
2012 ANNUAL REPORT CEDAR HILLS REGIONAL LANDFILL

APRIL 2013



King County

Department of Natural Resources and Parks
Solid Waste Division

2012 ANNUAL REPORT CEDAR HILLS REGIONAL LANDFILL

APRIL 2013

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April 1, 2013

2012 ANNUAL REPORT
CEDAR HILLS REGIONAL LANDFILL
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EXECUTIVE SUMMARY

This 2012 Annual Report for Cedar Hills Regional Landfill addresses the requirements for Annual Reports in WAC 173-351-200. The main body of the report provides facility information, analysis of the remaining capacity, financial assurance for closure and post closure, and a summary and evaluation of the environmental monitoring and settlement at the site. The final section of the main body provides the certification for the report. Attachments to the report provide more information and detail to support the analyses summarized in the main body of the report. This report follows the format of reports produced since 2005.

In the fall of 2011 methane was detected at two landfill gas probes on the west property boundary. In 2012, seven landfill gas extraction wells were installed along the western edge of the landfill. After these wells began operating, no methane has been detected along the property line. In the fall of 2012, additional wells were installed to allow testing to verify coverage. The testing will occur in 2013.

Other corrective action responses are described in this report in response to identified issues on Department of Public Health, Seattle King County inspection reports and Air Operating Permit conditions deviations.

The groundwater quality summary is provided in the Executive Summary in Attachment D, 2011 Groundwater Data Evaluation.

The capacity analysis indicates that the remaining capacity of Cedar Hills Regional Landfill at the current revised tonnage forecast is 14.7 years. The financial assurance section identifies the funding plan through closure and 30 years of post-closure maintenance.

SECTION 1 - OVERVIEW

The King County Solid Waste Division (KCSWD) owns and operates the Cedar Hills Regional Landfill (CHRLF) in eastern King County for the disposal of municipal solid waste generated in the County, exclusive of the cities of Seattle and Milton. It is a 940-acre site located at 16645 228th Avenue Southeast, off Cedar Grove Road, three miles north of Maple Valley, six miles east of the City of Renton and about four miles south of the City of Issaquah. In addition to the landfill, the site contains Passage Point, a transitional housing facility; a landfill gas-to energy facility owned and operated by Bio Energy (Washington) LLC; a right-of-way for a natural gas pipeline and numerous power transmission line rights-of-way.

Filling operations are continuing in Area 7. Area 7 is anticipated to have capacity through 2017. Area 8 is currently in planning. The current schedule will prepare Area 8 to begin receiving waste when Area 7 reaches the planned capacity.

This report includes a compilation of activity summaries and system evaluations associated with the following:

- Landfill capacity;
- Financial assurance cost estimates for closure and post-closure;
- Changes to landfill operations, and
- Environmental monitoring program, including a summary of groundwater, surface water, leachate and landfill gas monitoring results and exceedances.

Purpose

This annual report is submitted pursuant to the provisions of the Washington State Criteria for Municipal Solid Waste Landfills, Operating Criteria - Annual Reports (WAC 173-351-200(11)) and the Cedar Hills Regional Landfill Operating Permit, Section XII - Reporting Requirements, Part B - Annual Report and Permit Renewal Application. The Washington Department of Ecology (WDOE) form required for submittal of this report is included in this section.

The 2013 Application for Municipal Landfill Permit Renewal form was completed and transmitted to the DPHSKC in January 2013. This document is included in Attachment C.

SECTION 2 - FACILITY INFORMATION

Facility information can be found in the attached tonnage Annual Report.

ANNUAL REPORT

MUNICIPAL SOLID WASTE LANDFILL

FACILITY NAME: Cedar Hills Regional Landfill	CALENDAR YEAR OF REPORT: 2012	PERMIT NUMBER: PR0015736	FACILITY ID 385
FACILITY LOCATION (street address): 16645 228 th Ave SE, Maple Valley, WA 98038	COUNTY: King		
FACILITY CONTACT (name): Pat McLaughlin, Division Director	FACILITY PHONE: 206-296-4466		
FACILITY CONTACT MAILING ADDRESS (if different): 201 S Jackson St., Suite 701, Seattle, WA 98126-3855	FACILITY CONTACT PHONE (if different):	FACILITY CONTACT EMAIL: pat.mclaughlin@kingcounty.gov	
Did you operate in <u>2012</u> ? ☒ Yes If yes , proceed to next section and complete the form. ☐ No If no , answer the following questions, sign and date the last page, and submit. This completes your reporting obligations. When did you stop operations? _____ Do you plan to restart? ☐ No ☐ Yes When? _____			
AMOUNTS AND TYPES OF WASTE DISPOSED PER YEAR			
PLEASE CHECK IF DISPOSED	AMOUNT DISPOSED Please check: ☐ Cubic Yards or ☒ Tons		
☒ Municipal/Commercial Solid Waste	801,068		
☐ Construction/Demolition Waste			
☐ Yard Waste (disposed)			
☐ Food Processing Waste (disposed)			
☐ Landclearing Debris			
☒ Industrial Waste	230		
☐ Inert Waste			
☐ Wood Waste			
☐ Ash (other than special incinerator ash)			
☐ Dredged Materials			
☐ Sewage Sludge			
☒ Asbestos	74		
☒ Petroleum Contaminated Soils	14		
☒ Other Contaminated Soils	492		
☐ Tires (disposed)			
☒ Medical Waste	1		
☒ Other (specify): <i>Sewer grit, decanted vector solids, containerized liquids</i>	2,930		
☒ Other (specify): <i>Oversized items, wastes requiring special handling or Certificates of Destruction, other misc wastes.</i>	2,105		
Total	806,914		

DID YOU RECEIVE MATERIALS FOR RECYCLING? ☐ Yes (Please specify on pages 3-4.) ☒ No			
ADDITIONAL INFORMATION (please check if attached): ☒ Attach results of ground water monitoring in accordance with WAC 173-351-415(1) ☒ Attach applicable financial assurance information in accordance with WAC 173-351-600			
Are you open to the public? ☐ Yes ☒ No		Tip fees (Attach schedule if available): Enclosed	
REMAINING PERMITTED CAPACITY: In tons: <u>11,774,180</u> Estimated Date of Closure: <u>2024, or when filled.</u>		Are you planning an expansion this year? ☐ Yes ☒ No	
ENERGY RECOVERY FROM LANDFILL: Power Produced Annually _____ kilowatt hours			
During the reporting year, were there any changes in your management practices that would impact your operations? ☐ No ☒ Yes (specify) <u>Completed closure of Area 6; filling in Area 7 is ongoing. New gas extraction wells were added to increase collection efficiency. Operation of the BEW facility located on landfill property was restarted.</u> Are there any new solid waste activities planned at your site for this calendar year? ☒ No ☐ Yes (specify) _____ _____ Planned start date: _____			
DID YOU RECEIVE MATERIALS FOR DISPOSAL FROM:	WHERE FROM	TYPE OF WASTE	ESTIMATE AMOUNT ☐ Tons or ☐ Cubic Yards
Out of County? ☐ Yes ☒ No			
Out of State? ☐ Yes ☒ No			
Out of Country? ☐ Yes ☒ No			

NOTE: Please ONLY fill in this chart if you collected materials for RECYCLING or COMPOSTING

AMOUNTS AND TYPES OF MATERIALS COLLECTED FOR RECYCLING OR COMPOSTING

PLEASE CHECK IF RECEIVED FOR <u>RECYCLING or COMPOSTING</u>	COMMERCIAL Please check: ☐ Cubic Yards/Year or ☐ Scaled Tons/Year	RESIDENTIAL Please check: ☐ Cubic Yards/Year or ☐ Scaled Tons/Year	TOTAL AMOUNT RECEIVED Please check: ☐ Cubic Yards/Year or ☐ Scaled Tons/Year
☐ Newspaper			
☐ Corrugated Paper			
☐ Mixed Waste Paper			
☐ Container Glass			
☐ PET Plastics			
☐ HDPE Plastics			
☐ LDPE Plastics			
☐ Other Recyclable Plastics			
☐ Aluminum Cans			
☐ Tin Cans			
☐ Ferrous Metals (iron, steel)			
☐ Nonferrous Metals (excluding aluminum cans)			
☐ Appliances (white goods)			
☐ Electronics (computers, CPUs, hard drives)			
☐ Electronics (monitors, TVs)			
☐ Tires (collected)			
☐ Asphalt			
☐ Concrete			
☐ Construction/Demolition			
☐ Wood Waste			
☐ Landclearing Debris			
☐ Yard Debris			
☐ Food/Food Scraps			
☐ Textiles (rags, clothing)			
☐ Co-Mingled Recyclables (specify):			
☐ Other (specify):			
Total			

NOTE: Please ONLY fill in this chart if you collected materials for RECYCLING or COMPOSTING

DESTINATION AND FINAL USE OF OUTGOING MATERIALS COLLECTED FOR RECYCLING or COMPOSTING	
1	2
3	4
5	6
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93	94
95	96
97	98
99	100

[illegible]

PREPARED BY: Marilyn Monk,

DATE: 3/22/2013

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SECTION 3 - LANDFILL CAPACITY ANALYSIS AND LANDFILL DEVELOPMENT STATUS

3.1 - Capacity Analysis

The current Operating Permit for the CHRLF limits the maximum elevation to 788 feet mean sea level (msl) and airspace capacity is calculated based on the maximum elevation. Attachment A provides an analysis of landfill capacity used and the remaining capacity at the site. Results of the analysis are summarized in Tables 1 and 2. Additional capacity included in Table 2 is anticipated based on observed settlement in Area 5 and extrapolated to Areas 6 and 7. Additional capacity available from recoverable cover soils is not included in this analysis.

Table 1 – AIRSPACE CAPACITY

Waste Disposal Area	Airspace Capacity at Permitted Elevation¹ (cubic yards)	Remaining Airspace Capacity (cubic yards)
Area 5	8,394,846	792,000 ²
Area 6	6,767,143	756,000 ²
Area 7	8,818,887	7,071,000 ²
Total Remaining Airspace Capacity		8,619,000
1. Per the current operating permit. 2. Remaining airspace capacity is based on the August 14, 2012 aerial photography compared with the final grading plan for Areas 5, 6 and 7. Due to the timing of flights, more recent aerial photography was not available when this report was written.		

Table 2 – ESTIMATED OPERATING LIFE

Waste Disposal Area	Current Remaining Airspace Capacity (cubic yards)	Estimated Airspace Capacity with Anticipated Future Settlement¹ (cubic yards)	Remaining Operating Life (years)
Area 5	792,000	800,000	0.6 ²
Area 6	757,000	850,000	0.7 ²
Area 7	7,071,000	7,400,000	6.6 ²
Area 8	8,500,000 ⁴	8,627,500	6.8 ³
Estimated Remaining Airspace Capacity & Life		17,677,500	14.7
1. Estimated Airspace Capacity with Anticipated Future Settlement includes additional airspace that is expected to be gained due to settlement between now and the time that the area is filled. 2. Through 2018 the Operating Life is based on refuse being placed at 1500 pounds per cubic yard and an average of 836,000 tons per year. 3. From 2019 to 2028 the Operating Life is based on refuse being placed at 1500 pounds per cubic yard and an average of 957,000 tons per year. 4. Area 8 airspace capacity from the Final Environmental Impact Statement 2010 Site Development Plan.			

3.2 - Landfill Development Status

The development status of the landfill is summarized in Table 3. Closed Areas are refuse Areas closed in accordance with pertinent regulatory requirements and not currently scheduled to receive additional waste. The Area 5 and Area 6 top surfaces have interim covers that will be maintained until the completion of the last remaining lifts.

Table 3 – STATUS OF LANDFILL AREAS¹

Landfill Area	Closed Area Size (acres)	Open Area Size (acres)
Main Hill	84.4	0.0
Southeast Pit	9.6	0.0
South Solid Waste Area	30.6	0.0
Central Pit	5.5	0.0
Area 2/3	22.2	0.0
Area 4	60.4	0.0
Area 5	9.2 ² 37.1 ³	31.4
Area 6	25.18 ² 37.4 ³	30.1
Area 7	0.00	55.5
Area 8	Not Developed	Not Developed
1. Areas are net final cover plan view surfaces or as otherwise noted. 2. Final cover surface area. 3. Interim final cover surface area.		

SECTION 4 - FINANCIAL ASSURANCE ANALYSIS

The KCSWD maintains a landfill reserve fund (LRF) account for new area development, closure, post-closure, and corrective action in accordance with WAC 173-351-600. The LRF receives monthly transfers from the KCSWD operating fund, which obtains about 94% of its revenue each year from customers paying the waste disposal fee for MSW brought into the KCSWD solid waste system. The transfer amount is set annually and varies based on KCSWD future plans. In 2012, the LRF contribution was \$9.21 per ton. In 2013, KCSWD implemented a new disposal rate, which was approved by the King County Council. The new disposal rate includes funding for the revised new are development, closure and post closure maintenance cost estimates. The LRF contribution for 2013 in the new disposal rate is \$12.21 per ton.

Historically, a uniform 3% discount rate and 3% interest rate are used for each year until landfill closure. In 2009, a 6% discount rate was used, but has since returned to the historical 3% discount rate. As of 2011, based on recommendation of King County Auditor's Office, the policy has been changed to use the King County Office of Economic and Financial Analysis (OEFA) forecast for the interest rate, which was -1.83% for 2013. The interest rate will vary each year in accordance with the most recent forecast.

The current LRF rate of \$12.21/ton for 2013 is based on current status at the time the rate was adopted:

- [a] The current tonnage forecast.
- [b] An interest rate of -1.83% on any monies invested over any future years in the fund.
- [c] The projected costs in each future year, for Closure, New Area Development, and Facility Improvements.
- [d] The assumption that waste receipt will stop in June of 2025, and final closure completed in 2027.

[e] The prediction from the previous year that the requirement, at the completion of final closure will be \$2,392,068 per year, if there is zero future inflation, to maintain the landfill for 30 years.

[f] This annual funding need can be met with a trust fund of about \$46,900,000 as of December 2027.

The new area development costs and closure costs are forecast based on historical per acre costs. The schedule of activities for new area development and area closures is provided in Attachment B. The forecasted cost for corrective action includes in the near years the forecasted costs for currently planned activities. The forecasted cost of unplanned future activities is included at a flat rate of \$200,000 annually.

The Post Closure Maintenance estimate used in the 2012 Rate Request is included for this report. Detailed estimates of post closure maintenance costs are included in Attachment B.

KCSWD sent a letter to WDOE in 2012 regarding options for providing certification of the LRF funding. KCSWD has had no further discussions with WDOE or DPHSKC. When the correct mechanism has been identified, KCSWD will provide the certification required.

SECTION 5 - WASTE DISPOSAL QUANTITIES

The CHRLF received about 2,226 tons of municipal solid waste a day in 2012. Detailed information can be found on the tonnage Annual Report in Section 2.

SECTION 6 - SUMMARY OF 2012 GROUNDWATER, SURFACE WATER, LEACHATE AND LANDFILL GAS MONITORING RESULTS AND 2013 PROPOSED ENVIRONMENTAL MONITORING PROGRAM

6.1 - Summary 2012 Groundwater Monitoring Program

Groundwater monitoring is conducted in accordance with WAC 173-351-410 and reported here in compliance with WAC 173-351-415(1). A summary of groundwater data collected during the reporting year is presented in Appendix IV of Attachment D.

The Groundwater Monitoring Program is described in Section 6.2 of the 2004 CHRLF Hydrogeologic Report and in Attachment D of this annual report. Thirty nine (39) groundwater monitoring wells are used for monitoring groundwater elevations and geochemical sampling in the regional aquifer, and nine (9) for monitoring the perched saturated zones. Eleven (11) additional wells in the perched zone are monitored only for groundwater elevations. Detection monitoring wells are located down-gradient of, or lateral to, waste placement areas. Background characterization wells are located up-gradient of waste placement areas.

6.2 - Summary Surface Water Monitoring Program

The surface water monitoring program is described in Section 6.1 of the May 2004 CHRLF Hydrogeologic Report. The goals of this program include the following elements:

- Monitor changes in water quality;
- Verify the effectiveness of leachate management facilities in controlling leachate discharges to surface water;
- Monitor the effectiveness of Best Management Practices (BMPs) per the Storm Water Pollution Prevention Plan (SWPPP); and
- Evaluate compliance with the Industrial Stormwater General Permit.

Surface water quality is monitored at twelve (12) strategic locations around the landfill. Surface water samples are collected monthly for characterization. CHRLF is covered by the State Industrial Stormwater General Permit (ISWGP), which establishes monitoring requirements and benchmark values for several parameters. The three discharge locations are monitored quarterly for compliance with the ISWGP. Permit compliance monitoring locations are at SW-N4 at the north end of the landfill, SW-GS1 at the south end and SW-SL3 at the discharge of the bioswale along 228th Avenue Southeast. Field and analytical surface water data is included in Appendix IV of Attachment D.

6.3 - Summary Leachate Monitoring Program

Leachate is analyzed for characterization and permit compliance. Leachate is sampled monthly at four stations for characterization and every other week at the Leachate Effluent Pump Station discharge point for compliance with permit conditions. Leachate characterization is a critical component of detection monitoring, enabling the detection of any potential for groundwater contamination by leachate. Leachate characterization also serves to assess pretreatment needs prior to discharge and to evaluate the effectiveness of pretreatment. Characterization includes all analytes that groundwater is analyzed for plus several analytes specifically related to wastewater characterization and treatment. Permit compliance samples are analyzed for metals concentrations to monitor compliance with discharge permit requirements and to calculate loadings.

Self-monitoring discharge permit reports are generated monthly and submitted to the King County Wastewater Treatment Division. Field and analytical leachate data for 2012 are included in Appendix IV of Attachment D.

6.4 - Summary Landfill Gas Monitoring Program

Landfill gas (LFG) monitoring is performed in accordance with provisions of WAC 173-351-200(4). A network of LFG monitoring probes has been installed at strategic locations and elevation intervals below the ground surface to measure LFG composition and pressure (see Attachment E). In general, there are two categories (defined by function) of probes at the CHRLF. Migration Monitoring Probes are primarily intended to verify that methane concentrations at the property boundary are not exceeding the lower explosive limit (LEL) for methane (typically 5 percent, by volume) and whether subsurface LFG is migrating into surrounding native soils. Interior LFG Monitoring Probes are used to evaluate and manage the

performance of the LFG collection system and will indicate if any operational adjustments to the system are required.

Monitoring Probe Network: The installation history of the LFG monitoring probes at the CHRLF was described in the 2005 CHRLF Annual Report. The probes are either single or multiple completion probes. Information on the location, elevation, and installation date, and a description of each probe is provided in the Monitoring Plan figure included in Attachment E.

Parameters typically measured at the LFG monitoring probes include methane, oxygen and carbon dioxide concentrations and static pressure. Monitoring is performed quarterly for compliance with WAC 173-351, and monthly for operational indicators. Monitoring data results are included in Attachment E. Results from LFG migration monitoring for 2012 are discussed in Sections 8.1 and 8.3 of this report.

6.5 - Proposed Environmental Monitoring Program for 2013

There are currently no proposed changes to the environmental monitoring program. At the present time, environmental monitoring is expected to continue as in 2012. However, draft updates to the Cedar Hills Sampling and Analysis Plan and the Cedar Hills Hydrogeologic Report are expected to be submitted to DPHSKC for approval in 2013. These documents include proposed changes to the environmental monitoring program. These changes will be implemented upon approval.

SECTION 7 - SUMMARY OF LANDFILL PERSONNEL TRAINING PROGRAM

The KCSWD implements a Landfill Training Program that ensures that landfill personnel comply with the Certification requirements of WAC 173-300-060. Employees with earned SWANA Landfill Certification as Manager of Landfill Operations (MOLO) are listed below in Table 5.

Table 5 – 2012 MOLO CERTIFIED STAFF

NAME	TITLE	DATE OF CERTIFICATION
John Hills	Lead Equipment Operator	Certified through 2015
Lenny Kuzaro	Lead Equipment Operator	Certified through 2013
Rusty Bogart	Utility Crew	Certified through 2015
Chris Gavigan	Fleet & Facility Maintenance Supervisor I	Certified through 2015
Lee Momon	Interim Assistant Operations Manager	Certified through 2015
Dean Voelker	Landfill Operations Supervisor	Recertify in 2013
Nigel White	Transportation Supervisor	Certified through 6/28/2013
Steve Smith	Shop Supervisor	Certified through 2013
Wally Grant	Senior Landfill Gas Operator	Certified through 2013

SECTION 8 - EVALUATION REPORTS

8.1 - Summary of Emergency or Corrective Actions Taken in 2012

8.1.1 Landfill Gas Corrective Action

LFG was detected above 5% methane by volume at gas probes along the western perimeter in 2011. KCSWD response actions were detailed in the 2011 Annual Report.

KCSWD developed a response plan, *Cedar Hills Regional Landfill Mitigation Plan for Landfill Gas*, which was completed and sent to the DPHSKC and the WDOE on November 21st 2011.

In preparation of the response plan, geologic conditions along the western perimeter were evaluated and it was determined that LFG could be migrating through higher permeability, unsaturated sediments that were characterized as either the stratified drift or advance outwash deposits. The plan targets the potential zone of LFG migration in the native sediments with seven LFG extraction wells.

Drilling began on January 10, 2012 and was completed February 24, 2012. All of the seven new LFG extraction wells have been connected to the LFG extraction system. Following the start of full operation of the extraction system, no further methane exceedances were noted at the western perimeter. After evaluating the performance of the new extraction system, KCSWD determined that additional wells would provide assurance that the extraction wells were providing adequate coverage. The drilling of the additional wells began in October 2012 and was completed in February 2013. Influence testing of the wells will be completed in 2013.

8.1.2 Leachate Discharge Permit Corrective Action

There were no violations of the Wastewater Discharge Permit 7842-01 and no associated corrective actions in 2012.

8.1.3 Inspection Reports Responses

In 2012, inspection reports from DPHSKC identified one violation at the site. This identified violation and the corrective actions taken are identified below.

Date	Violation Identified	Corrective Measures Taken
February 10, 2012	Litter present above the daily soil cover on Area 7 and west of the west perimeter road.	Increased litter crew activity in these areas, and installed debris fencing in Area 7 northwest of the active area.

8.1.4 Title V Deviation Reports

KCSWD reports deviations from the Title V Air Operating Permit in monthly Deviation Reports. In 2012, KCSWD filed 7 Deviation Reports: in February, March, April, May, August, October and November. None of these deviations resulted in violations. The deviation and preventative measures taken for each event is listed below.

Month	Deviation	Preventative Measures Taken
February 2012	Oxygen concentration exceeded 5% in 1 wells.	Flow rate was adjusted down to control for infiltration.
March 2012	Oxygen concentrations exceeded 5% in 1 well.	Flow rate was adjusted down to control for infiltration.
April 2012	Oxygen concentrations exceeded 5% in 3 instances among 2 wells.	Flow rate was adjusted down to control for infiltration. One well was closed after lowering the flow rate did lower concentrations below 5%.
May 2012	Oxygen concentrations exceeded 5% in 2 wells.	Flow rate was adjusted down to control for infiltration.
August 2012	Oxygen concentrations equal to 5% in 1 well.	Flow rate was adjusted down to control for infiltration.
October 2012	Temperature on rented flare was initially recorded by a data logger instead of a continuous temperature indicator.	Temperature sensor has been hooked up to the SCADA system for continuous monitoring and recording.
November 2012	Oxygen concentrations exceeded 5% on 2 instances at the same well.	For one well, flow rate was adjusted down to control for infiltration. For the other well, flow rate was first adjusted up, and then down on the same day, and oxygen concentrations were lowered below 5%.

Beginning on March 9, 2011, Puget Sound Clean Air Agency granted King County an exception for wells 9S and 9N in Area 5 to be operated above the limit of 131°F. This allowed for increased gas extraction in Area 5. Below are the instances that these two wells were operated above 131°F. These instances are not considered deviations.

Month	Instance	Preventative Measures Taken
April 2012	Temperature exceeded 131°F in 2 instances in Well 9S.	Well monitored daily, with particular attention to CO readings in accordance with the exception granted by PSCAA.
May 2012	Temperature exceeded 131°F in 2 instances in Well 9S	Well monitored daily, with particular attention to CO readings in accordance with the exception granted by PSCAA.
August 2012	Temperature exceeded 131°F in 2 instances each for wells 9S and 9N.	Well monitored daily, with particular attention to CO readings in accordance with the exception granted by PSCAA.
October 2012	Temperature exceeded 131°F in Well 9S.	Well monitored daily, with particular attention to CO readings in accordance with the exception granted by PSCAA.

8.2 - Evaluation of Surface and Groundwater Monitoring Data

8.2.1 - Surface Water Monitoring Data

The CHRLF operates under the Industrial Stormwater General Permit (ISWGP) number WAR000756. Three discharge points are monitored in compliance with the ISWGP. These points are SW-N4 to the north, SW- GS1 in the south, and SW- SL3 along 228th Avenue SE.

Under the ISWGP, quarterly sampling is required for the following 12 parameters: BOD₅, total suspended solids, ammonia (total as N), alpha terpineol, benzoic acid, p-Cresol (4-methylphenol), phenol, zinc (total), pH, turbidity, copper (total), and oil sheen. Actual monitoring includes quarterly monitoring for these analytes at these three locations, as well as monthly monitoring for additional analytes at all locations. Field and analytical surface water data is included in Appendix IV of Attachment D.

Monitoring Station SW-N4 monitors discharges to Issaquah Creek. There were no exceedances of the ISWGP at SW-N4 in 2012.

Monitoring Station SW-SL3 monitors discharges to a series of roadside ditches that discharge to the Cedar River. Most of the storm water infiltrates along Cedar Grove Road. There were no exceedances of the ISWGP at SW-SL3 in 2012.

Monitoring Station SW-GS1 monitors discharges to a designated King County wetland with palustrine forested, palustrine open water, and palustrine emergent wetland classes. The wetland does not discharge to any fresh waters of the State nor does it contain key aquatic life uses. Exceedances of the ISWGP at SW-GSI were for the monthly average for total suspended solids during the months of April and July. Exceedances of the ISWGP for 2012 are listed in Table 6 below.

Further examination of the data shows that while the total suspended solids were high in two samples, the field and lab turbidities for these samples are not similarly elevated as would be expected. The conclusion is that the total suspended solids sample was not representative. To improve on the representativeness of the sample, the environmental samplers at KCSWD attended training on surface water sampling methodology that will aid in obtaining more consistent and representative samples in the future.

Table 6 – SUMMARY OF SURFACE WATER QUALITY CRITERIA EXCEEDANCES

Parameter	Units	Sampling Location	Sample Date(s)	Value	Regulatory Limit	Regulation
TSS	(mg/L)	SW-GS1	April	38.25	27 (monthly average)	ISGP
	(mg/L)	SW-GS1	7/12/2012	59.8*	27 (monthly average)	ISGP
ISWGP = Industrial Stormwater General Permit						
* Grab Sample, not averaged						

8.2.2 - Groundwater Monitoring Data

Groundwater at the Cedar Hills Regional Landfill occurs both in a regional aquifer and in perched zones. Aquifer recharge is entirely by precipitation. There are no seasonal variations in horizontal groundwater flow paths. Vertical hydraulic gradients are found in areas of high recharge and transmissive aquifer materials. The Regional Aquifer is the first continuously saturated zone beneath the landfill and serves as the earliest path for detection monitoring. Groundwater flowing onto the CHRLF site is of a highly variable character spatially and temporally.

Additional hydrogeologic characterization has been completed to further delineate regional aquifer flow and to refine and streamline the detection monitoring network to ensure adequacy and eliminate redundancy.

The primary recharge area for the regional aquifer is immediately across the south property line. Flow is radial from this center such that the flow across the south property line is oriented south

to north. Flow moves northward under the property footprint. As the flow approaches the north third of the landfill property, recharge from the McDonald Creek drainage begins to influence the flow and the flow direction changes to the NE where flow lines converge and the gradient increases. This results in a convergent effect which concentrates flow into a relatively narrow corridor. The influence of McDonald Creek creates a localized flow path from west to east beneath the north portion of the property.

The groundwater data evaluation presented in Attachment D describes onsite groundwater flow (elevations, direction and velocity) and groundwater quality. Variations in chemical concentrations over time, and possible impacts to groundwater quality by surface activities are also presented.

Upgradient groundwater quality, especially in wells nearest the recharge zone, is profoundly affected by conditions and activities that have occurred on the adjoining Queen City Farms site. Groundwater CHRLF wells on the property border are impacted by chlorinated volatile organic compounds (CVOCs) from the Queen City Farms site. Presence of these contaminants and their migration is well documented in Attachment D and elsewhere. Data indicate that the CHRLF is acting as an attenuation zone for up-gradient CVOC impacts from the Queen City Farms site, reducing concentrations along the groundwater flow path.

Flow further downgradient under the CHRLF footprint and immediately downgradient of waste cells is influenced by landfill gas (LFG) in the unsaturated strata. This influence has altered water quality measurably. The presence of the LFG in the unsaturated strata is further confirmed as described in section 8.1.1. As flow continues further through the site mixing and attenuation processes return water quality similar to upgradient conditions.

Notably higher concentrations of chloride in the west to east flow paths underlying infrastructure in the north end of the site will continue to be monitored and an investigation of conveyance facilities is in planning. As flow converges in the northeast, mixing and attenuation processes return water quality similar to upgradient conditions.

Analytes exceeding State Groundwater Criteria (WAC 173-200-040 Table 1) and regularly detected in up-gradient wells include arsenic, and the chlorinated volatile organic compounds (CVOC) trichloroethene and vinyl chloride. Arsenic is also regularly detected in down-gradient samples; however, trichloroethene and vinyl chloride are not.

Additional analytes exceeding secondary standards are iron and manganese and pH. Secondary standards are non-mandatory Federal guidelines regarding aesthetic (taste, odor, or color) or cosmetic (causing tooth or skin discoloration) effects. Exceedances of these secondary standards occurred in both upgradient and downgradient wells. Exceedances are reported in quarterly reports.

Impacts from past landfilling practices have previously been recognized in several wells in the East Main Hill Perched Zone (MW-30A and MW-47) and the South Solid Waste Area Perched Zone (MW-101). Site improvements and engineered facilities have been effective in moderating some of the impacts to water quality. Trends for most contaminants in these perched zone wells

have stabilized with the exception of parameters associated with landfill gas migration in monitoring well MW-47.

Investigations are underway to further evaluate residual perched zone impacts and the integrity and effectiveness of engineered facilities in closed, unlined landfill areas. A consultant to assist in the investigations will be secured in 2013. Specific actions will be identified with the assistance of the consultant and action plans will be submitted to PHSKC and WDOE in 2014.

In general groundwater quality in the regional aquifer leaving the site remains consistent with historical data.

8.3 - Evaluation of Gas Monitoring Data

See Attachment E for LFG probe monitoring data. According to WAC 173-351-200 (4) (a), the concentration of methane gas generated by the facility shall not; exceed 25 percent of the lower explosive limit (LEL) for methane in facility structures (excluding gas control or recovery system components), exceed the LEL for methane at the facility property boundary or beyond, or exceed 100 parts per million (ppm) by volume of methane in off-site structures.

The LFG compliance monitoring probes (LFG migration monitoring probes) are located along the perimeter of the landfill as shown in Attachment E. The rest of the probes are used to monitor LFG levels in the interior of the landfill and for transitional evaluation of LFG collection and extraction-specific facilities.

KCSWD has historically monitored landfill gas on a monthly or quarterly basis for compliance with WAC 173-351. In addition to this compliance monitoring, additional monitoring has occurred at the perimeter and interior probes to provide information to the LFG extraction system operators. All the monitoring data for the year is included in Attachment E. Table 1 of Attachment E provides the monitoring data as reported previously in the quarterly reports. Table 2 of Attachment E includes monitoring data not previously reported.

In 2012, corrective actions described in Section 8.1.1 were implemented in response to methane readings greater than the LEL at two west property boundary probes. These corrective actions primarily involved installation of seven LFG extraction wells along the western edge of the landfill area, outside of the liner system. Until the first several wells were installed near the end of January 2012, occasional methane exceedances continued in the two probes. After January 2012, with full operation of the new extraction wells there were no further exceedances. In an effort to test the influence of the wells, several wells were turned off for approximately 12 hours. This led to an exceedance on March 12, 2012. The testing was immediately stopped and all wells were reopened. The methane concentration decreased within hours. The exceedances and responses taken were reported to PHSKC the same day. No other exceedances at any perimeter probes were measured throughout the year.

8.4 - Evaluation of Leachate Monitoring Data and Volumes Generated

8.4.1 - Leachate Volumes

The recorded volumes of leachate discharged from the leachate aeration basins via the Leachate Effluent Pump Station (LEPS) are indicated in Table 7. The actual leachate volume generated within the landfill is not measured directly.

Table 7 – LEACHATE DISCHARGE DATA AND EXCEEDANCES FOR 2011 and 2012

Month	2012 Monthly Flow (million gallons)	2012 Number of Exceedances	2011 Monthly Flow (million gallons)	2011 Number of Exceedances
January	29.69	0	33.3	0
February	23.05	0	14.84	0
March	31.13	0	27.56	0
April	15.38	0	21.75	0
May	11.62	0	14.96	0
June	10.21	0	5.83	0
July	6.81	0	4.92	0
August	2.50	0	2.89	0
September	2.02	0	3.49	0
October	12.36	0	13.53	0
November	27.72	0	23.81	0
December	31.16	0	13.29	0
Total Discharged	203.65	0	180.17	0
Average. Monthly Discharge	16.97	0	15.01	0

Pursuant to the Industrial Waste Discharge Permit No. 7842-01, the Daily Maximum Discharge rate from the Leachate Effluent Pump Station (LEPS) is 3,500,000 gallons per day (gpd) or 3.5 million gallons per day (MGD). The Permit allows for periodic exceedance of this limit when weather conditions make it necessary. There were no exceedances of the daily limit in 2012.

8.4.2 - Leachate Monitoring Data

A statistical summary of the leachate monitoring data is included as Appendix F of Attachment D. There were no violations of the Industrial Wastewater Discharge Permit in 2012.

8.5 - Topographical Mapping and Landfill Settlement

See Attachment F for a current topographic map of the site and final grade plan of the active landfill area. Aerial topographic surveys are completed twice per year to enable the computation of the landfill airspace consumption rate and remaining capacity. Airspace utilization factors for the last five years are summarized in Table 8.

8.5.1 - Area 5

Area 5 is permitted as a 14 lift landfill cell. As of August 10, 2005, lifts 1 through 12 had been completed and lift 13 was partially completed before operations were transitioned to Area 6. Interim cover was constructed over the top surface and settlement monitoring points were established.

8.5.2 - Area 6

Filling operations in Area 6 began on August 10, 2005 and were suspended on August 27, 2010. Area 6 is permitted as a 14 lift landfill cell. Lifts 9 and 10 were filled as a single thirty foot lift. Interim cover was completed in 2012.

8.5.3 - Area 7

Filling operations in Area 7 began on June 17, 2010. It is permitted as a seven lift cell with each lift being thirty feet.

Table 8 – LANDFILL AIRSPACE UTILIZATION FACTORS

Year	Tonnage	Total Airspace Consumed (cy)	Airspace Utilization Short Term Density (AUSTD) (lb/cy)	Average Soil Usage (cy/day)	Average Soil / Tonnage Ratio (cy/ton)	Average Soil / Airspace (cy/cy)
2006	998,871	1,564,508	1,277	486	0.178	0.113
2007	1,010,377	1,454,689	1,389	449	0.162	0.113
2008	930,617	1,270,613	1,465	481	0.189	0.138
2009	867,482	957,538	1,812	506	0.213	0.193
2010	830,909	1,183,488	1,404	507	0.223	0.156
2011	812,684	1,154,946	1,405	350	0.157	0.111
2012	811,270	989,515	1,639	304 ¹	0.137	0.112

Footnote:

1 – Soil usage in 2012 includes estimated tonnage received from Bow Lake Transfer Station construction.

The average airspace utilization short term density (AUSTD) over the last seven years was 1484 lb/cy. Operation practice have decreased soil usage over the years due to sustained use of alternative daily cover, rock recovery, improved compaction practices, utilizing 30 foot lifts and settlement. AUSTD decreased due to reduced compaction effort on the first lifts of Area 7, but have since increased. Soil usage decreased further in 2012 due to increased use of tarps for alternative daily cover.

8.5.4 - Settlement

Settlement monitoring at CHRLF was started in 1992 and by 2005 seven monitoring locations had been established. More stations were added in 2007 while others were abandoned as a result of operational impacts. The effective total number of stations is currently nine. The monitoring locations, elevations and settlement data are included in Attachment F.

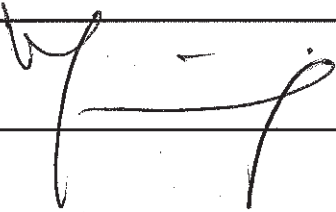
Annual settlement, which is dependent on refuse thickness and time, has varied from 0.22% to 3.79% of the refuse thickness. Total settlement at all stations was variable. The average

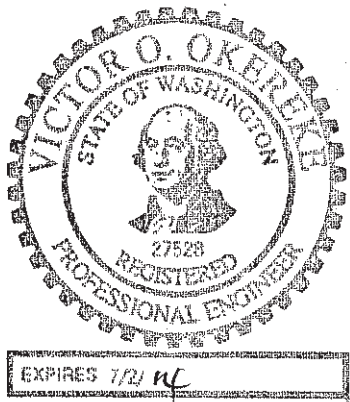
settlement rate for 2012 was 1.08 ft/yr. It is anticipated that landfill settlement will continue, with older refuse areas settling at a comparatively slower rate than newer refuse areas.

SECTION 9 - CERTIFICATION

Annual Report and Groundwater Evaluation Certification

I certify in accordance with the requirements of WAC 173-351-400(c) (3), that the contents of Attachment D – Groundwater Evaluation of this document were prepared under my direction or supervision under a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Where applicable, some specific and related hydrogeologic portions have been duly certified by the responsible groundwater scientist. Based on my inquiry of the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Dr. Victor O. Okereke, P.E., DEE	Title: Manager, Engineering Services	Date: March 29, 2013
Mailing Address: Solid Waste Division Department of Natural Resources & Parks 201 South Jackson Street, Suite 701 Seattle, WA 98104-3855		Telephone Number: 206-296-4422
Signature: 		



SECTION 10 - ATTACHMENTS

Attachment A - Remaining Capacity Analysis

Attachment B - Financial Assurance Estimates

Attachment C – Annual Permit Renewal Application
Disposal Fees

Attachment D - Groundwater Data Evaluation

- Appendix I Potentiometric Groundwater Surface Maps and Groundwater Velocity Calculations
- Appendix II Time-Concentration Plots
- Appendix III Trilinear Diagrams and Ion Balance Calculations
- Appendix IV Field and Analytical Data

Attachment E - Landfill Gas Probe Monitoring Program Information

Attachment F - Landfill topography, final grades for Areas 5, 6 and 7, settlement monitoring stations and graphs of settlement data points with lines and best fit curves

Attachment A

Remaining Capacity Analysis

Attachment A

Cedar Hills Regional Landfill Facility Airspace Analysis

Years of Operation	Refuse Area	Volume in Place (except where noted)	Recorded or Projected Tonnage	Notes
1965 – 1986	Main Hill	18,300,000		
Early 1980's	Southeast Pit	525,000		
Mid 1970's	South Solid Waste	405,000		Deducted 120,000 cubic yards excavated in 2003
Subtotal for old unlined Areas		19,230,000	10,167,775	Refuse tonnage only
1986 – 1988	Central Pit	4,000,000		At time of fill
1988 – 1991	Area 2/3	9,150,000		At time of fill
Subtotal for Central Pit & Area 2/3		13,150,000	6,551,465	Refuse tonnage only
1991 – 1999	Area 4 (Closure Reports)	10,154,300	7,541,500	Refuse tonnage only
1999 – Closure	Area 5	8,394,846 ²	600,000 ¹	Projected
2005 – Closure	Area 6	6,767,143 ²	567,613 ¹	Projected
2010 – Closure	Area 7	8,818,887 ²	5,303,557 ¹	Projected
2018 – Closure	Area 8	8,627,500 ³	6,470,625 ¹	Projected
Subtotal for Areas 4, 5, 6, 7 and 8		43,168,939		
Estimated refuse only tonnage capacity for: Areas 5, 6, 7 and 8			12,941, 795	
Grand Totals		75,548,939	37,202,535	
1. Estimated remaining tonnage capacity. This is based on a density of 1500 pounds per cubic yard. 2. Total volume capacity after placement of final lift. 3. Estimated capacity.				

Attachment B

Financial Assurance Estimates

2012 Post Closure Maintenance Cost Estimate for Cedar Hills Regional Landfill

Background

WAC 173-351 requires owners and operators of Municipal Solid Waste Landfills (MSWLF) have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit or all MSWLF units in compliance with the post-closure plan developed under WAC 173-351-500(2).

The Post Closure Maintenance (PCM) estimates have been prepared for Cedar Hills Regional Landfill (CHRLF) for many years. These estimates are prepared based on historical levels of effort required for tasks that will continue through the post closure period and levels of effort required for similar tasks conducted at closed landfills currently maintained by the King County Solid Waste Division (SWD). These estimates are updated annually. The update for 2012 includes a review of the proposed activities and adjusts for activities that have changed based on changes to operation and maintenance practices utilized by SWD.

Purpose

The purpose of this document is to provide the basis for the PCM estimate for 2012. This includes the underlying assumptions and the documented changes from previous years.

Major PCM Elements

All tasks from previous PCM estimates were reviewed to determine that all tasks are still necessary and that all necessary tasks are included. The itemized tasks were reviewed with SWD operations leads and or supervisors.

All tasks were reviewed to determine whether current estimates of levels of effort to complete the task are still current and to determine appropriate level of effort for any new tasks.

The estimate is based on tasks being performed by SWD staff or contractors in the same manner as currently performed. To compensate for the potential that all tasks may be performed by contractors, a project management cost was added to the overall estimate. The underlying assumption is that the cost of performing the work remains constant whether performed by SWD forces or contractors, but SWD would incur increased costs for managing contracts with the contractors.

The cost items in the PCM estimate include:

- Cover Maintenance & General Site Maintenance
 - o Vegetation control
 - o Geomembrane repair
 - o Road maintenance
 - o Fence Repair
 - o Litter Control
 - o Grading
 - o Well Boot repair

- Leachate System Maintenance
 - o Aerator repair and maintenance
 - o Pump repair and maintenance
 - o Leachate extraction well replacement
 - o Periodic line cleaning
 - o Air compressor repair and maintenance
- Stormwater System Maintenance
 - o Stormwater conveyance system cleaning and maintenance
 - o Catch basin cleaning and maintenance
 - o Pond cleaning and maintenance
- Landfill Gas System Maintenance
 - o Blower repair and maintenance
 - o Flare repair and maintenance
 - o Stack emissions testing
 - o Routine testing and maintenance
- Environmental Monitoring
 - o Groundwater and leachate samples
 - o Laboratory analysis
- Electrical Utilities
- Permits
 - o Operating Permit for Closed Landfill
 - o Air Operating Permit
- Wastewater Utility Fees
- Project Management and Reporting
 - o Sample collection
 - o Data management
 - o Reporting
 - o Project Management
- Investigation and Remediation
- Project management costs for third party contractor
- Contingency

Key Assumptions for Cost Estimates

Several key assumptions were made regarding the cost estimates. These assumptions are outlined below.

- ❖ The post closure period will be thirty years in length, beginning when the closure is approved by the Seattle King County Department of Public Health.
- ❖ At the time of closure, BEW or equivalent facility will be operating to utilize the landfill gas generated at the site. The facility will have scheduled downtime for maintenance, requiring use of the flares. The source testing requirement for this minimized use of the flares will be to test all flares once every five years.
- ❖ The closure project at the final closure will leave all systems in full working condition, with no anticipated major repairs.

- ❖ Support facilities and equipment currently located at CHRLF will either be relocated or will be supported through the another funding source..
- ❖ Leachate recirculation is not included in the estimate. It is expected that if leachate recirculation is implemented, this will represent a cost savings.
- ❖ Operating and maintenance costs are included in the hourly rates for equipment.
- ❖ Overhead costs for employees include all costs associated with providing resources for employees to perform their tasks, including supervision.
- ❖ Equipment required to perform tasks is included in task budgets, including pickups for supervisors and leads. Equipment costs are based on federal approved rates, as available and California State approved rates otherwise.
- ❖ The Industrial General Stormwater Permit (IGSWP) will no longer be in effect after closure and no surface water sampling will be required.
- ❖ The estimate is based on tasks being performed by SWD staff or contractors in the same manner as currently performed. To compensate for the potential that all tasks may be performed by contractors, a project management cost was added to the overall estimate. The underlying assumption is that the cost of performing the work remains constant whether performed by SWD forces or contractors, but SWD would incur increased costs for managing contracts with the contractors.
- ❖ Contingency – The contingency included in this estimate includes known unknowns such as responses to changes in groundwater quality or need to address landfill gas in native soil. This contingency assumes there will be one major investigation and remediation project during the thirty year closure period. This activity is projected from years 5 through 10. Additional contingency is included to address the management of the risk that the landfill gas and leachate systems may have a failure requiring extensive repair or replacement and is assumed at 25% of the maintenance cost of the leachate and landfill gas systems.
- ❖ Major cost items that have more uncertainty include a 5-10% estimating contingency. These items are maintenance activities that are currently performed and therefore have reliable cost projections to perform the work, but the frequency that will be required is less certain. Higher contingency is applied to systems that have had more variable maintenance costs.
- ❖ Unknown unknowns are not included in the contingency and are assumed to be covered by management reserves. Examples of potential unknown unknowns include remediation due to Queen City Farms, changes to regulations and natural disasters.

Assumptions specific to the tasks are included in the detail tables that provide the supporting documentation for the estimate.

Summary of Costs

The summary of costs is provided in the table below.

Cedar Hills Regional Landfill Post Closure Maintenance Cost Estimate				
Task Group	<u>Annual Costs</u>	<u>Contingency</u>	<u>Annual Amount</u>	<u>Basis</u>
Cover Maintenance	\$443,042	5%	\$461,833	Based on current estimated hours for PCM; updated wage and benefit rates
Leachate System Maintenance	\$168,046	10%	\$178,844	Based on current estimated hours for PCM; updated wage and benefit rates; reduced aerator repair and replacement to reflect historical; adjusted for reduced leachate production in PCM
Stormwater System Maintenance	\$356,431	5%	\$382,209	Based on current estimated hours for PCM; updated wage and benefit rates
Landfill Gas System Maintenance	\$206,050	10%	\$226,655	Based on current estimated hours for PCM; updated wage and benefit rates; assumes BEW or alternative utilizing all LFG; flares operating intermittently requiring source testing every 5 yrs
Environmental Monitoring	\$143,150	10%	\$144,000	analytical lab, weather station maintenance
Electrical Utilities	\$250,000		\$250,000	Based on current costs
Permits	\$5,000		\$5,000	Based on current permit costs
Project Management and Reporting	\$655,893		\$655,893	Includes project management, field staff for monitoring; database mgmt contract mgmt; field equipment
Project management costs for third party contractor	\$199,135		\$206,949	Assumes contractor can complete labor at same cost as KCSWD; KC assumes 9% cost to manage - contingency is inherent to labor tasks
Wastewater utility	\$250,000		\$250,000	Assume reduced to average of 100 MG per year over the 30 years
Base Estimate	\$2,666,748		\$2,761,382	
Contingency	\$260,191		\$268,041	Contingency based on 25% of leachate & LFG system maintenance plus one \$5M project occurring between years 5 and 10
TOTAL	\$2,926,938		\$3,029,424	

Exclusions

This estimate does not include costs of unknown risks. The risks addressed are identifiable and have some probability of occurring based on experiences at other closed sites. The estimate does not address the potential for the PCM period to extend beyond the minimum thirty years prescribed in the WAC 173-351.

Attachments

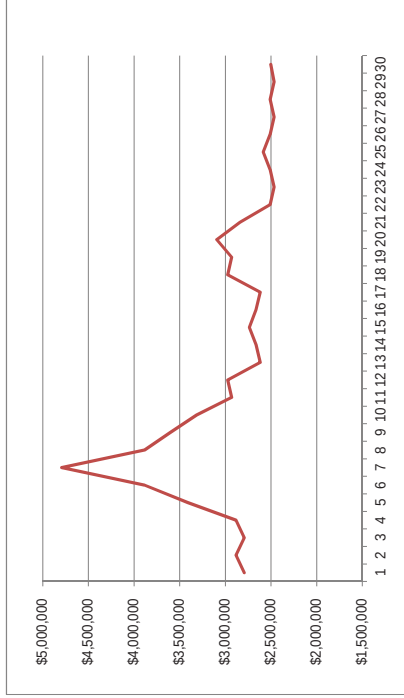
Distribution of Cost by Year
Project Management and Reporting Summary Costs
SWD Labor Costs by Task
Contract Costs by Task
Equipment Costs by Task
Landfill Reserve Fund Cash Flow

DRAFT PCM ESTIMATE FOR CEDAR HILLS REGIONAL LANDFILL

Updated 2/23/2011

Updated by LB

PCM year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PCM Task Group	Cover System														
	Maintenance	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042
	Leachate System														
	Maintenance	\$199,276	\$271,276	\$199,276	\$271,276	\$199,276	\$199,276	\$271,276	\$199,276	\$271,276	\$139,276	\$175,276	\$139,276	\$175,276	\$175,276
	Stormwater System														
	Maintenance	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431
	Landfill Gas System														
	Maintenance	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883	\$120,883
	Environmental Monitoring	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150
	Electrical Utilities	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
Permits	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
	ESS Support	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693	\$655,693
	Project management costs														
	for third party contractor	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135
Wastewater utility	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
	\$2,712,811	\$2,784,811	\$2,784,811	\$2,784,811	\$2,807,811	\$2,784,811	\$2,712,811	\$2,784,811	\$2,982,811	\$3,129,811	\$2,802,811	\$2,838,811	\$2,552,811	\$2,688,811	\$2,588,811
SUBTOTAL	\$80,039.83	\$98,039.83	\$98,039.83	\$98,039.83	\$603,799.83	\$1,098,039.83	\$2,080,039.83	\$1,098,039.83	\$642,289.83	\$184,289.83	\$127,539.83	\$136,539.83	\$65,039.83	\$74,039.83	\$74,039.83
Contingency															
TOTAL	\$2,792,850	\$2,882,850	\$2,792,850	\$2,882,850	\$3,411,600	\$3,882,850	\$4,792,850	\$3,882,850	\$3,605,350	\$3,314,100	\$2,930,350	\$2,975,350	\$2,617,850	\$2,662,850	\$2,662,850



DRAFT PCM ESTIMATE FOR CEDAR HILLS REGIONAL LANDFILL

Updated 2/23/2011

Updated by LB

PCM Year	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PCM Task Group														
Cover System														
Maintenance	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042	\$433,042
Leachate System														
Maintenance	\$139,276	\$175,276	\$139,276	\$175,276	\$146,459	\$133,186	\$97,186	\$133,186	\$97,186	\$133,186	\$97,186	\$133,186	\$97,186	\$47,913
Stormwater System														
Maintenance	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431	\$356,431
Landfill Gas System														
Maintenance	\$120,883	\$370,883	\$370,883	\$465,883	\$370,883	\$120,883	\$120,883	\$120,883	\$215,883	\$120,883	\$120,883	\$120,883	\$120,883	\$200,883
Environmental Monitoring	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150	\$143,150
Electrical Utilities	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
Permits	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
ESS Support	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893	\$655,893
Project management costs for third party contractor														
Wastewater utility	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135	\$199,135
	\$250,000	\$250,000	\$250,000	\$250,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
SUBTOTAL	\$2,552,811	\$2,838,811	\$2,802,811	\$2,933,811	\$2,709,984	\$2,446,721	\$2,410,721	\$2,446,721	\$2,595,721	\$2,446,721	\$2,410,721	\$2,446,721	\$2,410,721	\$2,441,448
Contingency	\$65,039.83	\$136,539.83	\$127,539.83	\$160,289.83	\$129,335.58	\$63,517.33	\$54,517.33	\$63,517.33	\$76,267.33	\$63,517.33	\$54,517.33	\$63,517.33	\$54,517.33	\$62,201.08
TOTAL	\$2,617,850	\$2,975,350	\$2,930,350	\$3,094,100	\$2,839,329	\$2,510,238	\$2,465,238	\$2,510,238	\$2,593,988	\$2,510,238	\$2,465,238	\$2,510,238	\$2,465,238	\$2,503,649

2012 PCM Cost Estimate Project Management and Reporting Costs

[illegible]

Labor Costs by Task

<u>Task</u>	<u>Labor Costs</u>
Access & On Site Road Maintenance	\$11,273.31
Fence Repair & Vegetation Control	\$75,908.06
Litter or Illegal Dumping Pickup	\$2,292.11
Vegetation Control	\$53,297.56
Periodic Line Cleaning	\$60,073.12
Routine Maintenance	\$34,774.99
Stormwater Conveyance System Maintenance	\$86,967.09
Catch Basin and Grate Cleaning	\$19,235.47
Retention Basin Cleaning	\$52,925.51
TOTAL	\$396,747.22

Contract Cost by Task

<u>Task</u>	<u>Annual Cost</u>
Weather Station Maintenance	\$8,500
Grading	\$135,000
Drainage Improvements	\$38,175
Liner Repair	\$5,000
Well Boot Repair	\$7,500
Leachate Well Replacement	\$7,500
Leachate Well Replacement	\$7,500
Annual Pump Repair	\$12,500
Major Pump Replacement	\$7,000
Annual Aerator Repair	\$0
Aerator Replacement	\$12,500
Air Compressor Overhaul	\$900
Major Blower and Motor Replace	\$12,000
Flare Rehabilitation	\$100,000
Actuator Valve Replacement	\$1,000
Well Replacement	\$7,500
Stack Emissions Testing	\$16,000
	\$378,575

Equipment Costs By Task

<u>Task</u>	<u>Amount</u>
Access & On Site Road Maintenance	\$19,232
Fence Repair & Vegetation Control	\$85,350
Litter or Illegal Dumping Pickup	\$835
Vegetation Control	\$13,920
Periodic Line Cleaning	\$8,700
Routine Maintenance	\$16,318
Stormwater Conveyance System Maintenance	\$26,959
Catch Basin and Grate Cleaning	\$12,242
Retention Basin Cleaning	\$28,350
 TOTAL	 \$211,905

Attachment C

Application for Annual Permit Renewal Disposal Fees



2012 APPLICATION FOR RENEWAL

1006 - Municipal Landfill

CEDAR HILLS SANITARY LAND



* 1 N 0 4 9 7 1 6 6 2 0 1 . 0 0 *

84

GHP Number : PR0015736

FA Number : FA0012050

BUSINESS NAME AND ADDRESS :

CEDAR HILLS SANITARY LAND

16645 228TH AV SE

MAPLE VALLEY, WA 98038

MAILING
ADDRESS :

CEDAR HILLS SANITARY LAND
KING COUNTY SOLID WASTE DIV
201 S JACKSONSUITE 701
SEATTLE, WA 98104-3855

DUE DATE	AMOUNT DUE
12/31/2012	\$ 201.00
IF PAID AFTER 1/10/2013	\$ 221.10
1/30/2013	\$ 241.20
3/1/2013	\$ 261.30
<i>x [Signature]</i> 12-26-12 SIGNATURE OF APPLICANT DATE	

Make any changes for your business on this form.

Make Checks payable to: SKCDPH
Public Health - Seattle King County
401 Fifth Avenue, Suite 1100
Seattle, WA 98104

206-296-0189 (FAX)

FOR OFFICE USE ONLY

APPROVED _____ DISAPPROVED _____

X _____
SIGNATURE DATE

RETURN THIS ORIGINAL FORM WITH YOUR PAYMENT

ESTABLISHMENT INFORMATION

FILL IN BLANKS AND NOTE ANY SIGNIFICANT CHANGE TO YOUR OPERATION FROM THE ORIGINAL APPLICATION (e.g. new equipment, dust, noise, litter, leachate, traffic measures, etc.) Attach additional pages as needed

See attached.

Change of Name _____ Sole Owner X Partnership _____ Corporation _____
LANDFILLS, TRANSFER STATIONS, COMPOSTING SLUDGE UTILIZATION/TREATMENT/MRW
COLLECTION SITES:

Estimated sludge application rate (dry tons per acre) N/A
Est. average volume or weight: 2,226 tpd Projected volume (10 year) 11,351,000 c.y.
Present in place volume (tons or cubic feet) Estimated if necessary 59,660,000 c.y.
Est. number of vehicles per day 117 vpd Projected date of closure: 2024, or when filled
Final disposal destination N/A

OWNERSHIP INFORMATION: (please update if needed)

Name of owner: KING COUNTY SOLID WASTE DIVISI

Address of owner:

City: Zip Code: Daytime Phone:

Name of owner: _____

Address of owner: _____

City: _____ Zip Code: _____ Daytime Phone: _____ Email: _____

- ☐ Change of Business Name
- ☐ Change of Ownership
- ☐ Classification Change
- ☐ Mailing Address Change

PAYMENT INFORMATION

☐ Check or Money Order Payable to: SKCDPH OR Pay Online: www.kingcounty.gov/health/portal

☐ VISA Print Name on Credit Card: _____

☐ MasterCard Card Billing Address: _____

☐ Discover Billing Zip: _____ Amount Charged: \$ _____

Card #: _____

Card Expires: ____/____/____ 3 Digit Code (on back of card): _____

Required Signature (as on credit card): _____

Date: _____

Cedar Hills Regional Landfill

2013 Operating Permit Renewal

Establishment Information - 2012 Operational Changes

- Filling in Area 7 is ongoing.
- Completed closure of Area 6
- New gas extraction wells added to increase collection efficiency.
- Operation of BEW facility located on landfill property restarted

Disposal Fees - King County Solid Waste Division

(Effective January 1, 2013.)

Disposal Fees	Basic Fee	Moderate Risk Waste Surcharge	WA State Refuse Tax (3.6%)	Total ¹
Per-ton fee	\$120.17	\$4.731	\$4.50	\$129.40
Minimum fee	\$19.43	\$1.81	\$0.75	\$22.00
Charitable organizations (To qualify, organizations must meet criteria in K.C.C. 10.04.020)				
Per-ton fee	\$92.55	\$4.73	\$3.50	\$100.78
Minimum fee	\$15.08	\$1.81	\$0.61	\$17.50
Special Waste Fees				
Per-ton fee	\$145.00	N/A	\$5.22	\$150.22
Minimum fee	\$23.20	N/A	\$0.84	\$24.04
Asbestos per-ton fee	\$175.00	N/A	\$6.30	\$181.30
Asbestos min. fee	\$28.00	N/A	\$1.01	\$29.01
Recycling Fees	Basic Fee		Total	
Appliances for recycling – limit three/load. No commercial appliances. Bow Lake, Enumclaw, Shoreline and Vashon only.				
Appliances w/refrigerant		\$30.00		\$30.00
Other major appliances		\$10.00		\$10.00
Clean wood for recycling Bow Lake, Enumclaw and Shoreline only.				
Per ton fee		\$75.00		\$75.00
Minimum fee		\$12.00		\$12.00
Electronics for recycling (CD, DVD & VCR players only) – limit ten/load Shoreline only				
CD, DVD & VCR players		\$5.00 each		\$5.00 each
Fluorescent bulbs and tubes for recycling – Limit twelve of each type /load				
Bulbs or tubes		\$0.80 each		\$0.80 each
Yard Waste for recycling Bow Lake, Cedar Falls, Enumclaw and Shoreline only.				
Per ton fee		\$75.00		\$75.00
Minimum fee		\$12.00		\$12.00
Unsecured Load Fee - \$25.00				

Disposal Fees - King County Solid Waste Division

Additional Information:

- **Garbage loads:** The minimum fee covers the first 320 pounds. Passenger cars are charged a per entry fee of \$22.00. All other vehicles, including station wagons, vans, mini-vans, pickup trucks, recreational vehicles, all-terrain vehicles, and sports utility vehicles are charged for the actual weight disposed, based on the per-ton fee.
- **Yard waste or clean wood loads for recycling:** The minimum fee covers the first 320 pounds. Passenger cars are charged a per entry fee of \$12.00. All other vehicles, including station wagons, vans, mini-vans, pickup trucks, recreational vehicles, all-terrain vehicles, and sports utility vehicles are charged for the actual weight disposed, based on the per-ton fee. Materials must be separated for recycling before arriving at the station.
- **Unsecured loads:** K.C.C. 10.12.040 requires a fee to be charged to all vehicles with unsecured loads arriving at any transfer station or landfill in King County. State law (RCW 46.61.655) requires loads to be secured on every street, road or highway in the state. An unsecured load is a load of solid waste that has not been secured with tarps, rope, straps, netting or chains to prevent the covering or any part of the load from becoming loose, detached or leaving the vehicle while the vehicle is moving. Gravity, speed and weight are not load-securing devices.

Attachment D

2012 Groundwater Data Evaluation

Attachment E

2012 Landfill Gas Probe Monitoring Program Information

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-ATC-1	Chatc01D	1/25/2012 11:17	0	0	0.1	19.9	-7.52	
		2/22/2012 10:38	0	0	0.1	20.9	0.02	
		3/27/2012 10:17	0	0	0	21	0.15	
		4/18/2012 9:53	0	0	0.1	20.3	0	
		5/24/2012 10:00	0	0	0.1	20.7	0	
		6/21/2012 13:40	0	0	0	20.5	0	
		7/18/2012 11:06	0	0	0.1	20.9	0.25	
		8/21/2012 10:37	0	0	0	20.7	0.01	
		9/18/2012 9:44	0	0	0.1	20.6	0	
		10/25/2012 11:41	0	0	0	20.5	-0.3	
		11/15/2012 13:09	0	0	0.1	21	0.2	
		12/28/2012 13:16	0	0	0	20.7	-0.25	
		1/25/2012 11:16	0	0	0	0	-0.08	NR - H2O
GP-ATC-6	Chatc01S	2/22/2012 10:36	0	0	0	0	-0.02	NR - H2O
		3/27/2012 10:16	0	0	0	0	-8.97	NR - H2O
		4/18/2012 9:50	0	0	0	0	-5.53	NR - H2O
		5/24/2012 9:58	0	0	0	0	0	NR - H2O
		6/21/2012 13:38	0	0	0	20.7	0.02	
		7/18/2012 11:05	0	0	0.1	20.8	0.08	
		8/21/2012 10:35	0	0	3.6	16.8	0	
		9/18/2012 9:43	0	0	3.8	18.2	0	
		10/25/2012 11:40	0	0	0.1	20.5	-0.08	
		11/15/2012 13:08	0	0	0.1	21	0.07	
		12/28/2012 13:15	0	0	0	0	0	NR - H2O
		1/25/2012 12:14	0	0	0.8	8.4	-0.06	
		2/22/2012 11:43	0	0	0.9	3.8	0.19	
GP-ATC-6	Chatc06D	3/27/2012 11:09	0	0	0.8	2.8	0.43	
		4/18/2012 10:54	0	0	0.5	12.6	-0.02	
		5/24/2012 10:50	0	0	0.7	8.4	0.16	
		6/21/2012 15:02	0	0	0.5	10.9	0.23	NR - H2O
		7/18/2012 12:09	0	0	0.5	13.7	-0.07	
		8/21/2012 12:43	0	0	0.1	20.5	-0.2	
		9/18/2012 10:37	0	0	0.1	20.7	-0.18	
		10/25/2012 12:39	0	0	0.3	20.6	-0.44	
		11/15/2012 13:35	0	0	0.8	15.3	1.07	
		12/28/2012 14:02	0	0	0.9	3.3	0.41	
		1/25/2012 12:13	0	0	0.1	19.7	0.06	
		2/22/2012 11:41	0	0	0.1	20.8	2.54	
		3/27/2012 11:08	0	0	0	21	-6.95	
GP-ATC-6	Chatc06S	4/18/2012 10:52	0	0	0.1	19.9	0.01	
		5/24/2012 10:48	0	0	0	20.7	-0.01	
		6/21/2012 15:00	0	0	0	20.6	0	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-ATC-6 continued	Chatc06S continued	7/18/2012 12:08	0	0	2.6	18.3	0.01	
		8/21/2012 12:41	0	0	2.8	19.1	0	
		9/18/2012 10:35	0	0	2	19.9	0	
		10/25/2012 12:38	0	0	1.2	20.1	0	
		11/15/2012 13:33	0	0	0.1	21	0.06	
		12/28/2012 14:00	0	0	0.1	20.9	-3.21	
GP-ATC-8	Chatc08D	1/25/2012 12:26	0	0	0.4	14.9	-3.69	
		2/22/2012 11:32	0	0	0.4	16	2.27	
		3/27/2012 11:21	0	0	0.2	17.4	0	
		4/18/2012 11:04	0	0	0.2	18.9	-0.06	
		5/24/2012 10:55	0	0	0.3	19.2	0.12	
		6/21/2012 14:51	0	0	0.4	17.8	0.1	
		7/18/2012 12:20	0	0	0.4	20.2	-0.01	
		8/21/2012 12:53	0	0	0.3	19.5	-0.05	
		9/18/2012 10:48	0	0	0.3	18.1	0	
		10/25/2012 12:49	0	0	0.3	20.1	-0.17	
		11/15/2012 13:46	0	0	0.4	15.8	0.36	
		12/28/2012 14:07	0	0	0.3	14	-2.68	
		1/25/2012 12:24	0	0	0.1	19.8	-0.21	NR - H2O
		2/22/2012 11:30	0	0	0	0	0.24	
		3/27/2012 11:20	0	0	1	14.3	0.02	
		4/18/2012 11:02	0	0	2	15.6	0	
		5/24/2012 10:53	0	0	2.9	14	0	
		6/21/2012 14:49	0	0	3.6	14.3	0	
		7/18/2012 12:19	0	0	4.2	15.6	0	
		8/21/2012 12:52	0	0	2.8	19	0	
		9/18/2012 10:46	0	0	1.6	19.9	0.01	
		10/25/2012 12:48	0	0	1.5	19.5	0	
		11/15/2012 13:44	0	0	4.2	15.6	0	
		12/28/2012 14:05	0	0	0.1	20.8	-4.93	
GP-11	Chgp011A	1/25/2012 11:01	0	0	1	18.4	0.21	
		2/22/2012 10:12	0	0	0.7	19.7	-1.63	
		3/27/2012 10:03	0	0	1	19.4	-0.45	
		4/18/2012 9:41	0	0	0.8	18.9	-8.58	
		5/24/2012 9:47	0	0	0.5	19.7	0.7	
		6/21/2012 15:24	0	0	0.5	19.6	-0.02	
		7/18/2012 10:53	0	0	0.4	20.1	0.12	
		8/21/2012 12:27	0	0	1.5	17.3	0	
		9/18/2012 9:32	0	0	2.3	18.9	0	
		10/25/2012 9:21	0	0	2.1	19.7	0	
		11/15/2012 12:31	0	0	1.9	20	4.5	
		12/28/2012 12:55	0	0	0.4	20.6	0.08	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-11 continued	Chgp011B	1/25/2012 11:05	0	0	0.1	19.7	-3.17	
		2/22/2012 10:14	0	0	0.3	17.3	-0.79	
		3/27/2012 10:04	0	0	0.4	13.2	0.89	
		4/18/2012 9:42	0	0	0.1	20.3	-0.02	
		5/24/2012 9:48	0	0	0.5	13.7	0.9	
		6/21/2012 15:25	0	0	0.2	16.7	1.52	
		7/18/2012 10:55	0	0	0	20.8	-0.94	
		8/21/2012 12:28	0	0	0	20.5	-0.23	
		9/18/2012 9:34	0	0	0.1	20.6	0.09	
		10/25/2012 9:22	0	0	0.1	20.7	-3.14	
		11/15/2012 12:32	0	0	0.1	21	1.59	
		12/28/2012 12:57	0	0	0	20.8	-0.69	
	Chgp011C	1/25/2012 11:07	0	0	0.1	19.8	-2.33	
		2/22/2012 10:16	0	0	0.2	13.4	-0.69	
		3/27/2012 10:06	0	0	0.1	11.1	1.02	
		4/18/2012 9:44	0	0	0.1	20.3	-0.09	
		5/24/2012 9:50	0	0	0.1	11.6	0.9	
		6/21/2012 15:27	0	0	0.1	12.4	1.44	
		7/18/2012 10:56	0	0	0	20.8	-0.8	
		8/21/2012 12:30	0	0	0	20.5	-0.24	
		9/18/2012 9:35	0	0	0	20.7	-0.03	
		10/25/2012 9:23	0	0	0.1	20.7	-2.68	
		11/15/2012 12:34	0	0	0.1	21	1.29	
		12/28/2012 12:58	0	0	0	20.8	-0.3	
	Chgp011D	1/25/2012 11:09	0	0	0.2	19.7	0.07	
		2/22/2012 10:18	0	0	0.1	20.8	0.01	
		3/27/2012 10:08	0	0	0.1	21	0.07	
		4/18/2012 9:46	0	0	0.2	20.2	0.09	
		5/24/2012 9:52	0	0	0.2	20.6	0.25	
		6/21/2012 15:28	0	0	0.1	20.5	0.07	
		7/18/2012 10:58	0	0	0.1	20.7	0.03	
		8/21/2012 12:31	0	0	0.1	20.3	0.08	
		9/18/2012 9:37	0	0	0.1	20.6	0.11	
		10/25/2012 9:25	0	0	0.2	20.7	0	
		11/15/2012 12:35	0	0	0.2	21	0.22	
		12/28/2012 13:00	0	0	0.1	20.7	0.11	
GP-12	Chgp012A	1/25/2012 11:24	0	0	0.1	19.9	0	
		2/22/2012 10:46	0	0	0.1	21	0	
		3/27/2012 10:25	0	0	0	21	0.05	
		4/18/2012 9:58	0	0	0.1	20.3	0	
		5/24/2012 10:05	0	0	0.1	20.7	0	
		6/21/2012 13:47	0	0	0	20.8	0	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-12 continued	Chgp012A continued	7/18/2012 11:14	0	0	0.1	21	0	
		8/21/2012 10:54	0	0	0	20.9	0	
		9/18/2012 9:51	0	0	0.3	20.5	0	
		10/25/2012 11:57	0	0	0.2	20.6	0	
		11/15/2012 12:43	0	0	1.3	20.2	0.58	
		12/28/2012 13:30	0	0	0	21	0.72	
	Chgp012B	1/25/2012 11:25	0	0	0.1	19.9	0	
		2/22/2012 10:48	0	0	0.1	21	0	
		3/27/2012 10:26	0	0	0	21	0.08	
		4/18/2012 10:00	0	0	0.1	20.4	0	
		5/24/2012 10:07	0	0	0	20.9	0	
		6/21/2012 13:49	0	0	0	20.7	0	
		7/18/2012 11:16	0	0	0	21	0.02	
		8/21/2012 10:56	0	0	0	21.1	0	
		9/18/2012 9:52	0	0	0	20.8	0.01	
		10/25/2012 11:58	0	0	0	20.7	0	
		11/15/2012 12:45	0	0	0.1	21	0	
		12/28/2012 13:32	0	0	0	21	-0.1	
	Chgp012C	1/25/2012 11:27	0	0	0.2	14.7	-6.28	
		2/22/2012 10:49	0	0	0.1	19.5	-9.05	
		3/27/2012 10:28	0	0	0.1	17.2	-10.85	
		4/18/2012 10:01	0	0	0.2	16.6	-17.41	
		5/24/2012 10:09	0	0	0.1	17.6	-12.48	
		6/21/2012 13:51	0	0	0.1	18.7	0.42	
		7/18/2012 11:18	0	0	0.2	19.6	0.04	
		8/21/2012 10:57	0	0	0.1	20.4	0	
		9/18/2012 9:54	0	0	0.1	20.2	0.01	
		10/25/2012 12:00	0	0	0.1	20.1	0	
	Chgp012D	11/15/2012 12:46	0	0	0.2	19.3	3.32	
		12/28/2012 13:33	0	0	0.2	17.4	4.59	
		1/25/2012 11:29	0	0	0.6	11.7	-5.11	
		2/22/2012 10:51	0	0	0.3	18.9	-0.73	
		3/27/2012 10:30	0	0	0.2	18.4	2.4	
		4/18/2012 10:03	0	0	0.2	20.2	-0.33	
		5/24/2012 10:10	0	0	0.3	16.3	0.72	
		6/21/2012 13:53	0	0	0.2	20.3	2.56	
		7/18/2012 11:19	0	0	0.2	20.9	-0.53	
		8/21/2012 10:59	0	0	0	21	-0.23	
		9/18/2012 9:56	0	0	0.2	19.3	-0.02	
		10/25/2012 12:01	0	0	0.2	18.1	-7.14	
		11/15/2012 12:48	0	0	0.3	17.7	0.32	
		12/28/2012 13:35	0	0	0.6	7.5	-3.65	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-13	Chgp013A	1/25/2012 11:33	0	0	0.1	19.4	0.02	
		2/22/2012 10:55	0	0	0.1	20.9	0	
		3/27/2012 10:34	0	0	0	21	0.19	
		4/18/2012 10:07	0	0	0.1	20.4	0	
		5/24/2012 10:13	0	0	0	20.8	0.02	
		6/21/2012 13:57	0	0	0	20.7	0	
		7/18/2012 11:23	0	0	2.7	16.3	0.05	
		8/21/2012 10:43	0	0	2.1	19.3	0	
		9/18/2012 10:00	0	0	1.4	19.7	0	
		10/25/2012 11:48	0	0	1.3	19.7	0	
		11/15/2012 12:51	0	0	1.4	19.7	0.08	
		12/28/2012 13:22	0	0	0	20.9	0	
	Chgp013B	1/25/2012 11:35	0	0	0.1	19.8	0.03	
		2/22/2012 10:57	0	0	0.1	21	0	
		3/27/2012 10:36	0	0	0	21	0.01	
		4/18/2012 10:09	0	0	0.1	20.3	0.03	
		5/24/2012 10:16	0	0	0	20.8	0.02	
		6/21/2012 13:59	0	0	0	20.6	-0.02	
		7/18/2012 11:25	0	0	0.1	20.9	0	
		8/21/2012 10:45	0	0	0	20.9	-0.02	
		9/18/2012 10:01	0	0	0	20.8	-0.08	
		10/25/2012 11:50	0	0	0	20.6	-0.07	
		11/15/2012 12:53	0	0	0.1	21	0.24	
		12/28/2012 13:23	0	0	0.1	20.8	0.02	
	Chgp013C	1/25/2012 11:37	0	0	0.1	20	-0.01	
		2/22/2012 10:58	0	0	0.1	21	-0.04	
		3/27/2012 10:37	0	0	0.1	13.4	0.01	
		4/18/2012 10:11	0	0	0.1	18.7	-0.01	
		5/24/2012 10:17	0	0	0	19.8	0	
		6/21/2012 14:01	0	0	0.1	11.8	0.02	NR-H2O
		7/18/2012 11:27	0	0	0	21	-0.24	
		8/21/2012 10:46	0	0	0	20.9	0	
		9/18/2012 10:03	0	0	0.1	18.6	0	
		10/25/2012 11:51	0	0	0	20.6	-0.21	
		11/15/2012 12:55	0	0	0.1	21	0.07	
		12/28/2012 13:25	0	0	0	20.9	0	
	Chgp013D	1/25/2012 11:38	0	0	0.1	20	-6.31	
		2/22/2012 11:00	0	0	0.1	21	-1.67	
		3/27/2012 10:39	0	0	0.4	16.1	1.37	
		4/18/2012 10:12	0	0	0.1	20.3	-0.83	
		5/24/2012 10:19	0	0	0.3	18.1	0.87	
		6/21/2012 14:03	0	0	0.4	16	1.8	

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King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-13 continued	Chgp013D continued	7/18/2012 11:28	0	0	0	21	-2.04	
		8/21/2012 10:48	0	0	0	21	-0.88	
		9/18/2012 10:05	0	0	0.3	16.6	0.06	
		10/25/2012 11:53	0	0	0	20.6	-6.77	
		11/15/2012 12:56	0	0	0.1	21	1.35	
		12/28/2012 13:26	0	0	0	21	-3.02	
GP-14	Chgp014A	1/25/2012 11:43	0	0	0.1	20	-5.66	
		2/22/2012 11:05	0	0	0.1	21	-1.48	
		3/27/2012 10:44	0	0	0.2	20.7	1.32	
		4/18/2012 10:16	0	0	0.1	20.3	-0.95	
		5/24/2012 10:23	0	0	0	21	0.9	
		6/21/2012 15:18	0	0	0	19.7	1.97	
		7/18/2012 11:33	0	0	0	21	-1.01	
		8/21/2012 11:06	0	0	0	21	-0.81	
		9/18/2012 10:09	0	0	0.1	19.9	0.17	
		10/25/2012 12:07	0	0	0	20.8	-6.27	
		11/15/2012 13:02	0	0	0.1	21	1.09	
		12/28/2012 13:41	0	0	0.1	20.8	-3.31	
GP-15	Chgp014B	1/25/2012 11:45	0	0	0.1	20	-5.71	
		2/22/2012 11:07	0	0	0.1	21	-1.54	
		3/27/2012 10:46	0	0	1.3	16.8	1.3	
		4/18/2012 10:18	0	0	0.1	20.4	-1.04	
		5/24/2012 10:25	0	0	1.7	15.9	0.76	
		6/21/2012 15:19	0	0	1.4	16.3	1.79	
		7/18/2012 11:35	0	0	0	21	-1.81	
		8/21/2012 11:09	0	0	0	20.7	-0.84	
		9/18/2012 10:11	0	0	1.1	17	0	
		10/25/2012 12:09	0	0	0	20.8	-6.45	
		11/15/2012 13:03	0	0	0.2	21	0.76	
		12/28/2012 13:42	0	0	0	21	-3.39	
GP-15	Chgp015A	1/25/2012 12:00	0	0	0	0	9.03	NR - H2O
		2/22/2012 11:25	0	0	0	0	0.2	NR - H2O
		3/27/2012 10:56	0	0	0	0	-16.49	NR - H2O
		4/18/2012 10:40	0	0	0	0	-5	NR - H2O
		5/24/2012 10:36	0	0	0	0	-11.88	NR - H2O
		6/21/2012 14:39	0	0	0.1	20.5	-0.01	
		7/18/2012 11:56	0	0	0.3	20.9	0.08	
		8/21/2012 11:23	0	0	0.7	20	0	
		9/18/2012 10:16	0	0	7.5	1.3	0.01	
		10/25/2012 12:14	0	0	6.5	6.4	0.29	
		11/15/2012 13:22	0	0	0	0	0.02	NR - H2O
								No December data

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King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-15 continued	Chgp015C	1/25/2012 12:03	0	0	1.4	14.7	-3.36	No December data
		2/22/2012 11:22	0	0	1.8	11.1	-0.76	
		3/27/2012 10:58	0	0	2.6	6	1.29	
		4/18/2012 10:42	0	0	0.2	20.2	0	
		5/24/2012 10:38	0	0	0.1	20.8	0.04	
		6/21/2012 14:36	0	0	2.1	7.5	1.97	
		7/18/2012 11:58	0	0	2.1	8.8	-0.91	
		8/21/2012 11:24	0	0	2.9	2.8	-0.26	
		9/18/2012 10:18	0	0	2.7	4.8	0.42	
		10/25/2012 12:16	0	0	0.2	20.1	-2.92	
		11/15/2012 13:24	0	0	3.4	0.9	4.52	
GP-16	Chgp015D	1/25/2012 12:04	0	0	0.2	19.4	-4.92	No December data
		2/22/2012 11:24	0	0	0.2	20.4	-4.08	
		3/27/2012 10:59	0	0	0.1	21	-5.15	
		4/18/2012 10:44	0	0	1.2	14.1	-2.54	
		5/24/2012 10:39	0	0	2.9	3.7	-2.58	
		6/21/2012 14:37	0	0	0.1	20.2	-3.64	
		7/18/2012 11:59	0	0	0.1	20.9	-3.71	
		8/21/2012 11:26	0	0	0.1	20.2	-3.87	
		9/18/2012 10:21	0	0	0.2	20.6	-2.79	
		10/25/2012 12:17	0	0	0.2	20.6	-3.27	
		11/15/2012 13:25	0	0	0.3	21	-5	
GP-16	Chgp016A	1/25/2012 12:17	0	0	0.1	19	0.02	
		2/22/2012 11:38	0	0	0.1	20.7	0.01	
		3/27/2012 11:13	0	0	0.2	21	0.04	
		4/18/2012 10:57	0	0	0.2	19.7	0.04	
		5/24/2012 10:57	0	0	0.1	20.8	0.02	
		6/21/2012 14:54	0	0	0.3	20.1	-0.01	
		7/18/2012 12:13	0	0	5.6	11.7	0.18	
		8/21/2012 12:46	0	0	4.2	18.4	0	
		9/18/2012 10:39	0	0	3.1	19.2	0	
		10/25/2012 12:42	0	0	2.2	18.9	0	
		11/15/2012 13:38	0	0	0.2	21	0.07	
		12/28/2012 13:55	0	0	0.5	20.8	-12.45	
GP-16	Chgp016B	1/25/2012 12:19	0	0	0.1	19.6	-2.31	
		2/22/2012 11:35	0	0	0.2	19.7	-0.72	
		3/27/2012 11:14	0	0	0.2	19.5	0.17	
		4/18/2012 10:58	0	0	0.1	20.1	-1.41	
		5/24/2012 10:59	0	0	0.3	19.5	2.33	
GP-16		6/21/2012 14:56	0	0	0.1	20.5	0.57	

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King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-16 continued	Chgp016B continued	7/18/2012 12:15	0	0	0.1	20.5	-0.73	
		8/21/2012 12:47	0	0	0.1	20.4	-0.63	
		9/18/2012 10:41	0	0	0.1	20.8	-0.84	
		10/25/2012 12:44	0	0	0.1	20.7	-6.44	
		11/15/2012 13:40	0	0	0.2	21	0.58	
		12/28/2012 13:56	0	0	0.1	21	-2.18	
	Chgp016C	1/25/2012 12:21	0	0	0.1	19.8	-6.11	
		2/22/2012 11:37	0	0	0.1	20.8	-1.47	
		3/27/2012 11:16	0	0	0.2	19.7	1.67	
		4/18/2012 11:00	0	0	0.1	20.1	-0.86	
		5/24/2012 11:01	0	0	0.3	19.4	1.12	
		6/21/2012 14:57	0	0	0.5	16.6	2.17	
		7/18/2012 12:16	0	0	0.1	20.9	-1.84	
		8/21/2012 12:49	0	0	0	20.6	-0.82	
		9/18/2012 10:43	0	0	0.1	20.4	0.15	
		10/25/2012 12:45	0	0	0.1	20.6	-6.52	
		11/15/2012 13:41	0	0	0.1	21	1.57	
		12/28/2012 13:58	0	0	0	21	-3.12	
GP-17	Chgp017A	1/25/2012 9:39	0	0	0	0	-13.38	NR - H2O
		2/22/2012 14:53	0	0	0	0	-3.2	NR - H2O
		3/27/2012 13:58	0	0	0	0	0.38	NR - H2O
		4/18/2012 11:53	0	2	0	0	-8.77	NR - H2O
		5/24/2012 12:17	0	32	0	0	0.71	NR - H2O
		6/21/2012 11:25	0	0	0	0	-6.62	
		7/18/2012 15:09	0	0	0	0	0.07	NR - H2O
		8/21/2012 13:08	0	0	0	0	-0.88	NR - H2O
		9/18/2012 11:37	0	0	3.8	12.8	0	
		10/25/2012 13:56	0	0	0	0	0	NR - H2O
		11/15/2012 14:53	0	0	0	0	6.45	NR - H2O
		12/28/2012 14:46	0	0	0	0	0	NR - H2O
		1/25/2012 9:42	0	0	1	15.3	-0.2	
GP-17	Chgp017B	2/22/2012 14:55	0	0	0.9	16.8	0.01	
		3/27/2012 14:00	0	0	0.8	17	0.05	
		4/18/2012 11:55	0	0	0.9	16.7	0	
		5/24/2012 12:19	0	0	0.8	17	0.01	
		6/21/2012 11:23	0	0	0.6	17.2	0	
		7/18/2012 15:11	0	0	0.7	17.3	0.06	
		8/21/2012 13:09	0	0	0.7	17.4	0	
		9/18/2012 11:38	0	0	0.7	17.1	0	
		10/25/2012 13:57	0	0	0.9	16.4	0	
		11/15/2012 14:54	0	0	0.9	16.7	0.07	
		12/28/2012 14:47	0	0	0.9	15.7	-1.41	

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Data Collected from January 2012 to December 2012
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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-17 continued	Chgp017C	1/25/2012 9:43	0	0	0.1	19.7	-5.35	
		2/22/2012 14:57	0	0	0.1	20.9	-1.7	
		3/27/2012 14:01	0	0	0.1	20.3	1.43	
		4/18/2012 11:56	0	0	0.1	20.1	-1.07	
		5/24/2012 12:21	0	0	0.1	18.3	1.04	
		6/21/2012 11:24	0	0	0	20.1	1.29	
		7/18/2012 15:12	0	0	0	20.8	-1.32	
		8/21/2012 13:11	0	0	0	20.4	-0.69	
		9/18/2012 11:41	0	0	0	20.5	-0.05	
		10/25/2012 13:59	0	0	0	20.4	-6.11	
		11/15/2012 14:55	0	0	0.1	21	1.56	
		12/28/2012 14:49	0	0	0.1	20.8	-3.06	
GP-18	Chgp018A	1/25/2012 9:47	0	0	0	0	3.34	NR - H2O
		2/22/2012 15:00	0	0	0	0	0.32	NR - H2O
		3/27/2012 14:04	0	0	0	0	-0.47	NR - H2O
		4/18/2012 11:59	0	0	0	0	-3.63	NR - H2O
		5/24/2012 12:24	0	0	0.1	20.2	-0.05	
		6/21/2012 11:29	0	0	0	20.5	-0.03	
		7/18/2012 15:15	0	0	1.4	15.9	0.31	
		8/21/2012 13:14	0	0	1.8	16.8	0	
		9/18/2012 11:43	0	0	1.8	17.9	0	
		10/25/2012 14:02	0	0	2.2	18.2	0	
		11/15/2012 14:58	0	0	2.1	18.6	0.14	
		12/28/2012 14:52	0	0	0	0	0	NR - H2O
	Chgp018B	1/25/2012 9:49	0	0	0.5	10.9	0	
		2/22/2012 15:02	0	0	0.4	12.6	0.01	
		3/27/2012 14:06	0	0	0.3	11.1	0.15	
		4/18/2012 12:01	0	0	0.4	11.3	0	
		5/24/2012 12:26	0	0	0.3	11.8	0	
		6/21/2012 11:30	0	0	0.2	12.8	0	NR-H2O
		7/18/2012 15:17	0	0	0.3	13	0.12	
		8/21/2012 13:16	0	0	0.3	12.5	0	
		9/18/2012 11:45	0	0	0.3	13.5	0	
		10/25/2012 14:03	0	0	0.4	14.2	0	
		11/15/2012 15:00	0	0	0.4	16.4	0.09	
		12/28/2012 14:53	0	0	0.4	12.4	0	
	Chgp018C	1/25/2012 9:51	0	0	0.5	18.9	-5.73	
		2/22/2012 15:04	0	0	1.3	15.7	-1.69	
		3/27/2012 14:07	0	0	1.5	11.7	2.19	
		4/18/2012 12:03	0	0	0.9	17.2	-0.97	
		5/24/2012 12:27	0	0	1.5	12.9	1.37	
		6/21/2012 11:32	0	0	1.1	14.1	1.54	NR-Construction

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-18 continued	Chgp018C continued	7/18/2012 15:18	0	0	0.5	19.2	-0.86	
		8/21/2012 13:17	0	0	0.4	19.1	-0.79	
		9/18/2012 11:47	0	0	0.7	14.9	0.17	
		10/25/2012 14:05	0	0	0.1	20.4	-6.54	
		11/15/2012 15:01	0	0	0.5	18.9	1.5	
		12/28/2012 14:55	0	0	0.2	20.7	-3.29	
GP-19	Chgp019A	1/25/2012 9:56	0	0	0.1	19.9	0.87	
		2/22/2012 15:08	0	0	0.1	20.9	0.01	
		3/27/2012 14:11	0	0	0	20.8	0.01	
		4/18/2012 12:05	0	0	0.1	20.2	0	
		5/24/2012 12:30	0	0	0	20.4	0	
		6/21/2012 11:36	0	0	0	20.6	0	
		7/18/2012 15:22	0	0	0	20.9	0.09	
		8/21/2012 13:20	0	0	0	20.3	0	
		9/18/2012 11:50	0	0	1.2	18.4	0	
		10/25/2012 14:08	0	0	1.4	18.1	0	
		11/15/2012 15:04	0	0	0.1	21	0	
		12/28/2012 14:58	0	0	0	20.9	0	
		1/25/2012 9:58	0	0	0.8	14.6	-4.35	
		2/22/2012 15:09	0	0	0.7	15.2	0.01	
		3/27/2012 14:12	0	0	0.6	15	0.1	
GP-19	Chgp019B	4/18/2012 12:07	0	0	0.7	14.7	0	
		5/24/2012 12:32	0	0	0.6	15	0.02	
		6/21/2012 11:37	0	0	0.4	15.8	0	
		7/18/2012 15:23	0	0	0.5	15.9	0.14	
		8/21/2012 13:22	0	0	0.5	15.7	0	
		9/18/2012 11:51	0	0	0.5	16.1	0	
		10/25/2012 14:09	0	0	0.7	15.9	0	
		11/15/2012 15:06	0	0	0.7	16.4	0	
		12/28/2012 14:59	0	0	0.7	15.6	4.81	
		1/25/2012 10:00	0	0	0.1	19.8	-0.45	
		2/22/2012 15:11	0	0	0.1	20.8	-0.07	
		3/27/2012 14:15	0	0	0	20.8	0.18	
		4/18/2012 12:08	0	0	0.1	20.2	-0.03	
		5/24/2012 12:34	0	0	0	20.2	0.12	
GP-19	Chgp019C	6/21/2012 11:39	0	0	0	20.9	0.11	
		7/18/2012 15:25	0	0	0	20.8	-0.05	
		8/21/2012 13:24	0	0	0	20.4	-0.03	
		9/18/2012 11:53	0	0	0	20.5	0.03	
		10/25/2012 14:11	0	0	0	20.5	-0.53	
		11/15/2012 15:07	0	0	0.1	21	0.1	
		12/28/2012 15:01	0	0	0	20.9	-0.21	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-20	Chgp020A	1/25/2012 10:06	0	0	0.1	20	1.52	
		2/22/2012 15:14	0	0	0.1	21	-0.02	
		3/27/2012 14:28	0	0	0	21	0.71	
		4/18/2012 12:11	0	0	0.1	20.3	0	
		5/24/2012 12:36	0	0	0	20.5	0	
		6/21/2012 11:43	0	0	0	21	0	
		7/18/2012 15:28	0	0	0	20.8	0	
		8/21/2012 13:27	0	0	1	19.4	0	
		9/18/2012 11:56	0	0	1	19.9	0	
		10/25/2012 14:15	0	0	0.2	20.5	0	
		11/15/2012 15:10	0	0	0.3	21	0.06	
		12/28/2012 15:04	0	0	0.1	20.9	-0.98	
		1/25/2012 10:07	0	0	0.3	11.7	-0.03	
	Chgp020B	2/22/2012 15:16	0	0	0.3	15.9	-0.01	
		3/27/2012 14:29	0	0	0.2	14.1	0.04	
		4/18/2012 12:12	0	0	0.3	18.2	0	
		5/24/2012 12:38	0	0	0.2	15.6	0.05	
		6/21/2012 11:44	0	0	0.1	17.3	0	
		7/18/2012 15:30	0	0	0.2	15.3	0.09	
		8/21/2012 13:29	0	0	0.2	15.9	0	
		9/18/2012 11:58	0	0	0.2	18.9	0.01	
		10/25/2012 14:16	0	0	0.1	20.3	-0.33	
		11/15/2012 15:12	0	0	0.2	21	0.08	
		12/28/2012 15:05	0	0	0.2	17.9	0	
		1/25/2012 10:09	0	0	0.4	10.7	-6.2	
		2/22/2012 15:17	0	0	0.2	8	-0.01	
	Chgp020C	3/27/2012 14:31	0	0	0.2	17.5	0.9	
		4/18/2012 12:15	0	0	0.2	6.8	0	
		5/24/2012 12:40	0	0	0.2	17.2	0	
		6/21/2012 11:46	0	0	0	20.9	0	
		7/18/2012 15:31	0	0	0.2	7.4	0.02	
		8/21/2012 13:31	0	0	0.1	4.2	0	
		9/18/2012 12:01	0	0	0.1	5	0	
		10/25/2012 14:18	0	0	0.2	4.5	0	
		11/15/2012 15:13	0	0	0.3	5.5	0.38	
		12/28/2012 15:07	0	0	0.2	11	0	
		1/25/2012 10:13	0	0	0	0	3.35	NR-H2O
		2/22/2012 15:20	0	0	0	0	0.4	NR-H2O
		3/27/2012 14:34	0	0	0	21	-5	
GP-21	Chgp021A	4/18/2012 12:18	0	0	0.1	19.9	-3.45	
		5/24/2012 12:43	0	0	0	20.5	-0.1	
		6/21/2012 11:49	0	0	0	21.2	0	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-21 continued	Chgp021A continued	7/18/2012 15:41	0	0	0	20.7	-0.95	
		8/21/2012 13:34	0	0	0	20.4	0	
		9/18/2012 12:03	0	0	1.3	18.3	0	
		10/25/2012 14:21	0	0	1.4	18.7	0	
		11/15/2012 15:16	0	0	0.1	21	1.09	
		12/28/2012 15:10	0	0	0.1	20.8	0	
	Chgp021B	1/25/2012 10:16	0	0	0.2	8.9	0	
		2/22/2012 15:22	0	0	0.1	9.2	0	
		3/27/2012 14:36	0	0	0.1	8.7	0.09	
		4/18/2012 12:19	0	0	0.1	8.9	0.01	
		5/24/2012 12:45	0	0	0	9	0	
		6/21/2012 11:51	0	0	0	9.5	0	
		7/18/2012 15:42	0	0	0.1	9	0.08	
		8/21/2012 13:35	0	0	0	9.1	0	
		9/18/2012 12:05	0	0	0.1	9.4	0	
		10/25/2012 14:22	0	0	0.1	10	0	
		11/15/2012 15:17	0	0	0.2	9.5	0.07	
		12/28/2012 15:11	0	0	0.1	8.9	0	
	Chgp021C	1/25/2012 10:19	0	0	0.2	9.4	0	
		2/22/2012 15:23	0	0	0.1	20.6	-0.01	NR-H2O
		3/27/2012 14:36	0	0	0	0	1.03	NR-H2O
		4/18/2012 12:23	0	0	0	0	-0.44	NR-H2O
		5/24/2012 12:47	0	0	0	0	-0.13	
		6/21/2012 11:52	0	0	0	0	-0.04	
		7/18/2012 15:43	0	0	0	0	0.23	NR-H2O
		8/21/2012 13:36	0	0	0	0	0.64	NR-H2O
		9/18/2012 12:08	0	0	0	0	-0.07	NR-H2O
		10/25/2012 14:23	0	0	0	0	0	NR-H2O
GP-22	Chgp022A	11/15/2012 15:18	0	0	0	0	-0.24	NR-H2O
		12/28/2012 15:12	0	0	0	0	0	NR-H2O
		1/25/2012 13:15	0	0	0	0	0	NR-Construction
		2/22/2012 16:05	0	0	0	0	0	NR-Construction
		3/27/2012 14:38	0	0	0	0	0	NR- Broken
		4/18/2012 12:24	0	0	0	0	0	NR-Construction
		5/24/2012 12:48	0.3	6	0	0	0	NR-Construction
		6/21/2012 11:54	0	0	0	0	0	
		7/18/2012 16:04	0	0	0	0	0	NR- Broken
		8/21/2012 13:39	0	0	0	0	0	NR- Broken
		9/18/2012 12:09	0	0	0	0	0	NR-Construction
		10/25/2012 14:24	0	0	0.2	10.6	0	NR- Broken
		11/15/2012 10:32	0	0	0	0	0	NR- Broken
		12/28/2012 15:16	0	0	0	0	0	NR- Broken

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-22 continued	Chgp022B	1/25/2012 13:16	0	0	0	0	0	NR-Construction
		2/22/2012 16:05	0	0	0	0	0	NR-Construction
		3/27/2012 14:39	0	0	0	0	0	NR- Broken
		4/18/2012 12:25	0	0	0	0	0	NR-Construction
		5/24/2012 12:48	0	0	0	0	0	NR-Construction
		6/21/2012 11:54	0	0	0	0	0	NR- Broken
		7/18/2012 16:04	0	0	0	0	0	NR- Broken
		8/21/2012 13:39	0	0	0	0	0	NR-Construction
		9/18/2012 12:09	0	0	0	0	0	NR- Broken
		10/25/2012 14:24	0	0	0.2	10.6	0	NR- Broken
		11/15/2012 10:32	0	0	0	0	0	NR- Broken
		12/28/2012 15:16	0	0	0	0	0	NR- Broken
		1/25/2012 13:16	0	0	0	0	0	NR-Construction
GP-23	Chgp022C	2/22/2012 16:05	0	0	0	0	0	NR-Construction
		3/27/2012 14:39	0	0	0	0	0	NR- Broken
		4/18/2012 12:25	0	0	0	0	0	NR-Construction
		5/24/2012 12:48	0	0	0	0	0	NR-Construction
		6/21/2012 11:54	0	0	0	0	0	NR- Broken
		7/18/2012 16:05	0	0	0	0	0	NR- Broken
		8/21/2012 13:39	0	0	0	0	0	NR-Construction
		9/18/2012 12:10	0	0	0	0	0	NR- Broken
		10/25/2012 14:24	0	0	0.2	10.5	0	NR- Broken
		11/15/2012 10:33	0	0	0	0	0	NR- Broken
		12/28/2012 15:16	0	0	0	0	0	NR- Broken
		1/25/2012 13:18	0	0	0.1	19.7	0	NR- Broken
		2/22/2012 15:29	0	0	0	21	-0.06	NR- Broken
GP-23	Chgp023A	3/27/2012 14:45	0	0	0	21	0.02	NR- Broken
		4/18/2012 12:29	0	0	0.1	20.2	0	NR- Broken
		5/24/2012 12:52	0	0	0	20.8	0	NR- Broken
		6/21/2012 11:59	0	0	0	21	-0.66	NR- Broken
		7/18/2012 16:06	0	0	0	20.8	0.07	NR- Broken
		8/21/2012 13:43	0	0	1.3	19.7	0	NR- Broken
		9/18/2012 12:14	0	0	0.9	19.9	0	NR- Broken
		10/25/2012 14:29	0	0	1	19.9	0	NR- Broken
		11/15/2012 10:35	0	0	0.1	21	0.12	NR- Broken
		12/28/2012 15:18	0	0	0	20.9	0	NR- Broken
		1/25/2012 13:21	0	0	0.1	19.7	1.98	NR- Broken
		2/22/2012 15:31	0	0	0	21	0.68	NR- Broken
		3/27/2012 14:47	0	0	0	21	0.68	NR- Broken
GP-23	Chgp023B	4/18/2012 12:30	0	0	0.1	20.3	0	NR- Broken
		5/24/2012 12:54	0	0	0	20.9	0	NR- Broken
		6/21/2012 12:01	0	0	0	21	0	NR- Broken

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King County Solid Waste Division
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Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-23 continued	Chgp023B continued	7/18/2012 16:07	0	0	0	20.8	0.08	
		8/21/2012 13:45	0	0	0	20.5	0	
		9/18/2012 12:15	0	0	0	20.5	0	
		10/25/2012 14:30	0	0	0	20.6	0	
		11/15/2012 10:36	0	0	0.1	21	0.01	
		12/28/2012 15:19	0	0	0	21	0	
		1/25/2012 13:24	0	0	0.1	19.7	0.81	
		2/22/2012 15:32	0	0	0.1	21	-0.01	
		3/27/2012 14:48	0	0	0	21	0.1	
		4/18/2012 12:32	0	0	0.1	20.3	0	
	Chgp023C	5/24/2012 12:56	0	0	0	21	0	No Reading from June
			0	0	0	0	0	
		7/18/2012 16:09	0	0	0	20.8	0	
		8/21/2012 13:46	0	0	0	20.5	0	
		9/18/2012 12:17	0	0	0	20.5	0.01	
		10/25/2012 14:32	0	0	0	20.6	0	
		11/15/2012 10:38	0	0	0.1	21	0.1	
		12/28/2012 15:21	0	0	0	21	-0.47	
		1/25/2012 13:29	0	0	3.1	12	0	
		2/22/2012 15:36	0	0	3.1	12	0	
GP-24	Chgp024A	3/27/2012 14:55	0	0	3.6	21	0.29	
		4/18/2012 12:35	0	0	3.8	11.1	0	
		5/24/2012 13:05	0	0	4.3	11.6	0	
		6/21/2012 12:06	0	0	3.9	10.3	0.01	
		7/18/2012 16:15	0	0	5.2	10.7	0.03	
		8/21/2012 13:52	0	0	5.7	13.9	0	
		9/18/2012 12:20	0	0	4.6	15.8	0	
		10/25/2012 14:35	0	0	4.1	16.3	0	
		11/15/2012 10:44	0	0	5.6	13.6	0.15	
		12/28/2012 15:25	0	0	0.2	20.7	0	
	Chgp024B	1/25/2012 13:31	0	0	1.2	17.5	0	
		2/22/2012 15:38	0	0	2	15.5	0	
		3/27/2012 14:56	0	0	2	15.2	0.06	
		4/18/2012 12:36	0	0	0.6	18.4	0	
		5/24/2012 13:06	0	0	0.6	19.6	0	
		6/21/2012 12:08	0	0	0.6	18.8	0.01	
		7/18/2012 16:16	0	0	0.3	20	0	
		8/21/2012 13:53	0	0	0.1	20.4	-0.55	
		9/18/2012 12:22	0	0	0.7	19	0.05	
		10/25/2012 14:36	0	0	0.2	20.3	-1.33	
		11/15/2012 10:46	0	0	0.6	20.6	0.99	
		12/28/2012 15:26	0	0	2.8	13.9	0.04	

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King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-25	Chgp0025	1/25/2012 13:34	0	0	2.6	14.5	0.01	
		2/22/2012 15:41	0	0	2.4	14.8	0	
		3/27/2012 15:06	0	0	2.4	13.7	0.07	
		4/18/2012 12:39	0	0	2.8	13.8	0.01	
		5/24/2012 8:57	0	0	1.1	15.1	0.02	
		6/21/2012 12:11	0	0	3.4	13.1	0	
		7/18/2012 16:19	0	0	4.3	14.1	0.11	
		8/21/2012 13:56	0	0	3.7	17.7	0	
		9/18/2012 12:25	0	0	3	18.8	0	
		10/25/2012 14:39	0	0	2.5	18.7	0	
		11/15/2012 10:49	0	0	2.7	16.1	0.11	
		12/28/2012 15:29	0	0	2.3	12.5	0	
GP-26	Chgp0026	1/25/2012 13:37	0	0	1.3	17	-0.14	
		2/22/2012 15:45	0	0	1.1	18.4	-1.93	
		3/27/2012 15:09	0	0	1.2	17.4	0.67	
		4/18/2012 12:42	0	0	1.1	17	0.02	
		5/24/2012 13:16	0	0	3.3	14.4	0	
		6/21/2012 12:14	0	0	0.7	19.8	0.04	
		7/18/2012 16:23	0	0	0.9	19.1	0.05	
		8/21/2012 13:59	0	0	1.1	18.4	0	
		9/18/2012 12:28	0	0	0.5	19.7	-0.16	
		10/25/2012 14:42	0	0	0.1	20.6	-2.19	
		11/15/2012 10:52	0	0	0.8	20.6	0.18	
		12/28/2012 15:32	0	0	1.1	19.1	-0.02	
GP-27	Chgp0027	1/25/2012 13:42	0	0	8.8	8.6	-0.2	
		2/22/2012 15:49	0	0	8.1	9.4	-0.04	
		3/27/2012 15:13	0	0	7.6	8.6	0.09	
		4/18/2012 12:45	0	0	8.2	8.5	0	
		5/24/2012 13:19	0	0	0.9	19.7	0.02	
		6/21/2012 15:43	0	0	9.1	7.2	0.01	
		7/18/2012 16:26	0	0	9.9	6.5	0.16	
		8/21/2012 14:02	0	0	12	7.7	0	
		9/18/2012 12:32	0	0	9.8	11.8	0	
		10/25/2012 14:45	0	0	8.1	12.4	-0.08	
		11/15/2012 10:56	0	0	8.4	10.4	0.18	
		12/28/2012 15:36	0	0	7.2	9.2	-0.26	
GP-29	Chgp029A	--	0	0	0	0	0	No Reading in January
		2/22/2012 15:54	0	0	0.5	20.4	0	
		3/27/2012 15:17	0	0	0.8	20.4	0.08	
		4/18/2012 12:50	0	0	0.6	19.5	0	
		5/24/2012 13:26	0	0	1	19.8	0	
		6/21/2012 15:48	0	0	0.9	19.8	0	

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-29 continued	Chgp029A continued	7/18/2012 16:31	0	0	0.6	20.2	0.04	
		8/21/2012 14:07	0	0	0.6	19.9	0	
		9/18/2012 12:37	0	0	0.8	20	0	
		10/25/2012 14:50	0	0	0.5	20.3	0	
		11/15/2012 11:01	0	0	0.6	20.8	0.07	
		12/28/2012 15:41	0	0	0.8	20.2	0	
	Chgp029B	--	0	0	0	0	0	No Reading in January
		2/22/2012 15:56	0	0	0.6	20.7	-0.01	
		3/27/2012 15:19	0	0	0.5	20.8	0.05	
		4/18/2012 12:51	0	0	0.6	20	0.01	
		5/24/2012 13:28	0	0	0.6	20.5	0	
		6/21/2012 15:50	0	0	0.5	20.5	0	
		7/18/2012 16:32	0	0	0.6	20.4	0.05	
		8/21/2012 14:09	0	0	0.6	20.1	0	
		9/18/2012 12:39	0	0	0.3	20.3	0.02	
		10/25/2012 14:51	0	0	0.2	20.6	-0.15	
		11/15/2012 11:03	0	0	0.2	21	0.1	
		12/28/2012 15:42	0	0	0.7	20.3	0	
GP-30	Chgp030A	1/25/2012 7:55	0	0	1.8	18.7	0.38	No Reading in May
		2/22/2012 7:40	0	0	1.6	18.1	4.07	
		3/27/2012 7:48	0	0	1.7	18.4	2.72	
		4/18/2012 7:13	0	0	1.8	18.3	0.21	
		--	--	--	--	--	--	
		6/21/2012 8:05	0	0	2.8	16.1	-0.41	
		7/18/2012 7:45	0	0	3.2	17.4	-1.22	
		8/21/2012 7:33	0	0	3	18.4	-0.05	
		9/18/2012 7:11	0	0	2.6	19.3	-0.03	
		10/25/2012 7:53	0	0	1.6	19.9	-1.39	
		11/15/2012 8:05	0	0	2.1	18.8	-2.26	
		12/28/2012 7:39	0	0	1.8	16.5	1.05	
	Chgp030B	1/1/2012 8:16	1.2	24	1.5	8.2	-0.21	
		1/2/2012 8:27	3.2	64	2.3	0.3	1.11	
		1/3/2012 8:15	0.3	6	1.7	15.4	-0.69	
		1/4/2012 8:30	0.3	6	2	18.6	0.13	
		1/5/2012 7:56	0.2	4	1.2	15	-1.04	
		1/6/2012 8:18	0.1	2	2.1	9	0.32	
		1/7/2012 7:47	0	0	0.8	17.7	-0.59	
		1/8/2012 7:49	0.1	2	2.1	9.8	0.42	
		1/9/2012 8:20	0	0	3.6	2.1	0.04	
		1/10/2012 8:30	1.8	36	2	9.5	-1	
		1/11/2012 8:50	1.6	32	1.6	10.7	0.03	
		1/12/2012 8:25	1.8	36	3.2	0.3	0.4	

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King County Solid Waste Division
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Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	1/13/2012 8:42	1.6	32	2.8	0.5	0.32	
		1/14/2012 7:27	2.1	42	2.7	0.9	1.26	
		1/15/2012 7:22	2.2	44	2.7	0.7	0.4	
		1/16/2012 8:57	0	0	0.5	20.8	-0.05	
		1/17/2012 8:30	2.6	52	2.6	0.8	1.27	
		1/18/2012 8:35	2.6	52	2.9	0	2.63	
		1/23/2012 9:00	3.7	74	1	8.9	0	
		1/24/2012 8:20	0.4	8	1.8	11.8	0.62	
		1/25/2012 7:56	3.3	66	0.9	9.4	-2.53	
		1/25/2012 8:30	3.3	66	0.9	9.5	-2.53	
		1/26/2012 8:25	0	0	0.5	20.2	-1.9	
		1/27/2012 8:34	1.5	30	1.1	12.6	-1.47	
		1/28/2012 7:40	0	0	1.5	11.2	-0.14	
		1/29/2012 7:42	0	0	2.6	3.3	1.4	
		1/30/2012 8:20	0.1	2	2.5	7.4	-1.63	
		1/31/2012 8:30	0	0	3.2	4.4	-0.5	
		2/1/2012 9:00	0	0	1.3	17	-2.4	
		2/2/2012 8:30	0	0	0.5	20.8	-2.4	
		2/3/2012 8:15	0	0	2.2	9.9	-0.01	
		2/4/2012 7:51	0	0	0.3	20.4	-1.52	
		2/5/2012 7:43	1.3	26	1.2	9.7	-1.6	
		2/6/2012 8:50	0.7	14	1.7	9.3	-0.5	
		2/7/2012 7:10	0	0	1.8	12.2	-0.01	
		2/8/2012 13:00	0	0	0.3	20.5	-2.44	
		2/9/2012 7:50	0	0	0.2	20.9	-1.35	
		2/10/2012 7:43	0	0	1.6	10.8	-0.12	
		2/11/2012 7:51	0	0	1.4	10.6	-1.9	
		2/12/2012 7:47	0	0	0.5	19	-0.37	
		2/13/2012 8:30	0	0	2	14.1	-1.6	
		2/14/2012 8:30	0	0	0.4	20.4	-0.4	
		2/15/2012 8:45	0	0	0	21	-3.3	
		2/16/2012 8:30	0.2	4	0.4	21	-0.9	
		2/17/2012 8:15	0	0	0.1	19.1	-0.66	
		2/18/2012 8:15	0	0	0.4	20.8	-1.19	
		2/19/2012 9:00	0	0	0.4	20.4	-1.9	
		2/20/2012 9:00	0	0	0.3	20.2	-1.14	
		2/21/2012 9:00	0	0	0	21	-2.1	
		2/22/2012 7:42	0	0	0.2	20.6	-1.71	
		2/23/2012 8:31	0	0	0.8	19.9	-2.95	
		2/24/2012 8:03	0	0	0.2	19.2	0.42	
		2/25/2012 8:07	0	0	0.3	20.8	-3.25	
		2/26/2012 7:50	0	0	0.3	20.8	-2.4	

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	2/27/2012 9:30	0	0	0.5	20.5	-2.3	
		2/28/2012 8:31	0	0	0.4	20.4	-0.41	
		2/29/2012 8:40	0	0	1.1	19	-0.8	
		3/1/2012 9:00	0	0	0.5	20.4	-4.3	
		3/2/2012 8:17	0	0	0.8	19.8	-3.72	
		3/3/2012 8:30	0	0	0.3	20.8	-2	
		3/4/2012 9:00	0	0	0.3	20.5	-1.6	
		3/5/2012 9:00	0	0	1.8	17	0.5	
		3/6/2012 9:00	0	0	0.3	21	-3.5	
		3/7/2012 8:39	0	0	0.2	20.9	-3.88	
		3/8/2012 8:45	0	0	0.2	21	-1.3	
		3/9/2012 8:31	0	0	0.2	21	-2.13	
		3/10/2012 8:09	0	0	0.3	20.7	-0.76	
		3/11/2012 8:12	0	0	0.3	20.9	-0.86	
		3/12/2012 8:45	0	0	1	18.8	1.13	
		3/13/2012 8:25	0	0	0.4	20.9	-2.9	
		3/14/2012 8:50	0	0	1.1	19.3	-1.8	
		3/15/2012 8:45	0	0	0.2	21	0	
		3/16/2012 8:24	0	0	0.3	20.7	-2.64	
		3/17/2012 8:05	0	0	0.5	20.6	-2.29	
		3/18/2012 8:05	0	0	1	19.7	-2.47	
		3/19/2012 8:50	0	0	0.3	20.9	-3.3	
		3/20/2012 9:00	0	0	0.3	21	-2	
		3/21/2012 9:15	0	0	0.3	20.7	-3.4	
		3/22/2012 8:50	0	0	0.2	21	-3.8	
		3/23/2012 8:28	0	0	0.2	20.6	-2.89	
		3/24/2012 8:17	0	0	0.5	19.8	-1.94	
		3/25/2012 8:14	0	0	0.7	19.4	-1.31	
		3/26/2012 9:00	0	0	0.4	21	-2.7	
		3/27/2012 7:50	0	0	0.7	19.7	-1.5	
		3/27/2012 7:50	0	0	0.7	19.4	-1.51	
		3/28/2012 8:52	0	0	1	18.6	-2.83	
		3/29/2012 8:50	0	0	1.5	19.1	-1.8	
		3/30/2012 8:45	0	0	1.6	17.9	-3.05	
		3/31/2012 8:03	0	0	1.3	18.8	0.23	
		4/1/2012 7:55	0	0	0.8	20.3	-5.82	
		4/2/2012 8:30	0	0	0.8	19.8	-4.2	
		4/3/2012 9:32	0	0	1.2	18.6	-1.43	
		4/4/2012 8:45	0	0	1.3	18.8	-2.9	
		4/5/2012 9:20	0	0	1	19.5	-3.26	
		4/6/2012 8:41	0	0	1.1	19	-3.69	
		4/7/2012 8:45	0	0	0.7	19.5	-2.47	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	4/8/2012 7:48	0	0	0.7	20	-1.82	
		4/9/2012 8:30	0	0	1	19.2	-1.9	
		4/10/2012 9:10	0	0	0.7	20	-1.23	
		4/11/2012 9:00	0	0	1.1	18.9	-1.2	
		4/12/2012 8:50	0	0	1.2	18.9	-1.64	
		4/13/2012 8:05	0	0	0.9	19.3	-2.34	
		4/14/2012 8:05	0	0	0.3	20.8	-3.3	
		4/15/2012 7:48	0	0	0.3	20.6	-3.03	
		4/16/2012 8:45	0	0	1.1	18.7	-1.5	
		4/17/2012 8:52	0	0	0.5	20.3	-2.05	
		4/18/2012 7:15	0	0	0.5	19.9	-1.61	
		4/19/2012 8:17	0	0	1.1	18.6	-2.09	
		4/20/2012 7:48	0	0	1.5	18.4	-3.52	
		4/21/2012 7:40	0	0	0.3	20.8	-2.09	
		4/22/2012 7:45	0	0	1	19.6	-1.59	
		4/23/2012 8:06	0	0	1.2	18.6	-1.95	
		4/24/2012 8:45	0	0	0.7	20.7	-2.4	
		4/25/2012 8:05	0	0	1.1	19.5	-1.4	
		4/26/2012 8:05	0	0	1.8	17.8	-1.74	
		4/27/2012 7:54	0	0	0.3	20.5	-4.71	
		4/28/2012 7:57	0	0	0.8	19.4	-2.49	
		4/29/2012 7:57	0	0	1	19.4	-1.66	
		4/30/2012 7:55	0	0	1.3	18.2	-0.34	
		5/1/2012 9:00	0	0	1.1	19.7	-2.6	
		5/2/2012 8:00	0	0	1.7	18.7	-2.54	
		5/3/2012 8:00	0	0	1.9	17.7	-0.4	
		5/4/2012 7:46	0	0	0.4	20.7	-4.02	
		5/5/2012 7:27	0	0	0.3	20.9	-4.27	
		5/6/2012 7:51	0	0	0.3	20.7	-2.67	
		5/7/2012 8:18	0	0	1.4	18.1	-1.67	
		5/8/2012 9:17	0	0	1.4	18	-2.05	
		5/9/2012 8:12	0	0	1.1	18.8	-3.07	
		5/10/2012 8:21	0	0	0.2	21	-3.18	
		5/11/2012 8:41	0	0	1	19	-2.07	
		5/12/2012 8:03	0	0	1.2	18.5	-2.02	
		5/13/2012 7:51	0	0	1.3	18	-2.18	
		5/14/2012 9:25	0	0	1	18.4	-1.6	
		5/15/2012 8:40	0	0	1	19	-2.26	
		5/16/2012 8:56	0	0	1.1	18.1	-1.95	
		5/17/2012 8:30	0	0	0.7	19.8	-1.9	
		5/18/2012 10:00	0	0	1	20	-2.77	
		5/19/2012 7:51	0	0	0.9	18.7	-1.79	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	5/20/2012 7:53	0	0	0.8	18.9	-1.47	NR-H2O
		5/21/2012 8:55	0	0	1.6	17.7	-1.56	
		5/22/2012 8:06	0	0	1.6	17.7	-2.74	
		5/23/2012 7:54	0	0	1.8	17.8	-5.4	
		5/24/2012 7:20	0	0	0.8	18	-8.43	
		5/24/2012 7:20	0	0	1.5	17.9	-8.45	
		5/25/2012 9:30	0	0	2	18	-3.68	
		5/26/2012 8:15	0	0	1.6	18.3	-3.8	
		5/27/2012 8:30	0	0	1.7	18	-3.7	
		5/28/2012 8:30	0	0	0.4	20.7	-2	
		5/29/2012 8:20	0	0	0.9	19.4	-2.16	
		5/30/2012 8:15	0	0	0.4	19.7	-2.3	
		5/31/2012 8:20	0	0	1.6	18.5	-1.1	
		6/1/2012 8:45	0	0	1.7	17.8	-5.42	
		6/2/2012 7:41	0	0	1.7	17.9	-4.84	
		6/3/2012 7:40	0	0	1.7	18.2	-4.73	
		6/4/2012 8:30	0	0	1	19.3	-1.33	
		6/5/2012 8:57	0	0	1.7	18.7	-3.63	
		6/6/2012 8:11	0	0	1.8	18.4	-2.08	
		6/7/2012 9:00	0	0	2	19	-3.7	
		6/8/2012 8:45	0	0	1.4	19.6	-7.27	
		6/9/2012 7:43	0	0	1.7	18.6	-8.23	
		6/10/2012 7:44	0	0	0.2	20.8	-7.32	
		6/11/2012 8:10	0	0	0.1	21	-1.56	
		6/12/2012 8:30	0	0	1.2	19.3	-1.4	
		6/13/2012 7:23	0	0	1.2	18.6	-2.43	
		6/14/2012 9:00	0	0	0.7	20.4	-2	
		6/15/2012 8:00	0	0	1.3	18.8	-2.1	
		6/16/2012 7:47	0	0	0.2	20.6	-1.63	
		6/17/2012 7:57	0	0	0.3	20.7	-1.31	
		6/18/2012 8:05	0	0	0.7	19.6	-1.69	
		6/19/2012 8:06	0	0	1.3	18.7	-2.24	
		6/20/2012 8:39	0	0	0.2	20.6	-1.69	
		6/21/2012 8:07	0	0	0.2	20.2	-1.35	
		6/22/2012 8:35	0	0	0.2	20.6	-1.79	
		6/23/2012 8:40	0	0	0.9	19.7	-1.5	
		6/24/2012 8:35	0	0	0.2	20.3	-1.4	
		6/25/2012 8:12	0	0	1.4	18.7	-1.43	
		6/26/2012 8:37	0	0	1.4	18.9	-1.97	
		6/27/2012 8:30	0	0	0	20.7	-2.1	
		6/28/2012 8:00	0	0	0.2	20.4	-1.9	
		6/29/2012 9:00	0	0	0.3	20.7	-2.29	

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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	6/30/2012 7:51	0	0	0.2	20.8	-1.44	
		7/1/2012 7:27	0	0	0.2	20.8	-2.52	
		7/2/2012 8:10	0	0	1.3	18.8	-1.6	
		7/3/2012 8:35	0	0	0.2	20.9	-2.69	
		7/4/2012 8:00	0	0	1.2	18.7	-1.9	
		7/5/2012 8:15	0	0	1.3	18.8	-2.1	
		7/6/2012 8:19	0	0	0.2	20.8	-2.45	
		7/7/2012 9:15	0	0	1.1	18.8	-2.1	
		7/8/2012 7:41	0	0	0.2	20.4	-1.67	
		7/9/2012 8:10	0	0	1.3	19.1	-2.18	
		7/10/2012 8:50	0	0	1.3	19.4	-2.4	
		7/11/2012 9:30	0	0	0	20.7	-1.6	
		7/12/2012 8:30	0	0	0.6	20.1	-1.8	
		7/13/2012 9:22	0	0	0.3	20.4	-1.85	
		7/14/2012 7:40	0	0	1.2	19	-1.54	
		7/15/2012 8:28	0	0	1.4	18.8	-1.48	
		7/16/2012 8:20	0	0	1.4	19	-1.4	
		7/17/2012 9:00	0	0	0	20.8	-1.84	
		7/18/2012 7:45	0	0	0.1	21	-2.4	
		7/18/2012 7:47	0	0	0.1	21	-2.44	
		7/19/2012 8:50	0	0	0.2	21	-1.4	
		7/20/2012 9:15	0	0	1.5	19	-2.6	
		7/21/2012 7:55	0	0	1.6	19	-2.05	
		7/22/2012 8:00	0	0	0.3	20.8	-1.62	
		7/23/2012 8:18	0	0	1.4	19.3	-2.06	
		7/24/2012 8:40	0	0	0.2	20.8	-1.2	
		7/25/2012 8:17	0	0	0.3	20.3	-1.41	
		7/26/2012 8:15	0	0	0.4	21	-1.4	
		7/27/2012 8:45	0	0	1.4	19.2	-2.2	
		7/28/2012 7:40	0	0	1.3	19.3	-2.07	
		7/29/2012 8:45	0	0	1.4	19.1	-1.68	
		7/30/2012 9:00	0	0	0.3	20.9	-1.8	
		7/31/2012 9:05	0	0	1.2	19.3	-1.67	
		8/1/2012 8:57	0	0	1.3	19.3	-1.86	
		8/2/2012 8:45	0	0	1.6	19.1	-1.49	
		8/3/2012 8:12	0	0	1.5	19.2	-1.36	
		8/4/2012 7:52	0	0	1.6	19.1	-0.96	
		8/5/2012 7:51	0	0	1.6	18.8	-1.51	
		8/6/2012 7:58	0	0	1.5	19	-2.23	
		8/7/2012 8:35	0	0	1.4	19.6	-1.4	
		8/8/2012 8:30	0	0	1.7	19.2	-2.1	
		8/9/2012 8:16	0	0	0.3	20.7	-1.51	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	8/10/2012 8:55	0	0	0.8	19.9	-1.43	
		8/11/2012 7:58	0	0	1.4	19.4	-1.55	
		8/12/2012 7:30	0	0	1.5	19.3	-1.16	
		8/13/2012 8:05	0	0	1.5	19	-0.9	
		8/14/2012 9:00	0	0	1.3	19.1	-1.06	
		8/15/2012 7:49	0	0	1.5	19.2	-1.28	
		8/16/2012 7:55	0	0	1.5	19.4	-1.44	
		8/17/2012 8:20	0	0	1.5	19.4	-1.55	
		8/18/2012 8:00	0	0	1.8	19.2	-1.4	
		8/19/2012 8:20	0	0	1.6	19.3	-1.9	
		8/20/2012 8:25	0	0	1.6	19.4	-1.2	
		8/21/2012 7:35	0	0	1.5	19.3	-1.4	
		8/21/2012 8:36	0	0	1.3	19.9	-1.5	
		8/22/2012 8:15	0	0	1.6	19.5	-1.8	
		8/23/2012 7:47	0	0	0.3	20.8	-1.35	
		8/24/2012 8:10	0	0	1.1	20.2	-1.86	
		8/25/2012 8:00	0	0	3.2	18	-0.03	
		8/26/2012 7:55	0	0	1.1	19.6	-0.56	
		8/27/2012 8:03	0	0	1.3	19.4	-1.34	
		8/28/2012 9:00	0	0	0	20.9	-0.81	
		8/29/2012 8:31	0	0	1.1	20.2	-1.07	
		8/30/2012 8:58	0	0	1	19.8	-0.2	
		8/31/2012 9:00	0	0	1.2	19.7	-0.66	
		9/1/2012 9:05	0	0	0.3	20.9	-1.35	
		9/2/2012 10:00	0	0	0.2	20.8	-0.93	
		9/3/2012 8:40	0	0	1	20	-0.79	
		9/4/2012 8:50	0	0	1	19.8	-0.8	
		9/5/2012 8:30	0	0	1.1	19.4	-0.25	
		9/6/2012 9:07	0	0	1.2	19.1	-0.73	
		9/7/2012 9:20	0	0	1.2	19.4	-0.9	
		9/8/2012 7:30	0	0	1.2	19.6	-0.13	
		9/9/2012 8:19	0	0	1.3	19.8	-0.63	
		9/10/2012 8:10	0	0	1.2	20.1	-1.28	
		9/11/2012 9:30	0	0	0.2	20.8	-1.11	
		9/12/2012 10:00	0	0	1	20.2	-0.8	
		9/13/2012 8:46	0	0	0.6	20.3	-0.24	
		9/14/2012 9:08	0	0	0.9	19.9	-0.49	
		9/15/2012 8:30	0	0	1.2	20.2	-0.9	
		9/16/2012 9:05	0	0	1.2	19.7	-0.8	
		9/17/2012 8:40	0	0	1.1	20	-0.4	
		9/18/2012 7:12	0	0	0.8	20.2	-0.44	
		9/18/2012 7:13	0	0	0.8	20.2	-0.44	

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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	9/19/2012 8:35	0	0	0.4	21	-0.9	
		9/20/2012 8:19	0	0	0.9	20.2	-0.39	
		9/21/2012 9:00	0	0	1.1	20.1	-0.62	
		9/22/2012 7:58	0	0	1.1	19.9	-0.64	
		9/23/2012 8:05	0	0	1.2	19.7	-0.59	
		9/24/2012 8:35	0	0	1.2	21	-0.5	
		9/25/2012 11:41	0	0	1.2	19.6	-0.7	
		9/26/2012 9:11	0	0	1.2	19.4	-0.48	
		9/27/2012 8:41	0	0	1.3	19.5	-0.37	
		9/28/2012 8:36	0	0	1.2	20	-0.47	
		9/29/2012 7:58	0	0	1.2	20	-1.22	
		9/30/2012 8:32	0	0	1.2	20.1	-1.3	
		10/1/2012 7:55	0	0	1.2	19.8	-0.19	
		10/2/2012 8:07	0	0	1.3	19.9	-0.71	
		10/3/2012 8:55	0	0	1.5	20	-1	
		10/4/2012 8:18	0	0	0.7	21	-0.4	
		10/5/2012 10:10	0	0	1.1	19.9	-0.59	
		10/6/2012 8:40	0	0	0.5	20.5	-0.35	
		10/7/2012 8:29	0	0	1	20.1	-0.08	
		10/8/2012 8:02	0	0	1	20.6	-0.3	
		10/9/2012 8:35	0	0	1.1	20.5	-0.9	
		10/10/2012 9:03	0	0	0.7	20.6	-0.41	
		10/11/2012 8:55	0	0	1.1	20.6	-0.2	
		10/12/2012 9:32	0	0	1.3	19.9	-0.66	
		10/13/2012 9:17	0	0	0.2	21	-1.2	
		10/14/2012 8:40	0	0	0.7	20.6	0.4	
		10/15/2012 9:08	0	0	0.5	20.6	-0.7	
		10/16/2012 9:01	0	0	0.2	21	-2.1	
		10/17/2012 9:02	0	0	0.2	20.8	-1.09	
		10/18/2012 9:15	0	0	0.9	20	0.4	
		10/19/2012 9:24	0	0	1.1	19.8	-1.04	
		10/20/2012 7:26	0	0	1.3	19.7	-2.28	
		10/21/2012 9:04	0	0	1.4	19.5	-2.32	
		10/22/2012 7:53	0	0	1.3	20.1	0	
		10/23/2012 8:41	0	0	1.7	19.2	-2.68	
		10/24/2012 8:33	0	0	1.6	20.1	-1.9	
		10/25/2012 7:55	0	0	1.8	19.5	-3.14	
		10/25/2012 8:04	0	0	1.7	19.8	-3.02	
		10/26/2012 9:10	0	0	1.7	19.3	-1.17	
		10/27/2012 8:23	0	0	1.5	19.8	-1.03	
		10/28/2012 10:44	0	0	1.6	19.2	-2.71	
		10/29/2012 8:42	0	0	1.6	19.8	-1.5	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	10/30/2012 8:29	0	0	1.7	19.3	-1.49	
		10/31/2012 9:12	0	0	1.7	19.2	-0.7	
		11/1/2012 9:00	0	0	1.7	19.7	-2.1	
		11/2/2012 8:49	0	0	1.8	19.2	-2.17	
		11/3/2012 8:35	0	0	1.6	19.2	-2.45	
		11/4/2012 8:25	0	0	1.6	19.4	-2.55	
		11/5/2012 7:59	0	0	1.7	19.3	-2.24	
		11/6/2012 8:19	0	0	1.8	19.2	-0.87	
		11/7/2012 10:05	0	0	1.9	19.1	-2.24	
		11/8/2012 8:24	0	0	1.8	19.8	-1	
		11/9/2012 9:48	0	0	1.9	19.3	-1.83	
		11/10/2012 8:30	0	0	1.9	19.7	-2.1	
		11/11/2012 8:05	0	0	1.7	19.6	-1.8	
		11/12/2012 8:36	0	0	1.8	19.4	-1.2	
		11/13/2012 10:13	0	0	1.7	19.3	-2.58	
		11/14/2012 8:41	0	0	1.9	18.9	-2.26	
		11/15/2012 8:05	0	0	1.7	19.2	-0.89	
		11/15/2012 8:07	0	0	1.7	19.2	-0.89	
		11/16/2012 9:30	0	0	1.9	19.2	-1.72	
		11/17/2012 7:57	0	0	1.7	19.3	-0.71	
		11/18/2012 8:14	0	0	1.6	19.4	-2.81	
		11/19/2012 8:57	0	0	1.9	19.9	-0.2	
		11/20/2012 8:17	0	0	1.6	19.2	-1.56	
		11/21/2012 11:23	0	0	1.6	19.4	-3.19	
		11/22/2012 8:27	0	0	1.3	19.6	-3.43	
		11/23/2012 9:14	0	0	1.6	19.2	-2.32	
		11/24/2012 8:44	0	0	1.5	19.6	-3.18	
		11/25/2012 8:17	0	0	1.5	19.7	-3.18	
		11/26/2012 8:45	0	0	0.4	21	-0.5	
		11/27/2012 9:12	0	0	1.9	18.9	-3.52	
		11/28/2012 9:00	0	0	1.7	19	-1.54	
		11/29/2012 8:33	0	0	1.7	19.4	-0.4	
		11/30/2012 8:42	0	0	1.7	19.4	-2.05	
		12/1/2012 8:03	0	0	1.6	19.6	-3.94	
		12/2/2012 8:18	0	0	1.6	19.3	-2.26	
		12/3/2012 8:20	0	0	1.3	20	-3.6	
		12/4/2012 10:50	0	0	1.5	19.3	-2.69	
		12/5/2012 8:35	0	0	1.1	19.9	-5.12	
		12/6/2012 8:26	0	0	1.3	20	-1.47	
		12/7/2012 8:59	0	0	1.4	19.5	-1.9	
		12/8/2012 8:26	0	0	1.4	19.9	-3.5	
		12/9/2012 8:52	0	0	1.3	19.6	-1.4	

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-30 continued	Chgp030B continued	12/10/2012 8:40	0	0	1.5	20	-2.7	
		12/11/2012 8:11	0	0	1.4	19.7	1.15	
		12/12/2012 9:10	0	0	1.9	19.5	-2.6	
		12/13/2012 10:25	0	0	1.2	19.9	-1.89	
		12/14/2012 9:21	0	0	1.5	19.3	-2.23	
		12/15/2012 7:35	0	0	1.4	19.5	-1.52	
		12/16/2012 7:33	0	0	1.5	19.4	-2.4	
		12/17/2012 8:46	0	0	2	19.8	-4.4	
		12/18/2012 8:24	0	0	1.4	20	-3.3	
		12/19/2012 10:24	0	0	1	20.1	-1.26	
		12/20/2012 9:29	0	0	1.3	19.3	-2.32	
		12/21/2012 11:11	0	0	1.3	19.6	-1.79	
		12/22/2012 10:20	0	0	1.4	19.2	-1.06	
		12/23/2012 9:26	0	0	1.5	19.5	-2.79	
		12/24/2012 8:16	0	0	1.2	20.3	-4.35	
		12/25/2012 10:47	0	0	1.5	19.4	-0.72	
		12/26/2012 9:26	0	0	1.6	19	-2.78	
		12/27/2012 11:05	0	0	1.2	19.8	-3.21	
		12/28/2012 7:35	0	0	1.5	19.4	-2.06	
		12/28/2012 7:40	0	0	1.4	19.6	-2.06	
		12/29/2012 7:40	0	0	1.7	19.6	-3.01	
		12/30/2012 8:14	0	0	1.7	19.7	-4.53	
		12/31/2012 8:20	0	0	2	19.3	-2.4	
		1/25/2012 8:02	0	0	0	0	21.16	NR-H2O
		2/22/2012 7:45	0	0	0	0	4.58	NR-H2O
		3/27/2012 7:54	0	0	0	0	-9.58	NR-H2O
		4/18/2012 7:18	0	0	0	0	-9.55	NR-H2O
		5/24/2012 7:24	0	0	0	0	-0.03	NR-H2O
		6/21/2012 8:10	0	0	0.2	20.3	-1.47	
		7/18/2012 7:50	0	0	0	0	-15.39	NR-H2O
		8/21/2012 7:39	0	0	10.3	8.7	0	
		9/18/2012 7:16	0	0	7	11.2	0.01	
		10/25/2012 7:58	0	0	5.4	15.8	0	
		11/15/2012 8:11	0	0	6.1	14.3	0.22	
		12/28/2012 7:40	0	0	1.4	19.6	-2.06	
		12/28/2012 7:43	0	0	0	0	0	NR-H2O
GP-31	Chgp031A	1/25/2012 8:02	0	0	0	0	21.16	No Reading - H2O
		2/22/2012 7:45	0	0	0	0	4.58	No Reading - H2O
		3/27/2012 7:54	0	0	0	0	-9.58	No Reading - H2O
		4/18/2012 7:18	0	0	0	0	-9.55	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-31 continued	Chgp031A continued	5/24/2012 7:24	0	0	0	0	-0.03	NRH20
		6/21/2012 8:10	0	0	0.2	20.3	-1.47	(blank)
		7/18/2012 7:50	0	0	0	0	-15.39	NR Water
		8/21/2012 7:39	0	0	10.3	8.7	0	(blank)
		9/18/2012 7:16	0	0	7	11.2	0.01	(blank)
		10/25/2012 7:58	0	0	5.4	15.8	0	(blank)
		11/15/2012 8:11	0	0	6.1	14.3	0.22	(blank)
		12/28/2012 7:43	0	0	0	0	0	No Reading, Water
		1/25/2012 8:04	0	0	0.1	19.7	-2.13	
		2/22/2012 7:46	0	0	0.3	14.7	0.38	
		3/27/2012 7:56	0	0	0.2	15.1	2.55	
		4/18/2012 7:20	0	0	0.2	17.1	0.88	
		5/24/2012 7:26	0	0	0.2	17.1	0.73	
	Chgp031B continued	6/21/2012 8:12	0	0	0.2	16.6	0.34	
		7/18/2012 7:52	0	0	0.2	19.4	-1.33	
		8/21/2012 7:41	0	0	0.2	17.2	-0.39	
		9/18/2012 7:17	0	0	0.3	16	0	
		10/25/2012 8:01	0	0	0.1	20	-1.74	
		11/15/2012 8:12	0	0	0.3	15.5	0.89	
		12/28/2012 7:45	0	0	0.3	14.5	0.18	
		1/25/2012 8:05	0	0	1.5	14.2	0.01	
		2/22/2012 7:48	0	0	0.1	20.2	0	
		3/27/2012 7:57	0	0	0.4	19.1	0.54	
		4/18/2012 7:22	0	0	0.1	20.7	0	
		5/24/2012 7:28	0	0	1.3	15.7	0	
		6/21/2012 8:14	0	0	1.2	14.9	0	
	Chgp031C	7/18/2012 7:54	0	0	1.3	14.9	0	
		8/21/2012 7:43	0	0	1.5	15.3	0	
		9/18/2012 7:19	0	0	1.4	15.6	0.01	
		10/25/2012 8:02	0	0	1.5	16	0	
		11/15/2012 8:13	0	0	1.4	15.7	0.23	
		12/28/2012 7:47	0	0	1.8	9.7	4.19	
GP-32	Chgp032A	1/25/2012 8:10	0	0	0.1	21	0	
		2/22/2012 7:51	0	0	0.4	19.7	0	
		3/27/2012 8:01	0	0	0.5	19.9	0.1	
		4/18/2012 7:40	0	0	0.6	20.2	0	
		5/24/2012 7:31	0	0	0.7	20.6	0.01	
		6/21/2012 8:16	0	0	0.8	19.9	0	
		7/18/2012 8:01	0	0	0.1	20.9	0	

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-32 continued	Chgp032A continued	8/21/2012 7:47	0	0	0	20.8	-1.41	
		9/18/2012 7:22	0	0	0.1	20.8	0	
		10/25/2012 8:06	0	0	0.1	21	-0.03	
		11/15/2012 8:17	0	0	0.5	20	0.23	
		12/28/2012 7:50	0	0	0.5	19.9	0	
	Chgp032B	1/25/2012 8:12	0	0	0.5	20.4	0.02	
		2/22/2012 7:52	0	0	0.3	20.3	-0.03	
		3/27/2012 8:02	0	0	0.2	21	0.08	
		4/18/2012 7:42	0	0	0.3	20.5	0.01	
		5/24/2012 7:33	0	0	0.3	20.7	0	
		6/21/2012 8:18	0	0	0.5	20.2	0	
		7/18/2012 8:03	0	0	0.2	20.8	0	
		8/21/2012 7:49	0	0	0.2	20.7	0	
		9/18/2012 7:24	0	0	0.2	20.9	0.02	
		10/25/2012 8:08	0	0	0.2	20.6	-0.02	
		11/15/2012 8:18	0	0	0.2	20.9	0.12	
		12/28/2012 7:51	0	0	0.3	20.5	0.02	
GP-33	Chgp032C	1/25/2012 8:13	0	0	0.4	20.8	0.01	
		2/22/2012 7:54	0	0	0.3	20.4	-0.05	
		3/27/2012 8:04	0	0	0.3	21	0.07	
		4/18/2012 7:44	0	0	0.4	20.5	0.03	
		5/24/2012 7:35	0	0	0.3	20.8	0	
		6/21/2012 8:20	0	0	0.2	20.4	0	
		7/18/2012 8:04	0	0	0.3	20.8	0.01	
		8/21/2012 7:50	0	0	0.3	20.6	0	
		9/18/2012 7:26	0	0	0.2	20.8	0.02	
		10/25/2012 8:10	0	0	0.2	20.6	-0.03	
		11/15/2012 8:20	0	0	0.3	20.9	0	
		12/28/2012 7:53	0	0	0.4	20.3	-0.03	
	Chgp033A	1/25/2012 8:19	0	0	0.1	21	0.02	
		2/22/2012 7:57	0	0	0.2	20.8	0.01	
		3/27/2012 8:07	0	0	0.1	21	0.04	
		4/18/2012 7:46	0	0	0.1	20.9	0	
		5/24/2012 7:37	0	0	2.3	16.9	0	
Chgp033B	6/21/2012 8:23	0	0	2.5	16.6	0	NR-H2O	
	7/18/2012 8:07	0	0	2.6	17.2	0		
	8/21/2012 7:53	0	0	3.1	17.6	0.15		
	9/18/2012 7:28	0	0	3	18.2	0		
	10/25/2012 8:12	0	0	2.6	18.6	0		
	11/15/2012 8:23	0	0	3.2	16.6	0.15		
	12/28/2012 7:55	0	0	0.7	19.3	1.6		
	1/25/2012 8:21	0	0	0.1	21	-0.03		

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033B continued	2/22/2012 7:59	0	0	0.1	20.8	0	
		3/27/2012 8:09	0	0	0	21	0	
		4/18/2012 7:48	0	0	0.1	20.9	0	
		5/24/2012 7:41	0	0	0	21	-0.02	
		6/21/2012 8:25	0	0	0.1	20.5	-0.01	
		7/18/2012 8:08	0	0	3	16.5	0	
		8/21/2012 7:55	0	0	0.1	20.7	0	
		9/18/2012 7:30	0	0	1	15.9	0	
		10/25/2012 8:14	0	0	0.8	19.1	0	
		11/15/2012 8:24	0	0	0.1	21	0.15	
		12/28/2012 7:57	0	0	0.1	20.8	-6.35	
	Chgp033C	1/1/2012 8:24	0	0	0.2	20.8	-0.25	
		1/2/2012 8:38	6.8	136	3.2	0	1.47	
		1/3/2012 8:20	0	0	0	21	-0.99	
		1/4/2012 8:37	16.3	326	2.4	0	0.42	
		1/5/2012 8:03	0	0	0.1	20.8	-1.24	
		1/6/2012 8:24	0.2	4	0.5	17.5	0.01	
		1/7/2012 7:55	0	0	0.2	20.9	-0.69	
		1/8/2012 7:57	20.4	408	1.9	0.2	0.48	
		1/9/2012 8:25	4	80	4	1.6	0.09	
		1/10/2012 8:30	0	0	0.3	20.5	-1.1	
		1/11/2012 8:57	0	0	0.3	20.2	-0.14	
		1/12/2012 8:30	3.2	64	3.8	0.1	0.46	
		1/13/2012 8:49	6.7	134	4.6	0.4	0.36	
		1/14/2012 7:37	9.6	192	5	0.3	1.44	
		1/15/2012 7:28	10.2	204	4.7	0	0.49	
		1/16/2012 9:02	0	0	0.4	20.6	-0.11	
		1/17/2012 8:35	10	200	5.3	0.2	1.46	
		1/18/2012 8:40	12.6	252	5.2	0.1	2.32	
		1/23/2012 9:00	0	0	0	20	-1.5	
		1/24/2012 8:25	0	0	0.3	20.6	0.19	
		1/25/2012 8:23	0	0	0.1	21	-2.8	
		1/25/2012 8:30	0	0	0.1	21	-2.79	
		1/26/2012 8:30	0	0	0.2	21	-2.06	
		1/27/2012 8:45	0	0	0.1	21	-2.32	
		1/28/2012 8:08	0	0	0.1	20.8	-0.68	
		1/29/2012 8:04	7.8	156	4.3	0.4	1.2	
		1/30/2012 8:25	0	0	0.2	20.7	-1.7	
		1/31/2012 8:30	0	0	0	21	-0.7	
		2/1/2012 9:00	0	0	0	21	-1.7	
		2/2/2012 8:30	0	0	0	21	-2.5	
		2/3/2012 8:24	0	0	0.1	21	-0.21	

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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	2/4/2012 7:46	0	0	0.1	21	-1.76	
		2/5/2012 7:48	0	0	0.1	21	-1.98	
		2/6/2012 8:55	0	0	0.2	20.5	-0.8	
		2/7/2012 7:17	0	0	0.2	20.3	-0.08	
		2/8/2012 13:00	0	0	0	21	-0.93	
		2/9/2012 7:57	0	0	0.1	21	-1.9	
		2/10/2012 7:49	0	0	0.1	20.8	-0.51	
		2/11/2012 7:59	0	0	0.1	20.7	-2.1	
		2/12/2012 7:58	0	0	0.1	21	-0.76	
		2/13/2012 8:30	0	0	0	21	-1.1	
		2/14/2012 8:30	0	0	0	21	0	
		2/15/2012 8:45	0	0	0	21	0	
		2/16/2012 8:30	0	0	0	21	0	
		2/17/2012 8:20	0	0	0.1	20.8	-1.18	
		2/18/2012 8:15	0	0	0	21	-1.23	
		2/19/2012 9:00	0	0	0	21	-1.88	
		2/20/2012 9:00	0	0	0	20.6	-1.38	
		2/21/2012 9:00	0	0	0	21	-2.6	
		2/22/2012 8:00	0	0	0.1	20.9	-2.34	
		2/23/2012 8:37	0	0	0.1	21	-3.55	
		2/24/2012 8:10	0	0	0.3	20.6	-0.64	
		2/25/2012 8:12	0	0	0.2	20.9	-3.31	
		2/26/2012 7:57	0	0	0.1	21	-2.98	
		2/27/2012 9:30	0	0	0	21	-2.5	
		2/28/2012 8:37	0	0	0.1	20.9	-1.07	
		2/29/2012 8:51	0	0	0.2	20.6	-1.21	
		3/1/2012 9:00	0	0	0.3	20.8	-3.7	
		3/2/2012 8:26	0	0	0.1	21	-4.4	
		3/3/2012 8:30	0	0	0	21	-2.9	
		3/4/2012 9:00	0	0	0.2	20.9	-2.2	
		3/5/2012 9:00	0	0	0.3	20.8	-0.1	
		3/6/2012 9:00	0	0	0.3	21	-3.1	
		3/7/2012 8:45	0	0	0.1	21	-3.81	
		3/8/2012 8:45	0	0	0.1	21	-1.7	
		3/9/2012 8:35	0	0	0.1	21	-2.45	
		3/10/2012 8:19	0	0	0.2	20.8	-1.2	
		3/11/2012 8:20	0	0	0.1	21	-0.94	
		3/12/2012 8:50	12.1	242	1.1	4.3	0.79	
		3/13/2012 8:30	0	0	0.1	21	-2.56	
		3/14/2012 8:57	0	0	0.1	21	-2.03	
		3/15/2012 8:45	0	0	0.2	21	-0.9	
		3/16/2012 8:28	0	0	0.2	21	-2.3	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	3/17/2012 8:12	0	0	0.2	21	-1.8	
		3/18/2012 8:09	0	0	0.1	21	-2.26	
		3/19/2012 8:50	0	0	0.2	20.9	-3.4	
		3/20/2012 9:00	0	0	0.2	21	-1.4	
		3/21/2012 9:15	0	0	0.1	20.9	-3.5	
		3/22/2012 8:50	0	0	0.2	21	-3.7	
		3/23/2012 8:34	0	0	0.1	20.8	-3.21	
		3/24/2012 8:25	0	0	0.1	20.8	-2.36	
		3/25/2012 8:19	0	0	0.1	20.8	-1.68	
		3/26/2012 9:00	0	0	0.1	21	-2	
		3/27/2012 8:05	0	0	0	21	-1.2	
		3/27/2012 8:11	0	0	0	21	-1.21	
		3/28/2012 8:59	0	0	0.1	20.5	-2.39	
		3/29/2012 8:50	0	0	0.2	21	-1.6	
		3/30/2012 8:49	0	0	0.2	21	-2.67	
		3/31/2012 8:07	0	0	0.2	21	-0.52	
		4/1/2012 8:02	0	0	0.2	21	-4.98	
		4/2/2012 8:30	0	0	0.2	21	-4.5	
		4/3/2012 9:35	0	0	0.1	21	-1.59	
		4/4/2012 8:45	0	0	0.2	20.9	-2.5	
		4/5/2012 9:24	0	0	0.2	21	-3.42	
		4/6/2012 8:47	0	0	0.2	20.8	-3.95	
		4/7/2012 8:52	0	0	0.2	21	-3.06	
		4/8/2012 7:55	0	0	0	21	-2.14	
		4/9/2012 8:30	0	0	0	21	-2	
		4/10/2012 9:15	0	0	0.1	20.9	-1.52	
		4/11/2012 9:00	0	0	0.2	20.9	-1.3	
		4/12/2012 9:00	0	0	0.3	20.7	-1.56	
		4/13/2012 8:09	0	0	0.1	21	-2.32	
		4/14/2012 8:09	0	0	0.2	20.9	-3.19	
		4/15/2012 7:53	0	0	0.1	20.9	-3.25	
		4/16/2012 8:45	0	0	0.1	21	-0.8	
		4/17/2012 8:57	0	0	0.1	21	-2.47	
		4/18/2012 7:45	0	0	0.1	20.9	-1.97	
		4/18/2012 7:50	0	0	0.1	20.9	-1.97	
		4/19/2012 8:22	0	0	0.2	20.7	-2.34	
		4/20/2012 7:51	0	0	0.2	21	-2.98	
		4/21/2012 8:00	0	0	0.1	21	-2.39	
		4/22/2012 7:51	0	0	0.2	21	-1.72	
		4/23/2012 8:10	0	0	0.1	20.9	-2.07	
		4/24/2012 8:45	0	0	0.1	21	-2.5	
		4/25/2012 8:05	0	0	0.2	21	-1.3	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	4/26/2012 8:10	0	0	0.2	20.5	-1.25	
		4/27/2012 7:59	0	0	0.2	20.9	-5.33	
		4/28/2012 8:02	0	0	0.1	21	-3.07	
		4/29/2012 8:03	0	0	0.1	20.9	-1.99	
		4/30/2012 8:00	0	0	0.2	20.8	-0.45	
		5/1/2012 9:00	0	0	0.2	20.9	-3.2	
		5/2/2012 8:05	0	0	0.3	20.8	-3.37	
		5/3/2012 8:00	0	0	0.6	17.1	-0.6	
		5/4/2012 7:53	0	0	0.2	20.8	-5.66	
		5/5/2012 7:35	0	0	0.1	21	-6.01	
		5/6/2012 7:58	0	0	0.2	20.7	-4.62	
		5/7/2012 8:23	0	0	0.1	20.7	-1.85	
		5/8/2012 9:21	0	0	0.1	20.8	-2.17	
		5/9/2012 8:17	0	0	0.2	20.5	-2.87	
		5/10/2012 8:26	0	0	0.1	21	-3.22	
		5/11/2012 8:46	0	0	0.1	20.7	-2.36	
		5/12/2012 8:08	0	0	0.2	20.5	-2.02	
		5/13/2012 7:57	0	0	0.1	20.5	-2.31	
		5/14/2012 9:25	0	0	0.1	20.8	-1.5	
		5/15/2010 8:45	0	0	0.1	21	-2.47	
		5/16/2012 9:03	0	0	0.1	20.5	-2.29	
		5/17/2012 8:30	0	0	0.2	20.9	-2.1	
		5/18/2012 10:00	0	0	0	21	-2.8	
		5/19/2012 7:59	0	0	0.1	20.6	-2.25	
		5/20/2012 7:46	0	0	0.1	20.6	-1.85	
		5/21/2012 9:00	0	0	0.1	21	-1.33	
		5/22/2012 8:12	0	0	0.1	20.9	-2.33	
		5/23/2012 7:59	0	0	0.1	21	-2.38	
		5/24/2012 7:40	0	0	0.2	20.3	-2.43	
		5/24/2012 7:43	0	0	0.2	20.3	-2.43	
		5/25/2012 9:30	0	0	1	17	-3.25	
		5/26/2012 8:15	0	0	0.9	14	-3.4	
		5/27/2012 8:30	0	0	1.2	10.6	-4.4	
		5/28/2012 8:30	0	0	1	17.5	-3.6	
		5/29/2012 8:25	0	0	1.2	14.2	-3.95	
		5/30/2012 8:15	0	0	0.6	20.4	-4.1	
		5/31/2012 8:20	0	0	0.9	18.5	-3.1	
		6/1/2012 8:52	0	0	1.2	15.5	-2	
		6/2/2012 7:49	0	0	1.6	12	-2.92	
		6/3/2012 7:47	0	0	1.9	9.1	-3.35	
		6/4/2012 8:36	0	0	2.3	6	-2.14	
		6/5/2012 9:00	0	0	2.8	3.6	-4.95	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	6/6/2012 8:16	0	0	0.3	20.6	-4.03	
		6/7/2012 9:00	0	0	1	18	-1.8	
		6/8/2012 8:52	0	0	1.4	19.7	-3.31	
		6/9/2012 7:50	0	0	0	21	-4.62	
		6/10/2012 7:52	0	0	0.2	20.9	-4.41	
		6/11/2012 8:18	0	0	0.2	21	-2.93	
		6/12/2012 8:30	0	0	0.5	21	-2.2	
		6/13/2012 7:29	0	0	0.1	20.7	-3.84	
		6/14/2012 9:00	0	0	0.2	21	-2.6	
		6/15/2012 8:05	0	0	0.1	20.8	-2.98	
		6/16/2012 7:53	0	0	0.1	20.8	-2.46	
		6/17/2012 8:04	0	0	0.1	21	-1.86	
		6/18/2012 8:09	0	0	0.1	20.8	-2.05	
		6/19/2012 8:11	0	0	0.3	17.8	-4.2	
		6/20/2012 8:44	0	0	0.6	13.4	-3.09	
		6/21/2012 8:27	0	0	0.7	9.1	-2.58	
		6/22/2012 8:40	0	0	1.1	7.3	-3.12	
		6/23/2012 8:40	0	0	1.3	8.5	-2.8	
		6/24/2012 8:35	0	0	1.2	7.9	-2.6	
		6/25/2012 8:20	0	0	2.2	2.2	-3.13	
		6/26/2012 8:43	0	0	2.2	1.7	-3.65	
		6/27/2012 8:30	0	0	3	0	-3.5	
		6/28/2012 8:00	0	0	0	20.5	-2.3	
		6/29/2012 9:05	0	0	0.2	20.9	-2.71	
		6/30/2012 8:00	0	0	0.1	20.9	-2.14	
		7/1/2012 7:33	0	0	0.1	20.9	-3.11	
		7/2/2012 8:10	0	0	0.2	20.9	-2.3	
		7/3/2012 8:40	0	0	0.1	20.9	-3.21	
		7/4/2012 8:09	0	0	0.1	20.7	-2.65	
		7/5/2012 8:15	0	0	0.2	20.9	-2.4	
		7/6/2012 8:25	0	0	0.1	20.9	-3.23	
		7/7/2012 9:15	0	0	0	20.3	-3	
		7/8/2012 7:47	0	0	0.1	20.5	-2.62	
		7/9/2012 8:15	0	0	0.1	21	-3.05	
		7/10/2012 8:50	0	0	0.2	21	-3.3	
		7/11/2012 9:30	0	0	0	21	-1.9	
		7/12/2012 8:30	0	0	0.2	20.7	-2.3	
		7/13/2012 9:28	0	0	0.1	20.8	-2.51	
		7/14/2012 7:48	0	0	0.1	20.7	-2.11	
		7/15/2012 8:34	0	0	0.1	20.6	-1.93	
		7/16/2012 8:20	0	0	0.1	20.9	-1.2	
		7/17/2012 9:00	0	0	0	20.9	-2.1	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	7/18/2012 8:10	0	0	0.1	21	-2.2	
		7/18/2012 8:10	0	0	0.1	21	-2.24	
		7/19/2012 8:55	0	0	0.2	21	-1.5	
		7/20/2012 9:10	0	0	0	20.7	-1.9	
		7/21/2012 8:02	0	0	0.1	20.8	-2.59	
		7/22/2012 8:07	0	0	0.1	21	-1.98	
		7/23/2012 8:22	0	0	0.1	20.8	-2.47	
		7/24/2012 8:45	0	0	0.1	21	-1.1	
		7/25/2012 8:24	0	0	0.1	20.4	-1.78	
		7/26/2012 8:20	0	0	0.3	21	-1.8	
		7/27/2012 8:45	0	0	0	20.8	-1.5	
		7/28/2012 7:46	0	0	0.1	20.8	-2.27	
		7/29/2012 8:51	0	0	0.1	20.6	-1.96	
		7/30/2012 9:05	0	0	0.2	20.8	-1.8	
		7/31/2012 9:00	0	0	0.2	20.7	-2.18	
		8/1/2012 9:03	0	0	0	20.8	-2.19	
		8/2/2012 8:50	0	0	0	20.7	-1.21	
		8/3/2012 8:17	0	0	0.1	20.9	-1.82	
		8/4/2012 7:57	0	0	0.1	20.8	-1.44	
		8/5/2012 7:57	0	0	0.1	20.5	-1.81	
		8/6/2012 8:04	0	0	0.1	20.8	-2.35	
		8/7/2012 8:40	0	0	0.1	21	-1.8	
		8/8/2012 8:35	0	0	0.3	20.6	-2.2	
		8/9/2012 8:20	0	0	0.1	20.8	-1.85	
		8/10/2012 9:00	0	0	0	20.6	-1	
		8/11/2012 8:05	0	0	0.1	20.9	-1.87	
		8/12/2012 7:38	0	0	0.2	20.7	-1.5	
		8/13/2012 8:10	0	0	0.2	20.6	-0.6	
		8/14/2012 9:05	0	0	0	20.5	-0.85	
		8/15/2012 7:54	0	0	0.2	20.7	-1.63	
		8/16/2012 8:00	0	0	0	20.9	-0.84	
		8/17/2012 8:25	0	0	0	20.8	-1.15	
		8/18/2012 8:05	0	0	0.3	20.8	-1.1	
		8/19/2012 8:25	0	0	0.3	20.6	-1.3	
		8/20/2012 8:30	0	0	0.2	20.9	-1.2	
		8/21/2012 7:56	0	0	0	20.9	-1.36	
		8/21/2012 8:41	0	0	0.1	21	-1.88	
		8/22/2012 8:20	0	0	0.2	20.9	-1.8	
		8/23/2012 7:50	0	0	0.2	21	-1.95	
		8/24/2012 8:05	0	0	0	21	-1.44	
		8/25/2012 8:05	0	0	0.1	20.8	-0.66	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	8/26/2012 8:02	0	0	0.1	20.9	-1.08	
		8/27/2012 8:08	0	0	0.1	20.7	-1.83	
		8/28/2012 9:05	0	0	1	20.1	-0.79	
		8/29/2012 8:35	0	0	0.1	20.9	-1.52	
		8/30/2012 9:03	0	0	0.1	20.8	-0.62	
		8/31/2012 9:05	0	0	0	20.9	-0.61	
		9/1/2012 9:10	0	0	0	20.9	-1.8	
		9/2/2012 10:05	0	0	0.1	20.8	-0.96	
		9/3/2012 8:45	0	0	0	20.9	-0.73	
		9/4/2012 8:55	0	0	0.1	20.9	-0.8	
		9/5/2012 8:35	0	0	0.1	20.8	-0.64	
		9/6/2012 9:15	0	0	0.1	20.7	-1.31	
		9/7/2012 9:28	0	0	0.1	20.6	-1.52	
		9/8/2012 7:37	0	0	0.1	20.8	-0.46	
		9/9/2012 8:27	0	0	0.1	20.7	-1.12	
		9/10/2012 8:13	0	0	0.1	21	-1.86	
		9/11/2012 9:35	0	0	0	20.9	-1.1	
		9/12/2012 10:05	0	0	0	21	-1.1	
		9/13/2012 8:53	0	0	0.1	20.8	-0.87	
		9/14/2012 9:13	0	0	0.1	20.6	-1.01	
		9/15/2012 8:35	0	0	0.2	21	-1.4	
		9/16/2012 9:10	0	0	0.2	20.7	-1.3	
		9/17/2012 8:50	0	0	0.1	21	-1	
		9/18/2012 7:30	0	0	0.1	20.9	-1.02	
		9/18/2012 7:31	0	0	0.1	20.9	-1.02	
		9/19/2012 8:40	0	0	0.2	21	-1	
		9/20/2012 8:23	0	0	0.1	20.9	-1.06	
		9/21/2012 9:05	0	0	0	21	-1.12	
		9/22/2012 8:04	0	0	0.1	20.8	-1.34	
		9/23/2012 8:12	0	0	0.1	20.7	-1.32	
		9/24/2012 8:40	0	0	0.2	21	-1.3	
		9/25/2012 11:48	0	0	0.1	20.6	-1.46	
		9/26/2012 9:16	0	0	0.1	20.7	-1.26	
		9/27/2012 8:44	0	0	0.1	20.6	-1.16	
		9/28/2012 8:42	0	0	0.1	21	-1.12	
		9/29/2012 8:12	0	0	0.1	21	-2.16	
		9/30/2012 8:40	0	0	0.1	21	-2.41	
		10/1/2012 8:00	0	0	0.1	21	-1.1	
		10/2/2012 8:10	0	0	0.1	21	-1.39	
		10/3/2012 9:00	0	0	0.4	21	-1.8	
		10/4/2012 8:25	0	0	0.3	21	-1.2	
		10/5/2012 10:15	0	0	0	20.8	-1.24	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	10/6/2012 8:45	0	0	0.1	21	-1.11	
		10/7/2012 8:35	0	0	0.1	20.9	-0.65	
		10/8/2012 8:05	0	0	0.1	21	-0.8	
		10/9/2012 8:40	0	0	0.1	21	-1.7	
		10/10/2012 9:07	0	0	0.1	21	-1.1	
		10/11/2012 8:59	0	0	0.1	21	-0.6	
		10/12/2012 9:40	0	0	0	20.8	-1.25	
		10/13/2012 9:20	0	0	0.1	21	-1.9	
		10/14/2012 8:44	0	0	0.1	21	-0.2	
		10/15/2012 9:12	0	0	0.1	21	-1.4	
		10/16/2012 9:05	0	0	0.1	21	-3.4	
		10/17/2012 9:07	0	0	0	20.9	-2.34	
		10/18/2012 9:22	0	0	0.1	20.9	-0.32	
		10/19/2012 9:29	0	0	0	20.7	-0.77	
		10/20/2012 7:32	0	0	0.1	20.8	-1.55	
		10/21/2012 9:09	0	0	0.2	20.9	-1.36	
		10/22/2012 7:57	0	0	0.3	17	0.4	
		10/23/2012 8:46	0	0	0	20.8	-2.22	
		10/24/2012 8:36	0	0	0.2	21	-1.8	
		10/25/2012 8:10	0	0	0.1	21	-3.63	
		10/25/2012 8:15	0	0	0.1	20.8	-3.17	
		10/26/2012 9:15	0	0	0.2	20.6	-0.15	
		10/27/2012 8:30	0	0	0.2	20.9	-0.43	
		10/28/2012 10:50	0	0	0.1	20.9	-1.15	
		10/29/2012 8:45	0	0	0.2	21	-1.3	
		10/30/2012 8:34	0	0	0	20.9	-0.45	
		10/31/2012 9:17	0	0	0.3	18.4	-0.03	
		11/1/2012 9:03	0	0	0.5	16.3	-1.6	
		11/2/2012 8:54	0	0	0.7	13.7	-1.71	
		11/3/2012 8:41	0	0	0.9	14.2	-1.76	
		11/4/2012 8:31	0	0	1.3	11.4	-2.16	
		11/5/2012 8:03	0	0	1.8	9	-2.61	
		11/6/2012 8:23	0	0	2.3	7.6	-0.26	
		11/7/2012 10:09	0	0	2.7	5.9	-2.02	
		11/8/2012 8:29	0	0	2.9	7.6	-0.2	
		11/9/2012 9:53	0	0	3.1	5.9	-1.66	
		11/10/2012 8:34	0	0	3.6	4.4	-2.4	
		11/11/2012 8:08	0	0	3.8	4.7	-2.1	
		11/12/2012 8:40	0	0	1.8	17.8	-1.4	
		11/13/2012 10:18	0	0	0.6	20.7	-1.63	
		11/14/2012 8:45	0	0	2	16.7	-2.39	
		11/15/2012 8:25	0	0	2.4	13.6	-0.33	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	11/15/2012 8:26	0	0	2.4	13.7	-0.32	
		11/16/2012 9:34	0	0	3.1	11.1	-0.87	
		11/17/2012 8:02	0	0	3.3	8.9	-0.02	
		11/18/2012 8:18	0	0	2.6	6.8	-1.61	
		11/19/2012 9:01	0	0	4.1	4.5	0	
		11/20/2012 8:22	0	0	0.7	20.1	-0.79	
		11/21/2012 11:28	0	0	1.9	16	-3.73	
		11/22/2012 8:32	0	0	0.3	20.9	-4.35	
		11/23/2012 9:19	0	0	0.9	17	-1.32	
		11/24/2012 8:49	0	0	1.4	14.6	-2.91	
		11/25/2012 8:22	0	0	2	12	-2.76	
		11/26/2012 8:50	0	0	2.5	9.5	-0.6	
		11/27/2012 9:17	0	0	3.1	8.8	-1.34	
		11/28/2012 9:05	0	0	3.3	7.9	0.47	
		11/29/2012 8:37	0	0	3.5	7.4	0.3	
		11/30/2012 8:47	0	0	3.6	6.4	-0.9	
		12/1/2012 8:09	0	0	3.9	5.2	-3.4	
		12/2/2012 8:23	0	0	3.9	5.1	-1.69	
		12/3/2012 8:24	0	0	0.3	21	-4.7	
		12/4/2012 10:55	0	0	0.8	18.6	-2.87	
		12/5/2012 8:41	0	0	0.2	20.9	-5.35	
		12/6/2012 8:30	0	0	0.1	21	-2.22	
		12/7/2012 9:05	0	0	0.2	20.9	-1.02	
		12/8/2012 8:29	0	0	0.2	21	-3.2	
		12/9/2012 8:56	0	0	0.2	20.9	-2.7	
		12/10/2012 8:45	0	0	0.4	21	-3	
		12/11/2012 8:15	0	0	0.4	20.4	1.49	
		12/12/2012 9:13	0	0	0.9	15.6	-2.7	
		12/13/2012 10:29	0	0	1.2	12.2	-2.42	
		12/14/2012 9:25	0	0	1.5	10.9	-2.19	
		12/15/2012 7:40	0	0	1.8	9.1	-0.32	
		12/16/2012 7:48	0	0	2.3	7.2	-2.13	
		12/17/2012 8:50	0	0	2.7	6.1	-3.8	
		12/18/2012 8:31	0	0	0.3	21	-3.6	
		12/19/2012 10:28	0	0	0	21	-0.34	
		12/20/2012 9:34	0	0	0.1	21	-1.31	
		12/21/2012 11:15	0	0	0	21	-1.66	
		12/22/2012 10:24	0	0	0	21	-0.76	
		12/23/2012 9:29	0	0	0	21	-1.79	
		12/24/2012 8:40	0	0	0	21	-4.89	
		12/25/2012 10:52	0	0	0	17.4	0.29	
		12/26/2012 9:31	0	0	0.1	20.9	-2.38	

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King County Solid Waste Division
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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-33 continued	Chgp033C continued	12/27/2012 11:05	0	0	0	20.9	-3.75	
		12/28/2012 7:52	0	0	0	21	-1.82	
		12/28/2012 7:58	0	0	0.1	21	-1.82	
		12/29/2012 7:45	0	0	0.1	20.8	-2.23	
		12/30/2012 8:19	0	0	0.1	21	-2.86	
		12/31/2012 8:25	0	0	0.5	18	-1.9	
GP-34	Chgp034A	1/25/2012 8:29	0	0	0	0	-4.27	NR-H2O
		2/22/2012 8:03	0	0	0	0	5.02	NR-H2O
		3/27/2012 8:15	0	0	0	0	-2.1	NR-H2O
		4/18/2012 7:53	0	0	0	0	-0.04	NR-H2O
		5/24/2012 7:46	0	0	0	0	0	NR-H2O
		6/21/2012 8:29	0	0	0	0	-0.05	
		7/18/2012 8:15	0	0	0	0	0.61	NR-H2O
		8/21/2012 8:00	0	0	0	0	0	NR-H2O
		9/18/2012 7:35	0	0	0	0	0	NR-H2O
		10/25/2012 8:18	0	0	9.2	10	0	
		11/15/2012 8:36	0	0	2.8	17.2	-1.45	
		12/28/2012 8:01	0	0	0	0	0	NR-H2O
		1/25/2012 8:31	0	0	0.1	20.7	-0.61	
		2/22/2012 8:05	0	0	0.2	20.9	-0.01	
GP-34B	Chgp034B	3/27/2012 8:17	0	0	0.2	20.6	0.04	
		4/18/2012 7:54	0	0	0.2	20.8	0	
		5/24/2012 7:48	0	0	0.3	20.9	0.05	
		6/21/2012 8:31	0	0	0.3	20.1	0	
		7/18/2012 8:17	0	0	0.1	21	-0.19	NR-H2O
		8/21/2012 8:03	0	0	0.1	20.8	-0.02	
		9/18/2012 7:37	0	0	0.3	19.2	-0.04	
		10/25/2012 8:20	0	0	0.1	20.8	-0.6	
		11/15/2012 8:38	0	0	0.2	21	0.14	
		12/28/2012 8:03	0	0	0.1	20.8	-0.24	
		1/25/2012 8:33	0	0	0.1	20.2	-4.25	
		2/22/2012 8:07	0	0	0	20.2	-0.82	
		3/27/2012 8:19	0	0	0.1	8.6	0.46	
		4/18/2012 7:56	0	0	0.1	20.6	-0.72	
GP-34C	Chgp034C	5/24/2012 7:50	0	0	0.1	20	0.09	
		6/21/2012 8:33	0	0	0.1	7.1	0.27	NR-H2O
		7/18/2012 8:18	0	0	0.1	19.7	-0.89	
		8/21/2012 8:04	0	0	0	20.4	-0.83	
		9/18/2012 7:39	0	0	0.1	5.9	0.23	
		10/25/2012 8:21	0	0	0.1	18.9	-5.72	
		11/15/2012 8:39	0	0	0.1	21	0	
		12/28/2012 8:05	0	0	0	20.8	-3.27	

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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-35	Chgp035A	1/25/2012 8:37	0	0	0.1	20.6	1.89	
		2/22/2012 8:10	0	0	0.1	21.1	-0.04	
		3/27/2012 8:23	0	0	0	21	0.01	
		4/18/2012 7:58	0	0	0.1	20.9	0	
		5/24/2012 7:52	0	0	0.1	20.9	0	
		6/21/2012 8:36	0	0	0.1	20.3	0	
		7/18/2012 8:23	0	0	0.1	21	0.08	
		8/21/2012 8:12	0	0	0	20.9	0	
		9/18/2012 7:41	0	0	5.8	15.8	0	
		10/25/2012 8:24	0	0	4.7	17.2	0	
		11/15/2012 8:45	0	0	0.1	21	0.13	
		12/28/2012 8:07	0	0	0	20.8	0	
		1/25/2012 8:38	0	0	0.1	20.6	0	
	Chgp035B	2/22/2012 8:12	0	0	0	21.1	-0.01	
		3/27/2012 8:24	0	0	0	21	0.01	
		4/18/2012 7:59	0	0	0.1	21	0	
		5/24/2012 7:54	0	0	0	21	0	
		6/21/2012 8:38	0	0	0	20.6	0	
		7/18/2012 8:25	0	0	0.1	21	-1.28	
		8/21/2012 8:13	0	0	0	20.9	0	
		9/18/2012 7:42	0	0	0.1	20.9	0	
		10/25/2012 8:25	0	0	0.1	20.9	0	
		11/15/2012 8:46	0	0	0.1	21	-0.01	
		12/28/2012 8:09	0	0	0	20.8	0	
		1/25/2012 8:41	0	0	0.1	20.3	0	
		2/22/2012 8:13	0	0	0.1	21	-0.04	
	Chgp035C	3/27/2012 8:26	0	0	0	21	0.03	
		4/18/2012 8:01	0	0	0.1	20.9	-0.03	
		5/24/2012 7:56	0	0	0.1	21	0.01	
		6/21/2012 8:40	0	0	0.1	20.8	0	NR-H2O
		7/18/2012 8:26	0	0	0.1	20.8	-1.85	
		8/21/2012 8:15	0	0	0	20.9	-0.03	
		9/18/2012 7:44	0	0	0.1	20.9	0	
		10/25/2012 8:27	0	0	0.1	20.9	-0.25	
		11/15/2012 8:48	0	0	0.1	21	0.02	
		12/28/2012 8:10	0	0	0.1	20.8	-0.23	
		1/25/2012 8:46	0	0	0.1	20.6	-1.42	
		2/22/2012 8:17	0	0	0.3	2.4	-0.02	
		3/27/2012 8:30	0	0	0.2	8.2	0.06	
GP-36	Chgp036A	4/18/2012 8:03	0	0	0.2	17.4	-0.09	
		5/24/2012 7:58	0	0	0.2	17.7	0.43	
		6/21/2012 8:45	0	0	0.2	19.1	0.28	

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Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-36 continued	Chgp036A continued	7/18/2012 8:30	0	0	0.2	20.9	-1.85	
		8/21/2012 8:18	0	0	0.8	20.3	-0.7	
		9/18/2012 7:47	0	0	0.5	20.2	-0.15	
		10/25/2012 8:30	0	0	0.9	20	-6.04	
		11/15/2012 8:52	0	0	0.4	20.1	1.39	
		12/28/2012 8:15	0	0	0.1	20.8	0.02	
	Chgp036B	1/25/2012 8:47	0	0	0	0	-7.8	NR-H2O
		2/22/2012 8:19	0	0	0	0	0.45	NR-H2O
		3/27/2012 8:30	0	0	0	0	-9.61	NR-H2O
		4/18/2012 8:05	0	0	0	0	-12.21	NR-H2O
		5/24/2012 8:00	0	0	0	0	0	NR-H2O
		6/21/2012 8:46	0	0	0	0	-0.01	
		7/18/2012 8:32	0	0	0.2	20.7	0.19	
		8/21/2012 8:20	0	0	0.1	20.8	0	
		9/18/2012 7:48	0	0	4.7	17.2	0	
		10/25/2012 8:31	0	0	3.6	18	0	
		11/15/2012 8:54	0	0	0.1	21	0.12	
		12/28/2012 8:16	0	0	0	0	0	NR-H2O
GP-37	Chgp036C	1/25/2012 8:49	0	0	0.4	11.3	-4.44	
		2/22/2012 8:19	0	0	0.3	9.4	0	
		3/27/2012 8:32	0	0	0.3	8.2	2.42	
		4/18/2012 8:07	0	0	0.4	8.7	0.48	
		5/24/2012 8:02	0	0	0.3	9	1.29	
		6/21/2012 8:49	0	0	0.3	7.8	1.68	
		7/18/2012 8:34	0	0	0.3	20.4	-0.15	
		8/21/2012 8:21	0	0	0.3	8.2	-0.59	
		9/18/2012 7:51	0	0	0.4	7.8	0.57	
		10/25/2012 8:33	0	0	0.3	15.9	-5.82	
		11/15/2012 8:55	0	0	0.3	9.3	-0.01	
		12/28/2012 8:17	0	0	0.3	14.4	-3.11	
	Chgp037A	1/25/2012 8:53	0	0	0	0	-10.71	NR-H2O
		2/22/2012 8:26	0	0	0	0	-10.63	NR-H2O
		3/27/2012 8:37	0	0	0	0	-24.69	NR-H2O
		4/18/2012 8:10	0	0	0	0	0.56	NR-H2O
		5/24/2012 8:06	0	0	0	0	0	NR-H2O
		6/21/2012 8:52	0	0	0	0	0.01	
		7/18/2012 8:37	0	0	0	0	-1.32	NR-H2O
		8/21/2012 8:25	0	0	0.3	8.9	-17.94	NR-H2O
		9/18/2012 7:55	0	0	2	17	-9.27	
		10/25/2012 8:36	0	0	2	17.9	-10.9	
		11/15/2012 8:58	0	0	0	0	22.07	NR-H2O
		12/28/2012 8:20	0	0	0	0	0	NR-H2O

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-37 continued	Chgp037B continued	1/25/2012 8:54	0	0	0.3	17.9	-4.83	
		2/22/2012 8:23	0	0	0.2	19.2	-6.41	
		3/27/2012 8:38	0	0	0.3	9.3	-6.15	
		4/18/2012 8:12	0	0	0.2	19.9	-7.43	
		5/24/2012 8:08	0	0	0.4	17.9	-6.6	
		6/21/2012 8:54	0	0	0.1	20.5	-0.15	
		7/18/2012 8:39	0	0	2.6	18.1	-2.36	
		8/21/2012 8:26	0	0	0.1	19.6	-0.09	
		9/18/2012 7:58	0	0	1.7	16.9	-0.01	
		10/25/2012 8:37	0	0	1.9	17.9	-3.55	
		11/15/2012 8:59	0	0	1.5	17.6	-2.39	
		12/28/2012 8:21	0	0	0.6	11.5	-0.32	
GP-39	Chgp037C	1/25/2012 8:56	0	0	0.5	7.9	-4.41	
		2/22/2012 8:25	0	0	0.6	2.6	-0.13	
		3/27/2012 8:40	0	0	0.6	1.8	1.91	
		4/18/2012 8:13	0	0	0.6	1.6	0.53	
		5/24/2012 8:10	0	0	0.6	1.4	1.14	
		6/21/2012 8:56	0	0	0.5	2.8	1.57	
		7/18/2012 8:40	0	0	0.2	20.1	-1.05	
		8/21/2012 8:28	0	0	0.6	0.9	-0.27	
		9/18/2012 8:00	0	0	0.6	0.9	0.88	
		10/25/2012 8:39	0	0	0.4	13	-5.98	
		11/15/2012 9:01	0	0	0.6	2.5	0.51	
		12/28/2012 8:23	0	0	0.5	10.5	-2.78	
GP-40	Chgp0039	1/25/2012 10:39	0	0	1.1	17.7	0.02	
		2/22/2012 8:52	0	0	1.1	18	0.39	
		3/27/2012 9:03	0	0	0.8	19.7	0	
		4/18/2012 13:31	0	0	1.3	17.5	-0.06	
		5/24/2012 9:16	0	0	0.2	20.7	0	
		6/21/2012 9:15	0	0	1.6	17.4	0.02	
		7/18/2012 8:57	0	0	1.1	19.2	-0.01	
		8/21/2012 14:27	0	0	2.3	18.5	0	
		9/18/2012 12:58	0	0	1.9	19	0.01	
		10/25/2012 8:43	0	0	1	19.3	-0.32	
		11/15/2012 9:07	0	0	0.6	18.2	0.18	
		12/28/2012 9:19	0	0	0.8	18.1	2.42	
GP-40	Chgp0040	1/25/2012 14:00	0	0	0.1	18.5	0	
		2/22/2012 8:57	0	0	0.1	19.1	0	
		3/27/2012 9:07	0	0	0	18.3	0.09	
		4/18/2012 13:34	0	0	0.1	17.1	0	
		5/24/2012 13:38	0	0	1.4	17.8	0	
		6/21/2012 9:19	0	0	0	16.4	0	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-40 continued	Chgp0040 continued	7/18/2012 9:02	0	0	0	16.3	0.09	
		8/21/2012 14:31	0	0	0	14.4	0	
		9/18/2012 13:00	0	0	0	14.9	0	
		10/25/2012 8:47	0	0	0.1	20.8	-0.06	
		11/15/2012 9:11	0	0	0.1	20.9	0.76	
		12/28/2012 9:25	0	0	0.1	19	-8.62	
GP-41	Chgp041A	1/25/2012 14:03	0	0	0.1	19.8	0	
		2/22/2012 9:01	0	0	0.1	20.7	0	
		3/27/2012 9:12	0	0	0	21	0.13	
		4/18/2012 13:37	0	0	0.1	20	0	
		5/24/2012 13:43	0	0	0	20.7	0	
		6/21/2012 9:24	0	0	0	20.6	0	
		7/18/2012 9:06	0	0	0.1	21	0	
		8/21/2012 14:36	0	0	4.9	14.3	0.1	
		9/18/2012 13:04	0	0	4.2	16.5	0	
		10/25/2012 8:50	0	0	3.9	18	0	
		11/15/2012 9:15	0	0	0.1	21	0.15	
		12/28/2012 9:29	0	0	0	20.2	0	
	Chgp041B	1/25/2012 14:05	0	0	0.1	19.9	-0.02	
		2/22/2012 9:03	0	0	0.1	20.8	-0.01	
		3/27/2012 9:13	0	0	0	21	0	
		4/18/2012 13:38	0	0	0.1	20	0	
		5/24/2012 13:45	0	0	0	20.7	-0.01	
		6/21/2012 9:25	0	0	0	20.6	0	
GP-41	Chgp041C	7/18/2012 9:08	0	0	0.1	21	0	
		8/21/2012 14:38	0	0	0.7	5.2	0	
		9/18/2012 13:06	0	0	0.6	6.2	0	
		10/25/2012 8:51	0	0	0.8	6.2	0	
		11/15/2012 9:17	0	0	0.1	21	0.2	
		12/28/2012 9:30	0	0	0	20.3	0	
		1/25/2012 14:07	0	0	0.1	19.9	-0.01	
		2/22/2012 9:05	0	0	0.1	20.9	0	
		3/27/2012 9:15	0	0	0	21	0.08	
		4/18/2012 13:40	0	0	0.1	19.9	0	
		5/24/2012 13:47	0	0	0	20.9	0	
		6/21/2012 9:27	0	0	0	20.7	0	
		7/18/2012 9:09	0	0	0	21	-0.01	
		8/21/2012 14:39	0	0	0	20.5	0	
		9/18/2012 13:08	0	0	0	19.9	0	
		10/25/2012 8:53	0	0	0.1	20.7	0	
		11/15/2012 9:18	0	0	0.1	21	0.04	
		12/28/2012 9:32	0	0	0	20.3	0	

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Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-42 continued	Chgp042A continued	1/25/2012 14:10	0	0	0	0	-0.01	NR-H2O
		2/22/2012 9:08	0	0	0	0	-6.84	NR-H2O
		3/27/2012 9:20	0	0	0	0	-6.63	NR-H2O
		4/18/2012 13:43	0	0	0	0	-0.09	NR-H2O
		5/24/2012 13:50	0	0	0	0	0	NR-H2O
		6/21/2012 9:31	0	0	0	0	0.04	
		7/18/2012 9:14	0	0	0.1	21	-0.04	
		8/21/2012 14:43	0	0	0.5	19.8	0	
		9/18/2012 13:11	0	0	4.8	12.7	0	
		10/25/2012 8:56	0	0	5	9.5	0	
		11/15/2012 9:22	0	0	0.1	21	-0.03	
		12/28/2012 9:35	0	0	0	0	0	NR-H2O
		1/25/2012 14:13	0	0	0.1	20	-2.54	
GP-43	Chgp042B	2/22/2012 9:10	0	0	0.3	19.7	-0.73	
		3/27/2012 9:22	0	0	0.3	18.1	1.07	
		4/18/2012 13:45	0	0	0.3	19.6	-0.21	
		5/24/2012 13:52	0	0	0.7	16.2	1.2	
		6/21/2012 9:33	0	0	0.5	17.5	0.75	
		7/18/2012 9:15	0	0	0.2	20.8	-0.17	
		8/21/2012 14:45	0	0	0.4	18.8	-0.21	
		9/18/2012 13:13	0	0	0.8	18.2	0.13	
		10/25/2012 8:57	0	0	0.3	20.1	-2.52	
		11/15/2012 9:24	0	0	0.4	21	0.83	
		12/28/2012 9:37	0	0	0.1	20.4	-1.04	
		1/25/2012 14:15	0	0	0.2	20	-0.12	
		2/22/2012 9:14	0	0	0.1	20.9	-0.04	
GP-43	Chgp043A	3/27/2012 9:27	0	0	0.4	19.6	0	
		4/18/2012 13:49	0	0	0.2	19.6	-0.07	
		5/24/2012 13:55	0	0	0.1	20.5	0	
		6/21/2012 9:37	0	0	0	20.4	-0.01	
		7/18/2012 9:18	0	0	0	21	0.1	
		8/21/2012 15:02	0	0	0	20.5	-0.04	
		9/18/2012 13:16	0	0	0.1	20.1	0	
		10/25/2012 9:01	0	0	0.1	20.8	-0.11	
		11/15/2012 9:28	0	0	0.1	21	0.01	
		12/28/2012 9:40	0	0	0.1	20.4	-0.24	
		1/25/2012 14:17	0	0	0.1	20	-0.03	
		2/22/2012 9:16	0	0	0.1	21	-0.01	
		3/27/2012 9:29	0	0	0	21	0.12	
GP-43	Chgp043B	4/18/2012 13:51	0	0	0.1	19.9	-0.01	
		5/24/2012 13:56	0	0	0	20.6	-0.01	
		6/21/2012 9:38	0	0	0	20.4	0	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-43 continued	Chgp043B continued	7/18/2012 9:20	0	0	0	21	0	
		8/21/2012 15:03	0	0	0	20.7	0	
		9/18/2012 13:17	0	0	0	20.1	-0.01	
		10/25/2012 9:03	0	0	0.1	20.8	0	
		11/15/2012 9:29	0	0	0.1	21	0.05	
		12/28/2012 9:42	0	0	0	20.5	-0.02	
		1/25/2012 14:18	0	0	0.1	20.1	-0.73	
	Chgp043C	2/22/2012 9:18	0	0	0.2	17.6	-0.63	
		3/27/2012 9:30	0	0	0.1	19.1	0.07	
		4/18/2012 13:52	0	0	0.1	19.9	0	
		5/24/2012 13:58	0	0	0.1	16.3	0.06	
		6/21/2012 9:40	0	0	0.1	19.1	0.05	
		7/18/2012 9:22	0	0	0.1	19.8	-0.02	
		8/21/2012 15:05	0	0	0	20.7	0	
GP-44	Chgp044A	9/18/2012 13:20	0	0	0	19.7	0.01	
		10/25/2012 9:04	0	0	0	20.8	-0.22	
		11/15/2012 9:31	0	0	0.1	21	0.1	
		12/28/2012 9:43	0	0	0	20.5	-0.09	
		1/25/2012 14:22	0	0	0.1	20.1	0	
		2/22/2012 9:25	0	0	0.1	21.1	0	
		3/27/2012 9:35	0	0	0	21	0.02	
	Chgp044B	4/18/2012 13:56	0	0	0.1	20	0	
		5/24/2012 14:02	0	0	0	20.8	0	
		6/21/2012 9:44	0	0	0	20.5	0.01	
		7/18/2012 9:34	0	0	0	21	0.05	
		8/21/2012 15:10	0	0	0.3	20.4	0	
		9/18/2012 13:23	0	0	9	6.9	0	
		10/25/2012 9:08	0	0	0.8	20.2	0	
	Chgp044B	11/15/2012 9:35	0	0	0.1	21	0.14	
		12/28/2012 9:47	0	0	0	20.5	-0.03	
		1/25/2012 14:23	0	0	0.6	13.7	-2.14	
		2/22/2012 9:22	0	0	0.4	17.7	-3.5	
		3/27/2012 9:36	0	0	0.3	17.2	0.53	
		4/18/2012 13:58	0	0	0.1	19.6	0.04	
		5/24/2012 14:04	0	0	0.5	13.9	2.36	
		6/21/2012 9:46	0	0	0.4	14.9	0.59	
		7/18/2012 9:36	0	0	0.1	20.8	-0.84	
		8/21/2012 15:12	0	0	0	20.6	-0.36	
		9/18/2012 13:25	0	0	0.2	19.5	0.1	
		10/25/2012 9:09	0	0	0.2	19.5	-1.63	
		11/15/2012 9:37	0	0	0.8	12.7	1.36	
		12/28/2012 9:50	0	0	0.7	12.4	-4.89	

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-44 continued	Chgp044C	1/25/2012 14:25	0	0	0.1	19.9	0	
		2/22/2012 9:24	0	0	0.1	21	0	
		3/27/2012 9:38	0	0		20.9	0	
		4/18/2012 14:00	0	0	0.1	20.1	0	
		5/24/2012 14:05	0	0	0	20.3	0	
		6/21/2012 9:47	0	0	0	20.1	0	
		7/18/2012 9:37	0	0	0	21	0.05	
		8/21/2012 15:13	0	0	0	20.7	0	
		9/18/2012 13:27	0	0	0	20.4	0	
		10/25/2012 9:11	0	0	0	20.7	0	
		11/15/2012 9:38	0	0	0.1	21	0	
		12/28/2012 9:52	0	0	0	20.5	0	
GP-45	Chgp045D	1/25/2012 10:59	0	0	0.1	19.7	-2.42	
		2/22/2012 10:24	0	0	0.1	21	-0.79	
		3/27/2012 10:01	0	0	0.1	20	0.75	
		4/18/2012 9:39	0	0	0.1	20.3	-0.3	
		5/24/2012 9:44	0	0	0.1	19.6	0.7	
		6/21/2012 15:34	0	0	0	20.2	1.1	
		7/18/2012 10:51	0	0	0	20.8	-0.58	
		8/21/2012 10:28	0	0	0	20.7	-0.28	
		9/18/2012 9:30	0	0	0	20.3	-0.01	
		10/25/2012 9:19	0	0	0	20.7	-2.13	
		11/15/2012 12:29	0	0	0.1	21	1.21	
		12/28/2012 12:54	0	0	0	20.8	-0.54	
		1/25/2012 10:58	0	0	0.1	19.8	-0.09	
	Chgp045I	2/22/2012 10:22	0	0	0.1	21	-0.01	
		3/27/2012 9:58	0	0	0.1	15.9	0.21	
		4/18/2012 9:37	0	0	0.1	20.3	0	
		5/24/2012 9:43	0	0	0	18.6	0.01	
		6/21/2012 15:32	0	0	0	17	0.04	
		7/18/2012 10:49	0	0	0	20.8	0	
		8/21/2012 10:26	0	0	0	20.6	0	
		9/18/2012 9:28	0	0	0	20.4	0	
		10/25/2012 9:17	0	0	0	20.7	-0.14	
		11/15/2012 12:27	0	0	0.1	21	0.26	
		12/28/2012 12:52	0	0	0	20.8	0	
		1/25/2012 10:56	0	0	0.1	19.6	0	
		2/22/2012 10:20	0	0	0.1	21	0	
	Chgp045S	3/27/2012 9:57	0	0	0	21	0.23	
		4/18/2012 9:36	0	0	0.1	20.3	0	
		5/24/2012 9:40	0	0	0	20.6	0	
		6/21/2012 15:31	0	0	0	20.9	0	NR-H2O

% LEL = Percent Lower Explosive Limit

King County Solid Waste Division
Environmental Data, Landfill Gas Monitoring
Data Collected from January 2012 to December 2012
Cedar Hills Landfill - Compliance Probe Testing Results

Sample Location	Probe ID	Date/Time	CH4		CO2 % Vol	O2 % Vol	Static Pressure in INWC	Comments
			%Vol	%LEL				
GP-45 continued	Chgp045S continued	7/18/2012 10:48	0	0	0	20.8	0.19	
		8/21/2012 10:24	0	0	0	20.5	0	
		9/18/2012 9:26	0	0	0	20.6	0	
		10/25/2012 9:16	0	0	0	20.7	0	
		11/15/2012 12:26	0	0	0.1	21	0.14	
		12/28/2012 12:51	0	0	0	20.8	0	

% LEL = Percent Lower Explosive Limit

Attachment F

Landfill Topography and Settlement Monitoring Stations

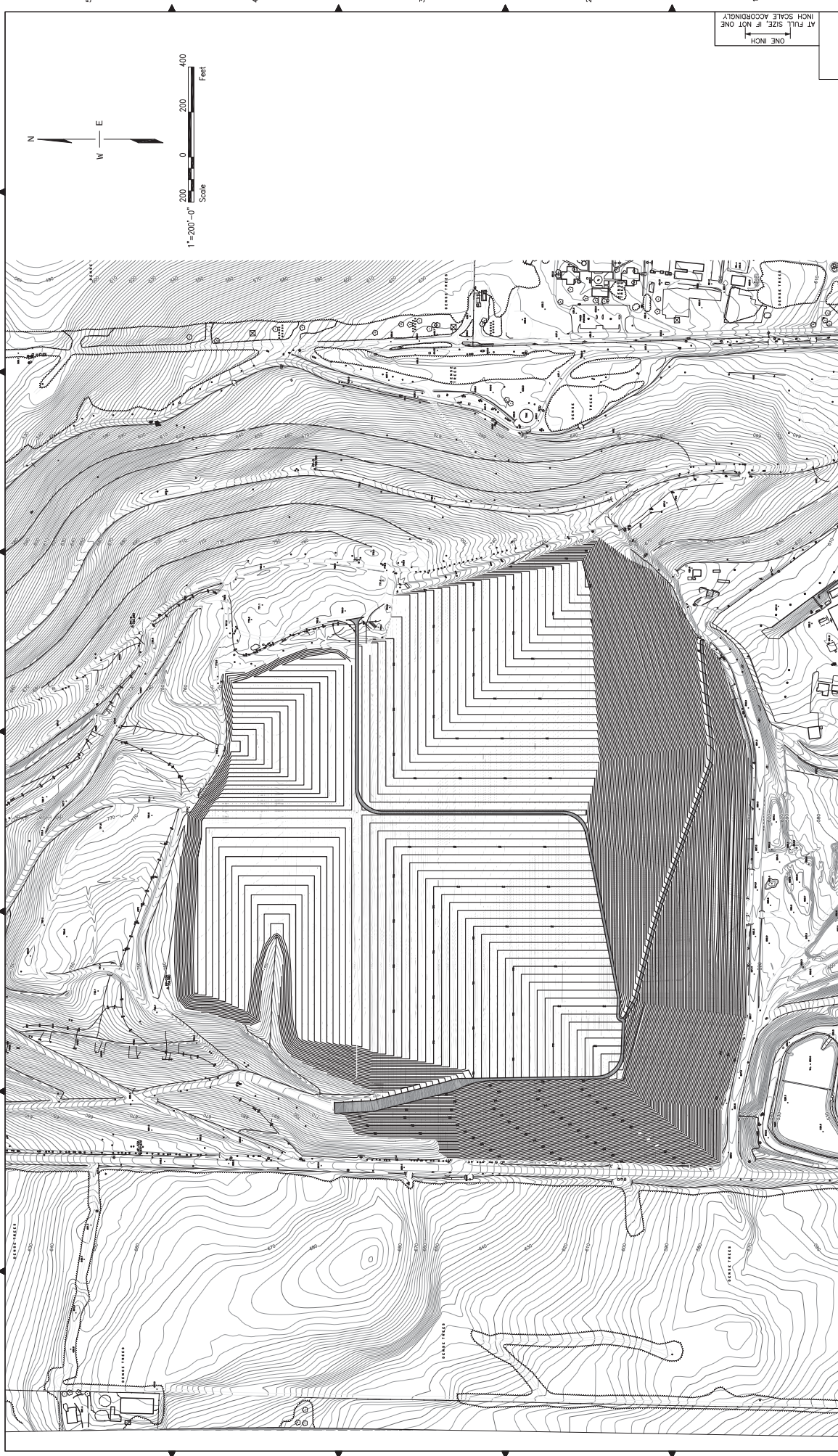


KING COUNTY DEPARTMENT OF
NATURAL RESOURCES AND PARKS
SOLID WASTE DIVISION

CEDAR HILLS REGIONAL LANDFILL
SITE CONTOUR MAP
FLIGHT AUGUST 2012

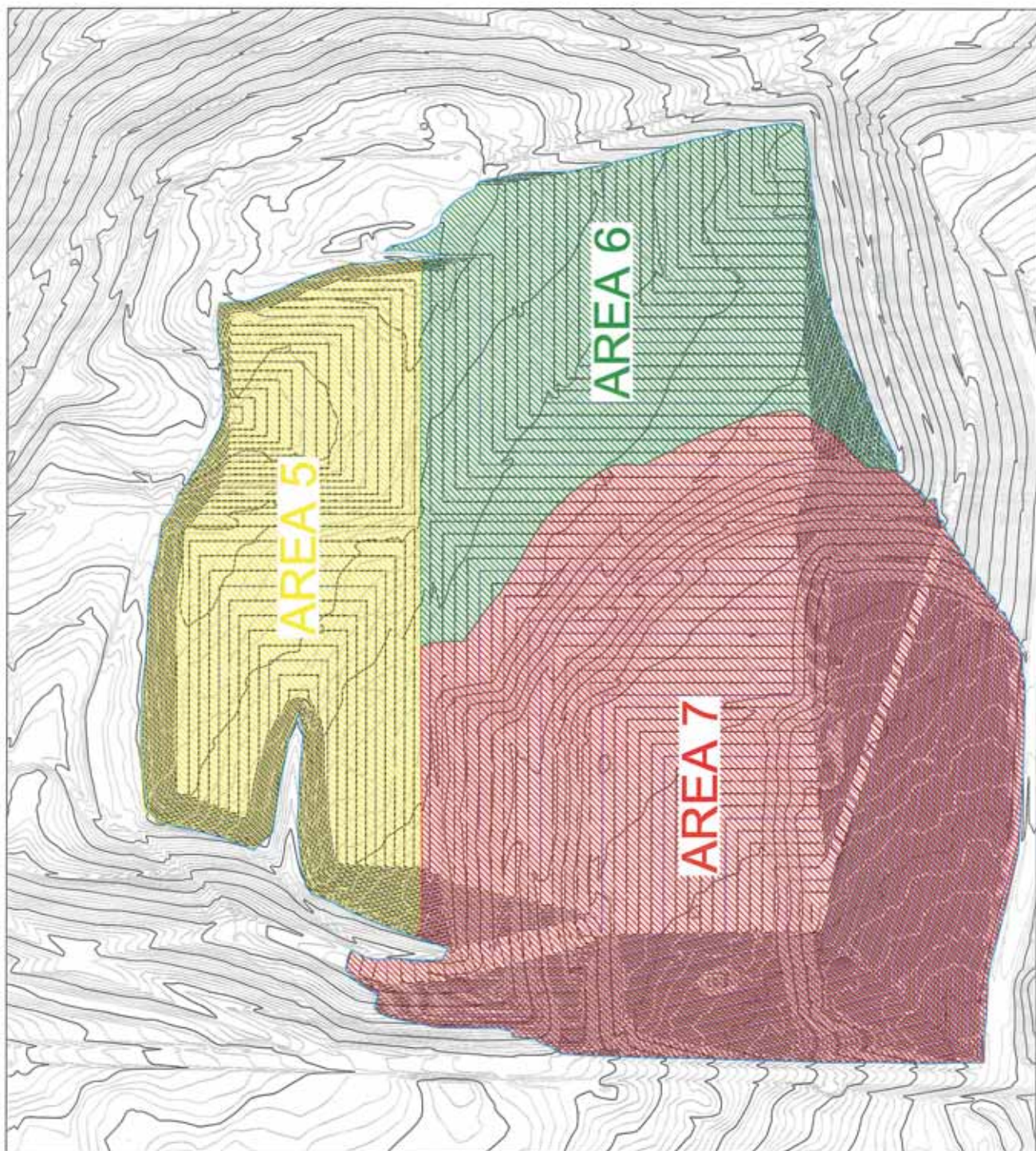
APPROVED: _____ DATE: _____
RECOMMENDED: _____ DATE: _____
PROJECT NO.: _____ SURVEY NO.: _____ SHEET 1 OF 1

DATE	REVISION	BY



R:\seattle\004043 HERREIRA ENVIRON CONSULTANTS\11-01160-10000 CHRLF AREA 6 QASURE\Stage 2 Closure\Task 160 - Develop filling in Aerial\area 5, 6, and 7.dwg Mar 16, 2009 - 4:36pm	
No.	
REVISION	
BY	APP'D
DATE	
King County Department of Natural Resources & Parks Solid Waste Division	
 R.W. Beck, Inc. 1001 Fourth Avenue Suite 2500 Seattle, WA 98104 (206) 464-7104 (206) 464-7703	
DESIGNED:	CHECKED:
DRAWN:	SCALE:
RECOMMENDED:	NOTED
APPROVED:	CONTRACT NO.
M. SPILLANE	600300008
 HERREIRA CONSULTANTS Solid Waste Division 2200 4th Avenue Seattle, WA 98104 (206) 464-7104	
KING COUNTY SOLID WASTE DIVISION CEDAR HILLS REGIONAL LANDFILL AREA 5, 6, AND 7 FILLING PLAN ROAD LAYOUT FOR AREA 5, 6, AND 7	
DATE: SEPT 2008 FILE NO: DG-02067-001 DRAWING NO: SHEET NO. 68 OF 70	

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY



Attachment F

Settlement Monitoring Data and Percent Settlement

Station	Period	Monthly Settlement Rate ¹ (ft/month)	Annual Settlement Rate ¹ (%/year)
PP-5 NORTHING: 171402.80 EASTING: 1701398.90 Start Elevation: 717.44 ft End Elevation: 707.24 ft	1992	0.080	0.97%
	1993	0.080	1.15%
	1994	0.075	1.08%
	1995	0.071	1.02%
	1996	0.066	0.95%
	1997	0.062	0.89%
	1998	0.058	0.83%
	1999	0.053	0.77%
	2000	0.050	0.71%
	2001	0.046	0.66%
	2002	0.042	0.60%
	2003	0.038	0.55%
	2004	0.035	0.50%
	2005	0.032	0.45%
	2006	0.028	0.41%
	2007	0.025	0.37%
	2008	0.023	0.32%
	2009	0.020	0.28%
	2010	0.017	0.25%
	2011	0.015	0.21%
	2012	0.012	0.18%
PP-6 ² & PP-6A NORTHING: 172212.44 EASTING: 1700700.56 Start Elevation: 736.89 ft End Elevation: 720.14 ft	1992	0.264	2.42%
	1993	0.121	1.31%
	1994	0.113	1.23%
	1995	0.106	1.15%
	1996	0.099	1.08%
	1997	0.093	1.00%
	1998	0.087	0.94%
	1999	0.081	0.87%
	2000	0.076	0.82%
	2001	0.070	0.76%
	2002	0.066	0.71%
	2003	0.062	0.67%
	2004	0.058	0.63%
	2005	0.054	0.59%
	2006	0.051	0.55%
	2007	0.049	0.53%
	2008	0.046	0.50%
	2009	0.044	0.48%
	2010	0.043	0.46%
	2011	0.042	0.45%
	2012	0.041	0.44%

Attachment F

Settlement Monitoring Data and Percent Settlement

Station	Period	Monthly Settlement Rate ¹ (ft/month)	Annual Settlement Rate ¹ (%/year)
CONCBLK NORTHING: 171168.28 EASTING: 1700716.24 Start Elevation: 782.50 ft End Elevation: 776.73 ft	2003	0.034	0.28%
	2004	0.053	0.48%
	2005	0.048	0.44%
	2006	0.046	0.42%
	2007	0.045	0.41%
	2008	0.047	0.43%
	2009	0.050	0.46%
	2010	0.055	0.51%
	2011	0.063	0.58%
	2012	0.072	0.66%
PP-23A NORTHING: 172055.30 EASTING: 1699095.22 Start Elevation: 775.53 ft End Elevation: 754.93 ft	2001	0.362	2.19%
	2002	0.286	1.73%
	2003	0.248	1.50%
	2004	0.215	1.30%
	2005	0.184	1.11%
	2006	0.156	0.95%
	2007	0.133	0.80%
	2008	0.112	0.68%
	2009	0.095	0.57%
	2010	0.081	0.49%
	2011	0.070	0.43%
	2012	0.064	0.38%
A5SM-1 NORTHING: 170865.75 EASTING: 1699107.52 Start Elevation: 699.18 ft End Elevation: 686.55 ft	2005	0.337	3.52%
	2006	0.278	2.80%
	2007	0.209	2.11%
	2008	0.155	1.56%
	2009	0.113	1.14%
	2010	0.086	0.87%
	2011	0.073	0.73%
	2012	0.074	0.74%
A5SM-2 NORTHING: 171257.45 EASTING: 1699922.50 Start Elevation: 785.17 ft End Elevation: 763.35 ft	2005	0.603	3.66%
	2006	0.433	2.53%
	2007	0.338	1.98%
	2008	0.263	1.54%
	2009	0.205	1.20%
	2010	0.167	0.97%
	2011	0.148	0.86%
	2012	0.148	0.87%

Attachment F

Settlement Monitoring Data and Percent Settlement

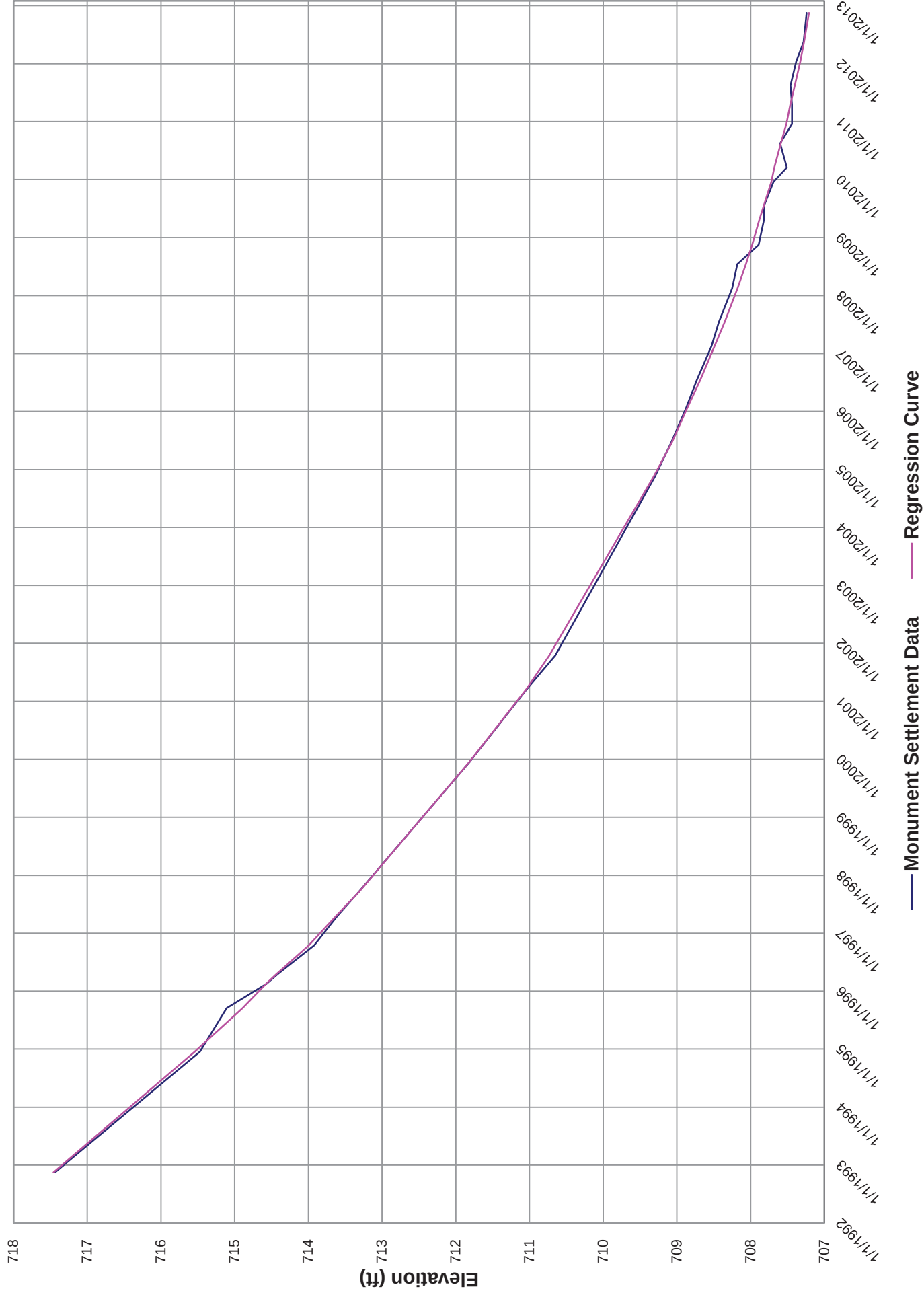
Station	Period	Monthly Settlement Rate ¹ (ft/month)	Annual Settlement Rate ¹ (%/year)
A4SM-3 NORTHING: 172704.89 EASTING: 1699170.71 Start Elevation: 763.20 ft End Elevation: 755.34 ft	2005	0.137	1.07%
	2006	0.121	0.89%
	2007	0.111	0.81%
	2008	0.100	0.74%
	2009	0.090	0.66%
	2010	0.079	0.58%
	2011	0.068	0.50%
	2012	0.058	0.43%
13HUB ² NORTHING: 171875.95 EASTING: 1699686.92 Start Elevation: 786.16 ft End Elevation: 782.08 ft	2005	0.490	2.76%
	2006	0.067	0.41%
AIRHUB NORTHING: 171855.47 EASTING: 1700517.68 Start Elevation: 776.48 ft End Elevation: 770.59 ft	2004	0.095	0.72%
	2005	0.072	0.61%
	2006	0.070	0.59%
	2007	0.066	0.56%
	2008	0.062	0.52%
	2009	0.056	0.47%
	2010	0.049	0.42%
	2011	0.041	0.35%
A5SM-3 NORTHING: 171169.07 EASTING: 1700613.03 Start Elevation: 786.40 ft End Elevation: 779.56 ft	2012	0.033	0.28%
	2007	0.327	1.82%
	2008	0.118	1.00%
	2009	0.106	0.90%
	2010	0.095	0.81%
	2011	0.084	0.71%
	2012	0.072	0.61%
PMX20074 ² (NEAR 13HUB) NORTHING: 171861.13 EASTING: 1699809.82 Start Elevation: 781.56 ft End Elevation: 773.26 ft	2007	0.266	1.48%
	2008	0.202	1.71%
	2009	0.161	1.37%
	2010	0.121	1.03%
	2011	0.081	0.69%
	2012	0.041	0.35%
A6SM-1 ³ NORTHING: 170754.54 EASTING: 1700101.25 Start Elevation: 743.07 End Elevation: 743.07	2012	0.00	0.00%
A6SM-2 ³ NORTHING: 170131.38 EASTING: 1700558.26 Start Elevation: 930.95 End Elevation: 930.95	2012	0.00	0.00%

Attachment F

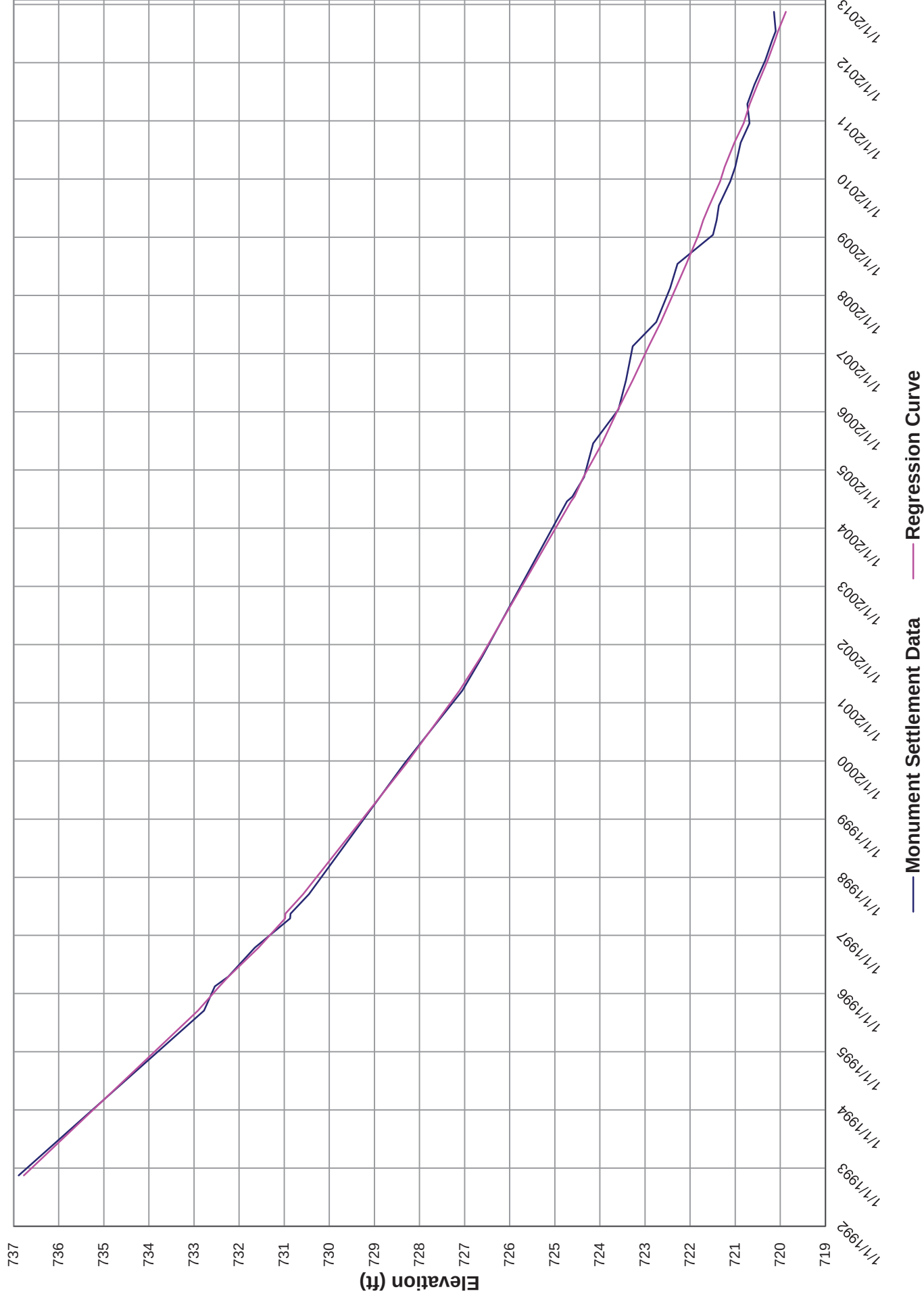
Settlement Monitoring Data and Percent Settlement

Station	Period	Monthly Settlement Rate ¹ (ft/month)	Annual Settlement Rate ¹ (%/year)
1. Monthly and annual settlement rates are calculated from best fit curves developed from plotted data points. 2. PP-6, 13HUB and PMX20074 were destroyed in 2008, 2007 and 2012 respectively. 3. Settlement monitoring locations A6SM-1 and A6SM-2 were added in 2012.			

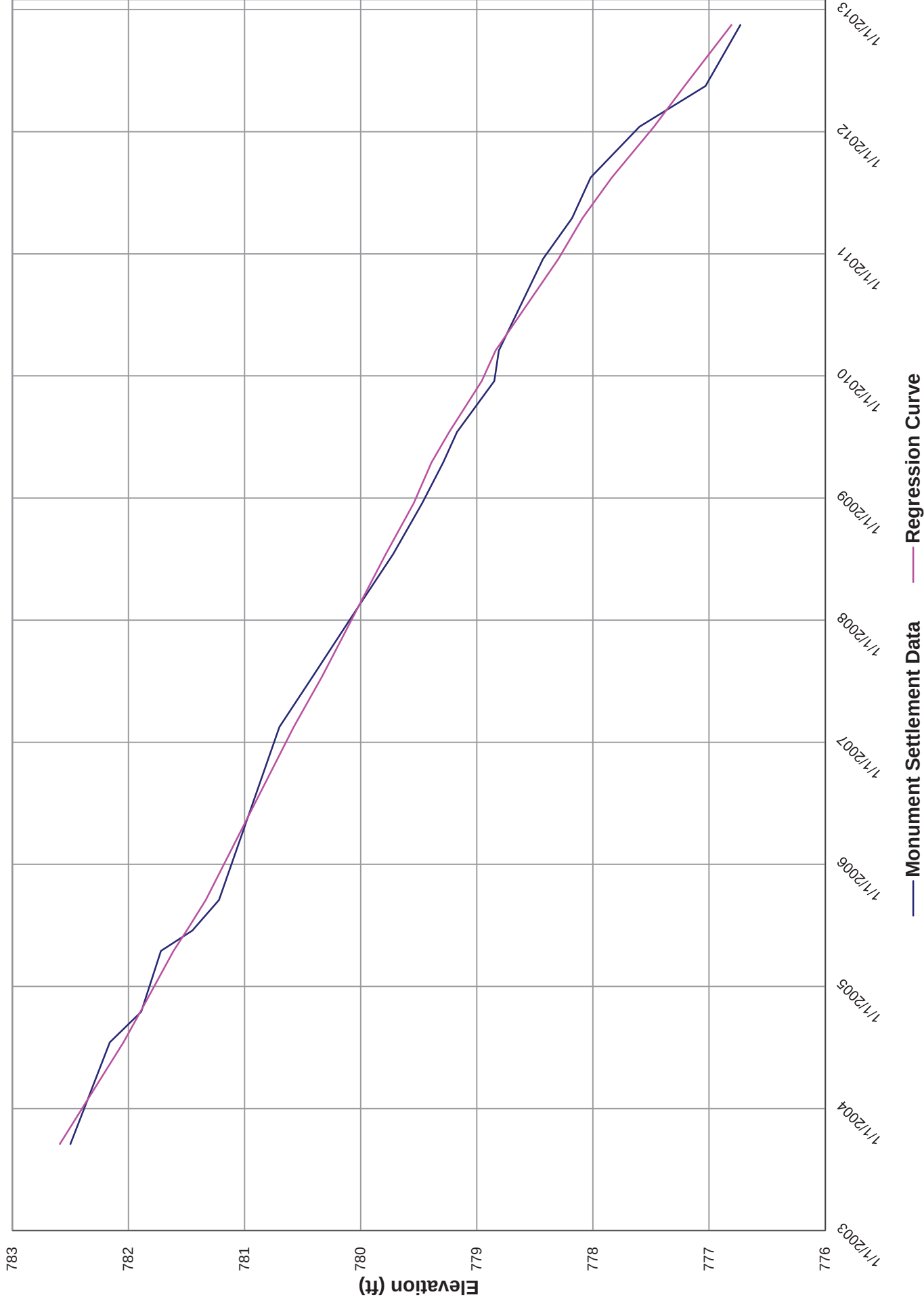
PP-5 Settlement Monument



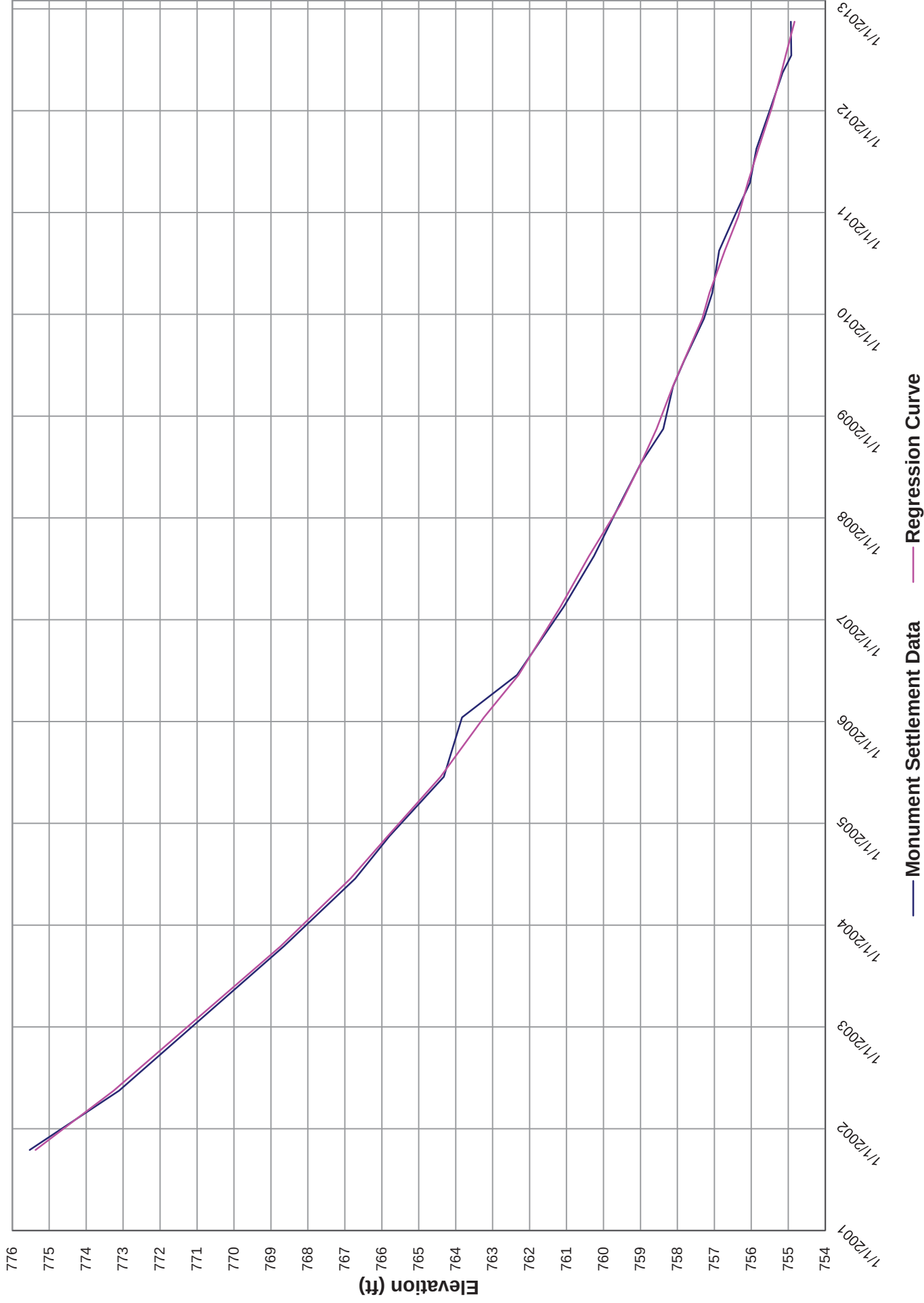
PP-6 & PP-6A Settlement Monuments



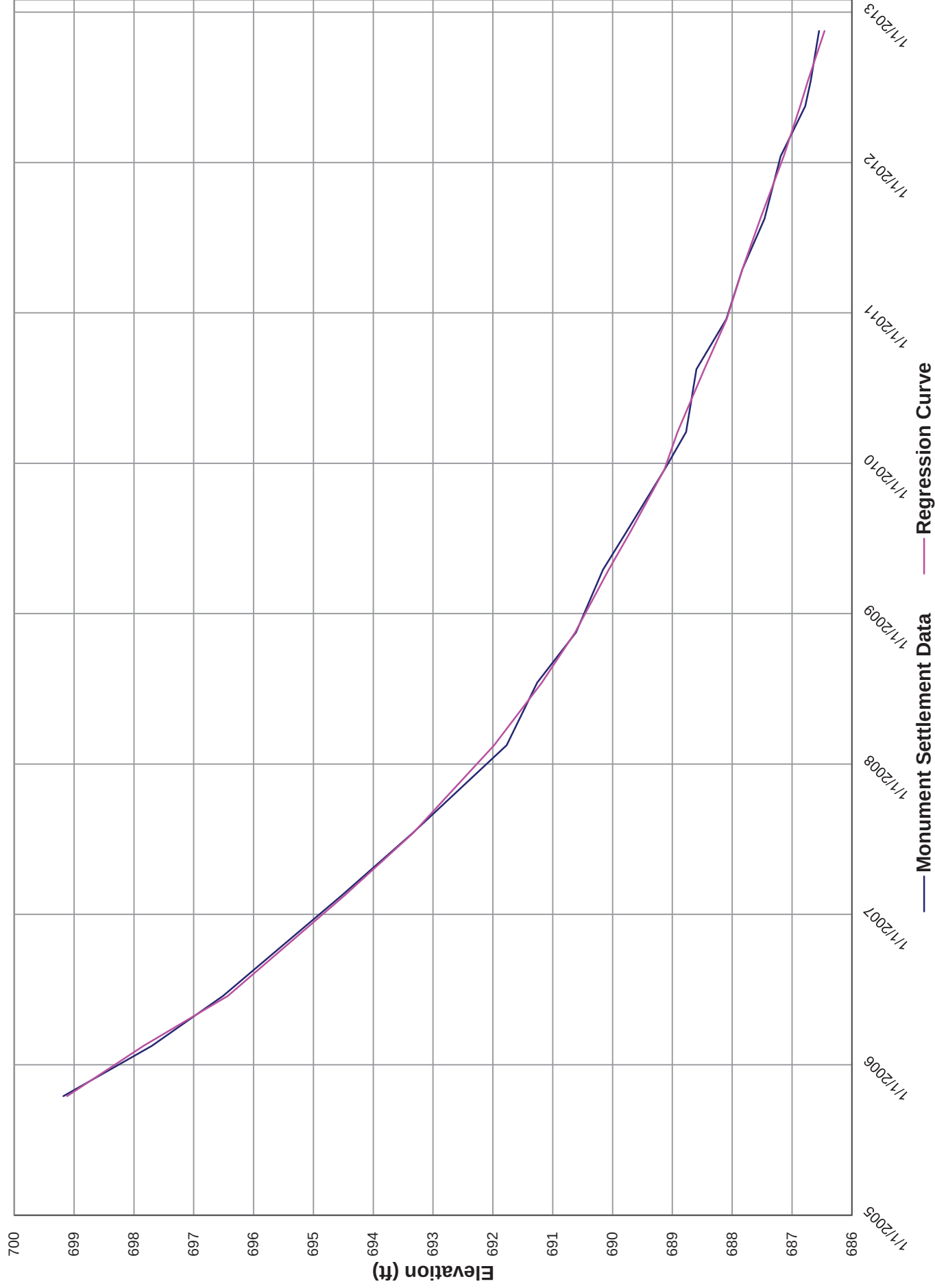
CONCBLK Settlement Monument



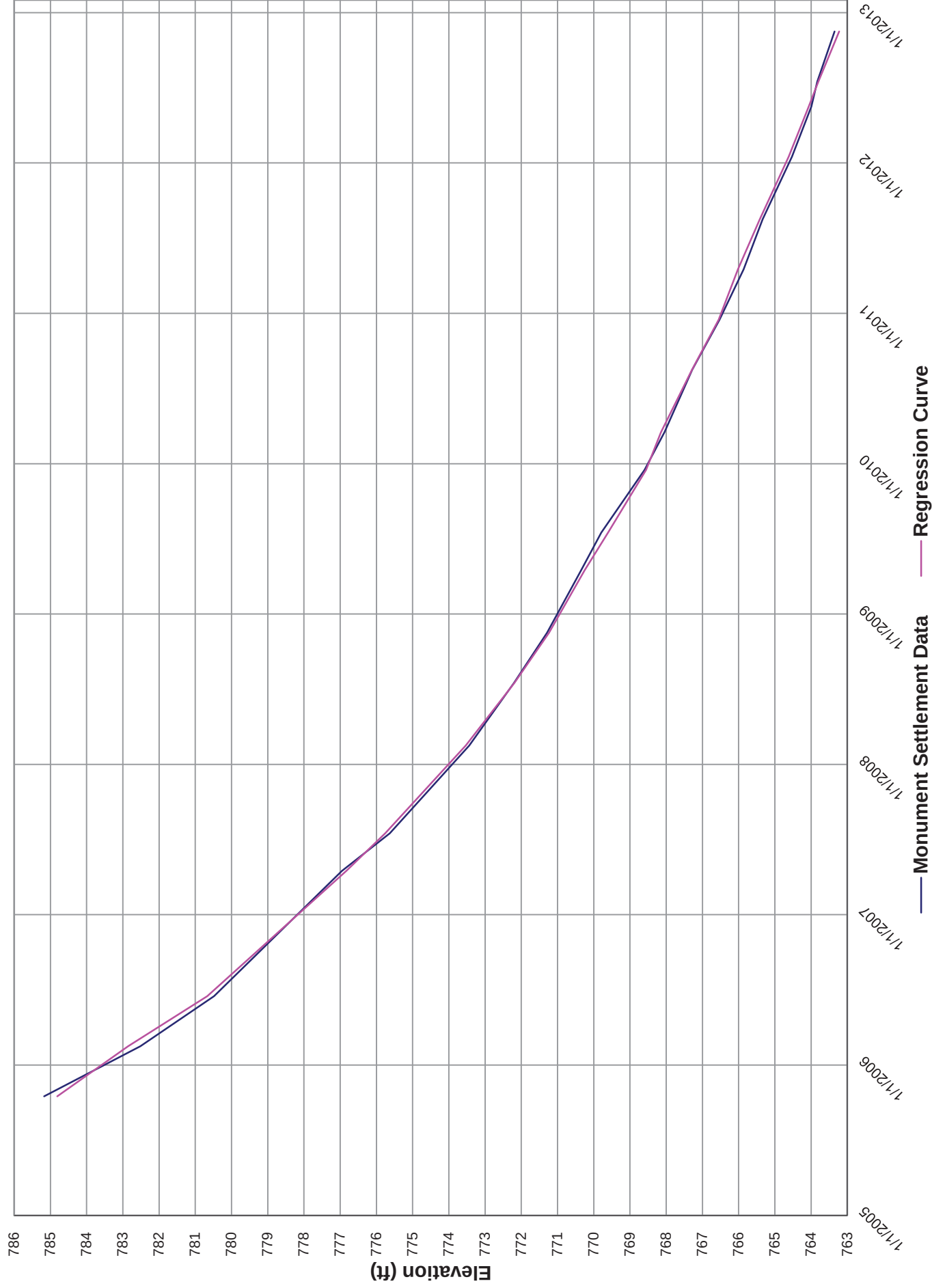
PP-23A Settlement Monument



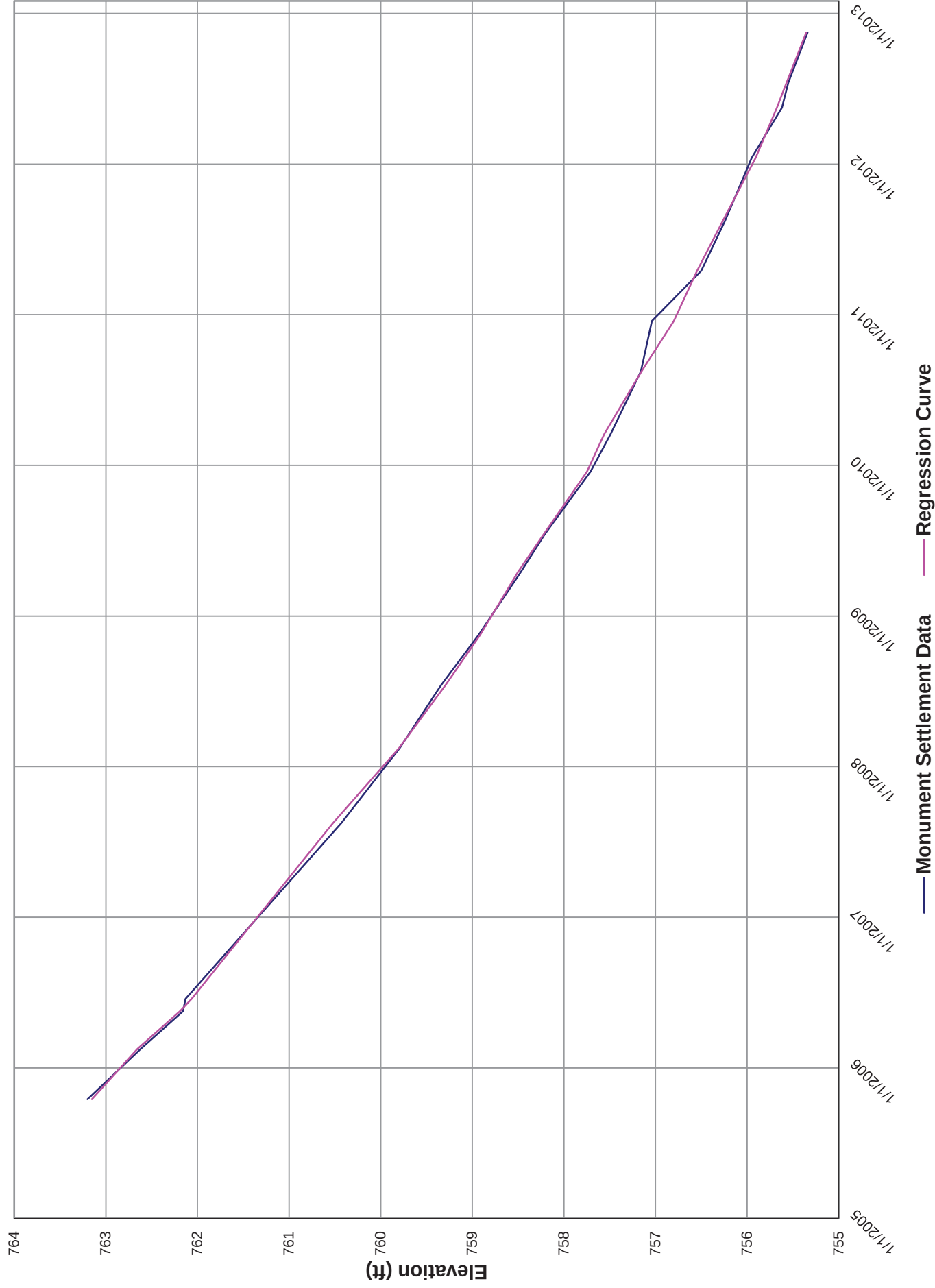
A5SM-1 Settlement Monument



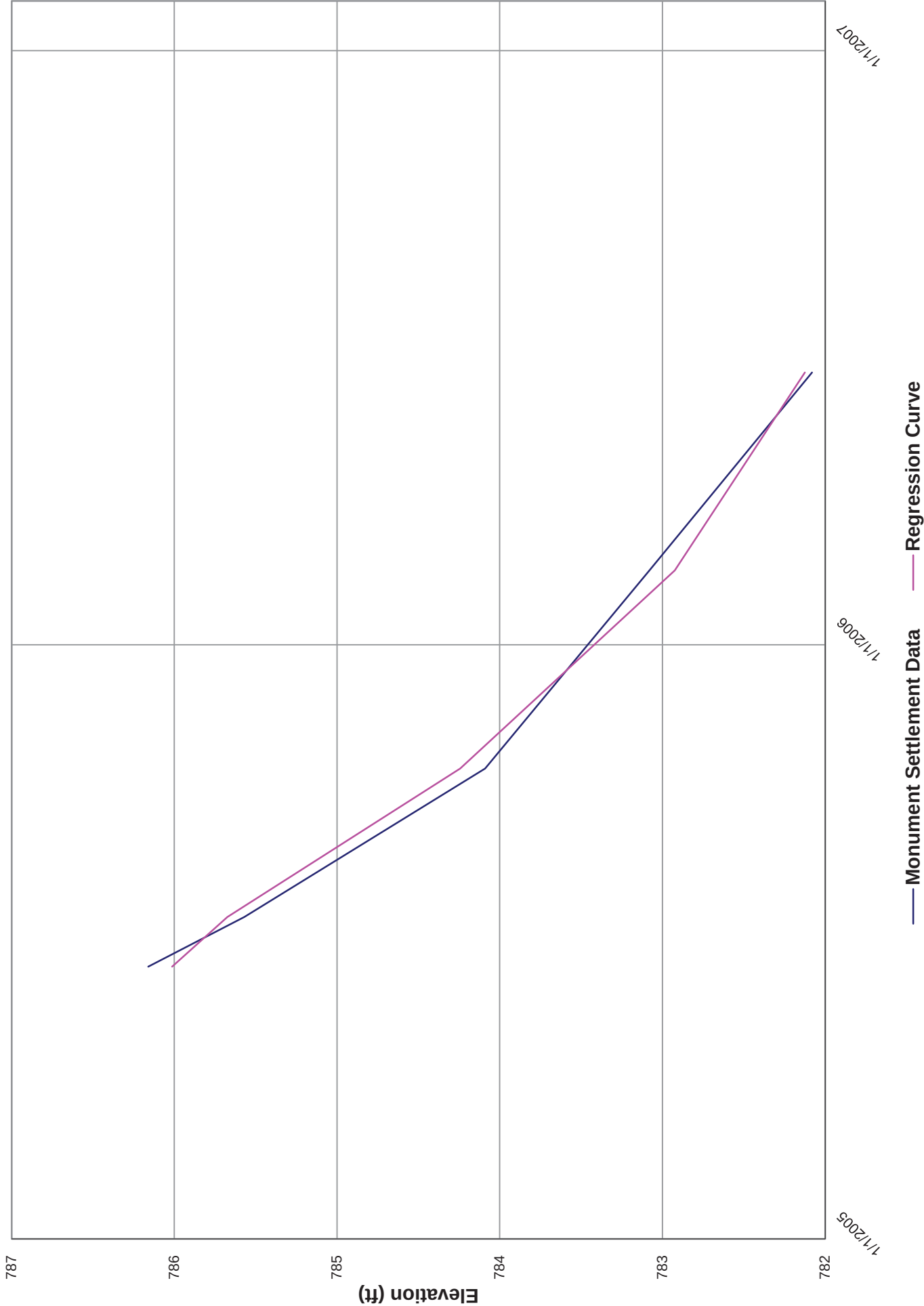
A5SM-2 Settlement Monument



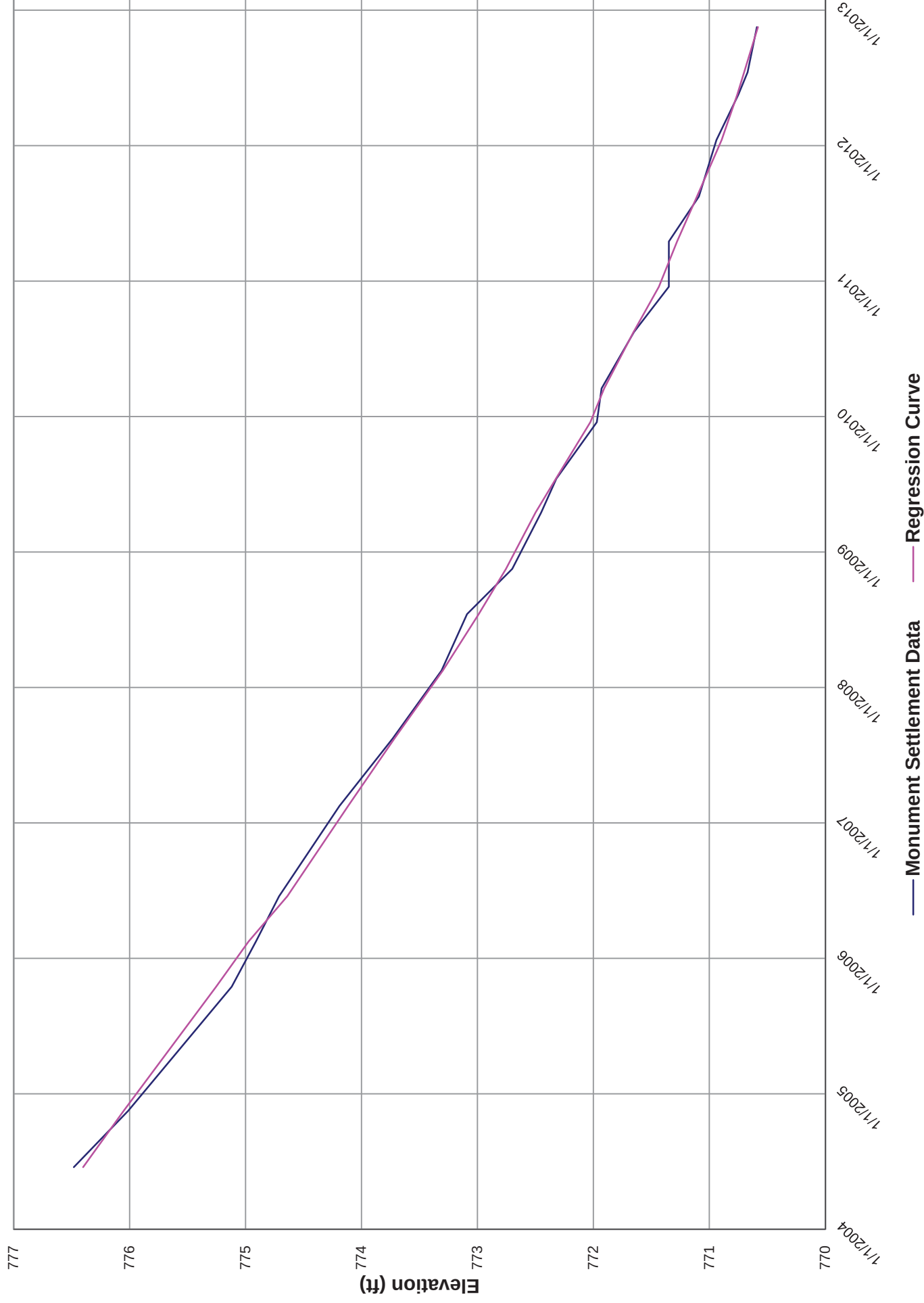
A4SM-3 Settlement Monument



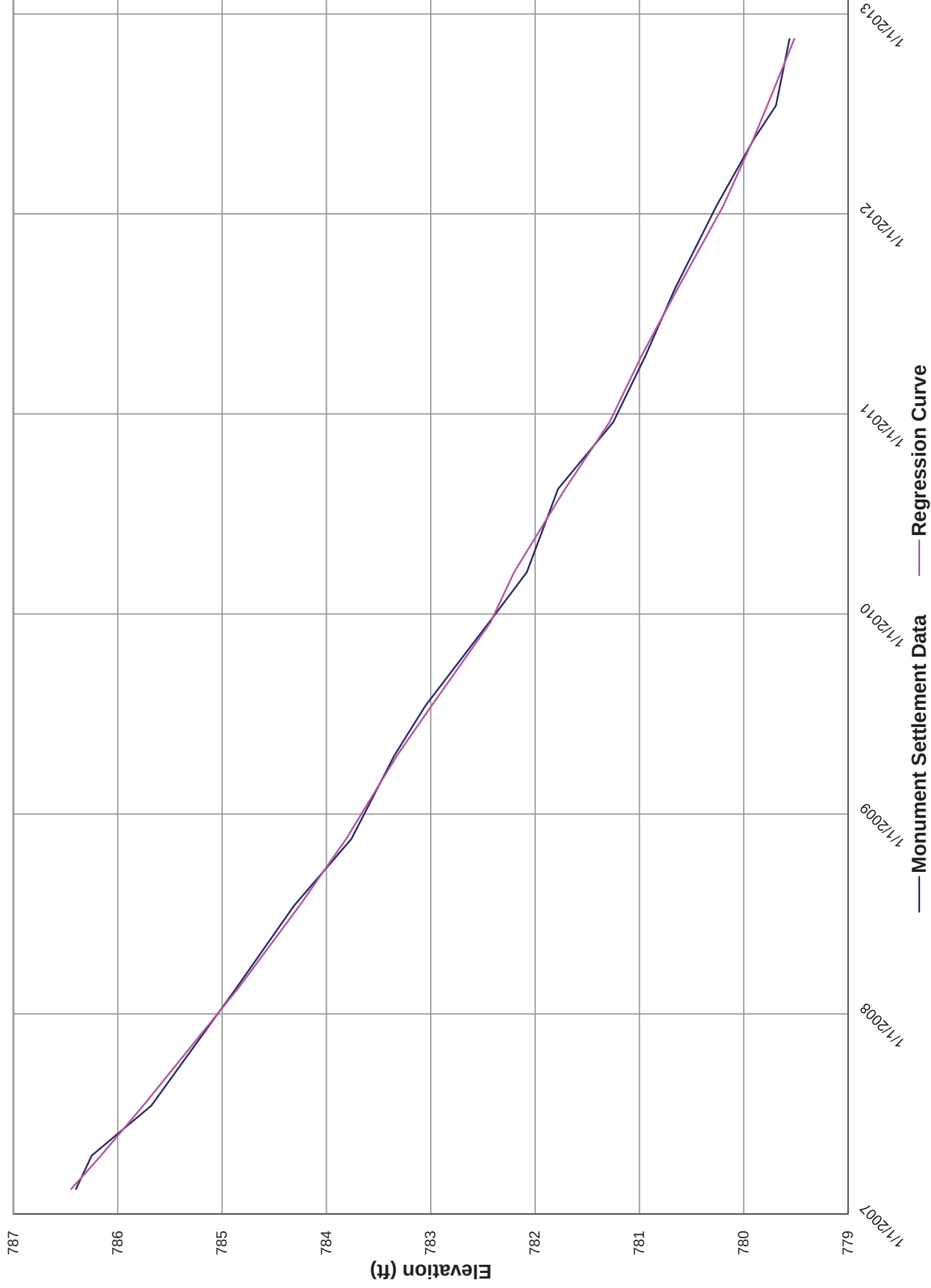
13HUB Settlement Monument (Destroyed)



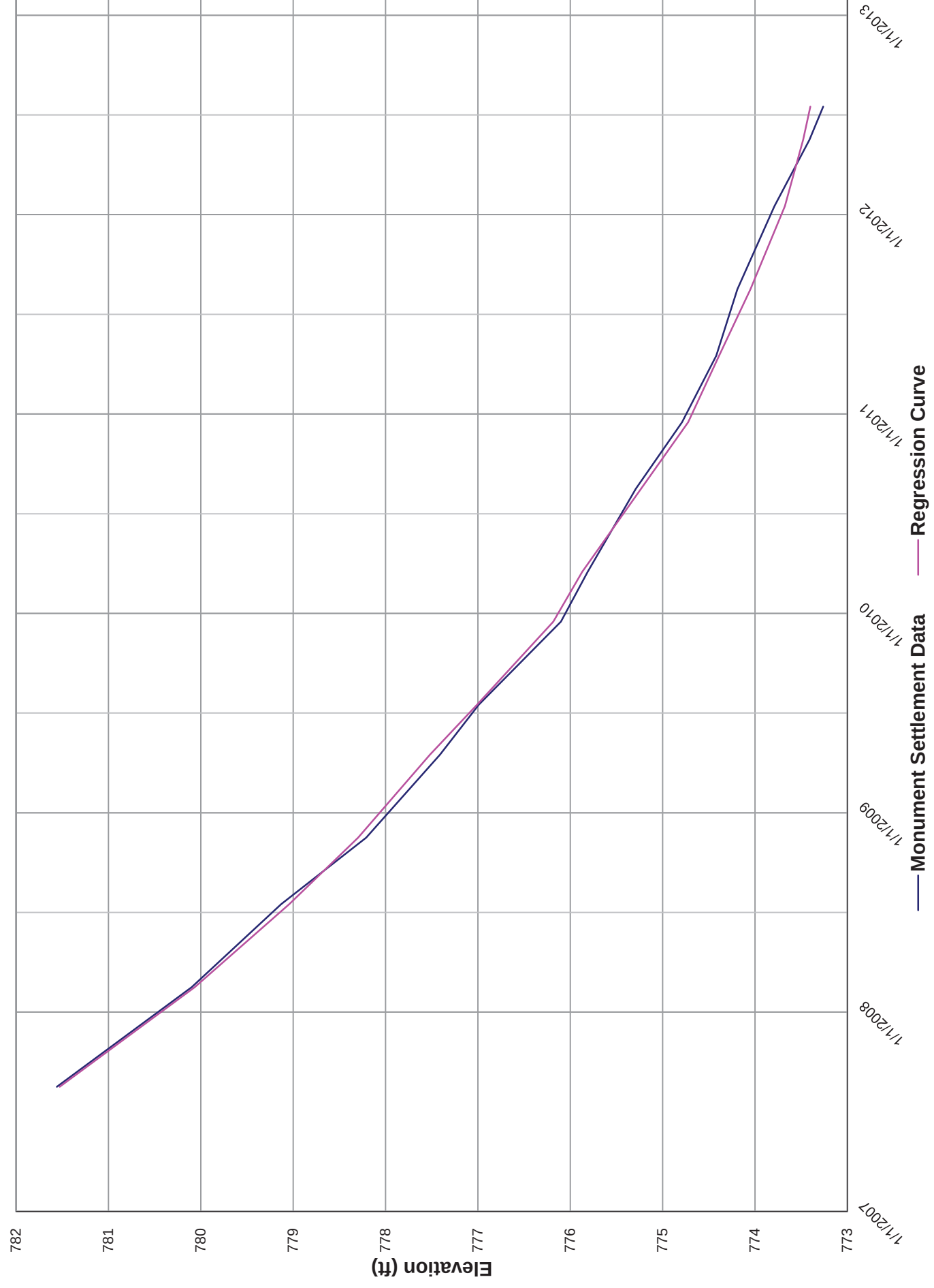
AIR HUB Settlement Monument



A5SM-3 Settlement Monument



PMX20074 Settlement Monument (Destroyed)





LEGEND:

- ACTIVE MONITORING STATION

AERIAL FLWON AUGUST 2012

DATE	REVISION	BY



KING COUNTY DEPARTMENT OF
NATURAL RESOURCES AND PARKS
SOLID WASTE DIVISION

**CEDAR HILLS REGIONAL LANDFILL
SETTLEMENT MONITORING LOCATIONS**

APPROVED: JON [Signature] DATE: Oct. 2012
DESIGNED: JON [Signature] DATE: [Blank]
PROJECT NO.: 200.0000 DRAWN: JSP
SHEET NO.: [Blank] SHEET 1 OF 1