OPERATION AND MAINTENANCE ANNUAL REPORT
JULY 2014 THROUGH JUNE 2015

REFUSE HIDEAWAY LANDFILL
7562 U.S. HIGHWAY 14
MIDDLETON, WISCONSIN 53562

Prepared For:

Wisconsin Department of Natural Resources

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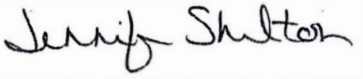

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1.0 INTRODUCTION

The following Operation and Maintenance (O&M) Annual Report was prepared by Leggette, Brashears & Graham, Inc. (LBG) on behalf of the Wisconsin Department of Natural Resources (Department) for the Refuse Hideaway Landfill (RHL) located at 7562 U.S. Highway 14 in Middleton, Wisconsin (Site). This O&M Annual Report summarizes activities conducted by LBG during the July 2014 through June 2015 contract period. The report includes project background information, a summary of leachate recovery system operational data, a synopsis of landfill gas (LFG) extraction and combustion system operations, landfill perimeter gas probe monitoring results, and an evaluation of landfill surface cover and drainage way conditions. Recommendations for future Site activities are also presented.

The 23-acre RHL, located in the Town of Middleton, Dane County, Wisconsin, was filled with approximately 1.3 million cubic yards of municipal, commercial, and industrial waste. A Site map is included as **Figure 1**. The landfill was closed in May 1988 and covered in October 1988 with a minimum of 2 feet of clay, 18 inches of general soil, and 6 inches of topsoil. The State of Wisconsin, through the Environmental Repair Program, constructed an active gas extraction and combustion system and a leachate recovery system, which became operational on September 1, 1991. System O&M activities and landfill surface inspections have been conducted since operation began.

The LFG recovery system consists of a blower/flare station, a LFG collection network, and gas monitoring locations. The blower/flare station includes one centrifugal LFG blower, an enclosed flare (currently off-line), a pedestal flare (previously used as a backup combustion unit but put into service in July 2013 in lieu of the enclosed flare), and associated controls and appurtenances. The LFG collection network consists of 13 extraction wells, 4 drip legs, and associated gas header piping. Eleven monitoring wells are located throughout the Site and an ambient air monitoring location has been designated within a nearby Speedway building. The

LFG recovery system withdraws gas from the landfill in order to control surface emissions and subsurface migration. Odors and emissions are controlled by combusting the gas at the flare.

The leachate collection system was upgraded in 1996 and currently consists of pneumatic pumps installed in nine of the extraction wells. The purpose of leachate extraction is to lower leachate head levels and reduce the potential for groundwater contamination. A compressor located near the blower/flare station supplies air to the pneumatic pumps. The leachate is stored onsite in a 25,000-gallon underground storage tank (UST). Leachate is subsequently removed from the tank and transported to the Madison Metropolitan Sewerage District (MMSD) for treatment and disposal.

2.0 LEACHATE RECOVERY SYSTEM

2.1 Leachate Levels

Leachate levels were measured on a monthly basis in the gas extraction wells using an electric water level indicator. The leachate head measurements in the gas extraction wells are summarized on **Table 1**. Leachate levels in the various extraction wells ranged from approximately 3.8 feet to 38 feet above the well bottom during the contract period and were generally consistent with measurements from the previous contract year.

2.2 Leachate Quantity

The volume of recovered leachate is influenced by numerous factors including, but not limited to, the number of operational pneumatic pumps, interruptions to compressor operations, the severity of blockages within the leachate piping network (i.e. freezing wellhead conditions, biological fouling, natural scaling), seasonal weather variations, the condition of the clay cap, the frequency and duration of precipitation events, and the corresponding leachate elevation within the landfill.

During the current contract period, the volume of leachate recovered was reduced primarily due to a compressor malfunction, a high yielding well pump ceasing to operate (the pump in GW7 cannot be removed from the well for troubleshooting most likely to due landfill settlement in the area), and apparent compressed air line integrity issues limiting the number of pneumatic pumps that can operate at a given time without exceeding the compressor's

recommended duty cycle. The annual rainfall total for the current contract period was less than recent years with the exception of July 2011 through June 2012.

Approximately 97,736 gallons of leachate were recovered and removed from RHL from July 2014 through June 2015 **(Table 2)**. The recovered volume for the past few contract periods is depicted on **Figure 2**. The volume of leachate recovered and the corresponding annual rainfall total is documented in the table below. For the current contract period, the Dane County Airport weather station precipitation data was obtained from the National Climate Data Center (www.ncdc.noaa.gov).

CONTRACT PERIOD	LEACHATE VOLUME RECOVERED (gallons)	ANNUAL RAINFALL TOTAL (inches)	O&M CONTRACTOR
July 2014-June 2015	97,736	27.68	LBG
July 2013-June 2014	190,229	35.73	LBG
July 2012-June 2013	275,061	45.92	LBG
July 2011-June 2012	304,143	22.28	LBG
July 2010-June 2011	563,145	36.67	LBG
July 2009-June 2010	469,239	36.25	LBG
July 2008-June 2009	214,360	37.13	Other consultant
July 2007-June 2008	226,606	55.24	Other consultant

During the current contract period, monthly leachate recovery volumes ranged from no recovery (while the compressor was being replaced or was off-line) to approximately 16,350 gallons. A graph of the monthly leachate recovery volumes is included as **Figure 3**. The highest recovery rates for the contract period were experienced during May and June 2015, when the compressor and leachate pumps operated with few interruptions. The lowest recovery rates were observed when the compressor was off-line for repairs (July and September 2014) and precipitation remained on the surface of the landfill as snowfall (November 2014 through February 2015).

2.3 Leachate Quality

Leachate samples were collected on a quarterly basis for laboratory analysis. On September 23, 2014, December 16, 2014, March 12, 2015, and June 17, 2015, leachate samples were collected by LBG personnel by lowering a disposable bailer into the UST. The samples were placed in the appropriate containers, packaged on ice in a cooler, and sent to Test America,

Inc. (Wisconsin Certification No. 999580010) for laboratory analysis of 12 inorganic parameters. Pursuant to the MMSD Wastewater Discharge Permit (Permit) NTO-5.12 and the Department's request for proposal, the samples were analyzed for cadmium, chromium, hexavalent chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc, and total cyanide. As indicated on **Table 3,** concentrations of the inorganic compounds were less than the discharge permit effluent limitations. The laboratory analytical reports are included in **Appendix I**.

2.4 Leachate Discharge Permit Compliance

Leachate is pumped on an as-needed basis from the UST by A-1 Sewer Service and is transported to a MMSD facility for treatment and disposal as allowed by the Permit. As stated above, concentrations of the analyzed parameters did not exceed any discharge permit limits. On June 9, 2014, the MMSD issued Permit NTO-5.12 which will expire on June 30, 2019. A copy of Permit NTO-5.12 is included as **Appendix II.** To fulfill the reporting requirements of Permit NTO-5.12 Part 3, Section 3.01, monitoring results were submitted to the MMSD within sixty days of the end of each quarterly monitoring period.

2.5 Operational Duration and Maintenance Activities

During July 2014, the compressor malfunctioned and had to be replaced. The malfunction may have been caused by the compressor operating above the recommended duty cycle due to apparent air line integrity issues. The operating frequency of the former compressor could not be monitored due to the lack of an operational hour counter. A replacement compressor was installed August 8, 2014 and was brought on-line on August 18, 2014. The system operated in late August; however, it was shut down in September for troubleshooting because it was operating above the manufacturer's recommended duty cycle (60 percent). An EMS technician removed the cylinders for offsite repair, replaced the piston rings, and reset the compressor's pressure range to 65 to 95 pounds per square inch (psi). The system was fully operational by the end of October 2014 with a limited number of pneumatic pumps on-line.

The ventilation system, replaced in January 2013, prevents equipment from overheating during the summer months. The ventilation system for the compressor enclosure was operational during the contract period.

The operation of select leachate pumps remained sporadic. Interruptions to leachate pump operations were primarily caused by the fouling of wellhead leachate discharge lines and the fouling of internal pump components which prevents the pump from properly cycling. Leachate pumps were removed for troubleshooting. The pumps were typically cleaned and the magnet spacing was adjusted to allow for proper cycling. As a component of the annual site visit, pumps were cleaned and adjusted with the exception of the pump in GW7. The GW7 well pump cannot be removed from the well. Landfill settlement may have impacted the well casing above the pump in such a manner that the pump can no longer be pulled up to the landfill surface for cleaning and troubleshooting.

The annual pulling and cleaning of pumps from GW4, GW5, GW8, GW9, GW10, GW11, and GW12 was completed primarily in May and June 2015. Pumps in GW4, GW10, and GW12 cycled and functioned properly upon the completion of the annual task. Additional troubleshooting will be required for the pumps in wells GW8 and GW11 as the pumps appeared to cycle only once upon being repositioned into the well following cleaning. A replacement float may be needed in GW9 as the pump remains in the "air-out" discharge mode of the pump cycle when the pump is lowered into the well. The pump in GW5 cycled and functioned properly when tested in an above-grade water column (PVC pipe), but it would not cycle when placed in the well. Slack in the pump cable is noticed when the pump almost reaches the previous pump setting within the well, which indicates that an obstruction or landfill settlement is not allowing the pump to remain in a vertical position within the well.

As a component of the annual inspection, a contractor was retained to conduct jetting of the leachate lines, driplegs and cleanouts. Approximately 750 feet of leachate lines were cleaned along the Central branch and between GW9 and GW11. The jetting was completed using similar access ports and in a similar fashion to past jetting events.

3.0 LFG EXTRACTION SYSTEM

3.1 Collection Network and System Upgrades

The gas extraction system consists of a network of 13 vertical extraction wells. The wells, which connect to a header pipe, are grouped together in "branches". The header pipe from each of the branches is connected to the blower in order to draw the LFG from the wells.

The header piping system is divided into three branches; the North, Central, and South. The branches are also connected by header segments at their extremities to provide redundancy. The pipe segment connecting the Central and North branches at their extremities contains control valve CV2 (**Figure 1**). During the contract period, a new pipe segment was installed to connect the Central branch to GW4, GW5 and the GW5 laterals to re-establish vacuum to these wells within the South branch. Control valves were installed at GW4 and GW5, consisting of a butterfly valve with a geared actuator extended to the surface. Piping from the branches enters the blower station and each pipe is valved individually. The branch headers are then combined before entering the blower.

Sufficient vacuum was applied to the wells connected to the North and Central branches during the contract period (**Table 4**). However, vacuum cannot be applied to wellheads GW1 through GW3 on the South branch due to low points within the South branch header. After LFG system upgrades were completed in September 2014 vacuum was applied to GW4, GW5 and the GW5 laterals via the Central branch.

Following construction activities, vegetation has been re-established in the GW5 area; however, monitoring data indicate that sustained levels of elevated methane and low oxygen cannot be maintained from these wells, requiring them to be cycled on- and off-line.

3.2 Operational Duration

The LFG extraction blower did not experience any malfunctions during the contract period. However, the blower was manually taken off-line for short periods when methane concentrations were below operating levels or oxygen concentrations were elevated. Cycling the gas extraction system on and off resulted in the extraction blower operating approximately 45 percent of the contract period (**Table 5**). Preventative maintenance activities (e.g. greasing) were completed.

4.0 LFG COMBUSTION SYSTEM

4.1 Operational Duration

During July 2013, LBG rehabilitated the existing pedestal flare for reuse at the Site. The pedestal flare is designed to operate at a lower flow rate and methane concentration than the

enclosed flare; thereby, resulting in a higher operational percentage and less direct emissions of LFG to the atmosphere. Only the pedestal flare operated during the current contract year.

The LFG combustion system did not operate continuously during the contract period. As indicated on **Table 5**, the operational percentage of the LFG extraction blower was 45 percent. The flare operated approximately 36 percent of the time. The operational hours measured for the flare (3,172 hours) was between the previous two contract years (5,833 hours in 2013-2014 and 2,806 hours in 2012-2013). On numerous occasions, the LFG collection and combustion systems were taken off-line for a period of a few days in order to allow LFG methane concentrations to rebound. Upon system restart, elevated methane concentrations were typically evident. Despite cycling efforts, the LFG recovery system may have been emitting LFG directly to the atmosphere up to approximately 23 days out of the contract year. System controls are not in place to turn off the blower when the flame at the flare goes out. The calculated potential direct venting days are based on the worst case scenario that the flare went down immediately following the O&M contractor's departure from the site and remained out until the contractor returned and observed the flare out condition. However, the flare ignitor is set to spark at predetermined intervals to relight the flare if the recovered landfill gas exhibits sufficient methane concentrations. The number of potential direct venting days were slightly greater than the previous contract year (7 days in 2013-2014), but historically lower than preceding years when LBG monitored direct venting days (57 days in 2012-2013; 94 days in 2011-2012; 131 days in 2010-2011; 113 days in 2009-2010). This is attributable to the switch from the enclosed flare to the smaller pedestal flare, as well as persistent system and well optimization efforts.

4.2 Operational Parameters

LFG flow rates varied considerably during the contract period due to the number of extraction wells on-line and other site factors (i.e. leachate head levels). The total LFG flow rate of the three branches ranged from negligible flow when the system was offline to 1,070 standard cubic feet per minute. A summary of blower and flare station flow rates and methane concentrations is attached as **Appendix III**.

4.3 Troubleshooting Activities

Flare troubleshooting activities have included monitoring the wellhead LFG concentrations frequently and adjusting wellhead valves accordingly in order to minimize the oxygen content and to maximize the methane concentration and the flow rate of the gas stream. When these activities did not produce methane concentrations sufficient for flare operation, the gas extraction system was taken off-line for a few days.

5.0 LANDFILL PERIMETER GAS PROBE MONITORING RESULTS

5.1 Monthly Monitoring

During the contract period, methane was detected in four perimeter gas probe clusters (G-1S/G-1D, G-2S/G-2D, GP-11S/GP-11D, and GP-12D) at concentrations greater than the lower explosive limit (LEL) of 5 percent by volume. Elevated methane concentrations have been detected occasionally at these wells during previous years. The methane concentrations at these four clusters ranged from non-detect to 20.0 percent by volume during the period of July 2014 through April 2015 (**Table 6**). The gas detector instrument (RKI) was detecting elevated methane concentrations in ambient air during the May and June 2015 sampling events; therefore, the validity of the data collected during these two months is suspect. The methane sensor was subsequently replaced in the meter.

The clusters exhibiting occasional elevated methane concentrations are located within approximately 125 feet of the landfill limits (**Figure 1**). Cluster G-1 is located in the vicinity of the Speedway buildings; however, methane was not detected above the LEL within the closest Speedway building during the contract period. Clusters G-2, GP-11, and GP-12 are located in close proximity to the property line. Well GW5 is the closest extraction well to clusters G-2, GP-11, and GP-12.

5.2 Wellhead Updates

During the contract year, locks were installed on the gas probes included in the monitoring program. A map of the network is included as **Figure 4**.

6.0 LANDFILL SURFACE COVER AND DRAINAGE INSPECTION

6.1 Landfill Surface

The landfill surface was inspected monthly between the months of July and November 2014 and April through June 2015 to evaluate cap integrity, determine the condition of the drainage ways, and assess the extent of vegetative cover. Limited areas of the landfill cover have experienced minimal settlement resulting in pools/ponding of storm water collecting on the landfill surface between April and June 2015, particularly in the drainage way east of GW7.

6.2 Sedimentation Basin

The sedimentation basin was visited during August 2014 to evaluate the depth between the invert of the outlet structure and the top of the sediment. Field measurements indicated that the depth of water within the basin was greater than 3 feet. The sediment basin was monitored in September 2015 and it was noted that at least 14 inches of clearance existed between the outlet pipe and the sediment surface below. The distance between the outlet structure invert and the top of the sediment will be re-measured to verify the recent measurements. A protocol for measuring the distance will be established to minimize potential differences in utilizing different sampling technicians to complete the task.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Based on the information presented above, the following conclusions have been made:

- Leachate levels in the various extraction wells ranged from approximately 3.8 feet to 38 feet.
- Approximately 97,736 gallons of leachate were removed from RHL. Monthly leachate recovery volumes ranged from no recovery to approximately 16,347 gallons.
- Concentrations of inorganic compounds in the quarterly leachate samples were less than the discharge permit effluent limitations.

- The compressor was replaced during the contract period. The operation of select leachate pumps was interrupted on occasion due to the fouling of internal pump components and wellhead leachate discharge lines.
- A LFG system upgrade project was completed in September 2014 which restored vacuum to GW4, GW5, GW5-LE, and GW5-LW.
- The LFG extraction blower was taken off-line for short periods when methane concentrations were below operating levels or oxygen levels were elevated. The extraction blower operated approximately 45 percent of the contract period.
- Due to limited flame failures, the LFG combustion system may have been emitting LFG to the atmosphere for up to 23 days out of the contract year.
- Methane was detected in four perimeter gas probe clusters at concentrations greater than the LEL. One cluster is located in the vicinity of the Speedway buildings and three clusters are located in close proximity to the southwestern property line. Methane was not detected above the LEL within the Speedway buildings.
- Landfill surface inspections indicate that limited areas have experienced minimal settlement over time resulting in pools/ponding of storm water collecting on the landfill surface, particularly in the drainage way east of GW7.
- The distance between the outlet pipe structure invert and the top of sediment will be evaluated further to determine if the allowable storm water storage volume of the sedimentation basin has diminished.

7.2 Recommendations

Based on the Site activities conducted by LBG to date, the following task is being recommended for implementation during the subsequent contract year in order to optimize system operations and supplement routine O&M activities:

- Install sewer balls into the GW5 laterals (GW5-LWSP, GW5-LWMSP, and GW5-LESP) in order to take the laterals off-line when methane concentrations are low and oxygen concentrations are elevated in the lateral wells.

TABLES

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE EXTRACTION WELL SUMMARY

Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW1	7/16/2014	53.7	37.5	16.2								No pump
GW1	8/26/2014	53.7	38.5	15.2								No pump
GW1	9/26/2014	53.7	38.5	15.2								No pump
GW1	10/22/2014	53.7	39.0	14.7								No pump
GW1	12/29/2014	53.7	41.2	12.5								No pump
GW1	1/30/2015	53.7	42.0	11.7								No pump
GW1	2/24/2015	53.7	42.5	11.2								No pump
GW1	3/13/2015	53.7	43.0	10.7								No pump
GW1	4/30/2015	53.7	39.0	14.7								No pump
GW1	5/20/2015	53.7	39.2	14.5								No pump
GW1	6/24/2015	53.7	38.5	15.2								No pump
GW2	7/16/2014	53.9	36.5	17.4								No pump
GW2	8/26/2014	53.9	36.5	17.4								No pump
GW2	9/26/2014	53.9	37.0	16.9								No pump
GW2	10/22/2014	53.9	37.0	16.9								No pump
GW2	12/29/2014	53.9	37.3	16.6								No pump
GW2	1/30/2015	53.9	37.5	16.4								No pump
GW2	2/24/2015	53.9	37.5	16.4								No pump
GW2	3/13/2015	53.9	37.5	16.4								No pump
GW2	4/30/2015	53.9	31.5	22.4								No pump
GW2	5/20/2015	53.9	31.8	22.1								No pump
GW2	6/24/2015	53.9	34.5	19.4								No pump
GW3	7/16/2014	59.7	55.5	4.2								No pump
GW3	8/26/2014	59.7	55.5	4.2								No pump
GW3	9/26/2014	59.7	55.5	4.2								No pump
GW3	10/22/2014	59.7	55.5	4.2								No pump
GW3	12/29/2014	59.7	55.5	4.2								No pump

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Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW3	1/30/2015	59.7	55.5	4.2								No pump
GW3	2/24/2015	59.7	55.5	4.2								No pump
GW3	3/13/2015	59.7	55.5	4.2								No pump
GW3	4/30/2015	59.7	55.0	4.7								No pump
GW3	5/20/2015	59.7	55.0	4.7								No pump
GW3	6/24/2015	59.7	55.3	4.4								No pump
GW4	7/16/2014	~65	38.0	27.0	0	341,307	0	0				Compressor down. No pressure in system.
GW4	8/26/2014	~65	43.0	22.0	0	347,763	6,456	7				Compressor down. No pressure in system.
GW4	9/26/2014	~65	40.5	24.5	0	--	--	--				Compressor down. No pressure in system.
GW4	10/22/2014	~65	40.5	24.5	--	--	--	--				Missing regulator
GW4	12/29/2014	~65	58.5	6.5	62	661,785	36,901	17				Pumping
GW4	1/30/2015	~65	43.5	21.5	--	662,436	651	0				Initially pumping; off after 1/6/15 for regulator repairs
GW4	2/24/2015	~65	58.0	7.0	70	670,891	8,455	6				Pumping after regulator bowl repairs on 2/6/15
GW4	3/13/2015	~65	58.0	7.0	70	678,267	7,376	7				Pump on entire reporting period
GW4	4/30/2015	~65	58.0	7.0	60	700,195	21,928	14				Pump on entire reporting period
GW4	5/20/2015	~65	56.0	9.0	80	710,777	10,582	7				Cleaned; pump on entire reporting period
GW4	6/24/2015	~65	55.7	9.3	60	735,982	25,205	19				Pump on entire reporting period
GW5	7/16/2014	~70	42.0	28	0	435,619	0	0	17,949	0	0	Compressor down. No pressure in system.
GW5	8/26/2014	~70	43.5	26.5	0	435,619	0	0	17,960	11	0	Compressor down. No pressure in system.

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Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW5	9/26/2014	~70	41.0	29.0	0	435,619	0	0	17,965	5	0	Compressor down. No pressure in system.
GW5	10/22/2014	~70	42.5	27.5	90	435,619	0	0	17,971	6	0	Leaking filter bowl/air shut off
GW5	12/29/2014	~70	43.5	26.5	80	435,620	1	0	17,972	1	0	Filter bowl valve replaced; not pumping
GW5	1/30/2015	~70	42.0	28.0	80	435,619	0	0	17,972	0	0	Pump off
GW5	2/24/2015	~70	44.0	26.0	0	435,619	0	0	17,972	0	0	Pump on until 2/6/15
GW5	3/13/2015	~70	44.0	26.0	64	435,619	0	0	17,972	0	0	Pump off
GW5	4/30/2015	~70	43.0	27.0	66	435,619	0	0	17,972	0	0	Pump off
GW5	5/20/2015	~70	42.6	27.4	68	435,619	0	0	17,972	0	0	Cleaned; pump on; appears to only cycle initially when air is reset
GW5	6/24/2015	~70	41.4	28.6	56	435,619	0	0	17,972	0	0	Pump on; appears to have obstruction inhibiting vertical position.
GW6	7/16/2014	40.0	34.0	6								No pump
GW6	8/26/2014	40.0	35.0	5.0								No pump
GW6	9/26/2014	40.0	35.0	5.0								No pump
GW6	10/22/2014	40.0	35.0	5.0								No pump
GW6	12/29/2014	40.0	35.0	5.0								No pump
GW6	1/30/2015	40.0	35.0	5.0								No pump
GW6	2/24/2015	40.0	35.0	5.0								No pump
GW6	3/13/2015	40.0	35.5	4.5								No pump
GW6	4/30/2015	40.0	34.5	5.5								No pump
GW6	5/20/2015	40.0	33.6	6.4								No pump
GW6	6/24/2015	40.0	34.9	5.1								No pump

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						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW7	7/16/2014	~60	39.0	21	0	558,267	0	0	843,589	0	0	Compressor down. No pressure in system.
GW7	8/26/2014	~60	43.0	17.0	0	558,268	1	0	843,589	0	0	Compressor down. No pressure in system.
GW7	9/26/2014	~60	42.0	18.0	0	558,276	9	0	843,593	4	0	Compressor down. No pressure in system.
GW7	10/22/2014	~60	42.0	18.0	72	558,278	2	0	843,595	2	0	Leaking filter bowl/air shut off
GW7	12/29/2014	~60	46.0	14.0	80	560,262	1,984	1	843,599	4	0	Filter bowl valve replaced; air kept offline
GW7	1/30/2015	~60	44.0	16.0	70	560,263	1	0	843,600	1	0	Pump off
GW7	2/24/2015	~60	43.5	16.5	0	560,263	0	0	843,600	0	0	Pump stuck in well; cannot be removed for troubleshooting
GW7	3/13/2015	~60	45.0	15.0	0	560,263	0	0	843,600	0	0	Pump stuck in well; cannot be removed for troubleshooting
GW7	4/30/2015	~60	40.0	20.0	0	560,266	3	0	843,603	3	0	Pump stuck in well; cannot be removed for troubleshooting
GW7	5/20/2015	~60	41.2	18.8	20	560,266	0	0	843,603	0	0	Pump stuck in well; cannot be removed for troubleshooting
GW7	6/24/2015	~60	41.8	18.2	70	NM	--	--	NM	--	--	Pump stuck in well
GW8	7/16/2014	~69	40.0	29	0	655,711	0	0	654,603	0	0	Compressor down. No pressure in system.
GW8	8/26/2014	~69	42.0	27.0	0	655,711	0	0	654,603	0	0	Compressor down. No pressure in system.
GW8	9/26/2014	~69	40.0	29.0	0	655,715	4	0	654,605	2	0	Compressor down. No pressure in system.
GW8	10/22/2014	~69	41.5	27.5	70	655,719	4	0	654,608	3	0	Leaking filter bowl/air shut off
GW8	12/29/2014	~69	43.0	26.0	70	656,722	1,003	1	654,609	1	0	Filter bowl valve replaced; air kept offline

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE EXTRACTION WELL SUMMARY

Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW8	1/30/2015	~69	42.5	26.5	70	--	--	--	654,712	103	0	Primary counter malfunctioning; pump on from 1/15/15 - 1/30/15
GW8	2/24/2015	~69	43.5	25.5	70	655,837	--	--	654,712	0	0	Primary counter malfunctioning; pump on before 2/6/15 and after 2/26/15
GW8	3/13/2015	~69	42.5	26.5	60	655,849	12	0	654,718	6	0	Pump on; appears to only cycle initially when air is reset
GW8	4/30/2015	~69	42.5	26.5	80	655,954	105	0	654,814	96	0	Pump on; appears to only cycle initially when air is reset
GW8	5/20/2015	~69	41.9	27.1	77	656,019	65	0	654,863	49	0	Cleaned; pump on; appears to only cycle initially when air is reset
GW8	6/24/2015	~69	38.9	30.1	90	656,020	1	0	654,863	0	0	Pump on; appears to only cycle initially when air is reset
GW9	7/16/2014	~65	44.0	21	0	582,749	0	0	56,880	0	0	Compressor down. No pressure in system.
GW9	8/26/2014	~65	43.0	22.0	0	582,879	130	0	57,046	166	0	Compressor down. No pressure in system.
GW9	9/26/2014	~65	44.0	21.0	0	582,997	118	0	57,141	95	0	Compressor down. No pressure in system.
GW9	10/22/2014	~65	45.5	19.5	80	582,999	2	0	57,144	3	0	Leaking filter bowl/air shut off
GW9	12/29/2014	~65	45.5	19.5	0	583,004	5	0	57,148	4	0	Air kept offline
GW9	1/30/2015	~65	47.0	18.0	0	583,004	0	0	57,148	0	0	Pump off
GW9	2/24/2015	~65	44.5	20.5	0	583,004	0	0	57,148	0	0	Pump off
GW9	3/13/2015	~65	45.5	19.5	0	583,004	0	0	57,148	0	0	Pump off
GW9	4/30/2015	~65	44.0	21.0	0	583,004	0	0	57,148	0	0	Pump off
GW9	5/20/2015	~65	46.0	19.0	0	583,004	0	0	57,148	0	0	Cleaned; pump off; stuck in "air-out" cycle
GW9	6/24/2015	~65	43.3	21.7	0	583,004	0	0	57,148	0	0	Pump off; stuck in "air-out" cycle

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE EXTRACTION WELL SUMMARY

Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW10	7/16/2014	~70	58.5	12	0	703,018	0	0				Compressor down. No pressure in system.
GW10	8/26/2014	~70	59.5	10.5	0	703,024	6	0				Compressor down. No pressure in system.
GW10	9/26/2014	~70	60.5	9.5	0	703,032	8	0				Compressor down. No pressure in system.
GW10	10/22/2014	~70	60.0	10.0	72	705,231	2,199	4				
GW10	12/29/2014	~70	59.5	10.5	60	708,688	3,457	2				Pumping
GW10	1/30/2015	~70	60.0	10.0	65	709,916	1,228	2				Pump on after 1/23/15
GW10	2/24/2015	~70	60.0	10.0	70	710,584	668	1				Pump on before 2/6/15 and after 2/26/15
GW10	3/13/2015	~70	61.0	9.0	70	711,467	883	2				Pump on; appears to cycle quickly when air is reset and then slowly trail off
GW10	4/30/2015	~70	58.5	11.5	70	712,985	1,518	1				Pump on; appears to cycle quickly when air is reset and then slowly trail off
GW10	5/20/2015	~70	59.9	10.1	69	714,477	1,492	3				Cleaned; pump off
GW10	6/24/2015	~70	59.4	10.6	70	715,290	813	1				Pump on entire reporting period
GW11	7/16/2014	~65	45.0	20	0	100,886	0	0	890,972	0	0	Compressor down. No pressure in system.
GW11	8/26/2014	~65	60.0	5.0	0	100,886	0	0	899,921	8,949	6	Compressor down. No pressure in system.
GW11	9/26/2014	~65	42.5	22.5	0	100,887	1	0	906,410	6,489	4	Compressor down. No pressure in system.
GW11	10/22/2014	~65	48.5	16.5	50	100,890	3	0	906,410	0	0	Leaking filter bowl/air shut off

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE EXTRACTION WELL SUMMARY

Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW11	12/29/2014	~65	43.5	21.5	50	100,896	6	0	906,114	0	0	Filter bowl valve replaced; pumping after12/29/15
GW11	1/30/2015	~65	42.0	23.0	0	100,890	-6	0	906,119	5	0	Pump on until 1/15/15
GW11	2/24/2015	~65	47.5	17.5	0	100,890	0	0	906,119	0	0	Pump off
GW11	3/13/2015	~65	45.0	20.0	40	100,890	0	0	906,119	0	0	Pump off
GW11	4/30/2015	~65	40.0	25.0	0	100,890	0	0	906,120	1	0	Pump off
GW11	5/20/2015	~65	61.2	3.8	50	100,890	0	0	919,961	13,841	29	Cleaned; pump on; appears to only cycle initially when air is reset
GW11	6/24/2015	~65	44.7	20.3	40	100,890	0	0	919,962	1	0	Pump on; appears to only cycle initially when air is reset
GW12	7/16/2014	~81	45.5	36	0	54,432	0	0	830,322	0	0	Compressor down. No pressure in system.
GW12	8/26/2014	~81	43.0	38.0	0	54,432	0	0	830,324	2	0	Compressor down. No pressure in system.
GW12	9/26/2014	~81	43.0	38.0	0	54,434	2	0	831,043	719	0	Compressor down. No pressure in system.
GW12	10/22/2014	~81	43.0	38.0	60	54,441	7	0	841,041	9,998	16	
GW12	12/29/2014	~81	47.5	33.5	75	54,444	3	0	870,399	29,358	18	Filter bowl valve replaced; not pumping from 12/23/15 - 12/29/15
GW12	1/30/2015	~81	48.5	32.5	70	54,445	1	0	997,943	127,544	166	Pump on entire month
GW12	2/24/2015	~81	49.0	32.0	50	54,445	0	0	23,875	25,932	43	Pump on before 2/6/15 and after 2/24/15
GW12	3/13/2015	~81	50.0	31.0	55	54,447	2	0	51,570	27,695	68	Pump on entire reporting period
GW12	4/30/2015	~81	46.0	35.0	75	54,448	1	0	81,507	29,937	26	Pump on entire reporting period
GW12	5/20/2015	~81	58.5	22.5	60	54,450	2	0	108,878	27,371	57	Cleaned; pump on entire reporting period
GW12	6/24/2015	~81	48.4	32.6	70	54,450	0	0	142,283	60,776	72	Pump on entire reporting period

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE EXTRACTION WELL SUMMARY

Well	Date	Well Depth	Depth to Leachate (feet)	Leachate Level (feet above well bottom)	Wellhead Pressure (psi)	Primary Counter			Secondary Counter			Comments
						Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	Pump Cycle Reading	Cycles Per Period	Cycles Per Hour	
GW13	7/16/2014	~69	52.5	17	0	624,880	0	0	5,082	0	0	Compressor down. No pressure in system.
GW13	8/26/2014	~69	48.0	21.0	0	624,880	0	0	5,082	0	0	Compressor down. No pressure in system.
GW13	9/26/2014	~69	47.5	21.5	0	624,881	1	0				Compressor down. No pressure in system.
GW13	10/22/2014	~69	49.0	20.0	73	624,884	3	0				
GW13	12/29/2014	~69	50.0	19.0	0	--	0	0				Missing regulator
GW13	1/30/2015	~69	49.5	19.5	--	--	0	0				Missing regulator; pump off
GW13	2/24/2015	~69	45.5	23.5	--	--	0	0				Missing regulator; pump off
GW13	3/13/2015	~69	52.5	16.5	--	--	0	0				Missing regulator; pump off
GW13	4/30/2015	~69	48.5	20.5	0	--	0	0				Missing regulator; pump off
GW13	5/20/2015	~69	50.5	18.5	0	--	0	0				Missing regulator; pump off; could not remove for troubleshooting
GW13	6/24/2015	~69	47.2	21.8	--	--	0	0				Missing regulator; pump off

~ : Value approximated.

psi : Pounds per square inch.

NOTE : November 25, 2014 field data sheet lost after completion.

TABLE 2

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY LEACHATE COLLECTION VOLUME

Month	Reported Volume Hauled (gallons)	Cumulative Volume Hauled (gallons)
July 2014	0	0
August 2014	15,845	15,845
September 2014	0	15,845
October 2014	8,872	24,717
November 2014	4,367	29,084
December 2014	9,733	38,817
January 2015	9,429	48,246
February 2015	4,400	52,646
March 2015	8,925	61,571
April 2015	4,806	66,377
May 2015	15,012	81,389
June 2015	16,347	97,736
Total	**97,736**	

TABLE 3

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

QUARTERLY LEACHATE EFFLUENT ANALYTICAL RESULTS - INORGANICS
(all results are in milligrams per liter (mg/L))

Date	Cadmium	Chromium	Chromium Hexavalent	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc	Cyanide (Total)
Local Ordinance Effluent Limitations* (daily maximum)	**0.25**	**10.0**	**0.5**	**1.5**	**5**	**0.02**	**--**	**2.0**	**0.3**	**3**	**8**	**0.1**
9/23/2014	0.00050 J	0.0065 J	<0.0038	0.0	0.0062	<0.000072	0.0025 J	0.011	<0.0046	<0.00057	0.048 B	0.0054 JB
12/16/2014	0.00034 JB	0.0065 JB	<0.0038	0.0042 J	<0.0023	<0.000072	0.0022 J	0.028	<0.0046	0.0011 J	0.016 JB	0.0097 J
3/12/2015	0.0	0.013	<0.0038 F1	0.0094 J	0.0032 J	<0.000061	<0.0022	0.032	<0.0046	<0.0013	0.031	0.0040 J
6/17/2015	0.0018 J	0.0091 J	<0.0038	0.0067 J	0.0031 J	<0.000061	<0.0022	0.022	<0.0046	<0.0013	0.016 J	0.0027 J

* : Madison Metropolitan Sewerage District Use Ordinance - Wastewater Discharge Permit NTO-5.12.
J : Estimated value. Analyte detected at a level less than reporting limit (RL) and greater than or equal to the laboratory method detection limit (MDL).
B : Analyte was detected in associated method blank.
-- : Effluent limitation not set.
< : Less than laboratory method detection limit.
F1 : MS and/or MSD recovery exceeds the control limits.

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position Initial (%)	Valve Position After (%)	Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
GW1	7/16/2014	19.5	13.1	13.2	54.2	0.00	0	0	0	0	74.8
GW1	8/26/2014	0.1	20.9	0.0	79.1	-0.05	0	0	0	0	70.3
GW1	9/26/2014	0.6	20.9	0.0	78.5	-0.05	0	0	0	0	81.3
GW1	10/22/2014	63.5	2.7	36.8	-3.0	0.15	0	0	0	0	67.9
GW1	11/25/2014	56.0	3.0	38.8	2.2	0.00	0	0	0	0	37.0
GW1	12/29/2014	60.0	0.3	38.4	1.3	0.15	0	0	0	0	29.8
GW1	1/30/2015	55.5	0.2	36.6	7.7	0.15	0	0	0	0	42.2
GW1	2/24/2015	47.5	0.3	33.0	19.2	0.25	0	0	0	0	43.6
GW1	3/13/2015	54.5	0.1	36.6	8.8	0.35	0	0	0	0	64.0
GW1	4/30/2015	55.0	0.3	39.6	5.1	0.25	0	0	0	0	71.0
GW1	5/20/2015	52.5	0.4	40.2	6.9	0.15	0	0	0	0	62.2
GW1	6/24/2015	57.5	0.7	35.4	6.4	0.15	--	--	--	--	82.2
GW2	7/16/2014	1.1	6.6	11.2	81.1	0.00	0	0	0	0	84.9
GW2	8/26/2014	0.1	7.4	10.4	82.2	-2.00	0	0	0	0	71.7
GW2	9/26/2014	1.1	8.0	10.4	80.6	-9.00	0	0	0	0	89.4
GW2	10/22/2014	5.0	8.3	12.6	74.1	0.60	0	0	0	0	69.2
GW2	11/25/2014	56.0	3.5	40.0	0.5	0.05	0	0	0	0	34.8
GW2	12/29/2014	57.5	2.7	29.2	10.6	0.00	0	0	0	0	31.9
GW2	1/30/2015	56.0	2.8	26.0	15.2	-7	0	0	0	0	39.7
GW2	2/24/2015	21.0	11.7	10.8	56.5	0.15	0	0	0	0	39.0
GW2	3/13/2015	13.5	14.9	9.0	62.6	0.85	0	0	0	0	64.2
GW2	4/30/2015	54.5	0.2	40.0	5.3	0.60	0	0	0	0	71.0
GW2	5/20/2015	45.5	2.7	34.2	17.6	0.45	0	0	0	0	62.4
GW2	6/24/2015	55.0	0.5	35.7	8.8	0.35	--	--	--	--	86.8
GW3	7/16/2014	8.0	17.5	4.4	70.1	-1.15	0	0	0	0	84.9
GW3	8/26/2014	12.5	15.9	7.6	64.0	-0.85	0	0	0	0	81.3
GW3	9/26/2014	10.0	17.0	5.2	67.8	-0.80	0	0	0	0	87.0
GW3	10/22/2014	73.0	1.1	29.8	-3.9	0.30	0	0	0	0	67.5
GW3	11/25/2014	5.0	20.7	2.2	72.1	-0.40	0	0	0	0	37.0
GW3	12/29/2014	68.0	1.0	31.8	-0.8	0.25	0	0	0	0	28.5

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position		Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
							Initial (%)	After (%)			
GW3	1/30/2015	60.5	2.4	29.2	7.9	0.60	0	0	0	0	42.4
GW3	2/24/2015	54.0	0.2	29.4	16.4	0.50	0	0	0	0	35.4
GW3	3/13/2015	61.0	0.1	31.2	7.7	1.30	0	0	0	0	66.1
GW3	4/30/2015	61.0	0.2	32.6	6.2	0.40	0	0	0	0	64.9
GW3	5/20/2015	59.0	0.2	33.4	7.4	0.15	0	0	0	0	56.1
GW3	6/24/2015	63.0	0.4	28.2	8.4	0.15	--	--	--	--	85.0
GW4	7/16/2014	73.0	0.0	27.4	-0.4	0.00	0	0	0	0	82.0
GW4	8/26/2014	76.5	0.0	25.2	-1.7	0.05	0	0	0	0	81.6
GW4	9/26/2014	3.6	19.3	1.8	75.3	-0.75	0	0	0	0	--
GW4	10/22/2014	0.2	20.9	0.0	79.0	-14	0	0	--	--	--
GW4	11/25/2014	41.0	7.5	17.2	34.3	-20	0	0	--	--	--
GW4	12/29/2014	36.0	10.0	14.6	39.4	-7	0	0	--	--	--
GW4	1/30/2015	60.5	0.1	26.0	13.4	-7	0	0	--	--	--
GW4	2/24/2015	34.5	5.9	18.4	41.2	-2.5	0	0	--	--	--
GW4	3/13/2015	61.5	0.6	27.4	10.5	0.15	0	0	--	--	--
GW4	4/30/2015	40.5	7.5	18.0	34.0	-6	0	0	--	--	--
GW4	5/20/2015	0.0	20.9	0.0	79.1	-9	50	0	--	--	--
GW4	6/24/2015	14.5	16.8	3.0	65.7	2.00	--	--	--	--	--
GW5	7/16/2014	73.0	0.1	28.2	-1.3	0.00	0	0	0	0	81.4
GW5	8/26/2014	71.5	0.7	28.2	-0.4	0.05	0	0	0	0	85.0
GW5	9/26/2014	0.0	20.9	0.0	79.1	-17	0	0	0	0	89.9
GW5	10/22/2014	0.4	20.9	0.0	78.8	-22	0	0	--	--	--
GW5	11/25/2014	0.7	20.9	0.4	78.1	-20	0	0	--	--	--
GW5	12/29/2014	30.0	12.0	13.0	45.0	-0.15	0	0	--	--	--
GW5	1/30/2015	66.0	0.2	30.4	3.4	-1.75	0	0	--	--	--
GW5	2/24/2015	57.5	0.1	28.0	14.4	2.00	0	0	--	--	--
GW5	3/13/2015	62.0	1.0	30.4	6.6	0.20	0	0	--	--	--
GW5	4/30/2015	5.0	18.9	1.6	74.5	-6	0	0	--	--	--
GW5	5/20/2015	0.1	20.9	0.0	79.0	-18	100	5	1822	82	55.9
GW5	6/24/2015	8.0	19.2	0.4	72.4	-20.0	15	0	650	29	83.4

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position		Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
							Initial (%)	After (%)			
GW5 - Lat East	7/16/2014	70.5	0.1	27.6	1.8	--[a]	0	0	--[a]	--	--
GW5 - Lat East	8/26/2014	73.5	0.7	29.4	-3.6	0.65	0	0	--	--	--
GW5 - Lat East	9/26/2014	0.4	20.7	0.0	79.0	-18	0	0	--	--	--
GW5 - Lat East	10/22/2014	15.0	12.0	11.0	62.0	-22	0	0	--	--	--
GW5 - Lat East	11/25/2014	8.0	17.3	5.0	69.7	-24	0	0	--	--	--
GW5 - Lat East	12/29/2014	38.5	7.3	24.8	29.4	-16	0	0	--	--	--
GW5 - Lat East	1/30/2015	27.5	8.3	18.4	45.8	-10	0	0	--	--	--
GW5 - Lat East	2/26/2015	48.5	0.7	27.4	23.4	-20	0	0	--	--	--
GW5 - Lat East	3/13/2015	40.5	4.8	22.2	32.5	-9	0	0	--	--	--
GW5 - Lat East	4/30/2015	19.0	12.7	12.0	56.3	-20	0	0	--	--	--
GW5 - Lat East	5/20/2015	4.8	18.1	3.2	74.0	-17	--	--	--	--	--
GW5 - Lat East	6/24/2015	3.7	18.8	0.0	77.6	-18.0	--	--	--	--	--
GW5 - Lat West	7/16/2014	69.5	0.6	31.8	-1.9	0.25	0	0	--[a]	--	--
GW5 - Lat West	8/26/2014	69.5	0.1	33.4	-3.0	0.90	0	0	--	--	--
GW5 - Lat West	9/26/2014	2.4	18.9	1.8	76.9	-18	0	0	--	--	--
GW5 - Lat West	10/22/2014	28.5	7.6	18.8	45.1	-22	0	0	--	--	--
GW5 - Lat West	11/25/2014	35.5	7.7	21.2	35.6	-24	0	0	--	--	--
GW5 - Lat West	12/29/2014	27.0	11.7	16.4	44.9	-16	0	0	--	--	--
GW5 - Lat West	1/30/2015	28.0	8.3	18.4	45.3	-10	0	0	--	--	--
GW5 - Lat West	2/26/2015	47.5	2.4	30.6	19.5	-20	0	0	--	--	--
GW5 - Lat West	3/13/2015	32.5	6.3	20.4	40.8	-8	0	0	--	--	--
GW5 - Lat West	4/30/2015	23.0	10.4	15.0	51.6	-20	0	0	--	--	--
GW5 - Lat West	5/20/2015	39.0	4.5	27.0	29.5	-17	--	--	--	--	--
GW5 - Lat West	6/24/2015	3.6	18.9	0.0	77.6	-18.0	--	--	--	--	--
GW5 - Lat West Mid	9/26/2014	0.2	20.6	0.0	79.3	-18	0	0	--	--	--
GW5 - Lat West Mid	10/22/2014	3.0	18.5	2.6	75.9	-22	0	0	--	--	--
GW5 - Lat West Mid	11/25/2014	31.5	8.4	20.0	40.1	-24	0	0	--	--	--
GW5 - Lat West Mid	12/29/2014	56.5	2.1	32.6	8.8	-16	0	0	--	--	--
GW5 - Lat West Mid	1/30/2015	16.0	13.4	11.2	59.4	-8	0	0	--	--	--
GW5 - Lat West Mid	2/26/2015	41.5	1.7	27.6	29.2	-19	0	0	--	--	--

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position Initial (%)	Valve Position After (%)	Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
GW5 - Lat West Mid	3/13/2015	31.0	6.2	20.2	42.6	-8	0	0	--	--	--
GW5 - Lat West Mid	4/30/2015	10.0	16.1	6.6	67.3	-20	0	0	--	--	--
GW5 - Lat West Mid	5/20/2015	12.5	15.1	10.0	62.4	-18	--	--	--	--	--
GW5 - Lat West Mid	6/24/2015	3.6	18.9	0.2	77.3	-20.0	--	--	--	--	--
GW6	7/16/2014	53.0	1.0	29.6	16.4	-28	100	100	1350	60.8	76.4
GW6	8/26/2014	33.5	0.8	26.6	39.1	-26	100	100	1530	69	75.7
GW6	9/26/2014	56.0	0.2	32.4	11.4	-18	100	100	1500	68	79.8
GW6	10/22/2014	63.5	2.3	33.0	1.2	-23	100	100	2800	126	63.6
GW6	11/25/2014	66.0	0.3	35.6	-1.9	-24	100	100	560	25	39.7
GW6	12/29/2014	60.5	0.7	35.4	3.4	-16	100	100	1250	56	29.1
GW6	1/30/2015	58.0	0.6	36.4	5.0	-11	100	100	610	27	42.0
GW6	2/26/2015	53.5	1.9	33.4	11.2	-18	100	100	--[a]	--[a]	39.5
GW6	3/13/2015	54.5	1.4	34.8	9.3	-9	100	100	900	41	66.5
GW6	4/30/2015	51.5	1.0	35.6	11.9	-22	100	100	647	29	66.7
GW6	5/20/2015	0.5	20.9	0.4	78.2	-5	10	0	222	10	55.3
GW6	6/24/2015	58.2	0.9	30.4	10.5	-20.0	0	100	1721	77	74.1
GW7	7/16/2014	31.0	6.0	15.8	47.2	-6	100	0	0	0	81.8
GW7	8/26/2014	76.5	1.0	22.4	0.1	-26	0	100	1250	56	83.4
GW7	9/26/2014	51.5	1.5	24.6	22.4	-20	100	100	850	38	83.2
GW7	10/22/2014	63.5	2.5	24.8	9.2	-23	100	100	1000	45	63.3
GW7	11/25/2014	20.5	15.4	7.6	56.5	-16	100	0	0	0	30.3
GW7	12/29/2014	19.5	1.1	19.2	60.2	-16	0	100	430	19	30.3
GW7	1/30/2015	50.0	5.2	21.0	23.8	-11	100	50	400	18	36.8
GW7	2/26/2015	47.0	5.9	19.8	27.3	-18	50	0	0	0	32.7
GW7	3/13/2015	68.0	0.1	22.4	9.5	-8	0	100	300	14	67.5
GW7	4/30/2015	46.5	5.5	18.6	29.4	-22	100	50	500	23	68.5
GW7	5/20/2015	43.5	5.9	18.6	32.0	-19	75	20	511	23	54.6
GW7	6/24/2015	62.5	2.1	19.8	15.6	-20.0	50	100	1301	59	90.0
GW8	7/16/2014	11.0	15.0	4.6	69.4	-10	100	0	0	0	82.7
GW8	8/26/2014	78.0	0.2	23.4	-1.6	-25	0	100	1050	47	83.2

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position		Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
							Initial (%)	After (%)			
GW8	9/26/2014	60.5	4.2	19.8	15.5	-19	100	100	850	38	87.2
GW8	10/22/2014	63.5	4.2	20.0	12.3	-18	100	0	0	0	64.0
GW8	11/25/2014	36.0	12.2	11.4	40.4	-4	0	0	0	0	28.5
GW8	12/29/2014	76.0	0.3	25.6	-1.9	-14	0	100	1250	56	28.0
GW8	1/30/2015	44.0	7.0	17.6	31.4	-10	100	0	0	0	32.1
GW8	2/26/2015	71.5	0.1	25.4	3.0	-18	0	100	430	19	29.1
GW8	3/13/2015	35.5	9.5	13.2	41.8	-5	100	0	0	0	70.0
GW8	4/30/2015	68.0	0.2	25.6	6.2	-21	0	100	580	26	68.5
GW8	5/20/2015	22.0	12.3	10.4	55.3	-20	100	100	555	25	55.9
GW8	6/24/2015	35.0	10.1	8.4	46.5	-20.0	100	100	1068	48	95.7
GW9	7/16/2014	84.0	0.0	12.8	3.2	-27	0	100	1320	59.4	82.9
GW9	8/26/2014	9.5	17.0	1.4	72.1	-22	100	0	0	0	88.6
GW9	9/26/2014	10.0	17.2	2.2	70.6	-17	0	0	0	0	85.8
GW9	10/22/2014	89.0	0.0	13.8	-2.8	-24	0	100	1100	50	64.5
GW9	11/25/2014	35.5	12.2	6.2	46.1	-20	100	0	0	0	28.3
GW9	12/29/2014	34.5	12.4	6.2	46.9	-10	0	0	0	0	26.0
GW9	1/30/2015	81.0	0.1	15.6	3.3	-11	0	100	406	18	35.4
GW9	2/26/2015	39.0	10.8	6.6	43.6	-18	100	0	0	0	20.6
GW9	3/13/2015	74.5	0.1	13.8	11.6	-8	0	100	400	18	68.7
GW9	4/30/2015	26.0	13.1	4.8	56.1	-16	100	0	0	0	70.6
GW9	5/20/2015	62.0	2.7	12.6	22.7	-19	100	100	574	26	55.7
GW9	6/24/2015	25.0	15.2	2.6	57.2	-20.0	100	100	781	35	85.9
GW10	7/16/2014	18.0	1.0	16.6	64.4	-17	100	100	--[b]	--	--[b]
GW10	8/26/2014	10.0	3.0	14.0	73.0	0	100	0	0	0	96.0
GW10	9/26/2014	51.5	0.4	20.8	27.3	-10	0	100	750	34	86.8
GW10	10/22/2014	12.5	2.5	17.4	67.6	-3	100	0	0	0	65.6
GW10	11/25/2014	56.5	1.9	27.2	14.4	-14	0	100	600	27	26.4
GW10	12/29/2014	49.5	0.1	24.4	26.0	-9	100	100	270	12	36.3
GW10	1/30/2015	14.0	3.2	18.8	64.0	-9	100	50	255	11	36.4

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position Initial (%)	Valve Position After (%)	Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
GW10	2/26/2015	36.5	0.8	22.2	40.5	-10	50	100	224	10	33.4
GW10	3/13/2015	12.5	1.2	17.2	69.1	-9	100	25	400	18	71.9
GW10	4/30/2015	11.0	3.7	16.4	68.9	-5	0	0	0	0	71.5
GW10	5/20/2015	35.0	0.5	21.0	43.5	-6	100	100	573	26	57.0
GW10	6/24/2015	53.5	1.5	18.0	27.0	-20.0	0	100	914	41	84.1
GW11	7/16/2014	9.5	17.7	1.8	71.0	-0.70	0	0	--[b]	--	--[b]
GW11	8/26/2014	5.0	19.3	0.6	75.1	0.00	0	0	0	0	91.5
GW11	9/26/2014	5.5	17.5	1.6	75.4	-21	50	0	0	0	87.0
GW11	10/22/2014	79.5	0.0	14.8	5.7	-16	0	100	900	41	63.1
GW11	11/25/2014	69.0	1.3	22.2	7.5	-28	100	100	320	14	26.7
GW11	12/29/2014	70.0	1.2	20.4	8.4	-27	100	100	450	20	28.2
GW11	1/30/2015	28.0	6.5	20.0	45.5	-21	100	0	0	0	35.7
GW11	2/26/2015	79.0	0.1	14.6	6.3	-8	0	100	350	16	24.0
GW11	3/13/2015	39.0	0.8	18.8	41.4	-20	100	100	520	23	70.5
GW11	4/30/2015	28.0	5.5	19.2	47.3	-23	100	50	538	24	69.7
GW11	5/20/2015	35.5	10.7	8.0	45.8	-18	100	100	535	24	58.6
GW11	6/24/2015	37.5	10.6	5.4	46.5	-20.0	100	100	1085	49	86.5
GW12	7/16/2014	71.5	0.1	25.8	2.6	-25	0	100	--[b]	--	--[b]
GW12	8/26/2014	16.5	0.7	19.2	63.6	-26	100	100	2000	90	85.8
GW12	9/26/2014	23.0	2.2	21.4	53.4	-24	100	100	1900	86	84.5
GW12	10/22/2014	14.0	1.9	19.4	64.7	-25	100	50	1450	65	65.6
GW12	11/25/2014	22.0	8.2	15.6	54.2	-28	50	0	0	0	28.9
GW12	12/29/2014	69.5	0.3	29.8	0.4	-26	0	100	640	29	34.8
GW12	1/30/2015	7.0	11.0	10.2	71.8	-20	100	0	0	0	37.9
GW12	2/26/2015	62.5	0.3	29.0	8.2	-20	0	100	750	34	31.9
GW12	3/13/2015	13.5	3.2	17.6	65.7	-20	100	50	780	35	70.3
GW12	4/30/2015	8.0	4.0	15.6	72.4	-20	50	0	0	0	71.0
GW12	5/20/2015	54.5	0.1	28.2	17.2	-0.4	10	100	1515	68	58.6
GW12	6/24/2015	41.2	6.8	16.8	35.2	-20.0	100	100	1153	52	84.0
GW13	7/16/2014	65.0	0.1	24.8	10.1	-26	0	100	--[b]	--	--[b]
GW13	8/26/2014	43.5	1.0	25.2	30.3	-24	100	100	1200	54	91.0

TABLE 4

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

GAS WELL MONITORING RESULTS

Location	Date	CH_4 (%)	O_2 (%)	CO_2 (%)	Balance Gas* (%)	Well Pressure (in WC)	Valve Position Initial (%)	Valve Position After (%)	Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
GW13	9/26/2014	50.5	1.1	27.8	20.6	-24	100	100	1300	59	86.8
GW13	10/22/2014	41.0	1.1	28.4	29.5	-26	100	100	807	36	64.3
GW13	11/25/2014	48.0	2.1	29.0	20.9	-28	100	100	1700	77	26.4
GW13	12/29/2014	53.0	2.0	28.8	16.2	-26	100	100	710	32	30.5
GW13	1/30/2015	37.0	2.5	28.4	32.1	-24	100	100	560	25	37.5
GW13	2/26/2015	53.5	1.2	30.0	15.3	-24	100	100	701	32	28.0
GW13	3/13/2015	38.0	1.1	28.4	32.5	-20	100	100	650	29	68.7
GW13	4/30/2015	34.0	0.7	30.2	35.1	-23	100	100	617	28	70.6
GW13	5/20/2015	39.0	2.1	28.4	30.5	-19	100	100	628	28	56.8
GW13	6/24/2015	54.0	1.2	26.0	18.8	-20.0	100	100	811	36	85.9
Annual Minimum		0.0	0.0			-28.0			0	0	20.6
Annual Maximum		100.0	20.9			12.0			2800	126	96.0
Annual Average						-7.4			459	21	61.1
Annual Total***									61024	2746	

* : Balance gas calculated as 100% - (%CH_4+%CO_2+%O_2).
** : Gas Flow (cfm) calculated by multiplying gas velocity (fpm) by pipe area 0.045 (3" diameter).
*** : Only wells that are open following inspection on given date are included in the total flow calculation.
-- : Not measured.
fpm : Feet per minute.
cfm : Cubic feet per minute.
in WC : Inches of water column.
deg F : Degrees Fahrenheit.
a : Broken valve.
b : Thermo anemometer out of battery.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER, FLARE, AND COMPRESSOR STATION OPERATIONAL DURATION

	Blower				Flare			Compressor			
Date	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational	Comments
7/1/14 2:14 PM	59,373.9	0	0%	7.0	98	0	0%				Blower and Flare down upon arrival. System remained down due to high oxygen.
7/3/14 2:21 PM	59,375.0	1	2%	--	48	1	2%				Blower and Flare down upon arrival. System remained down due to high oxygen.
7/9/14 3:12 PM	59,375.3	0	0%	7.0	145	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
7/10/14 4:31 PM	59,400.7	25	100%	--	25	25	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
7/15/14 12:02 PM	59,401.1	0	0%	7.0	116	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
7/16/14 12:30 PM	59,425.6	25	100%	--	24	25	100%				Blower and flare operational upon arrival and departure.
7/24/14 12:05 PM	59,612.6	187	98%	7.0	192	187	98%				Blower and flare operational upon arrival and departure.
7/30/14 2:48 PM	59,759.3	147	100%	7.0	147	147	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
Monthly Summary		**386**	**49%**		**794**	**386**	**49%**				
8/5/14 2:05 PM	59,759.7	0	0%	7.0	143	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
8/12/14 10:52 AM	59,924.5	165	100%	7.0	165	165	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
8/14/14 3:45 PM	59,924.6	0	0%	--	53	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
8/18/14 12:53 PM	60,017.7	93	100%	7.0	93	93	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
8/20/14 3:42 PM	60,018.1	0	1%	--	51	0	1%				Blower and flare down upon arrival. System restarted and operational upon departure.
8/26/14 3:20 PM	60,161.6	144	100%	7.0	144	144	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
8/28/14 2:42 PM	60,161.7	0	0%	--	47	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
Monthly Summary		**402**	**58%**		**696**	**402**	**58%**				
9/2/14 11:19 AM	60,276.3	115	98%	--	117	115	98%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
9/3/14 4:58 PM	60,277.2	1	3%	--	30	1	3%				Blower and flare down upon arrival. System restarted and operational upon departure.
9/4/14 12:12 PM	60,296.5	19	100%	7.0	19	19	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER, FLARE, AND COMPRESSOR STATION OPERATIONAL DURATION

	Blower				Flare			Compressor			
Date	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational	Comments
9/5/14 4:14 PM	60,296.6	0	0%	--	28	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
9/8/14 10:26 AM	60,362.8	66	100%	--	66	66	100%				Blower and flare operational upon arrival. System shutdown due to high oxygen.
9/9/14 3:13 PM	60,367.3	5	16%	7.0	29	5	16%				Blower and flare down upon arrival and departure.
9/12/14 11:10 AM	60,367.5	0	0%	--	68	0	0%				Blower and flare down upon arrival and departure.
9/17/14 8:43 AM	60,368.2	1	1%	7.0	118	1	1%				Blower and flare down upon arrival and departure.
9/23/14 3:35 PM	60,368.6	0	0%	7.0	151	0	0%				Blower and flare down upon arrival. System restarted and operational upon departure.
9/25/14 3:29 PM	60,416.5	48	100%	--	48	48	100%				Blower and flare operational upon arrival and departure.
9/26/14 1:46 PM	60,438.8	22	100%	--	22	22	100%				Blower and flare operational upon arrival and departure.
Monthly Summary		**277**	**40%**		**695**	**277**	**40%**				
10/2/14 3:30 PM	60,584.5	146	100%	7.0	146	146	100%	134.0	0	0%	Blower and flare operational upon arrival and departure.
10/6/14 8:46 AM	60,673.8	89	100%	--	89	89	100%	134.0	0	0%	Blower and flare operational upon arrival and departure.
10/7/14 9:26 AM	60,698.5	25	100%	6.5	25	25	100%	134.0	0	0%	Blower and flare operational upon arrival and departure.
10/8/14 2:42 PM	60,727.7	29	100%	--	29	29	100%	147.8	14	47%	Blower and flare operational upon arrival and departure.
10/10/14 4:10 PM	60,777.2	50	100%	--	49	50	100%	169.6	22	44%	Blower and flare operational upon arrival and departure.
10/13/14 2:30 PM	60,847.6	70	100%	--	70	70	100%	204.0	34	49%	Blower and flare operational upon arrival and departure.
10/17/14 2:32 PM	60,943.6	96	100%	7.0	96	96	100%	256.0	52	54%	Blower and flare operational upon arrival and departure.
10/22/14 4:47 PM	61,065.8	122	100%	6.0	122	122	100%	307.7	52	42%	Blower and flare operational upon arrival and departure.
10/30/14 4:04 PM	61,257.1	191	100%	7.0	191	191	100%	383.7	76	40%	Blower and flare operational upon arrival. System shutdown due to high oxygen.
Monthly Summary		**818**	**100%**		**818**	**818**	**100%**		**250**	**31%**	
11/7/14 12:34 PM	61,258.3	1	1%	7.0	188	1	1%	464.4	81	43%	Blower and flare down upon arrival. System restarted and operational upon departure. Blower hour reading taken 1 hour after system restart.
11/14/14 12:53 PM	61,426.6	168	100%	7.0	168	168	100%	535.8	71	42%	Blower and flare operational upon arrival and departure.
11/21/14 4:48 PM	61,598.5	172	100%	7.0	172	172	100%	607.9	72	43%	Blower and flare operational upon arrival. System shutdown due to high oxygen.
11/25/14 3:57 PM	61,602.3	4	4%	7.0	95	4	4%	651.8	44	48%	Blower and flare down upon arrival and departure. Blower and flare left operational for 4 hours to allow for equilibration.
Monthly Summary		**345**	**55%**		**624**	**345**	**55%**		**268**	**43%**	
12/4/14 4:20 PM	61,603.6	1	1%	7.0	216	1	1%	745.3	94	43%	Blower and flare down upon arrival and departure. Blower and flare operational for 1 hour while monitoring.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER, FLARE, AND COMPRESSOR STATION OPERATIONAL DURATION

	Blower				Flare			Compressor			
Date	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational	Comments
12/10/14 10:53 AM	61,603.6	0	0%	6.0	139	0	0%	809.5	64	46%	Blower and flare down upon arrival. System restarted and operational upon departure.
12/16/14 2:19 PM	61,751.1	148	100%	7.0	147	148	100%	878.1	69	47%	Blower and flare operational upon arrival. System shutdown due to high oxygen.
12/23/14 1:11 PM	61,751.6	1	0%	7.0	167	1	0%	955.4	77	47%	Blower and flare down upon arrival and departure. Blower and flare left operational for 3 hours to allow for equilibration.
12/29/14 1:15 PM	61,754.5	3	2%	7.0	144	3	2%	1,018.0	63	44%	Blower and flare down upon arrival and departure.
Monthly Summary		**152**	**19%**		**813**	**152**	**19%**		**366**	**45%**	
1/6/15 2:22 PM	61,947.5	193	100%	7.0	193	193	100%	1,138.8	121	63%	Blower and flare operational upon arrival. System shutdown due to high oxygen.
1/15/15 2:22 PM	61,948.4	1	0%	7.0	216	1	0%	1,226.8	88	41%	Blower and flare down upon arrival. System restarted and operational upon departure.
1/23/15 1:22 PM	62,139.4	191	100%	7.0	191	191	100%	1,308.4	82	43%	Blower and flare operational upon arrival and departure.
1/30/15 12:05 PM	62,306.1	167	100%	7.0	167	0 *	0%	1,387.7	79	48%	Blower operational upon arrival. Flare down upon arrival. System shutdown due to high oxygen.
Monthly Summary		**552**	**72%**		**767**	**385**	**50%**		**370**	**48%**	
2/6/15 12:17 PM	62,310.5	4	3%	7.0	168	4	3%	1,466.5	79	47%	Blower and flare down upon arrival and departure.
2/13/15 2:18 PM	62,311.3	1	0%	7.0	170	1	0%	1,467.3	1	0%	Blower and flare down upon arrival and departure.
2/19/15 2:30 PM	62,311.3	0	0%	7.0	144	0	0%	1,515.7	48	34%	Blower and flare down upon arrival. System restarted and operational upon departure.
2/20/15 12:30 PM	62,334.3	23	105%	–	22	23	105%	–	–	–	Blower and flare operational upon arrival. System shutdown due to high oxygen.
2/24/15 11:07 AM	62,334.3	0	0%	–	117	0	0%	1,553.2	38	32%	Blower and flare down upon arrival and departure.
2/26/15 12:26 AM	62,336.3	2	5%	7.0	37	2	5%	1,569.3	16	43%	Blower and flare down upon arrival. System restarted and operational upon departure.
Monthly Summary		**30**	**5%**		**621**	**28**	**5%**		**182**	**29%**	
3/6/15 11:13 AM	62,527.1	191	94%	7.0	203	191	94%	1,649.0	80	39%	Blower and flare operation upon arrival and departure.
3/11/15 2:50 PM	62,649.7	123	99%	6.0	124	0 *	0%	1,701.9	53	43%	Blower operational upon arrival. Flare down upon arrival. System shutdown due to high oxygen in central branch and low methane in north branch.
3/13/15 2:45 PM	62,652.6	3	6%	–	48	3	6%	1,722.6	21	43%	Blower and flare down upon arrival. System restarted and operational upon departure.
3/19/15 2:52 PM	62,796.7	144	100%	6.0	144	0	0%	1,787.4	65	45%	Blower operational upon arrival. Flare down upon arrival. System shutdown due to high oxygen in central and north branches.
3/25/15 2:18 PM	62,797.0	0	0%	6.0	143	0	0%	1,852.1	65	45%	Blower and flare down upon arrival. System restarted and operational upon departure.
3/30/15 2:42 PM	62,917.0	120	100%	6.0	120	0 *	0%	1,905.9	54	45%	Blower operational upon arrival. Flare down upon arrival. System shutdown upon departure.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER, FLARE, AND COMPRESSOR STATION OPERATIONAL DURATION

Date	Blower				Flare			Compressor			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational	
Monthly Summary		**581**	**74%**		**782**	**194**	**25%**		**337**	**43%**	
4/10/15 2:51 PM	62,917.8	1	0%	8.0	264	1	0%	2,021.7	116	44%	Blower and flare down upon arrival and departure.
4/17/15 12:38 PM	62,918.2	0	0%	7.0	166	0	0%	2,092.7	71	43%	Blower and flare down upon arrival. System restarted and operational upon departure.
4/24/15 3:21 PM	63,089.0	171	100%	7.0	171	171	100%	2,167.5	75	44%	Blower and flare operational upon arrival and departure.
4/30/15 4:21 PM	63,234.0	145	100%	6.0	145	0 *	0%	2,229.8	62	43%	Blower operational upon arrival. Flare down upon arrival. System shutdown upon departure.
Monthly Summary		**317**	**43%**		**746**	**172**	**23%**		**324**	**43%**	
5/6/15 2:02 PM	63,241.0	7	5%	7.0	142	0	0%	2,293.8	64	45%	Blower and flare down upon arrival and departure.
5/14/15 4:22 PM	63,245.0	4	2%	6.0	194	0	0%	2,381.2	87	45%	Blower and flare down upon arrival and departure.
5/20/15 4:52 PM	63,248.5	4	2%	6.0	145	4	2%	2,448.8	68	47%	Blower and flare down upon arrival and departure.
5/28/15 11:25 AM	63,251.2	3	1%	7.0	187	0	0%	2,534.7	86	46%	Blower and flare down upon arrival and departure.
Monthly Summary		**17**	**3%**		**667**	**4**	**1%**		**305**	**46%**	
6/4/15 2:11 PM	63,252.2	1	1%	7.0	171	1	1%	2,613.2	79	46%	Blower and flare down upon arrival and departure.
6/12/15 1:35 PM	63,252.6	0	0%	7.0	191	0	0%	2,702.9	90	47%	Blower and flare down upon arrival and departure.
6/17/15 4:18 PM	63,253.1	1	0%	7.0	123	1	0%	2,757.9	55	45%	Blower and flare down upon arrival and departure.
6/24/15 2:45 PM	63,259.8	7	4%	6.0	166	7	4%	2,832.9	75	45%	Blower and flare down upon arrival and departure.
Monthly Summary		**9**	**1%**		**651**	**8**	**1%**		**298**	**46%**	
Annual Summary		**3886**	**45%**		**8690**	**3172**	**36%**		**2151**	**33%**	

* Current system configuration does not allow for notification when the f are goes down. Worst case scenario calculated assuming flare went down immediately following departure from site.

TABLE 6

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY GAS PROBE MONITORING RESULTS

Location	Date	Pressure (in. WC)	CH_4* (% LEL)	CH_4* (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas** (% Vol)	Comments
G-1S	7/16/14	0.00	--	**14.0**	0.0	13.6	72.4	
G-1S	8/28/14	0.00	--	**7.0**	0.0	14.8	78.2	
G-1S	9/25/14	0.00	--	**15.0**	0.0	16.6	68.4	
G-1S	10/23/14	0.00	--	**18.5**	0.0	17.2	64.3	RKI reading trace CH4 in background air at all locations.
G-1S	11/21/14	0.00	5.0	0.3	20.9	0.2	78.7	RKI reading trace CH4 in background air, increasingly with time.
G-1S	12/23/14	0.00	16.0	0.8	20.5	0.2	78.5	RKI reading trace CH4 in background air, increasingly with time.
G-1S	1/30/15	0.00	16.0	0.8	20.9	0.4	77.9	RKI reading trace CH4 in background air, increasingly with time.
G-1S	2/26/15	0.00	1.0	0.1	20.9	0.0	79.1	RKI reading trace CH4 in background air, increasingly with time.
G-1S	3/12/15	0.00	6.0	0.3	19.7	1.2	78.8	RKI reading trace CH4 in background air, increasingly with time.
G-1S	4/24/15	0.00	--	**20.0**	0.3	18.6	61.1	RKI reading trace CH4 in background air, increasingly with time.
G-1S	5/27/15	0.00	--	SV	17.5	4.2	--	Background CH4 reading greater than 5% vol; 11.0% CH4
G-1S	6/26/15	0.00	--	SV	0.2	21.8	--	Background CH4 reading greater than 5% vol; 42.0% CH4
G-1D	7/16/14	0.00	--	**12.5**	0.0	15.4	72.1	
G-1D	8/28/14	0.00	--	**5.0**	0.2	15.6	79.2	
G-1D	9/25/14	0.00	--	**12.0**	0.4	16.2	71.4	
G-1D	10/23/14	0.00	--	**9.0**	0.0	14.4	76.6	
G-1D	11/21/14	0.00	5.0	0.3	20.9	0.0	78.9	
G-1D	12/23/14	0.00	15.0	0.8	20.7	0.2	78.4	
G-1D	1/30/15	0.00	16.0	0.8	20.9	0.4	77.9	
G-1D	2/26/15	0.00	2.0	0.1	20.9	0.0	79.0	
G-1D	3/12/15	0.00	5.0	0.3	19.2	0.6	80.0	
G-1D	4/24/15	0.00	7.0	0.4	19.4	1.2	79.1	
G-1D	5/27/15	0.00	--	SV	20.9	0.0	--	Background CH4 reading greater than 5% vol; 7.0% CH4
G-1D	6/26/15	-0.10	--	SV	0.3	16.6	--	Background CH4 reading greater than 5% vol; 28.5% CH4
G-2S	7/16/14	0.00	--	**8.0**	0.2	16.8	75.0	
G-2S	8/28/14	0.00	--	**8.0**	0.2	16.8	75.0	
G-2S	9/25/14	0.00	--	7.5	0.6	16.6	75.3	
G-2S	10/23/14	0.00	--	**10.0**	0.2	17.6	72.2	
G-2S	11/21/14	0.00	5.0	0.3	20.9	0.0	78.9	
G-2S	12/23/14	0.00	8.0	0.4	20.9	0.0	78.7	
G-2S	1/30/15	0.00	14.0	0.7	20.9	0.4	78.0	
G-2S	2/26/15	0.00	2.0	0.1	20.9	0.0	79.0	
G-2S	3/12/15	0.00	2.0	0.1	8.1	9.8	82.0	
G-2S	4/24/15	0.00	6.0	0.3	20.9	0.2	78.6	
G-2S	5/27/15	0.00	44.0	2.2	19.6	0.8	77.4	Background CH4 27% LEL.
G-2S	6/26/15	0.00	--	SV	0.3	15.6	--	Background CH4 reading greater than 5% vol; 20.0% CH4
G-2D	7/16/14	0.00	3.0	0.2	16.7	3.2	80.0	
G-2D	8/28/14	0.00	0.0	0.0	17.7	2.0	80.3	
G-2D	9/25/14	0.00	2.0	0.1	11.7	5.8	82.4	
G-2D	10/23/14	0.00	13.0	0.7	13.5	4.4	81.5	
G-2D	11/21/14	0.00	5.0	0.3	20.9	0.0	78.9	
G-2D	12/23/14	0.00	8.0	0.4	20.9	0.2	78.5	
G-2D	1/30/15	0.00	15.0	0.8	20.9	0.4	78.0	
G-2D	2/26/15	0.00	2.0	0.1	20.9	0.0	79.0	
G-2D	3/12/15	0.00	3.0	0.2	20.9	0.2	78.8	
G-2D	4/24/15	0.00	6.0	0.3	20.9	1.8	77.0	
G-2D	5/27/15	0.00	29.0	1.5	8.6	7.6	82.4	
G-2D	6/26/15	0.00	--	**5.5**	14.5	2.8	77.2	MultiRAE confirmed CH4 > LEL
G-5	7/24/14	0.00	1.0	0.1	20.9	0.0	79.1	
G-5	8/28/14	0.00	1.0	0.1	10.7	9.4	79.9	
G-5	9/25/14	0.00	1.0	0.1	11.9	8.8	79.3	
G-5	10/23/14	0.00	11.0	0.6	10.3	9.2	80.0	

TABLE 6

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY GAS PROBE MONITORING RESULTS

Location	Date	Pressure	CH_4*		O_2	CO_2	Balance Gas**	Comments
		(in. WC)	(% LEL)	(% Vol)	(% Vol)	(% Vol)	(% Vol)	
G-5	11/21/14	0.00	6.0	0.3	17.0	3.4	79.3	
G-5	12/23/14	0.00	5.0	0.3	20.9	0.6	78.3	
G-5	1/30/15	0.00	14.0	0.7	20.9	0.4	78.0	
G-5	2/26/15	0.00	2.0	0.1	20.9	0.0	79.0	
G-5	3/12/15	0.00	3.0	0.2	20.9	0.0	79.0	
G-5	4/24/15	0.00	4.0	0.2	20.9	1.0	77.9	
G-5	5/27/15	0.00	--	SV	20.9	0.4	--	Background CH4 reading greater than 5% vol; 16.5% CH4
G-5	6/29/15	0.00	4.0	0.2	20.9	1.0	77.9	MultiRAE for CH4
G-6	7/16/14	0.00	2.0	0.1	20.3	0.4	79.2	
G-6	8/28/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-6	9/25/14	0.00	0.0	0.0	18.6	1.2	80.2	
G-6	10/23/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-6	11/21/14	0.00	0.0	0.0	19.7	1.4	78.9	
G-6	12/23/14	0.00	3.0	0.2	20.9	0.4	78.6	
G-6	1/30/15	0.00	4.0	0.2	21.0	0.0	78.8	
G-6	2/26/15	0.00	--	--	--	--	--	RKI reading unstable
G-6	3/12/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-6	4/24/15	0.00	0.0	0.0	20.6	0.4	79.0	
G-6	5/27/15	0.00	3.0	0.2	20.9	0.2	78.8	
G-6	6/26/15	0.00	0.0	0.0	19.1	0.0	80.9	MultiRAE for CH4
G-8	7/16/14	0.00	0.0	0.0	20.3	0.0	79.7	
G-8	8/28/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-8	9/25/14	0.00	0.0	0.0	20.5	0.0	79.5	
G-8	10/23/14	0.00	1.0	0.1	20.9	0.0	79.1	
G-8	11/21/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-8	12/23/14	0.00	1.0	0.1	20.9	0.0	79.1	
G-8	1/30/15	0.00	10.0	0.5	20.9	0.4	78.2	
G-8	2/26/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-8	3/12/15	0.00	1.0	0.1	19.3	0.0	80.7	
G-8	4/24/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-8	5/27/15	0.00	--	SV	18.6	1.4	--	Background CH4 reading greater than 5% vol; 17.5% CH4
G-8	6/26/15	0.00	0.0	0.0	17.0	0.0	83.0	MultiRAE for CH4
G-9	7/16/14	0.00	1.0	0.1	20.9	0.0	79.1	
G-9	8/28/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-9	9/25/14	0.00	2.0	0.1	20.9	0.0	79.0	
G-9	10/23/14	0.00	0.0	0.0	20.9	0.2	78.9	
G-9	11/21/14	0.00	0.0	0.0	18.6	1.6	79.8	
G-9	12/23/14	0.00	2.0	0.1	12.8	3.8	83.3	
G-9	1/30/15	0.00	12.0	0.6	21.0	0.6	77.8	
G-9	2/26/15	0.00	1.0	0.1	20.0	1.0	79.0	
G-9	3/12/15	0.00	2.0	0.1	20.9	0.2	78.8	
G-9	4/24/15	0.00	1.0	0.1	20.9	0.2	78.9	
G-9	5/27/15	0.00	17.0	0.9	20.9	0.2	78.1	Background CH4 16% LEL.
G-9	6/29/15	0.00	0.0	0.0	20.5	0.0	79.5	MultiRAE for CH4
G-10	7/16/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-10	8/28/14	0.00	0.0	0.0	20.5	0.2	79.3	
G-10	9/25/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-10	10/23/14	0.00	0.0	0.0	20.9	0.2	78.9	
G-10	11/21/14	0.00	0.0	0.0	20.9	0.0	79.1	
G-10	12/23/14	0.00	4.0	0.2	20.9	0.0	78.9	
G-10	1/30/15	0.00	6.0	0.3	21.0	0.2	78.5	
G-10	2/26/15	0.00	26.0	1.3	22.9	0.4	75.4	
G-10	3/12/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-10	4/24/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-10	5/27/15	0.00	3.0	0.2	20.9	0.0	79.0	
G-10	6/29/15	0.00	0.0	0.0	19.8	0.4	79.8	MultiRAE for CH4
GP-8	7/24/14	0.00	3.0	0.2	16.8	4.2	78.9	
GP-8	8/28/14	0.00	0.0	0.0	16.0	4.0	80.0	
GP-8	9/25/14	0.00	1.0	0.1	18.1	3.2	78.7	
GP-8	10/23/14	0.00	11.0	0.6	16.8	4.8	77.9	
GP-8	11/21/14	0.00	5.0	0.3	18.7	4.0	77.1	
GP-8	12/23/14	0.00	6.0	0.3	19.0	3.0	77.7	
GP-8	1/30/15	0.00	15.0	0.8	20.1	2.8	76.4	
GP-8	2/26/15	0.00	1.0	0.1	19.9	2.4	77.7	
GP-8	3/12/15	0.00	11.0	0.6	18.1	2.4	79.0	
GP-8	4/24/15	0.00	3.0	0.2	20.0	1.8	78.1	
GP-8	5/27/15	-0.25	13.0	0.7	14.2	0.0	85.2	
GP-8	6/29/15	0.00	6.0	0.3	16.8	3.2	79.7	MultiRAE for CH4

TABLE 6

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY GAS PROBE MONITORING RESULTS

Location	Date	Pressure	CH_4*		O_2	CO_2	Balance Gas**	Comments
		(in. WC)	(% LEL)	(% Vol)	(% Vol)	(% Vol)	(% Vol)	
GP-11S	7/16/14	0.00	85.0	4.3	0.4	12.0	83.4	
GP-11S	8/28/14	0.00	88.0	4.4	0.4	15.0	80.2	
GP-11S	9/25/14	0.00	56.0	2.8	0.6	14.8	81.8	
GP-11S	10/23/14	0.00	9.0	0.5	12.2	6.6	80.8	
GP-11S	11/21/14	0.00	3.0	0.2	20.9	0.4	78.6	
GP-11S	12/23/14	0.00	7.0	0.4	20.9	0.4	78.4	
GP-11S	1/30/15	0.00	15.0	0.8	20.9	0.4	78.0	
GP-11S	2/26/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-11S	3/12/15	0.00	2.0	0.1	20.9	0.2	78.8	
GP-11S	4/24/15	0.00	2.0	0.1	17.9	1.6	80.4	
GP-11S	5/27/15	0.00	22.0	1.1	8.2	6.4	84.3	Background CH4 22% LEL.
GP-11S	6/29/15	0.00	--	SV	1.5	14.0	--	Background CH4 reading greater than 5% vol; 15.0% CH4
GP-11D	7/16/14	0.00	--	**6.0**	1.6	12.8	79.6	
GP-11D	8/28/14	0.00	--	**6.5**	1.2	14.4	77.9	
GP-11D	9/25/14	0.00	--	**5.0**	2.7	14.2	78.1	
GP-11D	10/23/14	0.00	--	**6.0**	0.5	16.6	76.9	
GP-11D	11/21/14	0.00	3.0	0.2	20.9	0.2	78.8	
GP-11D	12/23/14	0.00	7.0	0.4	20.9	0.4	78.4	
GP-11D	1/30/15	0.00	15.0	0.8	20.9	0.4	78.0	
GP-11D	2/26/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-11D	3/12/15	0.00	2.0	0.1	20.9	0.2	78.8	
GP-11D	4/24/15	0.00	3.0	0.2	20.9	0.6	78.4	
GP-11D	5/27/15	0.00	83.0	4.2	6.2	10.0	79.7	
GP-11D	6/29/15	0.00	--	SV	2.4	16.6	--	Background CH4 reading greater than 5% vol; 16.5% CH4
GP-12S	7/24/14	0.00	3.0	0.2	18.4	2.2	79.2	
GP-12S	8/28/14	0.00	2.0	0.1	8.2	8.2	83.5	
GP-12S	9/25/14	0.00	1.0	0.1	15.0	4.4	80.6	
GP-12S	10/23/14	0.00	0.0	0.0	13.0	7.4	79.6	
GP-12S	11/21/14	0.00	5.0	0.3	18.2	2.4	79.2	
GP-12S	12/23/14	0.00	8.0	0.4	20.9	0.8	77.9	
GP-12S	1/30/15	0.00	13.0	0.7	21.2	0.6	77.6	
GP-12S	2/26/15	0.00	1.0	0.1	18.9	0.0	81.1	
GP-12S	3/12/15	0.00	2.0	0.1	20.9	0.2	78.8	
GP-12S	4/24/15	0.00	2.0	0.1	20.7	0.8	78.4	
GP-12S	5/27/15	-0.10	9.0	0.5	19.7	1.6	78.3	Background CH4 9% LEL.
GP-12S	6/29/15	0.00	--	**8.0**	3.4	9.8	78.8	MultiRAE confirmed CH4 > LEL
GP-12D	7/24/14	0.00	--	**6.5**	10.3	8.6	74.6	
GP-12D	8/28/14	0.05	--	**7.5**	10.2	10.2	72.1	
GP-12D	9/25/14	0.00	--	**15.0**	3.0	19.0	63.0	
GP-12D	10/23/14	0.00	--	**15.0**	4.5	18.2	62.3	
GP-12D	11/21/14	0.00	--	**17.0**	0.4	20.8	61.8	
GP-12D	12/23/14	0.00	--	**7.5**	12.0	7.6	72.9	
GP-12D	1/30/15	0.00	16.0	0.8	20.9	0.8	77.5	
GP-12D	2/26/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-12D	3/12/15	0.00	3.0	0.2	20.9	0.2	78.8	
GP-12D	4/24/15	0.00	3.0	0.2	20.9	0.6	78.4	
GP-12D	5/27/15	-0.10	--	**5.5**	10.2	7.8	76.5	
GP-12D	6/29/15	0.05	--	**22.0**	11.6	16.6	49.8	MultiRAE confirmed CH4 > LEL
GP-13S	7/24/14	0.00	2.0	0.1	19.1	0.0	80.8	
GP-13S	8/28/14	0.00	2.0	0.1	20.0	0.0	79.9	
GP-13S	9/25/14	0.00	1.0	0.1	19.3	0.0	80.7	
GP-13S	10/23/14	0.00	0.0	0.0	20.9	0.2	78.9	
GP-13S	11/21/14	0.00	5.0	0.3	20.9	0.0	78.9	
GP-13S	12/23/14	0.00	7.0	0.4	20.8	0.4	78.5	
GP-13S	1/30/15	0.00	15.0	0.8	20.9	0.6	77.8	
GP-13S	2/26/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-13S	3/12/15	0.00	4.0	0.2	20.9	0.2	78.7	
GP-13S	4/24/15	0.00	2.0	0.1	19.0	1.0	79.9	
GP-13S	5/27/15	0.00	9.0	0.5	14.6	2.8	82.2	
GP-13S	6/29/15	0.00	0.0	0.0	3.7	6.6	89.7	MultiRAE for CH4
GP-13D	7/24/14	0.00	14.0	0.7	8.5	7.6	83.2	
GP-13D	8/28/14	0.00	22.0	1.1	8.8	8.0	82.1	

TABLE 6

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY GAS PROBE MONITORING RESULTS

Location	Date	Pressure (in. WC)	CH_4* (% LEL)	CH_4* (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas** (% Vol)	Comments
GP-13D	9/25/14	0.00	25.0	1.3	13.0	5.0	80.8	
GP-13D	10/23/14	0.00	30.0	1.5	17.0	3.4	78.1	
GP-13D	11/21/14	0.00	5.0	0.3	20.9	0.0	78.9	
GP-13D	12/23/14	0.00	7.0	0.4	20.9	0.0	78.8	
GP-13D	1/30/15	0.00	15.0	0.8	20.9	0.4	78.0	
GP-13D	2/26/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-13D	3/12/15	0.00	5.0	0.3	20.9	0.2	78.7	
GP-13D	4/24/15	0.00	2.0	0.1	20.9	0.2	78.8	
GP-13D	5/27/15	0.00	7.0	0.4	11.5	4.2	84.0	
GP-13D	6/29/15	0.00	14.0	0.7	9.4	5.2	84.7	MultiRAE for CH4
GPW-1S	7/16/14	0.00	1.0	0.1	18.9	1.4	79.7	
GPW-1S	8/28/14	0.00	0.0	0.0	19.1	1.8	79.1	
GPW-1S	9/25/14	0.00	3.0	0.2	17.5	3.0	79.4	
GPW-1S	10/23/14	0.00	0.0	0.0	17.9	3.0	79.1	
GPW-1S	11/21/14	0.00	0.0	0.0	18.8	2.2	79.0	
GPW-1S	12/23/14	0.00	6.0	0.3	18.8	2.8	78.1	
GPW-1S	1/30/15	0.00	9.0	0.5	20.2	2.2	77.2	
GPW-1S	2/26/15	0.00	0.0	0.0	20.9	0.0	79.1	
GPW-1S	3/12/15	0.00	0.0	0.0	19.4	1.6	79.0	
GPW-1S	4/24/15	0.00	0.0	0.0	20.8	1.0	78.2	
GPW-1S	5/27/15	0.00	3.0	0.2	19.9	1.6	78.4	
GPW-1S	6/26/15	0.00	0.0	0.0	18.5	2.0	79.5	MultiRAE for CH4
GPW-1M	7/16/14	0.00	1.0	0.1	20.9	0.0	79.1	
GPW-1M	8/28/14	0.45	0.0	0.0	19.3	1.0	79.7	
GPW-1M	9/25/14	0.20	3.0	0.2	18.0	2.2	79.7	
GPW-1M	10/23/14	0.25	1.0	0.1	19.4	1.4	79.2	
GPW-1M	11/21/14	0.35	0.0	0.0	20.9	0.0	79.1	
GPW-1M	12/23/14	0.20	6.0	0.3	19.4	1.6	78.7	
GPW-1M	1/30/15	-0.95	9.0	0.5	21.1	0.4	78.1	
GPW-1M	2/26/15	-0.35	0.0	0.0	19.0	1.8	79.2	
GPW-1M	3/12/15	0.10	1.0	0.1	19.0	1.6	79.4	
GPW-1M	4/24/15	0.35	0.0	0.0	19.8	1.2	79.0	
GPW-1M	5/27/15	-0.70	3.0	0.2	20.9	0.0	79.0	
GPW-1M	6/26/15	0.00	0.0	0.0	20.9	0.0	79.1	MultiRAE for CH4
GPW-1D	7/16/14	0.05	1.0	0.1	18.5	1.4	80.1	
GPW-1D	8/28/14	0.50	0.0	0.0	18.1	2.6	79.3	
GPW-1D	9/25/14	0.25	4.0	0.2	16.8	3.2	79.8	
GPW-1D	10/23/14	0.30	1.0	0.1	17.3	3.2	79.5	
GPW-1D	11/21/14	0.35	0.0	0.0	18.1	2.6	79.3	
GPW-1D	12/23/14	0.20	7.0	0.4	18.9	2.2	78.6	
GPW-1D	1/30/15	-1.00	9.0	0.5	19.2	2.6	77.8	
GPW-1D	2/26/15	-0.35	0.0	0.0	19.0	2.0	79.0	
GPW-1D	3/12/15	0.10	1.0	0.1	18.7	2.0	79.3	
GPW-1D	4/24/15	0.40	1.0	0.1	19.9	1.4	78.7	
GPW-1D	5/27/15	-0.75	3.0	0.2	20.9	0.0	79.0	
GPW-1D	8/26/15	-0.10	0.0	0.0	18.7	1.4	79.9	MultiRAE for CH4
Speedway Buildings	7/16/14		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	8/28/14		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	9/25/14		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	10/23/14		0.0	0.0	20.2	0.2	79.6	
Speedway Buildings	11/21/14		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	12/23/14		15.0	0.8	20.7	0.2	78.4	
Speedway Buildings	1/30/15		15.0	0.8	20.9	0.4	78.0	
Speedway Buildings	2/26/15		2.0	0.1	20.9	0.0	79.0	
Speedway Buildings	3/12/15		3.0	0.2	20.9	0.0	79.0	
Speedway Buildings	4/24/15		7.0	0.4	20.9	0.2	78.6	
Speedway Buildings	5/27/15		--	SV	20.9	0.0	--	Background CH4 greater than 5% vol.; 6.5% CH4.
Speedway Buildings	6/26/15		--	0.0	20.9	0.0	79.1	MultiRAE for CH4

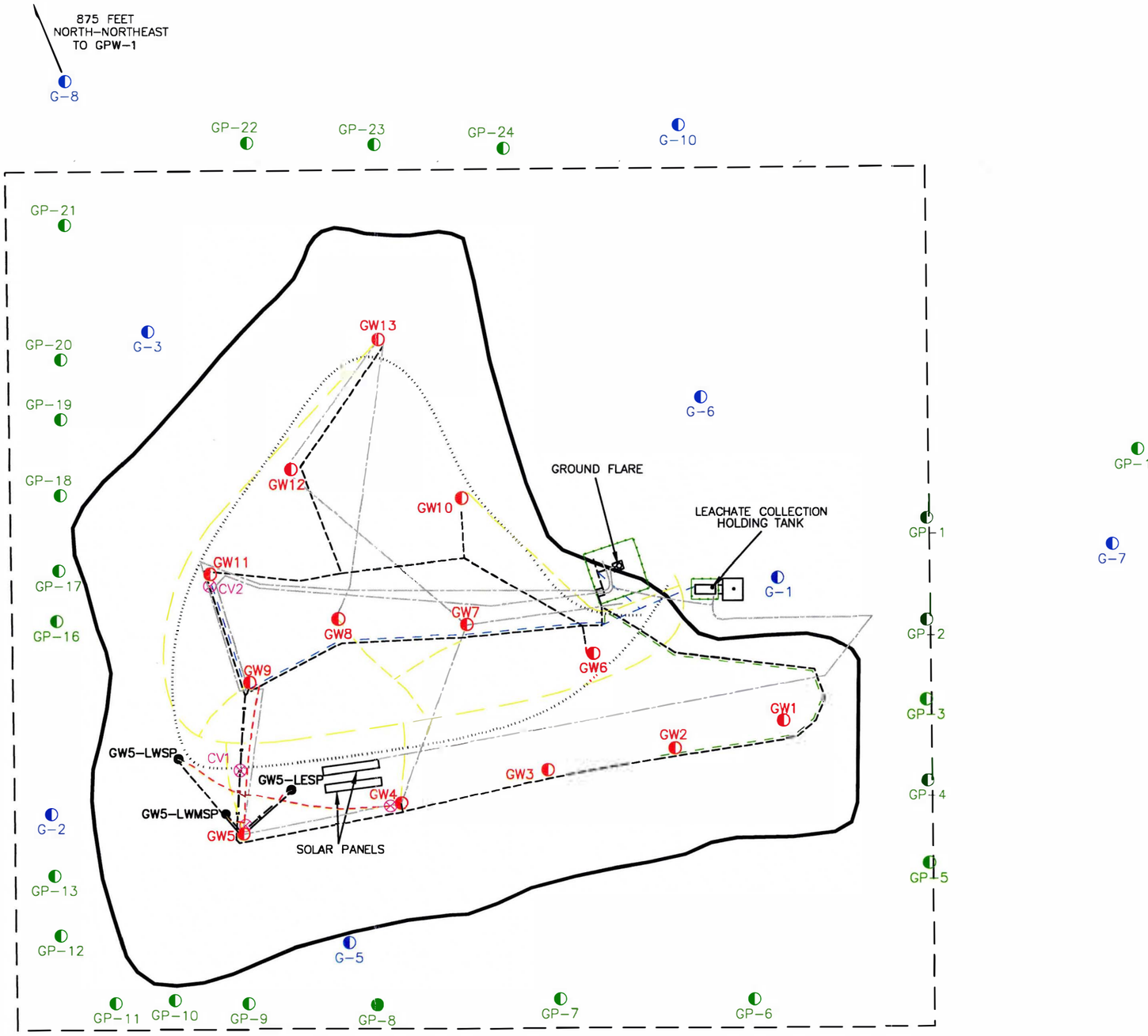
% LEL: Percent of lower explosive limit.
% Vol: Percent volume.
*; Percent volume calculated as % LEL/20.
**; Balance gas calculated as 100% - (%CH_4+%CO_2+%O_2).
in. WC: Inches of water column.
20.0: Bold values indicate methane concentrations greater than the lower explosive limit (5% volume) in landfill perimeter gas probes located near the property line or in the vicinity of Speedway buildings.

in WC: Inches of water column.
SV: Suspect values with RKI sensor malfunction.

FIGURES

LEGEND

- GW9 — LEACHATE/GAS EXTRACTION WELL LOCATION
- G-8 — GAS PROBE LOCATION ("G" SERIES)
- GP-16 — GAS PROBE LOCATION ("GP" SERIES)
- GW5-LWSP — LATERAL WELL SAMPLE PORT LOCATION
- CV1 — CONTROL VALVE LOCATION
- PROPERTY BOUNDARY
- FILL LIMITS
- GAS HEADER PIPE
- LEACHATE CONVEYANCE PIPE
- LEACHATE CONVEYANCE PIPE (NEVER PUT IN SERVICE)
- FENCE LINE
- ACCESS ROAD
- ELECTRICAL
- AIR LINE
- NEW GAS HEADER PIPING
- PIPING NO LONGER CONNECTED TO LFG COLLECTION NETWORK



N

0 180

SCALE IN FEET

NOTE: ALL LOCATIONS ARE APPROXIMATE

NOTE: FENCES AROUND WELLHEADS ARE NOT SHOWN. FENCE ENCLOSURES MEASURING 4'x7' ARE LOCATED AT ALL LEACHATE/GAS EXTRACTION WELL LOCATIONS.

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WI

SITE MAP

FILE: PM_SOUTH-BRANCH.dwg | DATE: November 2015 | FIGURE: 1

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and Environmental Engineering Services
5957 McKee Road, Suite 7
Madison, WI 53719
608.310.7675

REVISED 5/14

FIGURE 2

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEWAY LANDFILL
MIDDLETON, WISCONSIN

ANNUAL LEACHATE COLLECTION VOLUME (2007-2015)

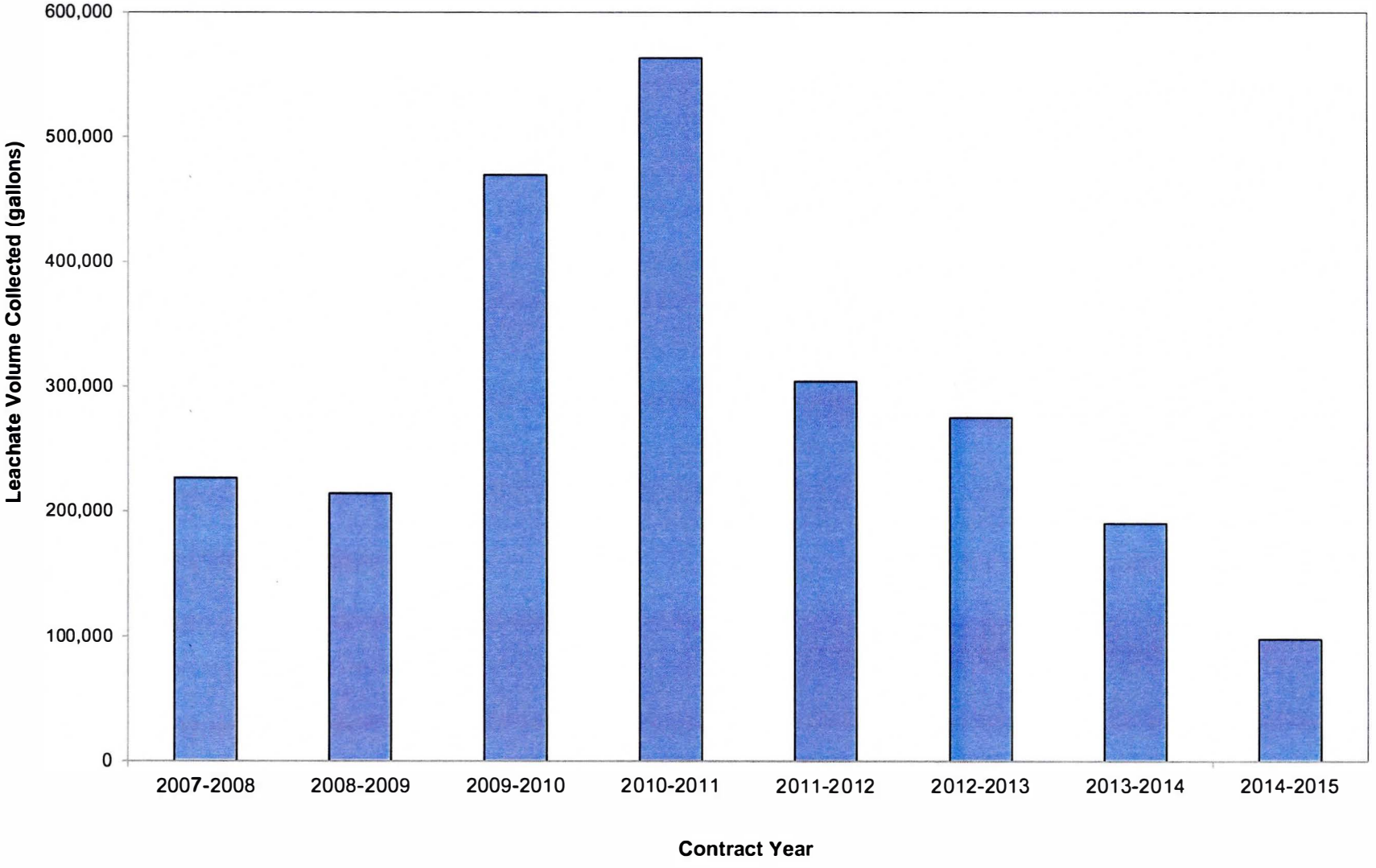
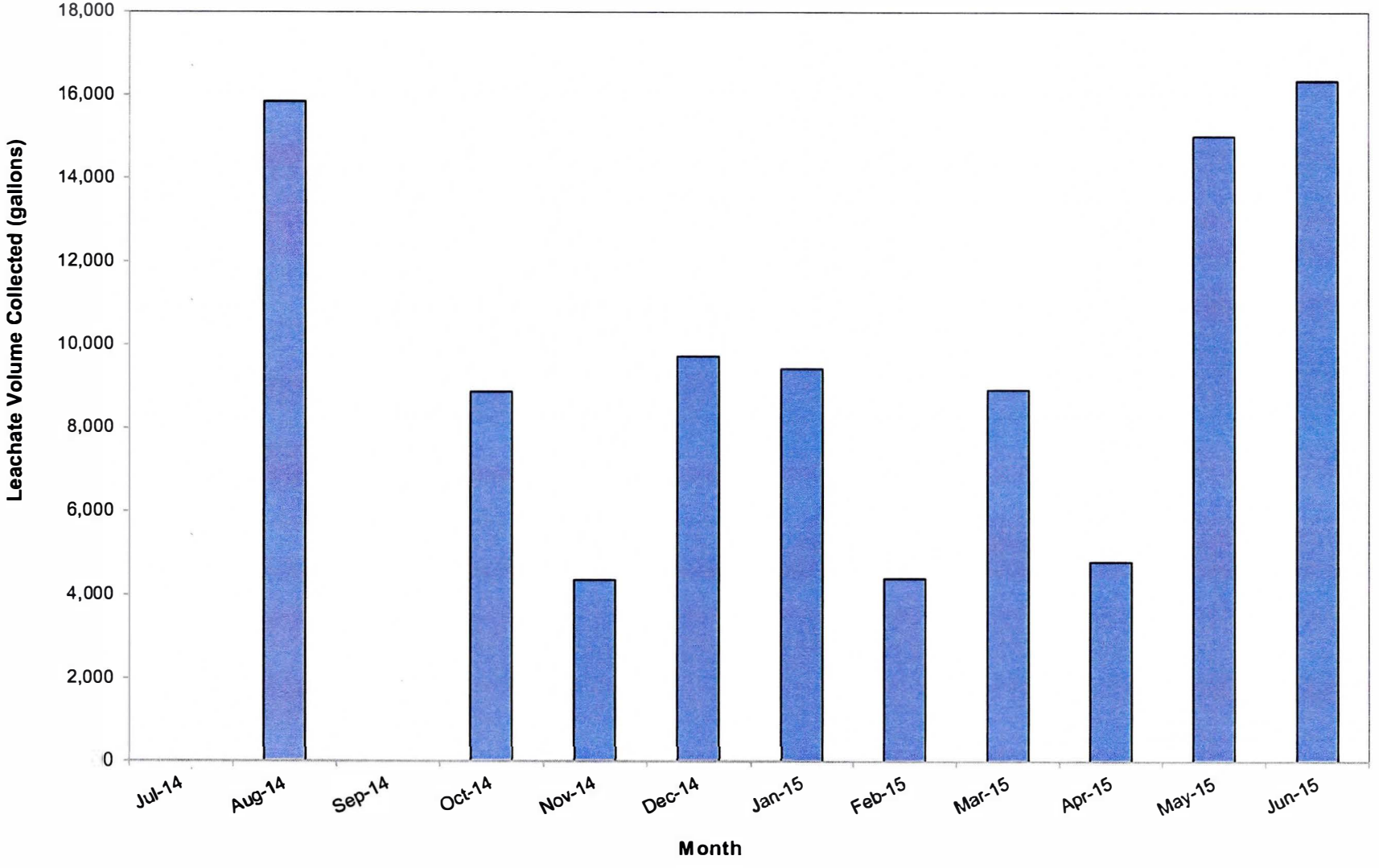


FIGURE 3

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY LEACHATE COLLECTION VOLUME (JULY 2014-JUNE 2015)



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

G:\GIS\Refuse_Hideaway\maps\g3refuse01f.mxd, 10/9/2015, 3:40:52 PM, NAD 1983 UTM Zone 16N

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and
Environmental Engineering Services
8 Pine Tree Drive, Suite 250
St. Paul, Minnesota 55112
(651) 490-1405

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

SITE GAS WELLS/PROBES

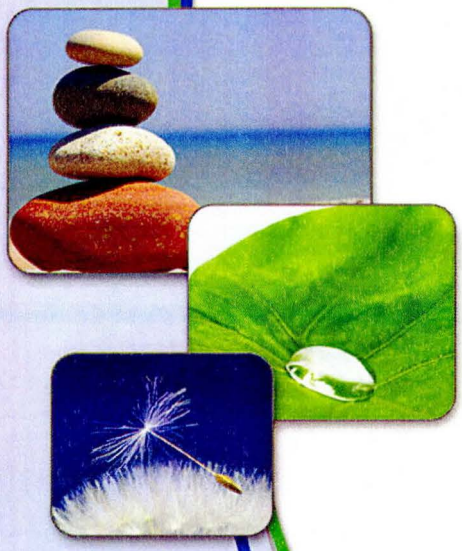
FILE: g3refuse01f.MXD	DATE: 10/9/2015	FIGURE: 4

APPENDIX I

LEACHATE LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-84716-1
Client Project/Site: Refuse Hideaway Landfill

For:
Leggette, Brashears & Graham, Inc.
6409 Odana Road
Suite 11
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Sandie Fredrick

Authorized for release by:
9/30/2014 10:12:59 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

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Table of Contents

Case Narrative

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Job ID: 500-84716-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-84716-1

Comments
No additional comments.

Receipt
The sample was received on 9/24/2014 10:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.4° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Client Sample ID: Leachate

Lab Sample ID: 500-84716-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00050	J	0.0020	0.00026	mg/L	1		6010B	Total/NA
Chromium	0.0065	J	0.010	0.0010	mg/L	1		6010B	Total/NA
Copper	0.016		0.010	0.0019	mg/L	1		6010B	Total/NA
Lead	0.0062		0.0050	0.0023	mg/L	1		6010B	Total/NA
Molybdenum	0.0025	J	0.010	0.0021	mg/L	1		6010B	Total/NA
Nickel	0.011		0.010	0.0012	mg/L	1		6010B	Total/NA
Zinc	0.048	B	0.020	0.0025	mg/L	1		6010B	Total/NA
Cyanide, Total	0.0054	J B	0.010	0.0012	mg/L	1		SM 4500 CN E	Total/NA

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This Detection Summary does not include radiochemical test results.

Method Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 3500 CR B	Chromium, Hexavalent	SM	TAL CHI
SM 4500 CN E	Cyanide, Total	SM	TAL CHI

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Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-84716-1	Leachate	Water	09/23/14 16:25	09/24/14 10:30

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Client Sample ID: Leachate
Date Collected: 09/23/14 16:25
Date Received: 09/24/14 10:30

Lab Sample ID: 500-84716-1
Matrix: Water

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Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00050	J	0.0020	0.00026	mg/L		09/25/14 07:55	09/25/14 19:04	1
Chromium	0.0065	J	0.010	0.0010	mg/L		09/25/14 07:55	09/25/14 19:04	1
Copper	0.016		0.010	0.0019	mg/L		09/25/14 07:55	09/25/14 19:04	1
Lead	0.0062		0.0050	0.0023	mg/L		09/25/14 07:55	09/25/14 19:04	1
Molybdenum	0.0025	J	0.010	0.0021	mg/L		09/25/14 07:55	09/25/14 19:04	1
Nickel	0.011		0.010	0.0012	mg/L		09/25/14 07:55	09/25/14 19:04	1
Selenium	<0.0046		0.010	0.0046	mg/L		09/25/14 07:55	09/25/14 19:04	1
Silver	<0.00057		0.0050	0.00057	mg/L		09/25/14 07:55	09/25/14 19:04	1
Zinc	0.048	B	0.020	0.0025	mg/L		09/25/14 07:55	09/26/14 23:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.072		0.20	0.072	ug/L		09/24/14 12:00	09/25/14 09:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			09/24/14 12:27	1
Cyanide, Total	0.0054	J B	0.010	0.0012	mg/L		09/26/14 12:05	09/26/14 17:57	1

Definitions/Glossary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Metals

Prep Batch: 255997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	7470A	
LCS 500-255997/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-255997/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 256167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	3010A	
500-84716-1 DU	Leachate	Total/NA	Water	3010A	
500-84716-1 MS	Leachate	Total/NA	Water	3010A	
500-84716-1 MSD	Leachate	Total/NA	Water	3010A	
LCS 500-256167/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-256167/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 256202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	7470A	255997
LCS 500-255997/13-A	Lab Control Sample	Total/NA	Water	7470A	255997
MB 500-255997/12-A	Method Blank	Total/NA	Water	7470A	255997

Analysis Batch: 256338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	6010B	256167
500-84716-1 DU	Leachate	Total/NA	Water	6010B	256167
500-84716-1 MS	Leachate	Total/NA	Water	6010B	256167
500-84716-1 MSD	Leachate	Total/NA	Water	6010B	256167
LCS 500-256167/2-A	Lab Control Sample	Total/NA	Water	6010B	256167
MB 500-256167/1-A	Method Blank	Total/NA	Water	6010B	256167

Analysis Batch: 256578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	6010B	256167
500-84716-1 DU	Leachate	Total/NA	Water	6010B	256167
500-84716-1 MS	Leachate	Total/NA	Water	6010B	256167
500-84716-1 MSD	Leachate	Total/NA	Water	6010B	256167
LCS 500-256167/2-A	Lab Control Sample	Total/NA	Water	6010B	256167
MB 500-256167/1-A	Method Blank	Total/NA	Water	6010B	256167

General Chemistry

Analysis Batch: 255999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	SM 3500 CR B	
LCS 500-255999/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
LCSD 500-255999/5	Lab Control Sample Dup	Total/NA	Water	SM 3500 CR B	
MB 500-255999/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Prep Batch: 256426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	Distill/CN	
LCS 500-256426/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	

General Chemistry (Continued)

Prep Batch: 256426 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-256426/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 256498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-84716-1	Leachate	Total/NA	Water	SM 4500 CN E	256426
LCS 500-256426/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	256426
MB 500-256426/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	256426

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-256167/1-A
Matrix: Water
Analysis Batch: 256338

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256167

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00026		0.0020	0.00026	mg/L		09/25/14 07:55	09/25/14 18:56	1
Chromium	<0.0010		0.010	0.0010	mg/L		09/25/14 07:55	09/25/14 18:56	1
Copper	<0.0019		0.010	0.0019	mg/L		09/25/14 07:55	09/25/14 18:56	1
Lead	<0.0023		0.0050	0.0023	mg/L		09/25/14 07:55	09/25/14 18:56	1
Molybdenum	<0.0021		0.010	0.0021	mg/L		09/25/14 07:55	09/25/14 18:56	1
Nickel	<0.0012		0.010	0.0012	mg/L		09/25/14 07:55	09/25/14 18:56	1
Selenium	<0.0046		0.010	0.0046	mg/L		09/25/14 07:55	09/25/14 18:56	1
Silver	<0.00057		0.0050	0.00057	mg/L		09/25/14 07:55	09/25/14 18:56	1

Lab Sample ID: MB 500-256167/1-A
Matrix: Water
Analysis Batch: 256578

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256167

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.00580	J	0.020	0.0025	mg/L		09/25/14 07:55	09/26/14 23:04	1

Lab Sample ID: LCS 500-256167/2-A
Matrix: Water
Analysis Batch: 256338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0490		mg/L		98	80 - 120
Chromium	0.200	0.202		mg/L		101	80 - 120
Copper	0.250	0.252		mg/L		101	80 - 120
Lead	0.100	0.103		mg/L		103	80 - 120
Molybdenum	1.00	1.04		mg/L		104	80 - 120
Nickel	0.500	0.510		mg/L		102	80 - 120
Selenium	0.100	0.0888		mg/L		89	80 - 120
Silver	0.0500	0.0486		mg/L		97	80 - 120

Lab Sample ID: LCS 500-256167/2-A
Matrix: Water
Analysis Batch: 256578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	0.500	0.499		mg/L		100	80 - 120

Lab Sample ID: 500-84716-1 MS
Matrix: Water
Analysis Batch: 256338

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.00050	J	0.0500	0.0528		mg/L		105	75 - 125
Chromium	0.0065	J	0.200	0.203		mg/L		98	75 - 125
Copper	0.016		0.250	0.278		mg/L		105	75 - 125
Lead	0.0062		0.100	0.112		mg/L		106	75 - 125
Molybdenum	0.0025	J	1.00	1.07		mg/L		107	75 - 125
Nickel	0.011		0.500	0.555		mg/L		109	75 - 125
Selenium	<0.0046		0.100	0.0419	F1	mg/L		42	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-84716-1 MS
Matrix: Water
Analysis Batch: 256338

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	<0.00057		0.0500	0.0496		mg/L		99	75 - 125

Lab Sample ID: 500-84716-1 MS
Matrix: Water
Analysis Batch: 256578

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	0.048	B	0.500	0.545		mg/L		99	75 - 125

Lab Sample ID: 500-84716-1 MSD
Matrix: Water
Analysis Batch: 256338

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.00050	J	0.0500	0.0520		mg/L		103	75 - 125	1	20
Chromium	0.0065	J	0.200	0.211		mg/L		102	75 - 125	4	20
Copper	0.016		0.250	0.287		mg/L		109	75 - 125	3	20
Lead	0.0062		0.100	0.111		mg/L		105	75 - 125	1	20
Molybdenum	0.0025	J	1.00	1.06		mg/L		105	75 - 125	2	20
Nickel	0.011		0.500	0.546		mg/L		107	75 - 125	2	20
Selenium	<0.0046		0.100	0.0435	F1	mg/L		43	75 - 125	4	20
Silver	<0.00057		0.0500	0.0512		mg/L		102	75 - 125	3	20

Lab Sample ID: 500-84716-1 MSD
Matrix: Water
Analysis Batch: 256578

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Zinc	0.048	B	0.500	0.541		mg/L		99	75 - 125	1	20

Lab Sample ID: 500-84716-1 DU
Matrix: Water
Analysis Batch: 256338

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cadmium	0.00050	J	0.000414	J	mg/L		18	20
Chromium	0.0065	J	0.00564	J	mg/L		14	20
Copper	0.016		0.0172		mg/L		8	20
Lead	0.0062		0.00385	J	mg/L		46	20
Molybdenum	0.0025	J	<0.0021		mg/L		NC	20
Nickel	0.011		0.0112		mg/L		2	20
Selenium	<0.0046		<0.0046		mg/L		NC	20
Silver	<0.00057		<0.00057		mg/L		NC	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-84716-1 DU
Matrix: Water
Analysis Batch: 256578

Client Sample ID: Leachate
Prep Type: Total/NA
Prep Batch: 256167

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Zinc	0.048	B	0.0475		mg/L		0.8	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-255997/12-A
Matrix: Water
Analysis Batch: 256202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 255997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.072		0.20	0.072	ug/L		09/24/14 12:00	09/25/14 09:35	1

Lab Sample ID: LCS 500-255997/13-A
Matrix: Water
Analysis Batch: 256202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 255997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.11		ug/L		105	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-255999/3
Matrix: Water
Analysis Batch: 255999

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			09/24/14 12:23	1

Lab Sample ID: LCS 500-255999/4
Matrix: Water
Analysis Batch: 255999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.250	0.244		mg/L		98	85 - 115

Lab Sample ID: LCSD 500-255999/5
Matrix: Water
Analysis Batch: 255999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.250	0.246		mg/L		98	85 - 115	1	20

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-256426/1-A
Matrix: Water
Analysis Batch: 256498

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.00210	J	0.010	0.0012	mg/L		09/26/14 12:05	09/26/14 17:55	1

Lab Sample ID: LCS 500-256426/2-A
Matrix: Water
Analysis Batch: 256498

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.111		mg/L		111	80 - 120

Lab Chronicle

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Client Sample ID: Leachate
Date Collected: 09/23/14 16:25
Date Received: 09/24/14 10:30

Lab Sample ID: 500-84716-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			256167	09/25/14 07:55	KCC	TAL CHI
Total/NA	Analysis	6010B		1	256578	09/26/14 23:17	KML	TAL CHI
Total/NA	Prep	3010A			256167	09/25/14 07:55	KCC	TAL CHI
Total/NA	Analysis	6010B		1	256338	09/25/14 19:04	PJ1	TAL CHI
Total/NA	Prep	7470A			255997	09/24/14 12:00	RLL	TAL CHI
Total/NA	Analysis	7470A		1	256202	09/25/14 09:50	RLL	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	255999		JAP	TAL CHI
					(Start)	09/24/14 12:27		
					(End)	09/24/14 12:29		
Total/NA	Prep	Distill/CN			256426	09/26/14 12:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	256498		EAT	TAL CHI
					(Start)	09/26/14 17:57		
					(End)	09/26/14 17:58		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Certification Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-84716-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-15 *

* Certification renewal pending - certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-84716 COC

Chain of Custody Record

Lab Job #: 500-84716

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 1.4

Report To (optional)		Bill To (optional)	
Contact:	J. Shelton	Contact:	J. Shelton
Company:	LBG	Company:	LBG
Address:		Address:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Client: LBG	Client Project #:	Preservative:	HNO_3 / NaOH / 1
Project Name: Refuse Hideaway Landfill		Parameter:	Metals/Mercury / Cyanide / Hex. Chrome
Project Location/State: Middleton, WI	Lab Project #:		
Sampler: Charles Burgis	Lab PM:		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Metals/Mercury	Cyanide	Hex. Chrome	Comments
1		Leachate	9-23-14	1625	3	L	X	X	X	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	LBG	9-23-14	1656	[signature] Scott	TA-CHI	9/24/14	1030

Lab Courier: _____

Shipped: FedEx

Hand Delivered: _____

Matrix Key

WW - Wastewater	SE - Sediment
W - Water	SO - Soil
S - Soil	L - Leachate
SL - Sludge	WI - Wipe
MS - Miscellaneous	DW - Drinking Water
OL - Oil	O - Other
A - Air	

Client Comments: Metals: Cadmium, Chromium, Copper, Lead, Selenium, Silver, Zinc, Molybdenum, Nickel

Lab Comments:

Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-84716-1

Login Number: 84716
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-89600-1
Client Project/Site: Refuse Hideaway LF

For:
Leggette, Brashears & Graham, Inc.
6409 Odana Road
Suite 11
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Sandie Fredrick

Authorized for release by:
12/29/2014 1:17:21 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

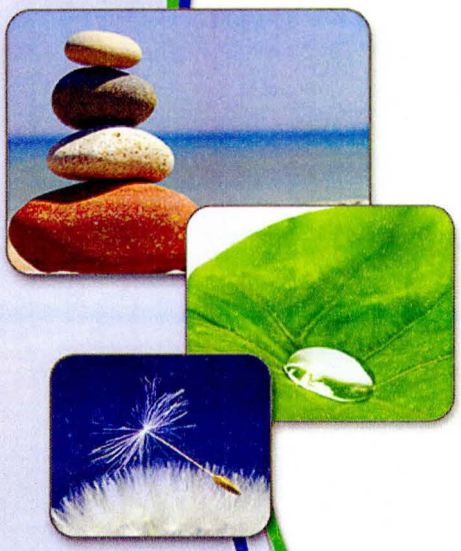

Table of Contents

Case Narrative

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Job ID: 500-89600-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-89600-1

Comments
No additional comments.

Receipt
The sample was received on 12/17/2014 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0° C.

Metals
Method(s) 6010B: The interference check standard solution (ICSA) associated with AD batch 270262 had results for Se above the reporting limit (RL). Associated sample 500-89600-1 was a non-detect for Se, therefore the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Client Sample ID: Leachate

Lab Sample ID: 500-89600-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00034	J B	0.0020	0.00026	mg/L	1		6010B	Total/NA
Chromium	0.0065	J B	0.010	0.0010	mg/L	1		6010B	Total/NA
Copper	0.0042	J	0.010	0.0019	mg/L	1		6010B	Total/NA
Molybdenum	0.0022	J	0.010	0.0021	mg/L	1		6010B	Total/NA
Nickel	0.028		0.010	0.0012	mg/L	1		6010B	Total/NA
Silver	0.0011	J	0.0050	0.00057	mg/L	1		6010B	Total/NA
Zinc	0.016	J B	0.020	0.0025	mg/L	1		6010B	Total/NA
Cyanide, Total	0.0097	J	0.010	0.0012	mg/L	1		SM 4500 CN E	Total/NA

4

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 3500 CR B	Chromium, Hexavalent	SM	TAL CHI
SM 4500 CN E	Cyanide, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-89600-1	Leachate	Leachate	12/16/14 15:15	12/17/14 09:30

Client Sample Results

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Client Sample ID: Leachate

Date Collected: 12/16/14 15:15
Date Received: 12/17/14 09:30

Lab Sample ID: 500-89600-1

Matrix: Leachate

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00034	J B	0.0020	0.00026	mg/L		12/17/14 15:00	12/27/14 19:00	1
Chromium	0.0065	J B	0.010	0.0010	mg/L		12/17/14 15:00	12/27/14 19:00	1
Copper	0.0042	J	0.010	0.0019	mg/L		12/17/14 15:00	12/27/14 19:00	1
Lead	<0.0023		0.0050	0.0023	mg/L		12/17/14 15:00	12/27/14 19:00	1
Molybdenum	0.0022	J	0.010	0.0021	mg/L		12/17/14 15:00	12/27/14 19:00	1
Nickel	0.028		0.010	0.0012	mg/L		12/17/14 15:00	12/27/14 19:00	1
Selenium	<0.0046	^	0.010	0.0046	mg/L		12/17/14 15:00	12/27/14 19:00	1
Silver	0.0011	J	0.0050	0.00057	mg/L		12/17/14 15:00	12/27/14 19:00	1
Zinc	0.016	J B	0.020	0.0025	mg/L		12/17/14 15:00	12/27/14 19:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.072		0.20	0.072	ug/L		12/17/14 10:30	12/18/14 08:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			12/17/14 10:48	1
Cyanide, Total	0.0097	J	0.010	0.0012	mg/L		12/18/14 10:15	12/18/14 13:38	1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate errorratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Metals

Prep Batch: 268934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	7470A	
LCS 500-268934/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-268934/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 269045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	3010A	
LCS 500-269045/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-269045/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 269105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	7470A	268934
LCS 500-268934/13-A	Lab Control Sample	Total/NA	Water	7470A	268934
MB 500-268934/12-A	Method Blank	Total/NA	Water	7470A	268934

Analysis Batch: 270262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	6010B	269045
LCS 500-269045/2-A	Lab Control Sample	Total/NA	Water	6010B	269045
MB 500-269045/1-A	Method Blank	Total/NA	Water	6010B	269045

General Chemistry

Prep Batch: 269118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	Distill/CN	
LCS 500-269118/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-269118/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 269230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	SM 4500 CN E	269118
LCS 500-269118/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	269118
MB 500-269118/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	269118

Analysis Batch: 270051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-89600-1	Leachate	Total/NA	Leachate	SM 3500 CR B	
LCS 500-270051/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
MB 500-270051/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-269045/1-A
Matrix: Water
Analysis Batch: 270262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269045

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000403	J	0.0020	0.00026	mg/L		12/17/14 15:00	12/27/14 18:52	1
Chromium	0.00148	J	0.010	0.0010	mg/L		12/17/14 15:00	12/27/14 18:52	1
Copper	<0.0019		0.010	0.0019	mg/L		12/17/14 15:00	12/27/14 18:52	1
Lead	<0.0023		0.0050	0.0023	mg/L		12/17/14 15:00	12/27/14 18:52	1
Molybdenum	<0.0021		0.010	0.0021	mg/L		12/17/14 15:00	12/27/14 18:52	1
Nickel	<0.0012		0.010	0.0012	mg/L		12/17/14 15:00	12/27/14 18:52	1
Selenium	<0.0046	^	0.010	0.0046	mg/L		12/17/14 15:00	12/27/14 18:52	1
Silver	<0.00057		0.0050	0.00057	mg/L		12/17/14 15:00	12/27/14 18:52	1
Zinc	0.00663	J	0.020	0.0025	mg/L		12/17/14 15:00	12/27/14 18:52	1

Lab Sample ID: LCS 500-269045/2-A
Matrix: Water
Analysis Batch: 270262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269045

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0480		mg/L		96	80 - 120
Chromium	0.200	0.190		mg/L		95	80 - 120
Copper	0.250	0.239		mg/L		96	80 - 120
Lead	0.100	0.0973		mg/L		97	80 - 120
Molybdenum	1.00	0.997		mg/L		100	80 - 120
Nickel	0.500	0.493		mg/L		99	80 - 120
Selenium	0.100	0.0883	^	mg/L		88	80 - 120
Silver	0.0500	0.0466		mg/L		93	80 - 120
Zinc	0.500	0.479		mg/L		96	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-268934/12-A
Matrix: Water
Analysis Batch: 269105

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268934

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.072		0.20	0.072	ug/L		12/17/14 10:30	12/18/14 08:00	1

Lab Sample ID: LCS 500-268934/13-A
Matrix: Water
Analysis Batch: 269105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268934

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.16		ug/L		108	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-270051/3
Matrix: Water
Analysis Batch: 270051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			12/17/14 10:45	1

Lab Sample ID: LCS 500-270051/4
Matrix: Water
Analysis Batch: 270051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.250	0.250		mg/L		100	85 - 115

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-269118/1-A
Matrix: Water
Analysis Batch: 269230

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0012		0.010	0.0012	mg/L		12/18/14 10:15	12/18/14 13:35	1

Lab Sample ID: LCS 500-269118/2-A
Matrix: Water
Analysis Batch: 269230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0834		mg/L		83	80 - 120

Lab Chronicle

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Client Sample ID: Leachate
Date Collected: 12/16/14 15:15
Date Received: 12/17/14 09:30

Lab Sample ID: 500-89600-1
Matrix: Leachate

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			269045	12/17/14 15:00	PJH	TAL CHI
Total/NA	Analysis	6010B		1	270262	12/27/14 19:00	PJ1	TAL CHI
Total/NA	Prep	7470A			268934	12/17/14 10:30	RLL	TAL CHI
Total/NA	Analysis	7470A		1	269105	12/18/14 08:48	RLL	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	270051		LAJ	TAL CHI
						(Start) 12/17/14 10:48		
						(End) 12/17/14 10:49		
Total/NA	Prep	Distill/CN			269118	12/18/14 10:15	ELR	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	269230		ELR	TAL CHI
						(Start) 12/18/14 13:38		
						(End) 12/18/14 13:38		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Certification Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-89600-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-15 *

* Certification renewal pending - certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENT

2417 Bond Street, University Park, IL
Phone: 708.534.5200 Fax: 708.1

500-89600 COC

Chain of Custody Record

Lab Job#: 500-89600

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler:

Report To (optional)		Bill To (optional)	
Contact:	J. Shelton	Contact:	J. Shelton
Company:	LBG	Company:	LBG
Address:		Address:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Client	LBG	Client Project #		Preservative	HNO_3	NaOH	—							
Project Name	Refuse Hideaway Landfill			Parameter	metals/mercury	Cyanide	Hex. Chrome							
Project Location/State	Middleton, WI	Lab Project #												
Sampler	Charles Burgis	Lab PM												

Preservative Key
1. HCL, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix									Comments
1		Leachate	12-16-14	1515	3	L	X	X	X						

CRB

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	LBG	12-16-14	1545			12/17/14	0930

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments
Metals: Cadmium, Chromium, Copper, lead, Selenium, Silver, Zinc, Molybdenum, Nickel

Lab Comments:

TAL-4124-550 (1209)

12/29/2014

Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-89600-1

Login Number: 89600
List Number: 1
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-93268-1
Client Project/Site: Refuse Hideaway LF

For:
Leggette, Brashears & Graham, Inc.
6409 Odana Road
Suite 11
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Sandie Fredrick

Authorized for release by:
3/18/2015 4:19:05 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Job ID: 500-93268-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-93268-1

Comments
No additional comments.

Receipt
The sample was received on 3/13/2015 10:05 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.6° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Client Sample ID: Leachate

Lab Sample ID: 500-93268-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.013		0.010	0.0024	mg/L	1		6010B	Total/NA
Copper	0.0094	J	0.010	0.0022	mg/L	1		6010B	Total/NA
Lead	0.0032	J	0.0050	0.0025	mg/L	1		6010B	Total/NA
Nickel	0.032		0.010	0.0031	mg/L	1		6010B	Total/NA
Zinc	0.031		0.020	0.0093	mg/L	1		6010B	Total/NA
Cyanide, Total	0.0040	J	0.010	0.0012	mg/L	1		SM 4500 CN E	Total/NA

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This Detection Summary does not include radiochemical test results.

Method Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 3500 CR B	Chromium, Hexavalent	SM	TAL CHI
SM 4500 CN E	Cyanide, Total	SM	TAL CHI

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Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-93268-1	Leachate	Leachate	03/12/15 15:30	03/13/15 10:05

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Client Sample ID: Leachate
Date Collected: 03/12/15 15:30
Date Received: 03/13/15 10:05

Lab Sample ID: 500-93268-1
Matrix: Leachate

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		03/16/15 08:55	03/16/15 23:26	1
Chromium	0.013		0.010	0.0024	mg/L		03/17/15 15:30	03/18/15 14:37	1
Copper	0.0094	J	0.010	0.0022	mg/L		03/17/15 15:30	03/18/15 14:37	1
Lead	0.0032	J	0.0050	0.0025	mg/L		03/16/15 08:55	03/16/15 23:26	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		03/16/15 08:55	03/16/15 23:26	1
Nickel	0.032		0.010	0.0031	mg/L		03/16/15 08:55	03/16/15 23:26	1
Selenium	<0.0046		0.010	0.0046	mg/L		03/16/15 08:55	03/16/15 23:26	1
Silver	<0.0013		0.0050	0.0013	mg/L		03/16/15 08:55	03/16/15 23:26	1
Zinc	0.031		0.020	0.0093	mg/L		03/16/15 08:55	03/16/15 23:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.061		0.20	0.061	ug/L		03/16/15 11:40	03/17/15 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038	F1	0.010	0.0038	mg/L			03/13/15 11:47	1
Cyanide, Total	0.0040	J	0.010	0.0012	mg/L		03/16/15 13:50	03/16/15 16:41	1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 279823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	3010A	
LCS 500-279823/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-279823/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 279854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	7470A	
LCS 500-279854/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-279854/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 279956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	6010B	279823
LCS 500-279823/2-A	Lab Control Sample	Total/NA	Water	6010B	279823
MB 500-279823/1-A	Method Blank	Total/NA	Water	6010B	279823

Analysis Batch: 280062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	7470A	279854
LCS 500-279854/13-A	Lab Control Sample	Total/NA	Water	7470A	279854
MB 500-279854/12-A	Method Blank	Total/NA	Water	7470A	279854

Prep Batch: 280091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	3010A	
LCS 500-280091/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-280091/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 280239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	6010B	280091
LCS 500-280091/2-A	Lab Control Sample	Total/NA	Water	6010B	280091
MB 500-280091/1-A	Method Blank	Total/NA	Water	6010B	280091

General Chemistry

Analysis Batch: 279574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	SM 3500 CR B	
500-93268-1 MS	Leachate	Total/NA	Leachate	SM 3500 CR B	
500-93268-1 MSD	Leachate	Total/NA	Leachate	SM 3500 CR B	
LCS 500-279574/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
MB 500-279574/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Prep Batch: 279583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	Distill/CN	
LCS 500-279583/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-279583/1-A	Method Blank	Total/NA	Water	Distill/CN	

General Chemistry (Continued)

Analysis Batch: 279907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-93268-1	Leachate	Total/NA	Leachate	SM 4500 CN E	279583
LCS 500-279583/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	279583
MB 500-279583/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	279583

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Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-279823/1-A
Matrix: Water
Analysis Batch: 279956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		03/16/15 08:55	03/16/15 22:54	1
Lead	<0.0025		0.0050	0.0025	mg/L		03/16/15 08:55	03/16/15 22:54	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		03/16/15 08:55	03/16/15 22:54	1
Nickel	<0.0031		0.010	0.0031	mg/L		03/16/15 08:55	03/16/15 22:54	1
Selenium	<0.0046		0.010	0.0046	mg/L		03/16/15 08:55	03/16/15 22:54	1
Silver	<0.0013		0.0050	0.0013	mg/L		03/16/15 08:55	03/16/15 22:54	1
Zinc	<0.0093		0.020	0.0093	mg/L		03/16/15 08:55	03/16/15 22:54	1

Lab Sample ID: LCS 500-279823/2-A
Matrix: Water
Analysis Batch: 279956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279823

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0499		mg/L		100	80 - 120
Lead	0.100	0.0965		mg/L		96	80 - 120
Molybdenum	1.00	1.05		mg/L		105	80 - 120
Nickel	0.500	0.506		mg/L		101	80 - 120
Selenium	0.100	0.0851		mg/L		85	80 - 120
Silver	0.0500	0.0480		mg/L		96	80 - 120
Zinc	0.500	0.497		mg/L		99	80 - 120

Lab Sample ID: MB 500-280091/1-A
Matrix: Water
Analysis Batch: 280239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 280091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	<0.0024		0.010	0.0024	mg/L		03/17/15 15:30	03/18/15 13:37	1
Copper	<0.0022		0.010	0.0022	mg/L		03/17/15 15:30	03/18/15 13:37	1

Lab Sample ID: LCS 500-280091/2-A
Matrix: Water
Analysis Batch: 280239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 280091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.198		mg/L		99	80 - 120
Copper	0.250	0.257		mg/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-279854/12-A
Matrix: Water
Analysis Batch: 280062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279854

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.061		0.20	0.061	ug/L		03/16/15 11:40	03/17/15 11:14	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-279854/13-A
Matrix: Water
Analysis Batch: 280062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279854

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.22		ug/L		111	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-279574/3
Matrix: Water
Analysis Batch: 279574

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			03/13/15 11:46	1

Lab Sample ID: LCS 500-279574/4
Matrix: Water
Analysis Batch: 279574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.250	0.250		mg/L		100	85 - 115

Lab Sample ID: 500-93268-1 MS
Matrix: Leachate
Analysis Batch: 279574

Client Sample ID: Leachate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	<0.0038	F1	0.250	0.159	F1	mg/L		63	85 - 115

Lab Sample ID: 500-93268-1 MSD
Matrix: Leachate
Analysis Batch: 279574

Client Sample ID: Leachate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	<0.0038	F1	0.250	0.159	F1	mg/L		64	85 - 115	0	20

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-279583/1-A
Matrix: Water
Analysis Batch: 279907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279583

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0012		0.010	0.0012	mg/L		03/16/15 13:50	03/16/15 16:40	1

Lab Sample ID: LCS 500-279583/2-A
Matrix: Water
Analysis Batch: 279907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.109		mg/L		109	80 - 120

Lab Chronicle

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Client Sample ID: Leachate
Date Collected: 03/12/15 15:30
Date Received: 03/13/15 10:05

Lab Sample ID: 500-93268-1
Matrix: Leachate

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			279823	03/16/15 08:55	JLC	TAL CHI
Total/NA	Analysis	6010B		1	279956	03/16/15 23:26	PJ1	TAL CHI
Total/NA	Prep	3010A			280091	03/17/15 15:30	PJH	TAL CHI
Total/NA	Analysis	6010B		1	280239	03/18/15 14:37	KML	TAL CHI
Total/NA	Prep	7470A			279854	03/16/15 11:40	RLL	TAL CHI
Total/NA	Analysis	7470A		1	280062	03/17/15 11:50	RLL	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	279574		LAJ	TAL CHI
					(Start)	03/13/15 11:47		
					(End)	03/13/15 11:47		
Total/NA	Prep	Distill/CN			279583	03/16/15 13:50	ELR	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	279907		ELR	TAL CHI
					(Start)	03/16/15 16:41		
					(End)	03/16/15 16:42		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Certification Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway LF

TestAmerica Job ID: 500-93268-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.53

500-93268 COC

(optional)
Report To Contact: J. Shelton
Company: LBG
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To Contact: J. Shelton
Company: LBG
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

LabJob #: 500-93268
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 1.6

Client: LBG
Client Project #:
Project Name: Refuse Hideaway Landfill
Project Location/State: Middleton, WI
Lab Project #:
Sampler: Charles Burgis
Lab PM:

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	HNO3	NaOH	—							Comments
							Parameter	Metals/Mercury	Cyanide	Hex. Chrome							
1		Leachate	3-12-15	1530	3	L		X	X	X							

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

CRB

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	LBG	3-12-15	1615				1005
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped: Fed-X
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments
Metals: Cadmium, Chromium, Copper, lead, Selenium, Silver, Zinc, Molybdenum, Nickel

Lab Comments:

3/18/2015

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Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-93268-1

Login Number: 93268
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-97498-1
Client Project/Site: Refuse Hideaway Landfill

For:
Leggette, Brashears & Graham, Inc.
6409 Odana Road
Suite 11
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Therese Hargraves

Authorized for release by:
6/24/2015 3:24:51 PM
Therese Hargraves, Project Manager I
therese.hargraves@testamericainc.com

Designee for

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

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Table of Contents

Case Narrative

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Job ID: 500-97498-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-97498-1

Comments
No additional comments.

Receipt
The sample was received on 6/18/2015 10:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -1.4° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Client Sample ID: Leachate

Lab Sample ID: 500-97498-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0018	J	0.0020	0.00094	mg/L	1		6010B	Total/NA
Chromium	0.0091	J	0.010	0.0024	mg/L	1		6010B	Total/NA
Copper	0.0067	J	0.010	0.0022	mg/L	1		6010B	Total/NA
Lead	0.0031	J	0.0050	0.0025	mg/L	1		6010B	Total/NA
Nickel	0.022		0.010	0.0031	mg/L	1		6010B	Total/NA
Zinc	0.016	J	0.020	0.0093	mg/L	1		6010B	Total/NA
Cyanide, Total	0.0027	J	0.010	0.0012	mg/L	1		SM 4500 CN E	Total/NA

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This Detection Summary does not include radiochemical test results.

Method Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 3500 CR B	Chromium, Hexavalent	SM	TAL CHI
SM 4500 CN E	Cyanide, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-97498-1	Leachate	Leachate	06/17/15 17:00	06/18/15 10:30

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Client Sample ID: Leachate
Date Collected: 06/17/15 17:00
Date Received: 06/18/15 10:30

Lab Sample ID: 500-97498-1
Matrix: Leachate

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0018	J	0.0020	0.00094	mg/L		06/18/15 15:30	06/19/15 17:29	1
Chromium	0.0091	J	0.010	0.0024	mg/L		06/18/15 15:30	06/19/15 17:29	1
Copper	0.0067	J	0.010	0.0022	mg/L		06/18/15 15:30	06/19/15 17:29	1
Lead	0.0031	J	0.0050	0.0025	mg/L		06/18/15 15:30	06/19/15 17:29	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		06/18/15 15:30	06/19/15 17:29	1
Nickel	0.022		0.010	0.0031	mg/L		06/18/15 15:30	06/19/15 17:29	1
Selenium	<0.0046		0.010	0.0046	mg/L		06/18/15 15:30	06/19/15 17:29	1
Silver	<0.0013		0.0050	0.0013	mg/L		06/18/15 15:30	06/19/15 17:29	1
Zinc	0.016	J	0.020	0.0093	mg/L		06/18/15 15:30	06/19/15 17:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.061		0.20	0.061	ug/L		06/19/15 12:15	06/22/15 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			06/18/15 13:02	1
Cyanide, Total	0.0027	J	0.010	0.0012	mg/L		06/23/15 17:10	06/23/15 20:27	1

Definitions/Glossary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Metals

Prep Batch: 292537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	3010A	
LCS 500-292537/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-292537/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 292631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	7470A	
LCS 500-292631/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-292631/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 292715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	6010B	292537
LCS 500-292537/2-A	Lab Control Sample	Total/NA	Water	6010B	292537
MB 500-292537/1-A	Method Blank	Total/NA	Water	6010B	292537

Analysis Batch: 292829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	7470A	292631
LCS 500-292631/13-A	Lab Control Sample	Total/NA	Water	7470A	292631
MB 500-292631/12-A	Method Blank	Total/NA	Water	7470A	292631

General Chemistry

Analysis Batch: 292521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	SM 3500 CR B	
500-97498-1 MS	Leachate	Total/NA	Leachate	SM 3500 CR B	
LCS 500-292521/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
LCSD 500-292521/5	Lab Control Sample Dup	Total/NA	Water	SM 3500 CR B	
MB 500-292521/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Prep Batch: 293026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	Distill/CN	
LCS 500-293026/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-293026/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 293067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97498-1	Leachate	Total/NA	Leachate	SM 4500 CN E	293026
LCS 500-293026/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	293026
MB 500-293026/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	293026

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-292537/1-A
Matrix: Water
Analysis Batch: 292715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		06/18/15 15:30	06/19/15 15:18	1
Chromium	<0.0024		0.010	0.0024	mg/L		06/18/15 15:30	06/19/15 15:18	1
Copper	<0.0022		0.010	0.0022	mg/L		06/18/15 15:30	06/19/15 15:18	1
Lead	<0.0025		0.0050	0.0025	mg/L		06/18/15 15:30	06/19/15 15:18	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		06/18/15 15:30	06/19/15 15:18	1
Nickel	<0.0031		0.010	0.0031	mg/L		06/18/15 15:30	06/19/15 15:18	1
Selenium	<0.0046		0.010	0.0046	mg/L		06/18/15 15:30	06/19/15 15:18	1
Silver	<0.0013		0.0050	0.0013	mg/L		06/18/15 15:30	06/19/15 15:18	1
Zinc	<0.0093		0.020	0.0093	mg/L		06/18/15 15:30	06/19/15 15:18	1

Lab Sample ID: LCS 500-292537/2-A
Matrix: Water
Analysis Batch: 292715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0483		mg/L		97	80 - 120
Chromium	0.200	0.187		mg/L		93	80 - 120
Copper	0.250	0.247		mg/L		99	80 - 120
Lead	0.100	0.0971		mg/L		97	80 - 120
Molybdenum	1.00	1.00		mg/L		100	80 - 120
Nickel	0.500	0.477		mg/L		95	80 - 120
Selenium	0.100	0.0890		mg/L		89	80 - 120
Silver	0.0500	0.0445		mg/L		89	80 - 120
Zinc	0.500	0.454		mg/L		91	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-292631/12-A
Matrix: Water
Analysis Batch: 292829

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292631

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.061		0.20	0.061	ug/L		06/19/15 12:15	06/22/15 11:38	1

Lab Sample ID: LCS 500-292631/13-A
Matrix: Water
Analysis Batch: 292829

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292631

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.08		ug/L		104	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-292521/3
Matrix: Water
Analysis Batch: 292521

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0038		0.010	0.0038	mg/L			06/18/15 13:01	1

Lab Sample ID: LCS 500-292521/4
Matrix: Water
Analysis Batch: 292521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.250	0.275		mg/L		110	85 - 115

Lab Sample ID: LCSD 500-292521/5
Matrix: Water
Analysis Batch: 292521

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.250	0.276		mg/L		110	85 - 115	1	20

Lab Sample ID: 500-97498-1 MS
Matrix: Leachate
Analysis Batch: 292521

Client Sample ID: Leachate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	<0.0038		0.250	0.245		mg/L		98	85 - 115

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-293026/1-A
Matrix: Water
Analysis Batch: 293067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 293026

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0012		0.010	0.0012	mg/L		06/23/15 17:10	06/23/15 20:26	1

Lab Sample ID: LCS 500-293026/2-A
Matrix: Water
Analysis Batch: 293067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 293026

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.103		mg/L		103	80 - 120

Lab Chronicle

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Client Sample ID: Leachate

Date Collected: 06/17/15 17:00
Date Received: 06/18/15 10:30

Lab Sample ID: 500-97498-1

Matrix: Leachate

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			292537	06/18/15 15:30	PJH	TAL CHI
Total/NA	Analysis	6010B		1	292715	06/19/15 17:29	KML	TAL CHI
Total/NA	Prep	7470A			292631	06/19/15 12:15	RLL	TAL CHI
Total/NA	Analysis	7470A		1	292829	06/22/15 12:05	MJD	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	292521		LAJ	TAL CHI
					(Start)	06/18/15 13:02		
					(End)	06/18/15 13:03		
Total/NA	Prep	Distill/CN			293026	06/23/15 17:10	ELR	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	293067		ELR	TAL CHI
					(Start)	06/23/15 20:27		
					(End)	06/23/15 20:27		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Certification Summary

Client: Leggette, Brashears & Graham, Inc.
Project/Site: Refuse Hideaway Landfill

TestAmerica Job ID: 500-97498-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)
Contact: Jennifer Shelton
Company: LBG
Address:
Address:
Phone:
Fax:
E-Mail:

Bill To (optional)
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-97498
Chain of Custody Number:
Page 1 of 1
Temperature °C of Cooler: -1.4

Client	LBG	Client Project #	
Project Name	Refuse Hideaway Landfill		
Project Location/State	Middleton, WI	Lab Project #	
Sampler	Jillian Votava	Lab PM	

Preservative Key: ... to 4°; ...ol to 4°; ...l to 4°; ...l to 4°; Cool to 4°; ...r Other

500-97498 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Metals Mercury (Preservative 3)	Cyanide (Preservative 4)	Hex. Chrome (Preservative 8)						Comments
1		Leachate	6-17-15	17:00	3	L	X	X	X						

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
Requested Due Date ___

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
JEV [signature]	LBG	6-17-15	5:05	[signature]	TA-CHI	06/18/15	10:30

Lab Courier:
Shipped: FedEx STD
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments
Metals: Cadmium, chromium, copper, lead Selenium, silver, zinc, molybdenum, nickel

Lab Comments:

TAL-4124-500 (1209)
6/24/2015

13

Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-97498-1

Login Number: 97498
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

APPENDIX II

MADISON METROPOLITAN SEWERAGE DISTRICT
WASTEWATER DISCHARGE PERMIT NTO-5.12

Madison Metropolitan Sewerage District

1610 Moorland Road · Madison, WI 53713-3398 · Telephone (608) 222-1201 · Fax (608) 222-2703 · madsewer.org

June 18, 2014

Mr. Charles Burgis
Leggette, Brashears, & Graham, Inc.
6409 Odana Road, Suite 11
Madison, WI 53719

Mr. Burgis:

Enclosed is the permit that allows continued hauling of leachate from the Refuse Hideaway Landfill to the Nine Springs Wastewater Treatment Plant. The permit is valid for five years.

We appreciate when O&M managers provide us updates on atypical circumstances that they encounter and resolve; please include such narrative data when appropriate in your reports.

You can reach me at extension 362; I'd be glad to discuss these permit matters with you.

Sincerely,

Ralph Erickson
Pretreatment and Waste Acceptance Coordinator

Enclosure:

Cc: Hank Kuehling, WDNR

WASTEWATER DISCHARGE PERMIT NTO-5.11

In compliance with the provisions of section 66.24(1)(d) and 66.25(3) of the Wisconsin Statutes, Articles 5 and 6 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, and the District's Policy on Acceptance of Wastewater Containing Non-Typical Organic and Inorganic Constituents,

Wisconsin Department of Natural Resources
BOX 7921 Madison, WI 53707,
for the site,
Refuse Hideaway Landfill,
located at,
US Highway 14, Middleton, WI,
with wastewater O&M provided by,
Leggette, Brashears, & Graham, Inc of Madison

is hereby authorized to discharge leachate from the **Refuse Hideaway Landfill** located at the above address, via a permitted waste hauler, to the Nine Springs Wastewater Treatment Plant in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit.

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

This permit shall be effective for five years. It shall become effective on July 1, 2014 and shall expire at midnight, June 30, 2019. Any appeals to the conditions of this permit must be made to the Chief Engineer and Director within thirty days of the signature date.

The Permittee shall not discharge after the date of expiration. If the Permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit in accordance with the requirements of Article 5 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, at least 90-days prior to the expiration date.

In accordance with Articles 5 and 6 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, the District reserves the right to amend this permit from time to time.

By _____
D. Michael Mucha
Chief Engineer and Director

Dated this 9 day of June 2014.

Permit: NTO-5.12 Table of Contents

Part 1 - LIMITS

1.01 INTRODUCTION

(1) Discharges from the outfalls regulated by this permit are subject to the local limits established by the District in the Sewer Use Ordinance 84-001 (Revised June 14, 2010). Based upon these requirements, the District has established the pretreatment standards set forth in secs. 1.02 to 1.03 of this permit.

(2) The Permittee shall comply with all requirements imposed by federal, state, and local municipal governments relating to operation of the licensed landfill.

1.02 OUTFALL NTO-5A

(1) Outfall NTO-5A is the discharge point of the leachate collection system serving the Refuse Hideaway Landfill. The Permittee has constructed facilities to allow for collection of a representative sample from the on-site 25,000 gallon storage tank. Grab samples will be collected from the discharge point per the requirements of sec. 2.04. Outfall NTO-5A shall contain only leachate.

(2) The Refuse Hideaway Landfill is located outside of the District's sewer service area. Therefore, all leachate from the site must be hauled to the Nine Springs Wastewater Treatment Plant. The waste hauler shall have a Septage Disposal Permit, as issued annually by the District.

(3) The following MMSD limits apply to discharges from Outfall NTO-5A:

Outfall NTO-5A
Applicable Local Limits

Parameter	Local Ordinance Effluent Limitations (daily maximum) (mg/L)	POTW maximum allowance per landfill site
Cadmium (T)	0.25	
Chromium (T)	10.0	
Copper (T)	1.5	
Lead (T)	5.0	
Nickel (T)	2.0	
Selenium (T)	0.3	
Silver (T)	3.0	
Zinc (T)	8.0	
Molybdenum (T)	None set	
Mercury (T)	0.02	

1.03 OTHER OUTFALLS

The Permittee may not discharge groundwater to any location other than as described for the outfalls listed in sub.(1.02). Domestic wastewater shall only flow into any outfalls after the sampling points for process wastewater.

Part 2 - SAMPLING

2.01 SAMPLING FREQUENCY PER MMSD REQUIREMENTS

The Permittee shall sample (self-monitor) for the pollutants shown in the following table.

Outfall	Required Parameters/Measurements & Frequency	
Outfall NTO-5A	Volume	Recorded per load
	ICP metals (9)	Quarterly
	Mercury	Quarterly

2.02 REPRESENTATIVE SAMPLES

The Permittee's self-monitoring shall represent discharges normally occurring during the reporting period.

2.03 SAMPLE COLLECTION AND ANALYSIS

(1) The Permittee shall use the following primary devices for flow measurement:

Outfall	Primary Device
NTO-5A	In-line meter or Pumping runtime records

(2) The Permittee shall collect, preserve, and analyze samples using techniques that provide sufficient precision and accuracy to measure the regulated pollutants at or below the applicable limit to a reasonable degree of scientific certainty, using analytical methods included in 40 CFR Part 136 or ch. NR 219, Wis. Adm. Code, or other methods approved by the Department of Natural Resources. For analysis, the Permittee, whenever possible, shall use a laboratory certified or registered by the Department of Natural Resources, according ch. NR 149, Wis. Adm. Code, for the parameter being analyzed. With prior District approval, per NR 211.15(8), the Permittee may be allowed to use a laboratory not certified or registered in Wisconsin.

(3) The District will randomly collect and analyze samples of leachate, taken from the hauling vehicle, to verify leachate quality and treatability.

(4) Samples collected by the Permittee shall be independent of samples collected by the District. The Permittee is allowed split samples from District sampling events; however the Permittee must collect its own independent samples on a different date per sub. (2.01).

Part 3 - REPORTING

3.01 SELF-MONITORING REPORTS

All self-monitoring results must be submitted to the District within sixty (60) days of the end of a quarterly monitoring period.

(1) All monitoring data is to be reported if the Permittee monitors a pollutant more frequently than required by this permit using the sample type and the sample collection, preservation, and the analytical techniques set forth in sec. 2.03 to 2.04.

(2) Self-monitoring Reporting Format

(a) The Permittee shall report to the District the results of all sampling required by sec. 2.01 to 2.04.

(b) Reports shall include:

1. The place, date, type, and time of the sample or sub-samples;
2. The names of the persons collecting the samples, the persons doing the analyses, and the laboratory performing the analyses;
3. The dates the analyses were performed;
4. The analytical techniques used; and
5. The analytical results.

3.02 REPORT OF VIOLATION AND RESAMPLING

(1) If sampling performed by the Permittee identifies a violation of any applicable pretreatment standard or requirement, the Permittee shall:

(a) Notify the District within 24-hours of becoming aware of the violation,

(b) Provide a written report with sample results to the District within five (5) days after becoming aware of the violation, and

(c) Repeat the sampling and analysis of the violation-parameter(s) and submit the results of the repeat analysis to the District within thirty (30) days after becoming aware of the violation.

(2) The reports required by sub. (1) shall be signed by the responsible corporate officer according to sub. (3.04) and sec. (2.1)(44) of the District Sewer Use Ordinance.

3.03 NOTICE OF INTENT TO CHANGE DISCHARGE

Before any activity that would result in a 25 percent long-term increase or decrease in the volume of non-domestic wastewater discharged by the Permittee or that would significantly change the characteristics of the discharge, the Permittee shall submit a written Notice of Intent to the District (sec. 5.13).

3.04 SIGNATURE BY RESPONSIBLE CORPORATE OFFICER

All reports shall be signed and sworn by a principal executive officer, or his/her designee.

3.05 REPORTING ADDRESSES

The Permittee shall submit all reports required by this permit to the District and the City of Madison Engineering Department at the following addresses:

Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Part 4 - SPECIAL CONDITIONS

4.01 DISTRICT RATE DETERMINATIONS AND BILLING

(1) The District will track each load delivered and will prepare quarterly bills for treatment costs. The rate for disposal is based on samples drawn at the Nine Springs Wastewater Treatment Plant for the parameters CBOD, TSS, TKN, and TP. The rate is adjusted annually, in December, based on service charge rates set for the following year. Outside-the-District surcharges apply to this site and are capped at 100% per District policy. Leachate treatment charges have typically been set at two times the minimum hauled wastewater rate, based on historical analytical data for the billing parameters.

(2) The primary contact for the Refuse Hideaway Landfill is Leggette, Brashears, & Graham, Inc. of Madison. Discharges made to the Nine Springs Wastewater Treatment Plant under the provisions of this permit, will be billed quarterly to:

Mr. Charles Burgis
Leggette, Brashears, & Graham, Inc.
6409 Odana Road, Suite C
Madison, WI 53719

Part 5 - GENERAL CONDITIONS

5.01 COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS
The Permittee shall comply with all applicable pretreatment standards and requirements set forth in the District Sewer Use Ordinance, the Wisconsin Administrative Code, and the Code of Federal Regulations, regardless of their enumeration in this permit.

5.02 SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

5.03 DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for administrative action, or enforcement proceedings including civil or criminal penalties, injunctive relief, and summary abatements.

5.04 DUTY TO MITIGATE

The Permittee shall take all reasonable actions necessary to minimize and correct any adverse impacts to the sewerage system or the environment resulting from noncompliance with this permit. The Permittee shall notify the District within 24-hours of its first awareness of the commencement of the adverse impact (upset) in accordance with sec. 5.6.5 of the District Sewer Use Ordinance.

5.05 DUTY TO REAPPLY

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must submit an application for a new permit at least 90-days before the expiration date of this permit.

5.06 CONTINUATION OF EXPIRED PERMIT

An expired permit will continue to be effective and enforceable until the permit is reissued if:

(1) The Permittee has submitted a complete permit application at least 90-days prior to the expiration date of the user's existing permit.

(2) The failure to reissue the permit, prior to expiration of the previous permit, is not due to any act or failure to act on the part of the Permittee.

5.07 PERMIT MODIFICATION

The District may modify this wastewater discharge permit at any time to reflect changes in federal, state, or local law, to incorporate the terms of an order, or to reflect changed circumstances. Any modifications which result in new conditions in the permit shall include a reasonable time schedule for compliance if necessary.

5.08 PERMIT TRANSFER

Wastewater discharge permits are issued to a specific user for a specific operation and are not assignable to another user or transferable to any other location without prior written approval of the District. Sale of a user shall obligate the purchaser to seek prior written approval of the District for continued discharge to the District sewerage system. If an owner or operator changes without the prior approval of the District, then this permit is void.

5.09 SAMPLING LOCATION

The Permittee may change sampling locations only after receiving approval from the District. The District shall ensure that any change in the Permittee's sampling location will not allow the Permittee to substitute dilution for adequate treatment.

5.10 SAMPLING FACILITIES

(1) The Permittee shall provide sampling facilities that will be accessible and that will provide representative samples of the process wastewater.

(2) The Permittee shall allow the District access to all sampling facilities according to the requirements of sub. (5.11).

5.11 RIGHT OF ENTRY

The Permittee consents to inspection and sampling by the District according to the requirements and limitations set forth in sec. 11.1 of the Sewer Use Ordinance. The Permittee shall, after reasonable notification by the District, allow the District or its representatives, exhibiting proper credentials and identification, to enter upon the premises of the Permittee at all reasonable hours, for the purposes of inspection, sampling, or records inspection. Reasonable hours in the context of inspection and sampling includes any time the Permittee is operating any process which results in a process wastewater discharge to the District sewerage system.

5.12 NO PROPERTY RIGHTS CREATED

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

5.13 NOTICE OF INTENT

If the Permittee is planning to alter or change any activity at the Permittee's facility that would significantly increase or decrease the volume or alter the content of any existing source of wastewater discharge into the District sewerage system must file a written Request to Discharge Form in accordance with Article 5 of the District Sewer Use Ordinance. A significant increase or decrease shall be defined as a 25 percent increase or decrease in the volume of industrial wastewater currently being discharged by a Permittee.

5.14 REVIEW OF PROPOSED TREATMENT FACILITIES

(1) If the Permittee is planning to install or modify treatment facilities or operations to comply with a categorical pretreatment standard, a pretreatment standard set forth in sec. 5.2.2 of the District Sewer Use Ordinance, a permit condition, or an order of the District, then the Permittee

shall provide the District with plans, specifications, and operating procedures for the proposed facilities. The District may approve, conditionally approve, or disapprove the plans, specifications, and operating procedures. The Permittee may not begin discharging from the treatment facilities until the Permittee has satisfied the requirements of the District.

(2) The Wisconsin Department of Natural Resources has separate requirements for the review of plans, specifications, and operating procedures of proposed pretreatment facilities, such as the requirements set forth in sec. 144.04, Wis. Stats., and ch. NR 108, Wis. Admin. Code. The Permittee shall comply with these requirements before commencing discharges to the sewerage system.

5.15 ADDITIONAL REPORTS

In addition to the reports required by this permit and the reports specifically required by the District Sewer Use Ordinance, the District may require other reports, management plans, or other information whenever the District finds that such a requirement is necessary to fulfill the District's responsibilities under the Sewer Use Ordinance, or any other local, state, or federal law.

5.16 HAZARDOUS WASTE NOTIFICATION

The Permittee shall notify the District, the Department of Natural Resources, and the EPA Regional Waste Management Division Director in writing of any discharge to the sanitary sewer system of a substance which, if otherwise disposed of, would be a hazardous water under 40 CFR Part 261. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste number, and the type of discharge. If the Permittee discharges to the sanitary sewer more than 100 kilograms of such waste per calendar month, the additional notification requirements of 40 CFR sec. 403.12(p) apply. In the case of any notification made under this section, the Permittee shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

5.17 PUBLIC INFORMATION

All written information submitted to the District shall be available upon request to any person for public inspection at the headquarters of the District, according to sec. 19.35, Wis. Stats., unless:

(1) The Permittee provides, at the time the Permittee submits the information, a written notice to the District that the Permittee claims that all or part of the information is exempt from disclosure according to sec. 19.36(5), Wis. Stats.; and

(2) The Permittee demonstrates to the District's satisfaction that the information is a trade secret according to sec. 134.90(1)(c), Wis. Stats.

WASTEWATER DISCHARGE PERMIT NTO-5.12

In compliance with the provisions of section 66.24(1)(d) and 66.25(3) of the Wisconsin Statutes, Articles 5 and 6 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, and the District's Policy on Acceptance of Wastewater Containing Non-Typical Organic and Inorganic Constituents,

Wisconsin Department of Natural Resources
BOX 7921 Madison, WI 53707,
for the site,
Refuse Hideaway Landfill,
located at,
US Highway 14, Middleton, WI,
with wastewater O&M provided by,
Leggette, Brashears, & Graham, Inc of Madison

is hereby authorized to discharge leachate from the **Refuse Hideaway Landfill** located at the above address, via a permitted waste hauler, to the Nine Springs Wastewater Treatment Plant in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit.

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

This permit shall be effective for five years. It shall become effective on July 1, 2014 and shall expire at midnight, June 30, 2019. Any appeals to the conditions of this permit must be made to the Chief Engineer and Director within thirty days of the signature date.

The Permittee shall not discharge after the date of expiration. If the Permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit in accordance with the requirements of Article 5 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, at least 90-days prior to the expiration date.

In accordance with Articles 5 and 6 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, the District reserves the right to amend this permit from time to time.

By _____
D. Michael Mucha
Chief Engineer and Director

Dated this ____ day of _____ 2014.

APPENDIX III

TABLE A: BLOWER AND FLARE STATION GAS MONITORING

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
North Branch									
7/1/2014	-29	41.0	7.2	18.2	33.6	100	1490	276	79.6
7/9/2014	-27	28.5	10.8	14.2	46.5	0	1180	218	85.9
7/15/2014	-28	23.0	10.1	11.6	55.3	0	1160	215	72.3
7/24/2014	-29	12.5	6.1	13.0	68.4	50	1215	225	84.5
7/30/2014	-29	13.0	7.0	13.4	66.6	100	1000	185	79.5
8/5/2014	-29	29.5	4.6	17.2	48.7	100	1300	241	76.0
8/12/2014	-29	12.0	8.0	12.8	67.2	100	1100	204	78.6
8/18/2014	-28	11.5	7.2	12.6	68.7	100	1100	204	87.2
8/26/2014	-27	11.0	11.9	8.6	68.5	100	1200	222	88.8
9/4/2014	-3	17.0	8.4	13.6	61.0	0	200	37	86.5
9/9/2014	-27	13.5	11.3	9.6	65.6	100	1130	209	87.0
9/17/2014	-25	23.0	10.0	12.4	54.6	0	410	76	61.8
9/23/2014	-26	64.5	0.9	21.6	13.0	100	1230	228	75.9
10/2/2014	-29	25.0	1.4	21.8	51.8	100	1400	259	71.7
10/7/2014	-28	21.5	1.7	21.0	55.8	100	1075	199	60.9
10/17/2014	-27	22.0	2.1	20.0	55.9	100	966	179	59.8
10/22/2014	-29	28.5	3.2	18.8	49.5	100	1015	188	62.2
10/30/2014	-23	25.0	2.5	22.4	50.1	100	775	143	59.8
11/7/2014	-28	46.0	1.8	21.6	30.6	100	1060	196	52.5
11/14/2014	-30	25.0	4.3	21.8	48.9	100	1110	205	52.1
11/21/2014	-30	16.0	6.3	16.4	61.3	100	1065	197	40.9
11/25/2014	-28	45.5	5.1	19.2	30.2	100	580	107	31.0
12/4/2014	-29	37.0	6.8	18.0	38.2	100	1100	204	42.6
12/10/2014	-27	52.5	2.9	21.0	23.6	100	850	157	35.7
12/16/2014	-28	24.5	4.7	19.8	51.0	100	832	154	41.8
12/23/2014	-28	37.0	4.8	18.2	40.0	100	850	157	44.7
12/29/2014	-28	48.0	4.0	22.8	25.2	100	775	143	31.2
1/6/2015	-22	23.0	6.6	19.0	51.4	0	580	107	29.8
1/15/2015	-28	47.5	2.9	21.4	28.2	100	802	148	42.6
1/23/2015	-30	17.5	4.2	19.0	59.3	100	800	148	42.4
1/30/2015	-25	18.5	7.0	18.0	56.5	100	642	119	38.1
2/6/2015	-11	27.5	5.3	18.8	48.4	0	0	0	36.4
2/13/2015	0	26.0	7.7	15.2	51.1	0	0	0	31.0
2/19/2015	-24	29.5	8.0	21.8	40.7	50	>	>	31.6
2/26/2015	-27	44.5	4.1	21.6	29.8	100	720	133	30.0
3/6/2015	-30	21.5	4.6	18.0	55.9	100	690	128	42.7
3/11/2015	-20	13.5	4.1	18.4	64.0	100	512	95	60.7
3/19/2015	-18	13.0	6.8	16.0	64.2	100	470	87	55.9
3/25/2015	-29	28.5	3.2	19.4	48.9	100	659	122	45.1
3/30/2015	-18	--	--	--	NC	100	475	88	64.5
4/10/2015	-24	--	--	--	--	100	659	122	60.7
4/17/2015	-22	35.5	2.3	20.4	41.8	100	790	146	73.5
4/24/2015	-28	19.0	3.5	19.8	57.7	100	730	135	51.7
4/30/2015	-23	22.5	6.5	19.8	51.2	100	820	152	67.8
5/6/2015	-27	26.0	6.1	15.6	52.3	100	745	138	74.4
5/14/2015	-19	19.5	11.7	10.2	58.6	100	515	95	66.0
5/20/2015	-18	17.0	12.0	9.8	61.2	0	1207	223	58.4
5/28/2015	-21	34.0	10.1	12.0	43.9	0	1632	302	78.7
6/4/2015	-22.0	33.5	8.7	15.4	42.4	100	1092	202	82.9

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
6/12/2015	-29.0	40.5	7.8	16.2	35.5	100	1134	210	68.5
6/17/2015	-21.0	37.5	6.8	17.8	37.9	100	1504	278	82.0
6/24/2015	-20.0	23.5	12.7	7.2	56.6	100	1249	231	82.2
Central Branch									
7/1/2014	-29	52.0	5.4	25.2	17.4	100	1875	347	79.3
7/9/2014	-28	47.5	6.8	23.0	22.7	100	2100	389	79.8
7/15/2014	-28	57.0	1.5	28.2	13.3	100	1350	250	69.4
7/24/2014	-29	28.5	3.2	21.8	46.5	100	1425	264	84.5
7/30/2014	-28	23.5	6.2	19.0	51.3	100	1130	209	79.5
8/5/2014	-29	50.0	0.8	26.0	23.2	100	1315	243	75.5
8/12/2014	-30	26.0	5.1	21.0	47.9	100	1040	192	75.9
8/18/2014	-28	24.0	5.0	20.6	50.4	100	1150	213	84.3
8/26/2014	-27	31.0	3.6	21.6	43.8	100	1260	233	84.5
9/4/2014	-30	25.0	5.2	20.4	49.4	100	1180	218	79.3
9/9/2014	-26	12.0	13.2	8.6	66.2	100	3750	694	78.4
9/17/2014	-25	27.5	9.1	17.4	46.0	100	3006	556	62.9
9/23/2014	-21	46.0	5.1	24.0	24.9	50	3600	666	69.5
10/2/2014	-10	33.0	6.3	20.2	40.5	10	900	167	69.0
10/7/2014	-7	23.0	7.7	18.2	51.1	0	650	120	60.2
10/17/2014	-16	29.5	8.5	19.0	43.0	0	1390	257	59.8
10/22/2014	-9	26.0	10.5	15.4	48.1	0	250	46	63.3
10/30/2014	-22	60.5	2.3	34.8	2.4	0	2600	481	59.1
11/7/2014	-4	34.0	7.6	24.0	34.4	0	131	24	51.7
11/14/2014	-5	34.5	6.0	23.4	36.1	0	150	28	49.6
11/21/2014	-6	20.5	10.8	14.6	54.1	0	512	95	39.3
11/25/2014	-10	37.0	9.7	19.2	34.1	0	263	49	31.9
12/4/2014	-13	31.0	9.1	20.6	39.3	15	670	124	42.9
12/10/2014	-3	39.5	7.0	25.6	27.9	0	116	21	34.7
12/16/2014	-15	41.0	6.4	25.4	27.2	0	800	148	42.6
12/23/2014	-7	36.0	7.6	20.4	36.0	0	310	57	46.2
12/29/2014	-8	32.0	10.0	18.6	39.4	0	200	37	30.5
1/6/2015	-26	42.0	6.5	25.2	26.3	100	1385	256	31.2
1/15/2015	-7	33.5	8.7	22.8	35.0	10	180	33	43.1
1/23/2015	-3	31.5	9.1	19.6	39.8	50	130	24	42.0
1/30/2015	-14	28.0	10.6	18.0	43.4	50	2140	396	37.0
2/6/2015	-26	33.0	8.1	21.6	37.3	20	500	93	39.9
2/13/2015	-13	42.0	5.5	26.4	26.1	25	>	>	35.7
2/19/2015	-24	53.0	2.5	34.4	10.1	100	>	>	32.7
2/26/2015	-6	24.5	12.0	16.8	46.7	0	82	15	26.9
3/6/2015	-2	55.5	6.0	25.2	13.3	0	0	0	40.2
3/11/2015	-13	33.5	7.6	21.6	37.3	20	2150	398	52.6
3/19/2015	-12	28.0	8.0	19.8	44.2	20	2100	389	45.4
3/25/2015	-5	25.5	10.3	16.0	48.2	0	220	41	46.7
3/30/2015	-16	--	--	--	NC	50	2360	437	53.0
4/10/2015	-23	--	--	--	--	100	2309	427	49.0
4/17/2015	-22	28.5	6.5	22.0	43.0	100	3720	688	66.5
4/24/2015	-1	34.5	7.9	21.8	35.8	0	192	36	51.6

TABLE A

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BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
4/30/2015	-23	16.5	12.5	12.4	58.6	0	380	70	67.8
5/6/2015	-22	26.5	6.8	20.8	45.9	0	3825	708	70.1
5/14/2015	-18	27.0	8.2	20.6	44.2	100	3095	573	63.3
5/20/2015	-18.5	8.5	14.8	7.6	69.1	0	1034	191	58.0
5/28/2015	-21	23.5	10.8	12.6	53.1	0	1579	292	78.2
6/4/2015	-22.0	23.0	12.1	12.8	52.1	100	1533	284	80.9
6/12/2015	-29.0	38.5	7.2	21.4	32.9	100	941	174	67.9
6/17/2015	-21.0	30.0	8.2	19.8	42.0	100	1483	274	79.1
6/24/2015	-20	32.5	9.3	15.5	42.7	100	1500	278	80.2
South Branch									
7/1/2014	-29	1.4	17.7	1.8	79.1	5	1250	231	79.6
7/9/2014	-28	8.0	15.5	6.6	69.9	5	1180	218	83.8
7/15/2014	-28	9.0	14.6	6.2	70.2	5	1000	185	70.3
7/24/2014	-30	0.1	19.3	0.0	80.6	5	1000	185	85.0
7/30/2014	-28	0.1	19.0	0.0	81.0	5	950	176	83.2
8/5/2014	-29	47.0	17.3	2.6	33.1	5	900	167	76.4
8/12/2014	-28	0.1	19.4	0.0	80.6	5	1000	185	76.0
8/18/2014	-28	0.0	18.9	0.0	81.1	5	900	167	89.2
8/26/2014	-27	0.2	18.7	0.0	81.1	5	900	167	88.1
9/4/2014	-30	0.0	18.0	0.2	81.8	5	920	170	82.0
9/9/2014	-27	0.1	19.5	0.0	80.5	5	905	167	87.6
9/17/2014	-25	2.0	18.9	1.6	77.6	5	780	144	61.3
9/23/2014	-26	7.5	14.6	6.0	71.9	5	880	163	78.0
10/2/2014	-29	7.0	15.3	4.6	73.1	5	1140	211	74.4
10/7/2014	-28	0.3	18.0	0.0	81.8	5	875	162	60.2
10/17/2014	-27	0.2	18.7	0.0	81.2	5	805	149	60.6
10/22/2014	-29	0.3	20.1	0.0	79.6	5	1050	194	64.2
10/30/2014	-22	0.2	18.7	0.2	80.9	5	800	148	60.9
11/7/2014	-28	5.0	16.9	4.8	73.3	5	960	178	51.6
11/14/2014	-30	7.5	16.9	5.0	70.6	5	1003	186	46.9
11/21/2014	-30	0.5	18.9	0.4	80.3	5	900	167	42.2
11/25/2014	-28	4.4	19.0	1.6	75.0	5	540	100	30.9
12/4/2014	-29	1.2	19.0	1.2	78.6	5	900	167	41.1
12/10/2014	-27	3.5	18.8	2.4	75.3	5	650	120	34.6
12/16/2014	-28	3.7	17.5	2.6	76.2	5	820	152	42.6
12/23/2014	-28	4.9	17.6	2.4	75.2	5	850	157	46.5
12/29/2014	-28	3.4	19.1	1.8	75.7	5	750	139	31.6
1/6/2015	-26	5.5	18.9	3.6	72.0	5	500	93	25.6
1/15/2015	-28	2.6	18.1	2.2	77.2	5	606	112	43.5
1/23/2015	-30	15.5	13.5	10.2	60.8	5	750	139	42.9
1/30/2015	-25	1.2	20.0	0.8	78.0	5	300	56	33.4
2/6/2015	-26	4.9	18.3	3.6	73.2	5	375	69	38.6
2/13/2015	-17	7.5	16.8	5.4	70.3	5	220	41	32.7
2/19/2015	-17	17.5	12.2	14.6	55.7	5	>	>	28.5
2/26/2015	-27	2.9	21.4	2.0	73.8	5	650	120	26.2
3/6/2015	-29	2.0	19.8	1.2	77.0	5	670	124	40.9
3/11/2015	-20	3.7	18.1	3.0	75.3	5	635	117	63.8
3/19/2015	-18	14.0	13.3	11.0	61.7	5	480	89	56.4
3/25/2015	-29	2.1	18.4	1.6	78.0	5	780	144	48.7

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
3/30/2015	-18	--	--	--	NC	5	460	85	65.6
4/10/2015	-24	--	--	--	--	5	701	130	51.2
4/17/2015	-22	5.5	16.0	5.6	72.9	5	660	122	81.1
4/24/2015	-28	0.6	20.9	0.4	78.1	5	600	111	51.7
4/30/2015	-29	0.3	18.4	0.8	80.6	5	805	149	67.8
5/6/2015	-28	2.7	18.1	2.4	76.9	5	683	126	73.9
5/14/2015	-19	2.4	18.7	2.2	76.7	5	393	73	70.3
5/20/2015	-18.5	2.8	18.5	1.8	76.9	5	355	66	58.2
5/28/2015	-21	9.5	18.8	1.8	69.9	5	283	52	79.5
6/4/2015	-23.0	4.4	20.3	0.2	75.1	5	422	78	82.9
6/12/2015	-29.0	6.5	19.5	0.8	73.2	5	474	88	67.8
6/17/2015	-4.0	17.5	13.9	8.4	60.2	5	0	0	79.3
6/24/2015	-20.0	4.7	19.1	3.0	73.2	5	0	0	81.1
Branches-Total Flow* **									
7/1/2014							4,615	854	
7/9/2014							4,460	825	
7/15/2014							3,510	649	
7/24/2014							3,640	673	
7/30/2014							3,080	570	
8/5/2014							3,515	650	
8/12/2014							3,140	581	
8/18/2014							3,150	583	
8/26/2014							3,360	622	
9/4/2014							2,300	426	
9/9/2014							5,785	1,070	
9/17/2014							4,196	776	
9/23/2014							5,710	1,056	
10/2/2014							3,440	636	
10/7/2014							2,600	481	
10/17/2014							3,161	585	
10/22/2014							2,315	428	
10/30/2014							4,175	772	
11/7/2014							2,151	398	
11/14/2014							2,263	419	
11/21/2014							2,477	458	
11/25/2014							1,383	256	
12/4/2014							2,670	494	
12/10/2014							1,616	299	
12/16/2014							2,452	454	
12/23/2014							2,010	372	
12/29/2014							1,725	319	
1/6/2015							2,465	456	
1/15/2015							1,588	294	
1/23/2015							1,680	311	
1/30/2015							3,082	570	
2/6/2015							875	162	
2/13/2015							220	41	
2/19/2015							--	--	
2/26/2015							1,452	269	
3/6/2015							1,360	252	
3/11/2015							3,297	610	

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
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MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
3/19/2015							3,050	564	
3/25/2015							1,659	307	
3/30/2015							3295	610	
4/10/2015							3669	679	
4/17/2015							5170	956	
4/24/2015							1522	282	
4/30/2015							2005	371	
5/6/2015							5253	972	
5/14/2015							4003	741	
5/20/2015							2596	480	
5/28/2015							3494	646	
6/4/2015							3047	564	
6/12/2015							2549	472	
6/17/2015							2987	553	
6/24/2015							2749	509	
Inlet Sample Port A									
7/1/2014	-29	38.0	7.4	19.2	35.4				
7/9/2014	-28	42.0	8.9	18.2	30.9				
7/15/2014	-28	38.5	6.9	17.2	37.4				
7/24/2014	-30	20.0	6.3	16.8	56.9				
7/30/2014	-28	20.5	5.6	18.0	55.9				
8/5/2014	-29	39.0	2.7	22.2	36.1				
8/12/2014	-30	19.0	6.1	17.4	57.5				
8/18/2014	-28	16.5	5.8	16.8	60.9				
8/26/2014	-27	23.0	3.3	21.0	52.7				
9/4/2014	-30	24.5	5.2	20.2	50.1				
9/9/2014	-27	12.5	13.0	8.8	65.7				
9/17/2014	-26	27.5	9.0	17.2	46.3				
9/23/2014	--	--	--	--	--				
10/2/2014	-30	35.0	5.5	21.4	38.1				
10/7/2014	-29	29.0	1.5	23.8	45.7				
10/17/2014	-27	42.0	2.4	24.4	31.2				
10/22/2014	-29	29.5	4.2	18.0	48.3				
10/30/2014	-24	40.0	0.5	26.2	33.3				
11/7/2014	-28	43.0	3.4	21.2	32.4				
11/14/2014	-30	23.5	5.1	21.4	50.0				
11/21/2014	-30	15.5	5.7	17.0	61.8				
11/25/2014	-28	45.5	5.1	20.0	29.4				
12/4/2014	-29	30.5	9.0	18.8	41.7				
12/10/2014	-27	51.5	3.0	21.2	24.3				
12/16/2014	-28	47.0	3.8	27.4	21.8				
12/23/2014	-27	36.5	5.2	18.2	40.1				
12/29/2014	-27	48.0	4.0	23.0	25.0				
1/6/2015	-26	45.0	6.0	27.0	22.0				
1/15/2015	-28	49.0	3.7	22.8	24.5				
1/23/2015	-30	17.0	5.1	18.0	59.9				
1/30/2015	-25	25.5	9.9	17.4	47.2				
2/6/2015	-26	43.0	5.5	25.6	25.9				
2/13/2015	-28	42.0	5.3	26.4	26.3				
2/19/2015	-24	38.0	7.4	7.4	47.2				

TABLE A

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MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
2/26/2015	-27	44.5	4.2	21.4	29.9				
3/6/2015	-29	22.0	4.5	18.2	55.3				
3/11/2015	-20	29.0	6.9	20.4	43.7				
3/19/2015	-18	24.5	7.7	18.6	49.2				
3/25/2015	-29	29.5	3.5	19.2	47.8				
3/30/2015	-18	--	--	--	NC				
4/10/2015	-24	--	--	--	--				
4/17/2015	-22	28.0	6.4	20.6	45.0				
4/24/2015	-29	23.5	6.8	8.8	60.9				
4/30/2015	-30	21.5	7.7	18.0	52.8				
5/6/2015	-28	24.5	7.5	18.1	49.9				
5/14/2015	-19	26.5	8.5	19.8	45.2				
5/20/2015	-19	12.5	13.5	8.8	65.2				
5/28/2015	-21	28.5	10.4	12.0	49.1				
6/4/2015	-22.0	28.0	10.2	14.4	47.4				
6/12/2015	-29.0	27.0	10.5	12.0	50.5				
6/17/2015	-22.0	33.0	7.7	18.2	41.1				
6/24/2015	-20.0	29.0	10.5	11.8	48.7				
Inlet Sample Port B									
7/1/2014	-29	38.0	7.4	21.6	33.0				
7/9/2014	-28	31.5	10.3	18.0	40.2				
7/15/2014	-28	32.0	8.5	16.8	42.7				
7/24/2014	-30	20.0	5.0	18.0	57.0				
7/30/2014	-29	19.0	6.6	16.8	57.6				
8/5/2014	-29	37.5	3.4	22.2	36.9				
8/12/2014	-30	19.0	6.1	17.6	57.3				
8/18/2014	-28	19.0	4.9	18.2	57.9				
8/26/2014	-27	17.0	6.9	15.8	60.3				
9/4/2014	-30	24.5	5.5	20.0	50.0				
9/9/2014	-28	12.5	12.9	8.8	65.8				
9/17/2014	-26	27.0	9.4	16.6	47.0				
9/23/2014	-27	42.0	5.8	21.4	30.8				
10/2/2014	-30	33.0	5.7	20.8	40.5				
10/7/2014	-29	29.5	1.8	23.6	45.1				
10/17/2014	-27	41.0	3.7	24.0	31.3				
10/22/2014	-29	31.0	3.8	18.0	47.2				
10/30/2014	-24	39.0	2.2	25.8	33.0				
11/7/2014	-28	42.5	3.6	21.0	32.9				
11/14/2014	-30	25.5	4.8	21.6	48.1				
11/21/2014	-30	16.0	5.6	16.8	61.6				
11/25/2014	-28	--	--	--	--				
12/4/2014	-29	30.5	8.7	18.4	42.4				
12/10/2014	-27	51.0	3.7	21.2	24.1				
12/16/2014	-28	46.0	4.2	27.2	22.6				
12/23/2014	-27	36.0	5.1	18.0	40.9				
12/29/2014	-27	48.5	4.8	22.5	24.2				
1/6/2015	-26	43.0	6.0	25.8	25.2				
1/15/2015	-28	45.0	4.2	21.4	29.4				
1/23/2015	-30	16.5	4.8	18.0	60.7				
1/30/2015	-25	26.0	9.9	17.6	46.5				

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
2/6/2015	-26	41.0	5.6	25.2	28.2				
2/13/2015	-28	41.5	6.0	26.4	26.1				
2/19/2015	-24	41.0	5.6	5.6	47.8				
2/26/2015	-27	45.0	4.0	21.4	29.6				
3/6/2015	-29	21.5	4.5	18.0	56.0				
3/11/2015	-20	28.5	7.3	20.4	43.8				
3/19/2015	-18	23.5	8.1	18.2	50.2				
3/25/2015	-29	29.5	3.4	18.8	48.3				
3/30/2015	-18	--	--	--	NC				
4/10/2015	-24	--	--	--	--				
4/17/2015	-23	27.5	6.4	20.4	45.7				
4/24/2015	-29	19.0	3.1	20.2	57.7				
4/30/2015	-30	21.5	7.6	17.2	53.7				
5/6/2015	-28	24.0	7.6	18.6	49.8				
5/14/2015	-19	26.0	8.5	19.2	46.3				
5/20/2015	-19	13.0	13.5	8.6	64.9				
5/28/2015	-21	28.5	10.4	12.2	48.9				
6/4/2015	-22.0	28.0	10.4	14.0	47.6				
6/12/2015	-29.0	35.0	9.0	19.2	36.8				
6/17/2015	-22.0	32.0	7.9	18.0	42.1				
6/24/2015	-20.0	29.0	10.4	12.0	48.6				
Outlet Sample Port A									
7/1/2014	0.90	45.5	6.0	23.6	24.9				
7/9/2014	1.40	33.5	10.2	19.4	36.9				
7/15/2014	1.60	34.0	8.7	18.0	39.3				
7/24/2014	1.40	23.0	4.9	20.0	52.1				
7/30/2014	0.90	20.0	6.3	17.6	56.1				
8/5/2014	3.50	39.0	3.2	23.4	34.4				
8/12/2014	--	19.5	6.6	18.4	55.5				
8/18/2014	1.10	18.5	6.0	18.2	57.3				
8/26/2014	1.00	16.5	7.2	16.8	59.5				
9/4/2014	0.55	25.5	5.6	21.0	47.9				
9/9/2014	6.00	13.0	13.6	9.2	64.2				
9/17/2014	7.00	28.5	9.5	17.4	44.6				
9/23/2014	6.00	39.5	7.0	21.0	32.5				
10/2/2014	0.90	25.5	6.2	19.8	48.5				
10/7/2014	0.75	18.5	4.0	19.8	57.7				
10/17/2014	1.75	26.5	7.4	19.2	46.9				
10/22/2014	0.15	31.5	4.3	18.4	45.8				
10/30/2014	4.0	20.0	6.0	18.4	55.6				
11/7/2014	0.25	44.0	3.6	21.6	30.8				
11/14/2014	0.20	25.5	4.7	23.0	46.8				
11/21/2014	0.20	16.5	6.5	17.0	60.0				
11/25/2014	0.15	44.5	6.1	20.0	29.4				
12/4/2014	1.00	32.0	9.1	19.2	39.7				
12/10/2014	0.20	51.5	4.1	22.0	22.4				
12/16/2014	0.80	26.0	5.5	20.4	48.1				
12/23/2014	0.15	37.5	5.4	18.4	38.7				
12/29/2014	0.25	50.0	4.8	23.4	21.8				
1/6/2015	6.00	43.0	7.1	26.4	23.5				

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Date	Pressure (in. WC)	CH_4 (% Vol)	O_2 (% Vol)	CO_2 (% Vol)	Balance Gas* (% Vol)	Valve Position (% open)	Gas Velocity (fpm)	Gas Flow** (scfm)	Gas Temp (deg F)
1/15/2015	0.65	47.0	4.2	22.6	26.2				
1/23/2015	0.40	19.0	4.8	19.8	56.4				
1/30/2015	3.00	27.0	10.0	18.4	44.6				
2/6/2015	3.50	34.5	8.3	22.2	35.0				
2/13/2015	1.50	43.0	6.1	27.4	23.5				
2/19/2015	1.50	40.0	5.8	5.8	48.4				
2/26/2015	0.50	47.5	4.4	22.4	25.7				
3/6/2015	0.50	22.5	4.8	18.8	53.9				
3/11/2015	4.00	29.5	7.6	20.8	42.1				
3/19/2015	4.00	24.0	8.2	19.0	48.8				
3/25/2015	0.65	32.5	3.1	20.4	44.0				
3/30/2015	5.00	--	--	--	NC				
4/10/2015	6.00	>5	6.6	--	--				
4/17/2015	7.00	32.0	3.1	20.6	44.3				
4/24/2015	0.50	20.5	3.5	21.4	54.6				
4/30/2015	0.25	23.0	7.7	18.6	50.7				
5/6/2015	5.0	24.5	7.9	19.4	48.2				
5/14/2015	5.00	27.0	8.7	20.2	44.1				
5/20/2015	4.00	13.5	13.9	9.2	63.4				
5/28/2015	4.00	29.0	10.8	12.6	47.6				
6/4/2015	4.00	28.0	10.5	15.0	46.5				
6/12/2015	4.00	37.5	8.7	20.2	33.6				
6/17/2015	4.00	32.5	8.3	18.6	40.6				
6/24/2015	5.00	29.0	10.4	12.0	48.6				
Annual Average		30.2	6.8						

* : Balance gas calculated as 100% - (%CH_4+%CO_2+%O_2).

** : Gas flow (cfm) calculated by multiplying gas velocity (fpm) by 0.045 (3" diameter), 0.078 (4" blower inlet), or 0.185 (6" flare inlet).

*** : Total flow is the sum of flow values from the northern, central and southern branches.

in WC : Inches of water column.

% Vol : Percent volume. scfm : Standard cubic feet per minute.

% LEL : Percent of lower explosive limit.

> : Above Thermo Anemometer max velocity.