.6	15.6	15.6	15.8
16	15.4	15.4	15.4	14.9	14.9	14.8	15.0	15.6	15.1	15.2	15.4	15.6	16.4	17.0	16.5	16.1	15.8	15.7	14.4	14.3	14.1	13.8	13.6	13.7	15.2
17	13.6	13.5	13.6	13.5	13.1	13.1	13.1	13.4	13.8	14.1	14.3	14.8	14.7	14.2	15.0	15.1	14.4	13.8	13.2	13.0	12.9	12.2	12.2	12.4	13.6
18	12.5	12.6	12.5	12.5	12.4	12.1	12.2	12.5	12.9	13.9	16.0	16.7	17.9	16.9	17.0	17.0	17.2	16.6	15.1	14.8	13.7	12.4	12.6	11.6	14.2
19	10.7	11.0	11.1	10.9	10.6	9.6	10.7	13.1	13.9	17.1	19.9	22.3	24.4	25.4	25.7	25.5	24.6	23.4	22.0	20.9	20.0	19.4	18.9	17.9	17.9
20	17.0	15.4	15.3	14.9	14.9	14.4	14.5	15.3	16.8	17.5	19.3	20.6	21.1	21.4	21.6	20.7	18.7	16.7	14.7	13.9	13.9	14.2	14.0	13.9	16.7
21	13.9	13.8	13.7	13.6	13.4	13.4	13.2	13.6	14.3	15.1	15.9	17.2	18.1	19.0	19.2	19.4	18.9	17.5	16.0	14.0	13.6	13.5	13.4	13.6	15.3
22	13.1	12.6	12.5	12.3	11.6	11.2	11.9	12.2	13.0	13.7	13.5	12.1	11.6	12.5	13.9	14.7	13.9	13.2	11.8	11.6	11.8	11.8	12.2	12.3	12.5
23	11.5	10.8	11.1	10.4	10.4	10.9	11.2	11.6	12.8	12.9	13.0	13.5	12.8	12.4	12.7	12.7	12.0	11.7	11.4	11.1	10.8	10.6	10.5	10.3	11.6
24	10.1	9.6	9.7	9.7	10.0	9.8	9.7	9.9	11.4	12.7	13.1	13.3	14.1	14.1	13.4	13.3	11.5	9.6	9.5	9.5	9.4	9.3	9.3	8.9	10.9
25	8.9	8.9	8.7	8.4	8.5	8.7	8.9	9.4	9.7	10.0	9.9	9.9	10.4	10.3	11.4	12.8	13.2	12.3	10.9	10.1	9.9	9.8	9.8	9.2	10.0
26	8.6	8.7	8.4	8.7	8.4	7.7	7.4	8.2	9.5	10.5	12.4	13.4	14.2	14.7	14.9	14.7	14.6	13.7	12.2	11.1	11.1	10.8	10.7	9.6	11.0
27	9.3	9.9	10.3	10.5	10.8	11.0	10.6	10.1	10.2	10.9	11.7	12.3	12.4	11.3	11.1	11.5	11.8	11.8	11.9	12.0	12.1	12.4	12.4	12.3	11.3
28	12.5	12.2	11.7	11.5	11.4	11.9	12.6	12.4	13.0	14.0	14.1	14.3	14.6	15.4	15.3	15.4	12.9	11.1	10.8	10.5	10.7	10.2	10.5	10.0	12.5
29	10.1	10.0	10.1	10.3	10.0	10.3	10.6	11.0	11.4	10.4	10.3	10.3	10.3	10.2	10.5	10.8	11.3	11.9	12.5	11.9	11.6	10.3	10.0	9.6	10.7
30	8.9	8.1	8.4	8.6	9.1	9.2	8.9	9.2	9.7	11.1	11.3	11.9	10.1	10.1	10.2	9.5	9.5	9.3	9.4	8.8	8.8	8.2	8.2	8.0	9.4

MONTHLY AVERAGE = 15.55

PRECIPITATION FOR CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN INCHES

DAY	HOUR ENDING (TIME SHOWN IS PACIFIC STANDARD TIME)																								TOT
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
3	0.01	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.19	0.57	0.42	1.31
6	0.27	0.11	0.02	0.13	0.11	0.05	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.23	0.03	0.01	0.00	0.00	0.00	0.00	0.36
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.01	0.00	0.00	0.00	0.14
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
22	0.02	0.00	0.00	0.03	0.13	0.01	0.00	0.01	0.00	0.00	0.00	0.15	0.20	0.05	0.00	0.00	0.05	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.68
23	0.03	0.00	0.07	0.13	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.01	0.00	0.00	0.08	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.42
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.00	0.00	0.01	0.00	0.01	0.09
25	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
28	0.00	0.01	0.02	0.01	0.04	0.07	0.07	0.22	0.11	0.14	0.25	0.43	0.02	0.01	0.08	0.09	0.31	0.10	0.09	0.03	0.01	0.07	0.08	0.00	2.26
29	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.05	0.08	0.05	0.06	0.04	0.02	0.01	0.00	0.07	0.12	0.15	0.04	0.00	0.00	0.76
30	0.19	0.07	0.02	0.00	0.04	0.10	0.19	0.01	0.00	0.00	0.02	0.00	0.22	0.01	0.17	0.13	0.02	0.00	0.00	0.00	0.01	0.00	0.01	0.03	1.24

MONTHLY TOTAL = 8.39

WIND SPEED/DIRECTION CEDAR HILLS LANDFILL
METEOROLOGICAL MONITORING SYSTEM FOR
THE MONTH OF SEPTEMBER , 2013

IN MPH/DIR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	(TIME SHOWN IS PACIFIC STANDARD TIME)												21	22	23	24
1	3NE	5S	6S	6SE	5S	4S	5SW	3SW	3S	4SW	5W	6SW	6W	6SW	6SW	6W	6W	6W	6W	8W	3SW	4S	3S	4S				
2	3SE	5SE	5S	3SE	2SE	1S	2S	4S	3S	4W	4W	7W	9W	8W	7W	8W	7W	7W	8W	5W	3S	3S	1SW	2SE				
3	4SE	3S	2NE	2NE	3SE	2N	3NE	3S	2S	3SW	2NW	4NW	4NW	6W	6NW	7W	6W	4N	4NW	3N	2NE	4NE	5NE	4NE				
4	4NE	4NE	4NE	5N	5N	6NE	3NW	4NE	6NE	5NE	5NE	5N	9NW	8NW	5N	8N	5N	3N	2N	4N	3N	2E	2NE	2NE				
5	4NE	4N	5NW	2SW	4S	5SW	5N	4NW	4NE	7NW	9N	8N	6NW	11NW	9NW	8W	7NW	5NW	2NW	5W	7W	6S	7SE	3SE				
6	1E	2SE	5SE	1S	3E	4E	4SE	4SE	4SE	5S	5S	4SE	6S	8SW	7SW	7SW	8SW	10SW	5S	4SE	5SE	4S	3S	3SE				
7	3S	2SE	1W	2NW	3NW	1N	1W	3N	1N	5N	2N	3NE	4N	8NE	4N	5NE	5N	6N	4NW	5NE	9N	6NE	7NE	7NE				
8	2E	1NE	5NE	5NE	4E	4NW	1NE	2SE	1N	4W	3NW	4W	6NW	8N	6N	7NW	6N	6NW	6NW	3NE	3NE	4NE	2E	3N				
9	4NE	3E	1NE	1S	2S	2S	3SW	3SW	3SW	4W	5W	7W	7W	6W	6W	6N	5N	7NW	7N	9N	6NE	9NE	6N	6N				
10	9NE	6NE	5NE	6NE	6NE	4NE	2NW	5NE	3N	3N	6NE	7NE	11NE	10NE	10N	11N	11N	9N	9NE	11NE	10NE	8NE	9NE	7NE				
11	5NE	4N	4N	5NE	5NE	7NE	6N	5NE	3N	3N	3N	4NE	3N	4NW	5W	7NW	8N	8N	9NE	8NE	2E	0SE	3SE	4S				
12	5SW	4SW	2SW	4S	5SW	2SW	3S	2SW	2S	3SW	4SW	4W	5W	5W	5W	4W	4W	5W	4W	1NE	1SE	2SW	2S	2S				
13	3SW	2S	5S	6SW	3S	3S	3S	2SW	3W	2W	4W	3W	3SW	3SW	3SW	3SW	3SW	2S	2S	1SE	1S	1NW	1N	2NW				
14	2NW	2N	3N	3N	2N	2N	1N	2NE	3NE	3NE	3NE	2NE	3NE	3N	5W	5W	5NW	5NE	1N	2NE	2NE	1NE	2NE	5NE				
15	2NE	1N	1W	0W	2S	2S	3S	6S	5S	3SE	3S	5SW	7S	6S	6S	6S	7S	3S	6SE	7SE	6SE	8S	8S	8S				
16	7S	6S	7S	7S	7SE	5SE	5SE	6SE	7S	7S	7S	9S	9S	7SE	4SE	3SE	4SE	3E	11NE	10N	10N	10NE	6NE	5N				
17	5NE	6NE	6NE	4NE	4NE	4N	1N	2W	2N	4NE	4N	5NW	6NW	6W	3NW	4NW	3E	3SE	2E	2E	2SE	4SE	4SE	4SE				
18	5S	6S	6S	6S	4S	5S	4SE	4S	6S	8S	8S	5SW	4S	5NE	4NE	5NE	4NE	4NE	5NE	4E	2SE	3S	2SE	3E				
19	3NE	2NE	2SE	2SE	3NE	3NE	3NE	3W	3N	2NE	3NE	4E	8SE	8SE	8SE	8SE	9SE	10SE	11SE	7SE	6S	8S	7S	6SW				
20	4SW	4SE	4SE	5S	3S	3SE	4SE	3S	2S	3S	3SW	4SW	6W	8W	9SW	8W	12W	10W	6SW	3E	3E	2NE	2NE	2S				
21	3SE	4S	6S	6S	5S	4S	5S	3S	4S	4SW	6SW	6SW	5SW	6SW	7W	6W	7W	7SW	8SW	7SE	6S	5SE	5SE	4S				
22	7S	4SE	8S	5S	11SW	7SE	9SE	7SE	10SE	9SE	10SE	7SE	10SE	11SE	13S	13S	13S	12S	8SE	9S	8S	7S	8S	10S				
23	10S	6SE	10S	6S	5SE	8SE	9SE	7SE	9S	12S	8S	9S	9S	7SE	7SE	9SE	8SE	5SE	6SE	6SE	4SE	2SE	2SE	3SE				
24	3SE	4SE	5SE	4SE	4SE	4SE	4SE	4SE	4SE	6S	7SW	5SW	2S	7SW	6SE	7S	8SW	6SE	6SE	5SE	4SE	3E	1E	2NE				
25	2N	2N	2NW	0N	2N	3N	4N	4N	7N	7NE	5N	4N	6NW	4N	4NW	4NW	5N	4NW	3S	2SE	2E	1NE	1SE	0NE				
26	2E	3SE	3E	2NE	3N	2N	4S	3SE	3S	4W	5W	5W	6W	6W	9W	8W	5W	3W	2SE	3E	5SE	5SE	5SE	6S				
27	5S	6SE	7SE	7SE	6SE	7S	9SE	7SE	8S	8SE	7SE	5SE	4SE	7SE	6SE	8S	9S	8SE	7SE	7SE	8SE	7S	6SE	5S				
28	5SE	7SE	7SE	9SE	8SE	14SE	12SE	13SE	13SE	11S	8S	12S	13SE	15SE	15S	12S	21SW	12S	17S	11SE	12S	12S	13S	8SE				
29	13S	12S	13S	15S	10SE	8SE	9SE	10S	14S	13S	12SE	13SE	12SE	11SE	13SE	16SE	17SE	20SE	17SE	16S	18SW	19SW	14S	13S				
30	12SW	11S	14S	10SE	12S	13S	10S	10S	11S	13S	14S	18S	13S	9SE	8S	9S	11S	10S	9SE	8SE	10S	10S	7S	9S				

APPENDIX D

Area 5 Top Deck Report

CEDAR HILLS REGIONAL LANDFILL AREA 5 TOP DECK MONITORING REPORT

Third Quarter 2013



Department of Natural Resources and Parks
Solid Waste Division

November 2013
Printed on recycled paper

Contents

I.	LEACHATE MONITORING.....	2
II.	SURFACE MONITORING.....	4
III.	STORMWATER MONITORING.....	6
IV.	CONCLUSION.....	11

Tables and Figures

Table 1	Site-wide Leachate Production	3
Table 2	Survey Data.....	5
Table 3	Area 5 Settlement.....	6
Table 4	Water Quality Criteria/Benchmarks	7
Table 5	Area 5 Top Deck Stormwater Quality Monitoring Results	10
Table 6	Leachate Pond Inflow Monitoring Results	10
Figure 1	Area 5 Settlement Monitoring Locations	Figures
Figure 2	Area 5 Top Deck Stormwater Monitoring Locations.....	Figures

Appendices

Inspection Reports	Appendix A
Gas Monitoring Reports.....	Appendix B
Analytical Test Results	Appendix C

AREA 5 TOP DECK MONITORING QUARTERLY REPORT

THIRD QUARTER 2013

This report provides the quarterly performance analysis of the interim soil cover system over Area 5 in the Cedar Hills Regional Landfill. The intent of the report is to provide the necessary information to determine whether the top deck cover system is functioning as designed. Monitoring of leachate, stormwater and the top deck surface is conducted and reported to identify any problems so that they may be corrected in a timely manner and the environment protected from potential harmful impacts.

I. LEACHATE MONITORING

Overview of the Top Deck Monitoring Program

King County Solid Waste Division (KCSWD) is continuing to experience technical issues with its leachate volume calculation system for Area 5. We are working to resolve these issues and plan to report the logged data in the earliest Top Deck Monitoring Report.

KCSWD staff will continue to evaluate leachate volumes collected throughout the landfill that are pumped to the wastewater treatment plant. We will also continue to compare the historical volumes generated through typical landfill construction and closure with the phased closure and interim top deck cover utilized in Area 5. These comparisons provide an initial effort to assess the interim cover performance. The evaluation accounts for variations in rainfall by normalizing the leachate flows in terms of gallons discharged per inch of rainfall. The flow is also normalized relative to pounds of waste in-place. These normalized flows for the entire site are presented in Table 1.

TABLE 1
SITEWIDE LEACHATE PRODUCTION

Year	Leachate	Surface Area of Refuse Areas	Refuse In Place	Precipitation	Flow	Flow	Flow	Flow
	(MG/yr)	(acres)	(lb)	(in/yr)	(gal/Acre/yr)	(gal/Acre/in)	(gal/lb/yr)	(gal/lb/in)
1986	163.03	138.5	11,328,841,100	54.79	1,177,112	21,484	0.0144	0.00026
1987	139.53	138.5	12,927,926,300	39.6	1,007,422	25,440	0.0108	0.00027
1988	169.67	161.9	14,525,504,000	48.63	1,048,009	21,551	0.0117	0.00024
1989	176	161.9	16,203,204,000	44.12	1,087,110	24,640	0.0109	0.00025
1990	294.75	161.9	17,965,254,000	71.6	1,820,594	25,427	0.0164	0.00023
1991	224.27	221.4	19,778,412,000	45.85	1,012,967	22,093	0.0113	0.00025
1992	156.46	221.4	21,454,600,000	38.64	706,694	18,289	0.0073	0.00019
1993	150.83	221.4	23,051,348,000	35.01	681,264	19,459	0.0065	0.00019
1994	159.8	221.4	24,657,528,000	38.55	721,764	18,723	0.0065	0.00017
1995	201.11	221.4	26,294,654,000	48.4	908,376	18,768	0.0076	0.00016
1996	243.03	221.4	27,946,704,000	57.08	1,097,714	19,231	0.0087	0.00015
1997	239.23	221.4	29,665,380,000	57.24	1,080,511	18,877	0.0081	0.00014
1998	202.8	221.4	31,432,828,000	42.82	916,006	21,392	0.0065	0.00015
1999	219.15	283.42	33,273,828,000	45.9	773,229	16,848	0.0066	0.00014
2000	148.82	283.42	35,167,828,000	33.15	525,102	15,840	0.0042	0.00013
2001	174.08	283.42	37,041,828,000	47.28	614,194	12,991	0.0047	0.0001
2002	133.4	283.42	38,919,828,000	35.13	470,690	13,399	0.0034	0.0001
2003	181.6	283.42	40,877,828,000	46.39	640,761	13,812	0.0044	0.0001
2004	185.72	328.72	42,889,828,000	34.08	564,983	16,578	0.0043	0.00013
2005	175.31	328.72	44,867,538,000	40.75	533,313	13,087	0.0039	0.0001
2006	264.95	328.72	46,820,938,000	52.94	806,009	15,225	0.0057	0.00011
2007	161.48	328.72	47,129,756,000	38.68	491,239	16,143	0.0034	0.000112
2008	126.02	328.72	48,990,990,000	42.32	383,366	9,059	0.0026	0.00006
2009	172.16	328.72	49,414,219,997	42.42	523,741	12,347	0.0035	0.00008
2010	199.4	335.72	51,076,043,997	49.25	593,959	12,060	0.0039	0.00008
2011	180.2	353.12*	52,701,411,694	51.05	510,308	9,996	0.0034	0.00007
2012	202.3	353.12*	54,315,239,773	58.16	572,972	9,852	0.0037	0.00006
2013	110.5	353.12*	55,535,917,009	36.48	312,925	8,578	0.0020	0.00005
2013: Precipitation, leachate and refuse in place through 9/30/13								

* The 353.12 acre value was a plan view area calculated by ACAD, using the area inquiry feature of a closed polyline.

II. SURFACE MONITORING

King County Solid Waste Division provided a plan for surface monitoring for the top deck of Area 5. This monitoring plan is composed of three parts: landfill gas inspections, leachate seep inspections and settlement monitoring. The purpose of this monitoring is to detect any conditions affecting the cover system that may permit landfill gas emissions, leachate seeps, or excessive or differential settlement.

Landfill Gas Inspections

Serpentine walks are conducted across the Area 5 top deck and its side slopes on a quarterly basis (see Appendix B: *Gas Monitoring Reports*). This report contains the third quarter's Serpentine Surface Monitoring Data that was conducted from September 18th to September 26th.

In addition to the serpentine walks, monthly inspections of the gas system, stormwater system, and cover system of Area 5 are performed by the Solid Waste Operations staff. All internal inspection reports showed satisfactory conditions this quarter. These inspection reports are included in Appendix A: *Inspection Reports*.

Also, throughout the third quarter the Engineering Services Section (ESS) staff performed monthly Landfill Facility Site Inspections. No issues were noted pertaining to Area 5. The ESS Inspections are included in Appendix A: *Inspection Reports*.

Five Health Department Inspections were performed during the third quarter, on July 9th, August 1st, August 13th, September 6th, and September 11th. No violations or issues were recognized in Area 5, the reports noted satisfactory clean-up of previously noted debris and litter. All Health Department Inspection Reports are provided in Appendix A: *Inspection Reports*.

Leachate Seep Inspections

Visual inspections for leachate seeps are conducted by KCSWD operations personnel in conjunction with the surface emissions monitoring. No indications of leachate seeps were recorded during the quarter by either SWD or Health Department personnel.

Settlement Monitoring

Settlement of Area 5 is evaluated both through visual inspections and through topographic surveys at control points on the top deck. A site map showing the settlement monitoring points is included as Figure 1. Visual inspections are completed by both operations and engineering staff. The most recent settlement levels were measured on Area 5 on May 22nd, 2013. The survey data is given in Table 2, and the settlement at each point is given in Table 3, which demonstrates that the refuse settlement (feet/month) continues to slowly decrease with time, as expected. No erosion has been observed.

Future plans for Area 5 are for continued filling to the approved 788 foot elevation. This filling will occur following the filling of Area 8, which was approved by King County Council on Dec. 6, 2010.

TABLE 2 AREA 5 SURFACE SURVEY DATA					
Station	Date	Elevation	Station	Date	Elevation
A5SM-1	10/4/2005	699.18	A5SM2 (cont.)	5/18/2012	763.99
	2/1/2006	697.7		7/12/2012	763.83
	6/27/2006	696.51		11/6/2012	763.35
	2/14/2007	694.53		5/22/2013	762.77
	7/24/2007	693.34	A5SM3 NEW 2/14/2007	2/14/2007	786.4
	2/29/2008	691.77		4/20/2007	786.25
	7/29/2008	691.26		7/24/2007	785.68
	11/24/2008	690.61		2/29/2008	784.87
	4/6/2009	690.16		7/29/2008	784.31
	7/9/2009	689.77		11/24/2008	783.76
	12/22/2009	689.13		4/6/2009	783.35
	3/1/2010	688.77		7/9/2009	783.05
	8/2/2010	688.6		12/22/2009	782.44
	12/21/2010	688.1		3/1/2010	782.08
	4/6/2011	687.83		8/2/2010	781.78
	8/8/2011	687.46		12/21/2010	781.25
	1/23/2012	687.19		4/6/2011	780.94
	5/18/2012	686.78		8/8/2011	780.66
	7/12/2012	686.69		1/23/2012	780.26
	11/2/2012	686.55		5/18/2012	779.9
	5/22/2013	686.09		7/12/2012	779.69
A5SM-2	10/4/2005	785.17		11/2/2012	779.56
	2/1/2006	782.52		5/22/2013	779.09
	6/27/2006	780.48	PMX20074 NEW 8/16/2007 (Destroyed during Phase 3 of Area 6)	8/16/2007	781.56
	4/20/2007	776.95		2/29/2008	780.1
	7/24/2007	775.63		7/29/2008	779.13
	2/29/2008	773.44		11/24/2008	778.21
	7/29/2008	772.2		4/6/2009	777.41
	11/24/2008	771.29		7/9/2009	776.99
	4/6/2009	770.35		12/22/2009	776.1
	7/9/2009	769.79		3/1/2010	775.81
	12/22/2009	768.6		8/2/2010	775.29
	3/1/2010	768.05		12/21/2010	774.79
	8/2/2010	767.28		4/6/2011	774.42
	12/21/2010	766.53		8/8/2011	774.19
	4/6/2011	765.86		1/23/2012	773.79
	8/8/2011	765.34		5/18/2012	773.41
	1/23/2012	764.53		7/12/2012	773.26

TABLE 3							
AREA 5 SETTLEMENT (FEET)							
Settlement Point	DATE						
	6/06 - 7/07	7/07 - 7/08	7/08 - 7/09	7/09 - 8/10	8/10 - 8/11	8/11 - 7/12	7/12-5/13
A5SM-1	3.17	2.08	1.49	1.17	1.14	0.77	0.60
A5SM-2	4.85	3.43	2.41	2.51	1.94	1.51	1.06
A5SM-3	N/A	1.37	1.26	1.27	1.12	0.97	0.60
PMX2007-4	N/A	2.43	2.14	1.7	1.1	0.93	N/A
Average Settlement	4.01	2.33	1.83	1.66	1.33	1.05	0.75
Average Settlement (Feet/Month)	0.31	0.19	0.15	0.13	0.11	0.1	0.19

III. STORMWATER MONITORING

Collection of Stormwater Samples

Samples from Area 5 top deck stormwater were collected at monitoring stations SW-A5TD1, SW-A5TD2, SW-A5TD4, SW-A5TD6 with comparison samples collected at stormwater sample location SW-S1, and leachate sample location LAPI during the quarter. All samples were collected and analyzed in accordance with the Area 5 Top Deck Stormwater Runoff Monitoring Plan. During the third quarter, all SW-S1 samples and samples at two top deck stations (SW-A5TD2 and SW-A5TD4) could not be collected due to dry conditions. Figure 2 shows the locations of the Area 5 sampling stations.

Stormwater Sample Evaluation

Stormwater runoff monitoring locations, field measurements, and laboratory analyses evaluated in this report are intended to assess whether the stormwater runoff from the top deck has been contaminated by the underlying waste. Stormwater was collected either during or following significant storm events from four locations on or near the top deck of Area 5. These data will be compared to stormwater sample data collected from a location known to be unaffected by the landfill waste--sampling point SW-S1--and will also be compared to the leachate sample data collected from the inflow into the aeration ponds, LAPI. Elevated concentrations of selected parameters in the top deck stormwater samples will serve as indicators that the underlying waste may be impacting the runoff.

The analytes for the top deck stormwater runoff samples were selected based on parameters that would typically have elevated concentrations in leachate in comparison to stormwater (i.e., iron, sulfate, chemical oxygen demand, total organic carbon, alkalinity, and chloride); and are less likely to be impacted by surface factors, such as wildlife contact or contact with constituents of fertilizers used during hydroseeding. The stormwater quality results are also

screened against existing surface water quality criteria (WAC 173-201A) and Benchmarks for the Washington State Industrial Stormwater General Permit. Applicable criteria/benchmarks are listed in Table 4.

TABLE 4		
Water Quality Criteria/Benchmarks For Applicable Parameters		
Parameter	Numerical Criterion	Source
pH	6.5 to 8.5	WAC 173-201A-200
	5 to 9	Industrial Stormwater General Permit
Turbidity	Less than 10 NTU above background if background turbidity is 50 NTU or less, or a 10% increase in turbidity when the background is > 50 NTU.	WAC 173-201A-200
	25 NTU	Industrial Stormwater General Permit
Parameter	Numerical Criterion	Source
Temperature	20°C	WAC 173-201A-200
Iron	1.0 mg/L	EPA 440/5-86-001 Quality Criteria for Water 1986

RESULTS

Field measurements and analytical results from the stormwater sampling and analyses performed as part of this monitoring plan are summarized in Table 5. Leachate results for similar parameters are given in Table 6. All test results are provided in Appendix C: Analytical Test Results.

The following is a parameter by parameter discussion of the top deck monitoring results. For each parameter, its importance in evaluating surface water, comparison to other onsite surface water, and comparison to representative leachate is discussed.

Not all planned samples could be collected during the 3rd Quarter due to dry conditions. Stormwater samples could not be collected at SW-S1 at any time during the quarter and only two top deck samples could be collected at SW-TD1 and SW-TD6, therefore the top deck analytical sample results will only be compared to leachate analytical sample results.

pH - pH levels in surface water can be affected by many factors, especially photosynthetic activity and the respiration of waterborne flora. This process can potentially decrease the night-time pH level to 4.5 and during peak daytime activity can drive the pH levels above 10.

The top deck pH ranged from 7.34 to 7.91 standard pH units, which is within the benchmark range of 6.5 to 8.5. The pH of the three leachate aeration pond inflow (LAPI) samples averaged 7.8 standard pH units.

Specific Conductance - Specific Conductance is the ability of water to conduct electrical current. This property is related to dissolved ion concentration, charge, ion mobility, and water temperature. Specific conductance measurements can provide indications of water contamination by a non-specific measure of increased ionic solute load.

Top deck specific conductance ranged from 56 to 135 $\mu\text{mhos/cm}$. The leachate pond inflow averaged 13,200 $\mu\text{mhos/cm}$. There are no benchmarks or criteria for specific conductance.

Temperature - Water temperature criteria are established for the protection of aquatic life, and vary between bodies of water based on use categories designated. The criterion of 20°C is measured by the 7-day average of the daily maximum temperatures.

Top deck sample temperatures ranged from 13.1 to 13.7 °C, both readings being below the WAC-173 criterion. The leachate temperature is not comparable due to the fact that the sample is a composite, and therefore kept on ice until it is collected.

Turbidity - Turbidity is one of the indicators used to assess the environmental health of water bodies. Turbidity is caused by the presence of suspended and dissolved matter, such as clay, silt, finely divided organic matter, plankton and other microscopic organisms. Turbidity criteria are established for the protection of aquatic life, and vary between bodies of water based on use categories designated.

The top deck turbidity ranged from 4.29 to 4.42 NTU during the third quarter. The turbidity at Leachate turbidity is not measured.

The Industrial Stormwater General Permit benchmark of 25 NTU was not exceeded by any of the top deck samples during the third quarter.

The water quality criteria established by WAC 173 states that turbidity must be less than 10 NTU above background, if the background turbidity is less than 50 NTU. The background samples were taken at station SW-W1 in the third quarter (SW-W2, the other background site was dry during this quarter). The average at this station was 1.8 NTU. Therefore, neither of the top deck samples exceeded the WAC 173 water quality criteria during the third quarter.

Chemical Oxygen Demand - Chemical Oxygen Demand (COD) is used to indirectly measure the amount of organic compounds in water.

Top deck COD ranged from 60.7 mg/L to 70.5 mg/L. The average COD level for the leachate aeration pond inflow was 9,916.7 mg/L. There are no benchmarks or criteria for COD.

Total Organic Carbon - Total organic carbon (TOC) is the amount of carbon bound in an organic compound and is often used as a non-specific indicator of water quality. While COD is the measurement of all substances in the water that can be oxidized, TOC is the measurement of organically bound carbon.

Top deck TOC ranged from 15.2 to 19.5 mg/L. The TOC levels for the leachate aeration pond inflow averaged 2,700 mg/L. There are no benchmarks or criteria for TOC.

Alkalinity - Alkalinity is the measure of the capacity of water to neutralize acids, or its buffer capacity. The alkalinity of natural waters is controlled primarily by the equilibria of the carbonate system. It is produced by dissolved CO₂ acting upon alkaline materials in the soil to produce bicarbonate (HCO₃⁻) and carbonate (CO₃²⁻). Source CO₂ can be atmospheric, from respiration of water borne organisms or decay of organic matter, including a potential contribution from landfill gas (LFG).

Top deck alkalinity ranged from 16.6 to 23.7 mg/L as CaCO₃. The average alkalinity level for the leachate aeration pond inflow was 8,780 mg/L as CaCO₃ for the quarter. There are no benchmarks or criteria for alkalinity.

Chloride - Chloride is a conservative anion; that is, processes of adsorption, ion exchange, or biological uptake do generally not retard transport of chloride. Chloride is the best indicator for determining impacts from leachate. Chloride is one of the major anions to be found in water and sewage. Potable water should not exceed 250 mg/L of chloride.

Top deck chloride ranged from 1.05 mg/L to 4.73 mg/L. The average chloride level for LAPI was 1966.7 mg/L.

Sulfate - Sulfate (SO₄²⁻) can be found in almost all natural water and is one of the major dissolved components of rain. It is formed by the oxidation of sulfite ores and is a component in industrial and domestic waste waters. There are few elements that will form insoluble salts with sulfate, thus; once in solution, it remains so unless it is anaerobically reduced to sulfide.

Sulfate in top deck samples ranged in concentrations of 5.18 to 28.4 mg/L. Sulfate concentrations at LAPI averaged 76.4 mg/L. There are no benchmarks or criteria for sulfate.

Iron - Iron is the fourth most abundant element in the earth's crust and the most abundant heavy metal. It is present in the environment mainly as Fe(II) or Fe(III). Iron is more soluble in the reduced state than it is in the oxidized state, where it often occurs as an iron oxide mineral (Fe₂O₃). At a pH above 7, iron exists mostly as insoluble salts which settle out or are adsorbed onto surfaces. The concentration of iron in well-aerated waters is seldom high. Under reducing conditions, which are most commonly caused by oxidation reactions involving organic matter, water will have higher concentrations of dissolved iron.

Top deck samples were analyzed for dissolved and total iron. Results for dissolved iron ranged from 0.102 to 0.156 mg/L. Total iron ranged from 0.232 to 0.255 mg/L.

The total iron concentration at the leachate aeration pond inflow averaged 28.3 mg/L.

The EPA surface water criterion for total iron is 1.0 mg/L, therefore none of the top deck samples exceeded the criteria limits during the third quarter.

TABLE 5													
Area 5 Top Deck Stormwater Monitoring Results													
Location	Date	Sample ID	pH	Specific Conductance	Temp	Turbidity	Chemical Oxygen Demand	Total Organic Carbon	Alkalinity	Chloride	Sulfate	Dissolved Iron	Total Iron
			Units	µmhos/cm	C	NTU	mg/L	mg/L	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L
SW-A5TD1	9/19/2013	STD1130828-	DRY - NO SAMPLE										
SW-A5TD1	9/23/2013	STD1130923-	7.34	56	13.1	4.29	70.5	19.5	16.6	1.05	5.18	0.156	0.232
SW-A5TD2	8/28/2013	STD2130828-	DRY - NO SAMPLE										
SW-A5TD4	8/28/2013	STD5130828-	DRY - NO SAMPLE										
SW-A5TD6	8/28/2013	STD26130828-	DRY - NO SAMPLE										
SW-A5TD6	9/23/2013	STD6130923-	7.91	135	13.7	4.42	60.7	15.2	23.7	4.73	28.4	0.102	0.255
SW-S1	7/29/2013	SS1-130729Q	DRY - NO SAMPLE										
SW-S1	8/21/2013	SS1-130821Q	DRY - NO SAMPLE										
SW-S1	9/25/2013	SS1-130925Q	DRY - NO SAMPLE										
U = UNDETECTED\ANALYTE CONCENTRATION < MDL. T = ESTIMATED. LESS THAN RDL BUT GREATER THAN MDL.													

TABLE 6												
Leachate Pond Inflow Monitoring Results												
Location	Date	Sample ID	pH	Specific Conductance	Temp	Chemical Oxygen Demand	Total Organic Carbon	Alkalinity	Chloride	Sulfate	Total Iron	
			Units	µmhos/cm	C	mg/L	mg/L	mg/L as CaCO3	mg/L	mg/L	mg/L	
LS-API	7/10/2013	LAPI130710M	7.68	14500	17.1	12100	3420 S	7750	1930	111	48 D	
LS-API	8/7/2013	LAPI130807M	7.68	17000	17.1	10400	2440 S	11700	2160	54	24.9	
LS-API	9/4/2013	LAPI130904M	8.17	8100	15.3	7250	2240 S	6890	1810	64.1	12.1	
S = SAMPLING HANDLING ERRORS												
NOTE: LEACHATE IS NOT ANALYZED FOR DISSOLVED IRON.												

IV. CONCLUSION

During the third quarter of 2013 none of the inspections performed by SWD staff or the Health Department in Area 5 indicated any gas exceedances, leachate seeps, or other unexpected issues. Additionally, Area 5 continues to settle at a declining rate, without any indication of major differential settling.

Additionally, neither of the Area 5 top deck samples that were able to be collected during the third quarter exceeded the water quality criteria or benchmarks.

From these results, it can be concluded that the Area 5 top deck interim cover system is functioning as designed and there is no interaction of waste and surface water runoff from the Area 5 top deck.



LEGEND:

○ ACTIVE MONITORING STATION

Figure 1. Area 5 Settlement Monitoring Locations

DATE	REVISION	BY



KING COUNTY DEPARTMENT OF
NATURAL RESOURCES AND PARKS

SOLID WASTE DIVISION

CEDAR HILLS REGIONAL LANDFILL

SETTLEMENT MONITORING LOCATIONS

APPROVED: JDO
RECOMMENDED: JDO
PROJECT: No. _____

DATE: JUNE, 2010
SHEET: 1 OF 1

LEGEND:
 STORMWATER MONITORING STATION

AREA 5 TOP DECK STORMWATER MONITORING STATION	
STATION	STATION DESCRIPTION
SM-AS101	STATION 101: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS102	STATION 102: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS103	STATION 103: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS104	STATION 104: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS105	STATION 105: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS106	STATION 106: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS107	STATION 107: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS108	STATION 108: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS109	STATION 109: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.
SM-AS110	STATION 110: 10' x 10' x 10' concrete structure with 1' high walls and 1' deep bottom. Located at the top of the deck, near the entrance to the building.

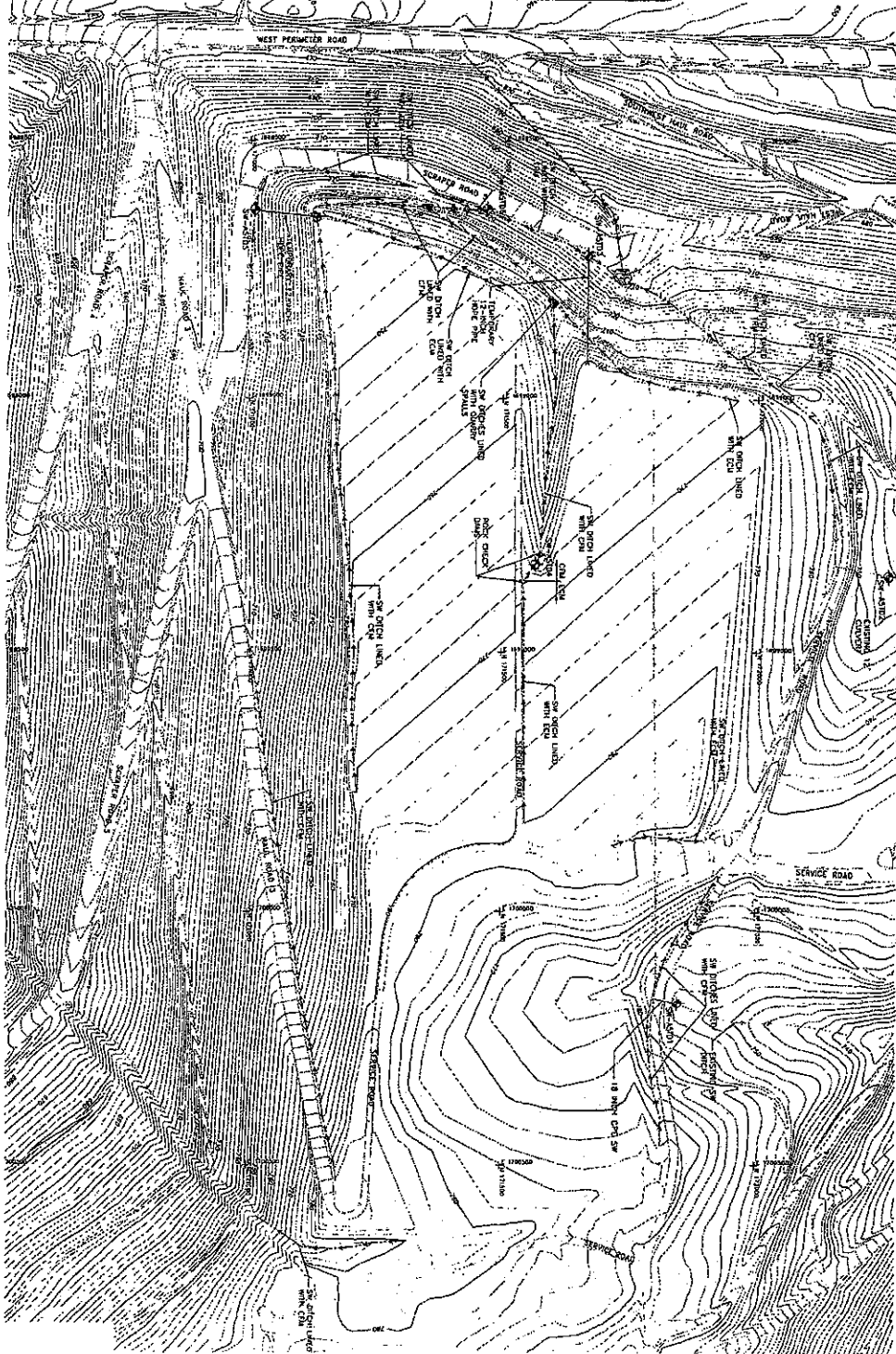
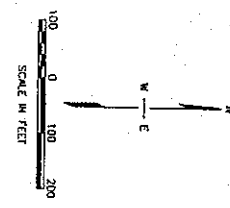


Figure 2. Top Deck Stormwater Monitoring Locations

FIGURE 2

Area 5 Top Deck
 Stormwater Monitoring Stations
 Cedar Hills Regional Landfill
 Area 5 Stage 4 Final Closure
 King County, Washington

APPENDIX A: INSPECTION REPORTS

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREAS License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY

**WO#: 0000011578**

Date In: 06/28/2013 09:50

Date Promised: 06/29/2013 09:50

Date Out: 00:00

WO Status: A

Last WO#: 0000011451

WO Priority:

Last WO Date: 06/03/2013

Track DownTime: Y

Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 5

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
G	0 - MONTHS	06/10/2013	Gas System
T	0 - MONTHS	06/10/2013	Stormwater
V	0 - MONTHS	06/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMG BS	PM Service PM Gas System Billable Scheduled, Target	0	763	0.00000	Gas
PMT BS	PM Service PM Stormwater Billable Scheduled, Target	0	763	0.00000	Gas
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	763	0.00000	Gas

NOTES



For CHAREA4, CHAREA5, CHAREA6, CHAREAS23, CHCENTRALPIT,
CHEMH, CHSEPA, CHSSWA, CHSWMH (10)

PMG BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect collection system	/				
Gas Visually inspect disposal system	/				
Gas Verify daily odor log is current	/				
Gas Note any deficiencies					

PMT BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect ponds	/				
Gas Visually inspect lagoons	/				
Gas Visually inspect catch basins	/				
Gas Visually inspect control structures	/				
Gas Visually inspect conveyance pipes	/				
Gas Note any deficiencies					

PMV BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect vegetation	/				
Gas Visually inspect refuse	/				
Gas Visually inspect cover	/				
Gas Visually inspect erosion	/				
Gas Note any deficiencies					

DATE: 7/2/13

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

TECHNICIAN COPY

**WO#: 0000011712**

Date In: 07/30/2013 10:50

Date Promised: 07/31/2013 10:50

Date Out: 00:00

WO Status: A Last WO#: 0000011578

WO Priority: Last WO Date: 06/28/2013

Track DownTime: Y Operator: WG

Equipment: CHAREAS License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 5

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
G	0 - MONTHS	08/10/2013	Gas System
T	0 - MONTHS	08/10/2013	Stormwater
V	0 - MONTHS	08/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMG BS	PM Service PM Gas System Billable Scheduled, Target	0	764	0.00000	Gas
PMT BS	PM Service PM Stormwater Billable Scheduled, Target	0	764	0.00000	Gas
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	764	0.00000	Gas

NOTES

For CHAREA4, CHAREA5, CHAREA6, CHAREAS23, CHCENTRALPIT,
CHEMH, CHSEPA, CHSSWA, CHSWMH (10)

PMG BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect collection system	/				
Gas Visually inspect disposal system	/				
Gas Verify daily odor log is current	/				
Gas Note any deficiencies					

PMT BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect ponds	/				
Gas Visually inspect lagoons	/				
Gas Visually inspect catch basins	/				
Gas Visually inspect control structures	/				
Gas Visually inspect conveyance pipes	/				
Gas Note any deficiencies					

PMV BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect vegetation	/				
Gas Visually inspect refuse	/				
Gas Visually inspect cover	/				
Gas Visually inspect erosion	/				
Gas Note any deficiencies					

DATE: 8/13/13

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA5 License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011847

Date In: 09/04/2013 08:42

Date Promised: 09/05/2013 08:42

Date Out: 00:00

WO Status: A Last WO#: 0000011847

WO Priority: Last WO Date: 09/04/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 5

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
G	0 - MONTHS	09/10/2013	Gas System
T	0 - MONTHS	09/10/2013	Stormwater
V	0 - MONTHS	09/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	762 JD	0.00000	Gas
PMG BS	PM Service PM Gas System Billable Scheduled, Target	0	762 JD	0.00000	Gas
PMT BS	PM Service PM Stormwater Billable Scheduled, Target	0	762 JD	0.00000	Gas

NOTES

For CHAREA4, CHAREA5, CHAREA6, CHAREAS23, CHCENTRALPIT,
CHEMH, CHSEPA, CHSSWA, CHSWMH (10)

PMG BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect collection system	✓				
Gas Visually inspect disposal system	✓				
Gas Verify daily odor log is current	✓				
Gas Note any deficiencies	✓				

PMT BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect ponds	✓				
Gas Visually inspect lagoons	✓				
Gas Visually inspect catch basins	✓				
Gas Visually inspect control structures	✓				
Gas Visually inspect conveyance pipes	✓				
Gas Note any deficiencies	✓				

PMV BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect vegetation	✓				
Gas Visually inspect refuse	✓				
Gas Visually inspect cover	✓				
Gas Visually inspect erosion	✓				
Gas Note any deficiencies	✓				

DATE: 9-6-13

WO*Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA6 License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011579

Date In: 06/28/2013 09:51

Date Promised: 06/29/2013 09:51

Date Out: 00:00

WO Status: A Last WO#: 0000011549

WO Priority: Last WO Date: 06/26/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 6

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
G	0 - MONTHS	06/10/2013	Gas System
S	0 - MONTHS	07/28/2013	Scheduled Inspection
T	0 - MONTHS	06/10/2013	Stormwater
V	0 - MONTHS	06/10/2013	Cover System
W	W - WEEKS	06/22/2013	Weekly Inspection

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMG BS	PM Service PM Gas System Billable Scheduled, Target	0	763	0.00000	Gas
PMT BS	PM Service PM Stormwater Billable Scheduled, Target	0	763	0.00000	Gas
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	763	0.00000	Gas

NOTES

For CHAREA4, CHAREA5, CHAREA6, CHAREAS23, CHCENTRALPIT,
CHEMH, CHSEPA, CHSSWA, CHSWMH (10)

PMG BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect collection system	/				
Gas Visually inspect disposal system	/				
Gas Verify daily odor log is current	/				
Gas Note any deficiencies					

PMT BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect ponds	/				
Gas Visually inspect lagoons	/				
Gas Visually inspect catch basins	/				
Gas Visually inspect control structures	/				
Gas Visually inspect conveyance pipes	/				
Gas Note any deficiencies					

PMV BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect vegetation	/				
Gas Visually inspect refuse	/				
Gas Visually inspect cover	/				
Gas Visually inspect erosion	/				
Gas Note any deficiencies					

DATE: 7/12/13

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA6 License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011713

Date In: 07/30/2013 10:51

Date Promised: 07/31/2013 10:51

Date Out: 00:00

WO Status: A Last WO#: 0000011683

WO Priority: Last WO Date: 07/29/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 6

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
G	0 - MONTHS	08/10/2013	Gas System
S	0 - MONTHS	08/28/2013	Scheduled Inspection
T	0 - MONTHS	08/10/2013	Stormwater
V	0 - MONTHS	08/10/2013	Cover System
W	W - WEEKS	08/03/2013	Weekly Inspection

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMG BS	PM Service PM Gas System Billable Scheduled, Target	0	764	0.00000	Gas
PMT BS	PM Service PM Stormwater Billable Scheduled, Target	0	764	0.00000	Gas
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	764	0.00000	Gas

NOTES

For CHAREA4, CHAREA5, CHAREA6, CHAREAS23, CHCENTRALPIT,
CHEMH, CHSEPA, CHSSWA, CHSWMH (10)

PMG BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect collection system	/				
Gas Visually inspect disposal system	/				
Gas Verify daily odor log is current	/				
Gas Note any deficiencies					

PMT BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect ponds	/				
Gas Visually inspect lagoons	/				
Gas Visually inspect catch basins	/				
Gas Visually inspect control structures	/				
Gas Visually inspect conveyance pipes	/				
Gas Note any deficiencies					

PMV BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect vegetation	/				
Gas Visually inspect refuse	/				
Gas Visually inspect cover	/				
Gas Visually inspect erosion	/				
Gas Note any deficiencies					

DATE: 8/13/13

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

TECHNICIAN COPY

**WO#: 0000011848**

Date In: 09/04/2013 08:43

Date Promised: 09/05/2013 08:43

Date Out: 00:00

WO Status: A Last WO#: 0000011818

WO Priority: Last WO Date: 09/03/2013

Track DownTime: Y Operator: WG

Equipment: CHAREA6 License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 6

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
G	0 - MONTHS	09/10/2013	Gas System
S	0 - MONTHS	09/28/2013	Scheduled Inspection
T	0 - MONTHS	09/10/2013	Stormwater
V	0 - MONTHS	09/10/2013	Cover System
W	W - WEEKS	09/16/2013	Weekly Inspection

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMG BS	PM Service PM Gas System Billable Scheduled, Target	0	762 JD	0.00000	Gas
PMT BS	PM Service PM Stormwater Billable Scheduled, Target	0	762 JD	0.00000	Gas
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	762 JD	0.00000	Gas

NOTES

For CHAREA4, CHAREA5, CHAREA6, CHAREAS23, CHCENTRALPIT,
CHEMH, CHSEPA, CHSSWA, CHSWMH (10)

PMG BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect collection system	✓				
Gas Visually inspect disposal system	✓				
Gas Verify daily odor log is current	✓				
Gas Note any deficiencies	✓				

PMT BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect ponds	✓				
Gas Visually inspect lagoons	✓				
Gas Visually inspect catch basins	✓				
Gas Visually inspect control structures	✓				
Gas Visually inspect conveyance pipes	✓				
Gas Note any deficiencies	✓				

PMV BS

Task	OK	Adjust	Repair	Replace	Comments
Gas Visually inspect vegetation	✓				
Gas Visually inspect refuse	✓				
Gas Visually inspect cover	✓				
Gas Visually inspect erosion	✓				
Gas Note any deficiencies	✓				

DATE: 9-6-13

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

TECHNICIAN COPY

**WO#: 0000011512**

Date In: 06/26/2013 13:02

Date Promised: 06/27/2013 13:02

Date Out: 00:00

WO Status: A Last WO#: 0000011397

WO Priority: Last WO Date: 06/03/2013

Track DownTime: Y Operator: WG

Equipment: CHAREA5TD License: na

Location: 20

Color:

Year: 2010

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZZGS: Landfill Gas - not classified

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 5

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
V	0 - MONTHS	07/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	762 JD	0.00000	Gas

NOTES



Work Order Task List

Repair Code: PMV BS

Equipment: CHAREASTD

Work Order: 0000011512

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
	1	Gas- Visually inspect Header	✓				
	2	Gas- Ck for damage @ flare station inlet	✓				
	3	Gas- Ck collection field pipe integrity	✓				
	4	Gas- Ck collection field pipe alignment	✓				
	5	Gas- Ck for damage @ possible stress pts	✓				
	6	Gas- Ck for damage at vertical pipes	✓				
	7	Gas- Ck for damage at well heads	✓				
	8	Gas- Ck for gas leaks with TVA 1000	✓				
	9	Gas- Ck for settlement/ponding	✓				
	10	Gas- Ck surface water conveyance system	✓				
	11	Gas- Ck and open vault covers	✓				
	12	Gas- Exercise field and header valves	✓				
	13	Gas- Ck flex hoses and connections	✓				
	14	Gas- Ck for erosion	✓				
	15	Gas- Ck for vegetation	✓				
	16	Gas- Ck cover system	✓				
	17	Gas- Ck for refuse/litter	✓				
	18	Gas- Note any deficiencies					

3/4 hr

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA5TD License: na

Location: 20

Color:

Year: 2010

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011658

Date In: 07/29/2013 12:20

Date Promised: 07/30/2013 12:20

Date Out: 00:00

WO Status: A Last WO#: 0000011512

WO Priority: Last WO Date: 06/26/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 5

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
V	0 - MONTHS	07/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	761	0.00000	Gas

NOTES

Work Order Task List

Repair Code: PMV BS

Equipment: CHAREASTD

Work Order: 0000011658

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
	1	Gas- Visually inspect Header	/				
	2	Gas- Ck for damage @ flare station inlet	/				
	3	Gas- Ck collection field pipe integrity	/				
	4	Gas- Ck collection field pipe alignment	/				
	5	Gas- Ck for damage @ possible stress pts	/				
	6	Gas- Ck for damage at vertical pipes	/				
	7	Gas- Ck for damage at well heads	/				
	8	Gas- Ck for gas leaks with TVA 1000	/				
	9	Gas- Ck for settlement/ponding	/				
	10	Gas- Ck surface water conveyance system	/				
	11	Gas- Ck and open vault covers	/				
	12	Gas- Exercise field and header valves	/				
	13	Gas- Ck flex hoses and connections	/				
	14	Gas- Ck for erosion	/				
	15	Gas- Ck for vegetation	/				
	16	Gas- Ck cover system	/				
	17	Gas- Ck for refuse/litter	/				
	18	Gas- Note any deficiencies	/				

8-20-13.

ZHR

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA5TD License: na

Location: 20

Color:

Year: 2010

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011793

Date In: 09/03/2013 15:37

Date Promised: 09/04/2013 15:37

Date Out: 00:00

WO Status: A

Last WO#: 0000011658

WO Priority:

Last WO Date: 07/29/2013

Track DownTime: Y

Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 5

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
V	0 - MONTHS	09/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	763	0.00000	Gas

NOTES

Work Order Task List

Repair Code: PMV BS

Equipment: CHAREA5TD

Work Order: 0000011793

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
9/24	1	Gas- Visually inspect Header	/				Serpentine this month
	2	Gas- Ck for damage @ flare station inlet	/				
	3	Gas- Ck collection field pipe integrity	/				
	4	Gas- Ck collection field pipe alignment	/				
	5	Gas- Ck for damage @ possible stress pts	/				
	6	Gas- Ck for damage at vertical pipes	/				
	7	Gas- Ck for damage at well heads	/				
	8	Gas- Ck for gas leaks with TVA 1000	QA				
	9	Gas- Ck for settlement/ponding	/				
	10	Gas- Ck surface water conveyance system	/				
	11	Gas- Ck and open vault covers	/				
	12	Gas- Exercise field and header valves	/				
	13	Gas- Ck flex hoses and connections	/				
	14	Gas- Ck for erosion	/				
	15	Gas- Ck for vegetation	/				
	16	Gas- Ck cover system	/				
	17	Gas- Ck for refuse/litter	/				
	18	Gas- Note any deficiencies	/				

40m

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA6TD License: na

Location: 20

Color:

Year: 2010

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011552

Date In: 06/26/2013 13:41

Date Promised: 06/27/2013 13:41

Date Out: 00:00

WO Status: A Last WO#: 0000011425

WO Priority: Last WO Date: 06/03/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 6

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
V	0 - MONTHS	07/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	764	0.00000	Gas

NOTES



Work Order Task List

Repair Code: PMV BS
Equipment: CHAREA6TD
Work Order: 0000011552

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
7/18	1	Gas- Visually inspect Header	/				
	2	Gas- Ck for damage @ flare station inlet	/				
	3	Gas- Ck collection field pipe integrity	/				
	4	Gas- Ck collection field pipe alignment	/				
	5	Gas- Ck for damage @ possible stress pts	/				
	6	Gas- Ck for damage at vertical pipes	/				
	7	Gas- Ck for damage at well heads	/				
	8	Gas- Ck for gas leaks with TVA 1000	/				
	9	Gas- Ck for settlement/ponding	/				
	10	Gas- Ck surface water conveyance system	/				
	11	Gas- Ck and open vault covers	/				
	12	Gas- Exercise field and header valves	/				
	13	Gas- Ck flex hoses and connections	/				
	14	Gas- Ck for erosion	/				
	15	Gas- Ck for vegetation	/				
	16	Gas- Ck cover system	/				
	17	Gas- Ck for refuse/litter	/				
	18	Gas- Note any deficiencies	/				

1 hr.

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA6TD License: na

Location: 20

Color:

Year: 2010

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZCS: Landfill Gas - not classified

TECHNICIAN COPY

**WO#: 0000011686**

Date In: 07/29/2013 15:59

Date Promised: 07/30/2013 15:59

Date Out: 00:00

WO Status: A Last WO#: 0000011552

WO Priority: Last WO Date: 06/26/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 6

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
V	0 - MONTHS	08/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	762 JD	0.00000	Gas

NOTES

Work Order Task List

Repair Code: PMV BS

Equipment: CHAREA6TD

Work Order: 0000011686

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
	1	Gas- Visually inspect Header	✓				
	2	Gas- Ck for damage @ flare station inlet	✓				
	3	Gas- Ck collection field pipe integrity	✓				
	4	Gas- Ck collection field pipe alignment	✓				
	5	Gas- Ck for damage @ possible stress pts	✓				
	6	Gas- Ck for damage at vertical pipes	✓				
	7	Gas- Ck for damage at well heads	✓				
	8	Gas- Ck for gas leaks with TVA 1000	✓				
8-27	9	Gas- Ck for settlement/ponding	✓				
	10	Gas- Ck surface water conveyance system	✓				
	11	Gas- Ck and open vault covers	✓				
	12	Gas- Exercise field and header valves	✓				
	13	Gas- Ck flex hoses and connections	✓				
	14	Gas- Ck for erosion	✓				
	15	Gas- Ck for vegetation	✓				
	16	Gas- Ck cover system	✓				
	17	Gas- Ck for refuse/litter	✓				
	18	Gas- Note any deficiencies					

8-16-13 1 hr

8-27-13 1/2 hr

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CHAREA6TD License: na

Location: 20

Color:

Year: 2010

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011821

Date In: 09/03/2013 16:00

Date Promised: 09/04/2013 16:00

Date Out: 00:00

WO Status: A Last WO#: 0000011686

WO Priority: Last WO Date: 07/29/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

CH Area 6

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD

PM SERVICE

Type	Cycle	Next Due	Description
V	0 - MONTHS	09/10/2013	Cover System

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMV BS	PM Service PM Cover System Billable Scheduled, Target	0	761 <i>PMV</i>	0.00000	Gas

NOTES

Work Order Task List

Repair Code: PMV BS

Equipment: CHAREA6TD

Work Order: 0000011821

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
	1	Gas- Visually inspect Header	/				
	2	Gas- Ck for damage @ flare station inlet	/				
	3	Gas- Ck collection field pipe integrity	/				
	4	Gas- Ck collection field pipe alignment	/				
	5	Gas- Ck for damage @ possible stress pts	/				
	6	Gas- Ck for damage at vertical pipes	/				
	7	Gas- Ck for damage at well heads	/				
	8	Gas- Ck for gas leaks with TVA 1000	/				
	9	Gas- Ck for settlement/ponding	/				
	10	Gas- Ck surface water conveyance system	/				
	11	Gas- Ck and open vault covers	/				
	12	Gas- Exercise field and header valves	/				
	13	Gas- Ck flex hoses and connections	/				
	14	Gas- Ck for erosion	/				
	15	Gas- Ck for vegetation	/				
	16	Gas- Ck cover system	/				
	17	Gas- Ck for refuse/litter	/				
	18	Gas- Note any deficiencies	/				

9-26-13

1.5 HK

ENGINEERING SERVICES SECTION

Landfill Facility Site Inspections

Type – Permit Compliance

Inspected By: MIKE McFEWEN

Telephone: 206-296-0485

Location: CEDAR HILLS Ambient Temperature (°F) 75 Weather Condition: CLEAR, 75° F

I certify that this report is true, accurate and complete, to the best of my knowledge and beliefs.

Inspector's Signature: [Signature]

Date: 7/30/13

ACTION CODES

A. Gas System	OK	Not OK	B. Leachate System	OK	Not OK	C. Landfill Operations	OK	Not OK
1. Pipe Penetrations	✓		1. Pump Stations	✓		1. Fueling Stations	✓	
2. Collection Piping			2. Aeration Lagoons / Basins			2. Vehicle Wash Stations		
3. Gas Extraction Wells			3. Aerators			3. Equipment		
4. Valve Stations			4. Weeps (strip drains)			4. Perimeter Fences		
5. Odor			5. Collection System			5. Vegetation		
6. Flare Stations			a. Collection Pipes			6. Landfill Cover		
7. Air Compressors			b. Force mains			7. Drain Rock		
8. Noise Control			c. Manholes			9. Air Quality		
			d. Cleanouts			10. Stockpiles		
D. Stormwater System			6. Generators			11. Vectors		
1. Ponds			7. Extraction Wells			12. Litter		
2. CB / Control Structures			8. Valve / Cleanout			13. Dust control		
3. Pipes / Culverts			9. Groundwater Extraction Wells			14. Other		
4. Trash Racks								
5. Ditches			E. Roadway System			Cover System / ESC		
6. Runoff Control Berms			1. Road Sweeping			F. Vegetation		
7. General			2. Access Roads			1. Refuse		
			3. Road Erosion			2. Cover Erosion		
G. Operations			4. Road Pavement			3. Silt Fences, Filter Fabric, etc.	✓	
1. Records Obtain / Review			5. Lane Striping	✓				

Item No.	Action Code(s)	Area Code(s) (See below or over for map)		Status			State Reason if "Fair or Poor"	Date Corrective Action Implemented
		Area	Map	G	F	P		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

AREA CODES (for Cedar Hills)

G = Good

F = Fair

P = Poor

East Main Hill = EMH
Southwest Main Hill = SWMH
Southeast Pit Area = SEPA

Area 2/3 = A2/3
Area 4 = A4
Stockpile = SP

Aeration Ponds = AP
So. Solid Waste Area = SSWA
North Flare Station = NFS

Area 5 = A5
Area 6 = A6
Central Pit = CP

State the needs of the repairs in the suggested remedy box.

1. *Regulatory Priority* - permit, regulations & code & compliance driven.
2. *Safety Priority* - potential to adversely affect the safety of workers or the related environment.
3. *Maintenance Priority* - Ensures continuation of existing level of facility operations to ensure proper efficiency without interruption. This priority has the following four potential levels
 - a. *Emergency* - stops the continuing operation of the facility
 - b. *Urgent* - While not completely prohibiting continuing use of the facility, may threaten use of entire facility or continuing use may results in significant & extensive repair of facility.
 - c. *Routine* - need to be completed & not necessarily. May be completed under existing operations preventative programs.
 - d. *Deferred* - desirable but not required to maintain status quo operations (e.g., planting or wild life enhancement projects etc.)

Overall site description day of site inspection: SITE IS DRY & WELL MAINTAINED. NO RAIN FOR +/- 30 DAYS. SOME DUST FROM OUR OPS & AREA 7 STAGE I CONSTRUCTION. PERIMETER ROAD ARE ENCRUSHED WITH BLACKBERRY VINES - TYPICAL FOR THIS TIME OF YEAR. GOOD JOB OF KEEPING UP WITH MOWING.

Category number:	Action to be Completed. Suggested Remedy:
Category number:	Action to be Completed. Suggested Remedy:
Category number:	Action to be Completed. Suggested Remedy:
Category number:	Action to be Completed. Suggested Remedy:

Landfill Facility Site Inspections

Inspected By: COTEY LARRY Telephone: 206 296-2453
Location: C HILLS Ambient Temperature (°F) 72 Weather Condition: 0'CAST
Inspector's Signature: [Signature] Date: AUG 23, 2013

A. Gas System	OK	Not OK	B. Leachate System	OK	Not OK	C. Landfill Operations	OK	Not OK
1. Pipe Penetrations	↓		1. Pump Stations	↓		1. Fueling Stations	↓	
2. Collection Piping	↓		2. Aeration Lagoons / Basins	↓		2. Vehicle Wash Stations	↓	
3. Gas Extraction Wells	↓		3. Aerators	↓		3. Equipment	↓	
4. Valve Stations	↓		4. Weeps (strip drains)	↓		4. Asbestos Pit	↓	
5. Odor	↓		5. Collection System	↓		5. Perimeter Fences	↓	
6. Flare Stations	↓		a. Collection Pipes	↓		6. Vegetation	↓	
7. Air Compressors	↓		b. Forcemains	↓		7. Landfill Cover	↓	
8. H ₂ S Scrubbers	↓		c. Manholes	↓		8. Drain Rock	↓	
			d. Cleanouts	↓		9. Air Quality	↓	
D. Stormwater System			6. Generators	↓		10. Stockpiles	↓	
1. Ponds	↓		7. Extraction Wells	↓		11. Vectors	↓	
2. CB / Control Structures	↓		8. Valve / Cleanout	↓		12. Compaction	↓	
3. Pipes / Culverts	↓		9. Groundwater Extraction Wells	↓		13. Litter	↓	
4. Trash Racks	↓					14. Dust Control	↓	
5. Ditches	↓		E. Roadway System				↓	
6. Runoff Control Berms	↓		1. Road Sweeping	↓		F. Cover System / ESC	↓	
7. General	↓		2. Access Roads	↓		1. Vegetation	↓	
			3. Road Erosion	↓		2. Refuse	↓	
G. Operations			4. Road Pavement	↓		3. Cover Erosion	↓	
1. Records Obtain / Review			5. Striping	↓		4. Hay Bales, Silt Fences, Filter Fabric, etc.	↓	

[illegible]

Area 5 = A5
Area 6 = A6
Central Pit = CP

ENGINEERING SERVICES SECTION

Landfill Facility Site Inspections

Type – Permit Compliance

Inspected By: STEVEN LARRY Telephone: (206) 296-8453
 Location: C-Hills Ambient Temperature (°F) 40 Weather Condition: COOL PART CLOUDY

I certify that this report is true, accurate and complete, to the best of my knowledge and beliefs.

Inspector's Signature: [Signature] Date: SEPT 24 2013

ACTION CODES

A. Gas System	OK	Not OK	B. Leachate System	OK	Not OK	C. Landfill Operations	OK	Not OK
1. Pipe Penetrations	✓		1. Pump Stations			1. Fueling Stations		
2. Collection Piping	✓		2. Aeration Lagoons / Basins			2. Vehicle Wash Stations	✓	
3. Gas Extraction Wells	✓		3. Aerators	✓		3. Equipment	✓	
4. Valve Stations	✓		4. Weeps (strip drains)	✓		4. Perimeter Fences	✓	
5. Odor	✓		5. Collection System	✓		5. Vegetation	✓	
6. Flare Stations	✓		a. Collection Pipes	✓		6. Landfill Cover	✓	
7. Air Compressors	✓		b. Forcemains	✓		7. Drain Rock	✓	
8. Noise Control	✓		c. Manholes	✓		9. Air Quality	✓	
			d. Cleanouts	✓		10. Stockpiles	✓	
D. Stormwater System			6. Generators	✓		11. Vectors	✓	
1. Ponds	✓		7. Extraction Wells	✓		12. Litter	✓	
2. CB / Control Structures	✓		8. Valve / Cleanout	✓		13. Dust control	✓	
3. Pipes / Culverts	✓		9. Groundwater Extraction Wells	✓		14. Other	✓	
4. Trash Racks	✓							
5. Ditches	✓		E. Roadway System			Cover System / ESC		
6. Runoff Control Berms	✓		1. Road Sweeping	✓		F. Vegetation	✓	
7. General	✓		2. Access Roads	✓		1. Refuse	✓	
			3. Road Erosion	✓		2. Cover Erosion	✓	
G. Operations			4. Road Pavement	✓		3. Silt Fences, Filter Fabric, etc.	✓	
1. Records Obtain / Review			5. Lane Striping	✓				

Item No.	Action Code(s)	Area Code(s) (See below or over for map)	Status	State Reason if "Fair or Poor"	Date Corrective Action Implemented
		Area Map	G F P		
1	E1	D2, T0		ROAD SWEEPING, MADLY NEEDED	9/24/2013
2		F2		DEAN CALLED AND IT WAS	
3				CORRECTED 10 MINS LATER.	
4					
5					
6					
7					
8					
9					
10					
11					

AREA CODES (for Cedar Hills)

G = Good

F = Fair

P = Poor

Inspection Survey Report

Solid Waste Program



Public Health - Seattle & King County
Environmental Hazards Section 206-263-9566
401 Fifth Avenue, Suite 1100 • Seattle, WA 98104

Page 1 of 1

Business Name Cedar Hill Regional Landfill Operator KCSWD Phone (206) 296-4490
Address 116645-228th Ave. SE City Maple Valley ZIP 98038 Time In 10:25
EHS ☒ A ☒ V Date 070913 General Health Record ID C015736 P/E 1006 Activity Time 55 m Travel Time 90 m

Violation Number	Violation Description	Correction Date	Service
			126 ☐ Fld PI Rvw
			127 ☐ Pre-Operat
			128 ☒ Routine
			129 ☐ Return
			130 ☐ Complaint
			131 ☐ Comp Rtn
			☐
			Results
			01 ☒ Satisfactory
			02 ☐ Unsatisfactory
			07 ☐ In Compliance
			08 ☐ Not in Compliance
			22 ☐ Not Access
			☐
			Action
			00 ☒ Not Applicable
			04 ☐ Suspend
			07 ☐ Approved
			08 ☐ App w/ Cond
			26 ☐ Return Visit
			27 ☐ Phone Follow
			☐
			Misc
			☐ Photos Taken
			Weather
			☒ Sunny
			☐ Cloudy
			☐ Partially Cloudy
			☐ Showers
			☐ Rain
			☐ Wind
			☐ Snow
Comments / Observations			
<i>South Slope of Area 7 - Inspected area with Landfill Manager and others associated with the closure of Area 7. - No significant observations of waste at surface. It appears at there is adequate medium cover in place.</i> <i>Note: As part of project, the Landfill Manager (Volker) indicated depth would be officially measured - G.P.S. Technology is utilized</i> <i>Paved Surfaces - Water truck in full use as warm weather is expected</i> <i>Inspection of Main Hill was revealed major the mowing for seasonal cutting</i>			
Person in Charge <i>Patty Gray</i>			Health Authority <i>E. Davis</i>

Based on an inspection this day, the above listed violations must be corrected by the next routine inspection or such period of time as may be specified in writing by the health officer. Failure to comply with this notice may result in immediate suspension of your permit and/or assessment of civil penalties. An opportunity for an appeal of the findings of an inspection report will be provided if a written request is filed with the health officer within ten (10) days of the date of the suspension or inspection. The complete list of inspection items is contained on the back of this form.

Inspection Survey Report

Solid Waste Program



Public Health - Seattle & King County
Environmental Hazards Section 206-205-4394
401 Fifth Avenue, Suite 1100 • Seattle, WA 98104

Page 1 of 1

Business Name Cedar Hills Regional Landfill K.C.S.W.D. Operator (206) 296 4490 Phone
Address 16645 228th Ave. SE City Maple Valley ZIP 98038 Time In 12:15 pm
EHS DAV Date 080113 General Health Record ID PR 0015736 P/E 1006 Activity Time 70 m Travel Time 104 m

Violation Number	Violation Description	Correction Date	Service
	<u>See Noted Below</u>		126 ☐ Fld PI Rvw 127 ☐ Pre-Operat 128 ☒ Routine 129 ☐ Return 130 ☐ Complaint 131 ☐ Comp Rtn ☐
			Results 01 ☐ Satisfactory 02 ☐ Unsatisfactory 07 ☐ In Compliance 08 ☐ Not in Compliance 22 ☐ Not Access ☐
			Action 00 ☒ Not Applicable 04 ☐ Suspend 07 ☐ Approved 08 ☐ App w/ Cond 26 ☐ Return Visit 27 ☐ Phone Follow ☐
	<u>Comments / Observations</u>		Misc ☐ Photos Taken Weather ☐ Sunny ☒ Cloudy ☐ Partially Cloudy ☐ Showers ☐ Rain ☐ Wind ☐ Snow
	<u>GP61 and GP62 Casings - not locked as required</u> <u>GP59, GP60, GP58, GP61, GP62, GP56, GP55</u> <u>Casings located between GP9 and W68 - no confirmation that lock have been provided</u> <u>WAC 173-351-200(4)(b)(1) / WAC 173-160-420(1)(a)</u>		
	<u>No problems in the following areas observed</u> <u>Area 7, Leachate Lagoons, Vector Waste Drying Pad,</u> <u>Area 6 + Area 5.</u> <u>Major mowing has been conducted on the</u> <u>entire site</u>		
Person in Charge	Health Authority		
<u>Toby Gray</u>	<u>Ed Davis</u>		

Based on an inspection this day, the above listed violations must be corrected by the next routine inspection or such period of time as may be specified in writing by the health officer. Failure to comply with this notice may result in immediate suspension of your permit and/or assessment of civil penalties. An opportunity for an appeal of the findings of an inspection report will be provided if a written request is filed with the health officer within ten (10) days of the date of the suspension or inspection. The complete list of inspection items is contained on the back of this form.

Inspection Survey Report

Solid Waste Program



Public Health - Seattle & King County
Environmental Hazards Section 206-205-4394
 401 Fifth Avenue, Suite 1100 • Seattle, WA 98104

Page 1 of 1

Business Name Cedar Hills Regional Landfill Operator KC SWD Phone (206) 296-4490
 Address 16045 228th Ave SE City Maple Valley ZIP 98038 Time In 12:35
 EHS DAV Date 081313 General Health Record ID 0015736 P/E 1006 Activity Time 77 m Travel Time 71 m

Violation Number	Violation Description	Correction Date
	<i>None Observed or detected</i>	
Service 126 ☐ Fld PI Rvw 127 ☐ Pre-Operat 128 ☒ Routine 129 ☐ Return 130 ☐ Complaint 131 ☐ Comp Rtn Results 01 ☒ Satisfactory 02 ☐ Unsatisfactory 07 ☐ In Compliance 08 ☐ Not in Compliance 22 ☐ Not Access Action 00 ☒ Not Applicable 04 ☐ Suspend 07 ☐ Approved 08 ☐ App w/ Cond 26 ☐ Return Visit 27 ☐ Phone Follow Misc ☐ Photos Taken Weather ☐ Sunny ☐ Cloudy ☒ Partially Cloudy ☐ Showers ☐ Rain ☐ Wind ☐ Snow		
Comments / Observations <i>Areas inspected</i> <i>- Good Line Parking</i> <i>- Leachate Pools</i> <i>- Vector Waste Drying pad</i> <i>- [Area 7] - Small active areas observed, bird population appears to be under control</i> <i>Debris at surface - additional cover advised.</i> <i>Note! - No wind blown debris observed at west perimeter road. - It appears fencing is effective.</i> <i>Areas 5 + 6 - No wind blown litter or debris.</i> <i>Mowing - Mowing throughout landfill has been accomplished.</i> <i>Good</i> <i>Area 7 work is continuing as intended (i.e. for pre-closure etc.)</i> <i>Older well casing found to be unlocked on previous inspection have been bolted for more security. - Good.</i>		
Person in Charge <u>Judy Heimer</u>		Health Authority <u>El Kleck</u>

Based on an inspection this day, the above listed violations must be corrected by the next routine inspection or such period of time as may be specified in writing by the health officer. Failure to comply with this notice may result in immediate suspension of your permit and/or assessment of civil penalties. An opportunity for an appeal of the findings of an inspection report will be provided if a written request is filed with the health officer within ten (10) days of the date of the suspension or inspection. The complete list of inspection items is contained on the back of this form.

PH-0002 (Rev. 6/07)

Solid Waste Program



King County

Public Health – Seattle & King County

Environmental Hazards Section 206-205-4394
401 Fifth Avenue, Suite 1100 • Seattle, WA 98104

Page 1 of 1

Business Name

Operator

Phone

Address

City

ZIP

Time In

EHS

Date _____

General Health Record ID

P/E

Activity Time

Travel Time

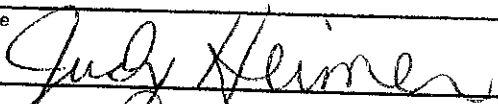
Q **A** **V**

09013

PR 0015736

1006

47 m 92 m

Violation Number	Violation Description	Correction Date	Service
	No Violations Observed/ Detected		126 ☐ Fld PI Rvw 127 ☐ Pre-Operat 128 ☒ Routine 129 ☐ Return 130 ☐ Complaint 131 ☐ Comp Rtn ☐
			Results 01 ☒ Satisfactory 02 ☐ Unsatisfactory 07 ☐ In Compliance 08 ☐ Not in Compliance 22 ☐ Not Access ☐
			Action 00 ☒ Not Applicable 04 ☐ Suspend 07 ☐ Approved 08 ☐ App w/ Cond 26 ☐ Return Visit 27 ☐ Phone Follow ☐
			Misc ☐ Photos Taken Weather ☐ Sunny ☒ Cloudy ☐ Partially Cloudy ☐ Showers ☐ Rain ☐ Wind ☐ Snow
Comments / Observations			
Areas Observed include: - Leachate lagoons - Good line parking area - Water leaks from #401, #491, #498 - Vector Waste Drying Pad. - Area 7 - Less debris observed on sloped area west of active fill area - Area 5 - no wind blown debris present/observed - Area 6 - " " " " " " - Mowing/weed & lowering activities at the north stormwater lagoon			
Person in Charge			Health Authority
			

Based on an inspection this day, the above listed violations must be corrected by the next routine inspection or such period of time as may be specified in writing by the health officer. Failure to comply with this notice may result in immediate suspension of your permit and/or assessment of civil penalties. An opportunity for an appeal of the findings of an inspection report will be provided if a written request is filed with the health officer within ten (10) days of the date of the suspension or inspection. The complete list of inspection items is contained on the back of this form.

PH-0002 (Rev. 6/07)

Solid Waste Program



Environmental Hazards Section 206-205-4394
401 Fifth Avenue, Suite 1100 • Seattle, WA 98104

Page. 2 of 1

Operator

Phone

Cedar Hills Regional Landfill K.C.S.W.D. (206) 296-4490

Address

City

ZIP

Time In

16645-228th Ave. SE Maple Valley 98038 9:53

EHS

Date _____

General Health Record ID

P/E

Activity Time

Travel Time

☒ ☒ ☒

091113 PRSR

0015736

1006

68 m 43 m

Based on an inspection this day, the above listed violations must be corrected by the next routine inspection or such period of time as may be specified in writing by the health officer. Failure to comply with this notice may result in immediate suspension of your permit and/or assessment of civil penalties. An opportunity for an appeal of the findings of an inspection report will be provided if a written request is filed with the health officer within ten (10) days of the date of the suspension or inspection. The complete list of inspection items is contained on the back of this form.

APPENDIX B: GAS MONITORING REPORTS

Cedar Hills Regional Landfill Quarterly Surface Emission Monitoring Plot of GPS Generated Track Lines

SEPTEMBER 2013
 Scale 1"=600'



KING COUNTY DEPARTMENT OF NATURAL RESOURCES
 AND PARKS
 Christie Trus, Director
 WASTE WASTE DIVISION

**CEDAR HILLS QUARTERLY
 GAS EMISSIONS MONITORING**

APPROVED: _____ DATE: XX-XX-XX
 RECOMMENDED: _____ DATE: ____
 DESIGNED: MAM DRAWN: MAM
 PROJECT NO. _____ SURVEY NO. _____ SHEET 1 OF 1

DATE	REVISION	BY

KING COUNTY SOLID WASTE
 201 S JACKSON ST. SUITE 701
 SEATTLE, WA 98104-3800

KING COUNTY SOLID WASTE
 201 S JACKSON ST. SUITE 701
 SEATTLE, WA 98104-3800

CEDAR HILLS REGIONAL LANDFILL
 SCALE 1" = 600'
 CONTOUR INTERVAL: 5'
 DATE OF INFORMATION: 8-15-13

LEGEND
 TRACK LINE
 CONTOUR LINE
 ROAD
 RAILROAD
 WATER

DATE: 8-15-13
 SHEET: 1 OF 1

WO Company: Gas King County Landfill Gas

WO Department: 7572 Waste Water, LF Gas

WO Shop: Gas Landfill Gas

Equipment: CEDAR HILLS License: na

Location: 20

Color:

Year: 2006

Serial: na

Make: UD

Engine:

Model: UD

Class: ZZZZZZZGS: Landfill Gas - not classified

TECHNICIAN COPY



WO#: 0000011764

Date In: 09/03/2013 14:35

Date Promised: 09/04/2013 14:35

Date Out: 00:00

WO Status: A Last WO#: 0000011699

WO Priority: Last WO Date: 07/30/2013

Track DownTime: Y Operator: WG

Tire Size 1:

GVW: 0

Tire Size 2:

EAC: 24

Transmission:

Department: 7572:Waste Water, LF Gas

Fuel Type1:

Company: Gas King County Landfill Gas

Fuel Type2:

Site: 20:20- Cedar Hills

Fuel Type3:

Monitor Group:

Oil Capacity: 0.000

Comments:

Fuel Cap1: 0.000

Cedar Hills

Fuel Cap2: 0.000

METERS

WO Meter	Reading	Override?	Eq Meter	Actual	LTD
----------	---------	-----------	----------	--------	-----

PM SERVICE

Type	Cycle	Next Due	Description
Q	0 - MONTHS	09/06/2013	Quarterly Inspection
X	0 - MONTHS	09/10/2013	Prohibited Activities

WARRANTY INFORMATION

Type	Cycle	Date Expires	Description
------	-------	--------------	-------------

REPAIRS

RTY	Description	Status	MID	Est. Labor	Shop
PMQ BS	PM Service PMQ per list Billable Scheduled, Target	0	762 JD	0.00000	

NOTES

RECEIVED
King County DNRP

OCT 07 2013

Solid Waste Division
Engineering Services Section

Work Order Task List

Repair Code: PMQ BS

Equipment: CEDAR HILLS

Work Order: 0000011764

Complete?	Step	Tasks	OK	Adjust	Repair	Replace	Comments
9-26	1	Gas- Ck liner integrity- Serpentine walk	✓				

9-18-13 10 hrs

9-19-13 10 hrs

9-20-13 10 hrs

9-24-13 10

9-25-13 6 hrs

9-26-13 5 hrs

51 hrs

DNRP / King County Solid Waste Serpentine Surface Monitoring Data

Landfill Site: Cedar Hills

Date: 9-18-13

Cal. Time: 7:00

Calibration :

Technician: Dye

Test Instrument used: TVA-1000

Surveyor _____

Cal. Gas Lot No: 20328

Cal Gas Used:

CH₄ 496 ppm

O2 Ambient

Barometric Pressure	Time
Start 30.02	7:00 am
Stop	12:00 pm

90% response time in seconds:

1 6 seconds

2 6 seconds

3 7 seconds

avg. 6 seconds

Weather Conditions: Mostly Cloudy

Wind Speed &

Direction (out of): 3 mph SW

Northing (UTM #)

Easting (10 T #)

Time

Comments

[illegible]

DNRP / King County Solid Waste Serpentine Surface Monitoring Data

Landfill Site: Cedar Hills

Date: 9-19-13

Cal. Time: 7:00am

Calibration :

Test Instrument used: TWA-1000

Technician:

Surveyor

Cal. Gas Lot No: 20328

Cal Gas Used:

CH₄ 496 ppm

O2 Amb

Barometric Pressure	Time
Start 30.00	7:00
Stop	12:00

90% response time in seconds:

16 seconds

2 5 seconds

3  seconds

avg. 5 seconds

Weather Conditions: Sunny

Wind Speed &

Direction (out of): 2 mph NE

[illegible]

DNRP / King County Solid Waste Serpentine Surface Monitoring Data

Landfill Site: Cedar Hills

Date: 9-20-13

Cal. Time: 7:00

Calibration :

Test Instrument used: TVA-1000

Technician:

Surveyor _____

Cal. Gas Lot No: 20328

Cal Gas Used:

CH4 4000 ppm

O2 Ans

Barometric Pressure	Time
Start 29.78	7:00
Stop	12:00 pm

90% response time in seconds:

1 6 seconds

2 5 seconds

3 60 seconds

avg. 62 seconds

Weather Conditions: Mostly cloudy

Wind Speed &

Direction (out of): 1-2 mph NE

Northing (UTM #)

Easting (10 T #)

Time

Comments

A 10x10 grid with a diagonal line running from the top-left corner to the bottom-right corner. The grid is composed of 10 columns and 10 rows. The diagonal line starts at the top-left corner of the first column and ends at the bottom-right corner of the tenth column.

[illegible]

[illegible]

DNRP / King County Solid Waste Serpentine Surface Monitoring Data

Landfill Site: Cedar Hills

Date: 9-26-13

Cal. Time: 7:00

Calibration :

Technician: De

Test Instrument used: TVA-1000

Surveyor _____

Cal. Gas Lot No: 20328

Cal Gas Used:

CH4 496202

O2 Amb

Barometric Pressure	Time
Start 30.08	7:00
Stop 30.09	12:00pm

90% response time in seconds:

1 5 seconds

2 5 seconds

3 5 seconds

avg. 5 seconds

Weather Conditions: Mostly Cloudy

Wind Speed &

Direction (out of): 2 mph S

Northings (UTM #)

Easting (10 T #)

Time

Comments

A blank grid with a diagonal line from the top-left to the bottom-right. The grid is composed of 10 columns and 10 rows. A single diagonal line runs from the top-left corner to the bottom-right corner, passing through the center of the grid.

APPENDIX C: ANALYTICAL TEST RESULTS

ANALYTICAL TEST RESULTS

Location	Date	Sample ID	ALK. TOT'L	COD	CHLORIDE	IRON	IRON	SULFATE	TOC	FIELD TESTS			
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	COND (F)	PH (F)	TURB	TEMP
			N	N	N	D	T	N	N	umhos/cm	pH units	ntu	deg. C
SW-S1	7/29/2013	SS1-130729Q	NO FLOW										
SW-S1	8/21/2013	SS1-130821Q	NO FLOW										
SW-S1	9/25/2013	SS1-130925Q	NO FLOW										
SW-TD1	9/19/2013	STD1130828-	NO FLOW										
SW-TD1	9/23/2013	STD1130923-	16.6	70.5	1.05	0.156	0.232	5.18	19.5	56	7.34	4.29	13.1
SW-TD2	8/28/2013	STD2130828-	NO FLOW										
SW-TD4	8/28/2013	STD5130828-	NO FLOW										
SW-TD6	8/28/2013	STD26130828-	23.7	60.7	4.73	0.102	0.255	28.4	15.2	135	7.91	4.42	13.7

	DUPLICATE SAMPLE TEST RESULTS
	EXCEEDED INDUSTRIAL STORMWATER GENERAL PERMIT BENCHMARK
RESULT	EXCEEDED WAC 173
RESULT	EXCEEDED EPA LIMITS

Location	Date	Sample ID	ALK. TOT'L mg/L	COD mg/L	CHLORIDE mg/L	IRON DISS. mg/L	IRON TOT'L mg/L	SULFATE mg/L	TOC mg/L	COND (F) umhos/cm	PH (F) pH units	TURB ntu	TEMP deg c
LS-API	7/10/2013	LAPI130710M	7750	12100	1930	N/A	48 D	111	3420 S	14500	7.68	N/A	17.1
LS-API	8/7/2013	LAPI130807M	11700	10400	2160	N/A	24.9	54	2440 S	17000	7.68	N/A	17.1
LS-API	9/4/2013	LAPI130904M	6890	7250	1810	N/A	12.1	64.1	2240 S	8100	8.17	N/A	15.3
LS-API	MATHEMATICAL AVERAGE		8780.0	9916.7	1966.7	N/A	28.3	76.4	2700.0	13200.0	7.8	N/A	16.5