OPERATION AND MAINTENANCE ANNUAL REPORT
JULY 2015 THROUGH JUNE 2016

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

Prepared For:

Wisconsin Department of Natural Resources

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Prepared By:

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

Prepared By:

Bradley DalSanto
Environmental Scientist

Reviewed By:

Jennifer Shelton
Associate

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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 2015 through June 2016 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 1.0 feet to 42.6 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, interruptions to compressor operations, the number of operational pneumatic pumps, 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 greater than the 2014-2015 period; however, it was lower than previous years dating back to 2007 (**Figure 2**). The compressor operated each month during the reporting period. The only components of the compressor that were repaired were a solenoid valve and the unloader (December 2015). Throughout the reporting period, pumps in wells GW4, GW10, and GW11 ran consistently;

however, operating additional pumps elevates the compressor's duty cycle above the range recommended by the manufacturer. The combination of apparent integrity issues with the underground air distribution system and the volume of flow required by the desiccant dryer system restricts the number of pumps that can be operated at a given time. The pumps in GW7 and GW13 are lodged in the well, most likely to due landfill settlement in the area, and cannot be removed for troubleshooting. Pumps were never installed in wells GW1, GW2, GW3, and GW6. The annual rainfall total for the current contract period was greater than recent years with the exception of July 2007 through June 2008 and July 2012 through June 2013.

Approximately 148,645 gallons of leachate were recovered and removed from RHL from July 2015 through June 2016 **(Table 2)**. The recovered leachate volumes for the contract periods since July 2007 through June 2008 are 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 2015-June 2016	148,645	41.06	LBG
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 approximately 1,765 gallons to 24,341 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 December 2015, January 2016, and April 2016, when the compressor and leachate pumps operated with few interruptions. The lowest recovery rate was observed during February 2015.

2.3 Leachate Quality

Leachate samples were collected on a quarterly basis for laboratory analysis. On September 28, 2015, December 4, 2015, March 22, 2016, and June 21, 2016, 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 December 2015, minor maintenance was conducted on the compressor in which a new solenoid valve and an unloader were installed by EMS Industrial, Inc (EMS). The compressor ran reliably during the remainder of the reporting period.

A 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 elevated duty cycle of the compressor. Additionally, fouling of wellhead leachate discharge lines and the fouling of internal pump

components prevented select pumps from properly cycling. Leachate pumps were removed for troubleshooting numerous times throughout the reporting period. The pumps were cleaned with soap and water and the internal components (i.e. magnet spacing) were adjusted to allow for proper cycling. As a component of the annual site visit, pumps were cleaned and adjusted with the exception of the pumps in GW7 and GW 13. The GW7 and GW13 well pumps cannot be removed. Landfill settlement may have impacted the well casing above the pumps in such a manner that the pumps 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 in June 2016. Pumps in GW4, GW10, and GW11 cycled and functioned properly upon the completion of the annual task. Additional troubleshooting will be required for the pumps in wells GW5, GW8 and GW12 as the pumps appeared to cycle only once upon being repositioned into the well following cleaning or while being tested in an above-grade water column (PVC pipe). A regulator is not currently installed at GW9 and a replacement air line is needed from the main valve to the pump. During well testing, liquid collected within the air-out line and may be impeding the functionality of the pump. A method to drain the air line will be evaluated. The pump in GW5 cycled and functioned properly when tested in an above-grade PVC pipe, but it would not cycle when placed in the well. Slack in the pump cable and air lines is noticed when the pump comes to rest in the well casing, which indicates that an obstruction or landfill settlement is not allowing the pump to remain in a vertical position within the well. After pulling and inspecting GW12, it appeared that both air lines may be clogged or that airflow may be impeded by sludge. The pump gurgled and discharged liquid from the air-out line. Pump GW8 appeared to cycle while tested in the PVC pipe and also cycled very slowly when placed back into the well; however, over time the pump did not cycle and could not be reset. The pump manufacturers will be consulted in regards to additional troubleshooting or replacement parts that may be required to address the operational issues.

As a component of the annual inspection, a contractor was retained to conduct jetting of the leachate lines, driplegs and cleanouts. Approximately 725 feet of leachate lines were cleaned along the Central branch and portions of the northern branch via between four cleanout locations on the landfill. 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 2014-2015 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 has an individual control valve. 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.

In September 2015, sewer balls were placed within the solid piping of the GW5 laterals upstream from the perforated screens to prevent a vacuum from being applied to the laterals. The sewer balls were installed because monitoring data indicated that elevated methane concentrations and low oxygen levels could not be sustained from the lateral wells. The integrity of the sewer balls has been monitored quarterly by LBG personnel.

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. Additionally, several issues were encountered at the pedestal flare which required maintenance

activities to be conducted and the blower to be taken off-line. Cycling the gas extraction system on and off, along with the periods of maintenance activities at the flare, resulted in the extraction blower operating approximately 36 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 36 percent. The flare operated approximately 32 percent of the time. The operational hours measured for the flare (2,925 hours) was less than the previous two contract years (3,172 hours in 2014-2015 and 5,833 hours in 2013-2014). 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 6 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 less than the previous contract year (23 days in 2014-2015), and 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 1,400 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.

Several mechanical issues were encountered and addressed at the flare throughout the reporting period. From July 2015 through December 17, 2015 the flare was off-line only when unsuitable LFG concentrations were measured. On December 17, 2015, LBG personnel could not restart the flare. The flame from the flare had melted the wiring that attaches to the electrode and a poor electrical connection existed. Maintenance was conducted on January 21, 2016 by an electrician from Hill Electric. The electrician administered a temporary fix on the wiring and advised LBG to purchase new heat resistant conduit and plug a hole in the casing surrounding the electrode for the flare. The flare remained down due to elevated oxygen concentrations through January and February but was brought on-line on March 22, 2016. In April 2016, LBG personnel installed a heat resistant conduit around wiring in the area of highest heat exposure from the flare. On May 4, 2016, LBG personnel provided oversight as the electricians permanently ran wiring through conduit on the flare and installed a temporary transformer on the flare. The flare system was operational until May 25, 2016 when the temporary transformer on the flare ceased to create the necessary spark at the electrode. The flare remained down through the remainder of June with maintenance scheduled to be completed to bring the system back online during July 2016.

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, GP-11S/GP-11D, and GP-12S/GP-12D) at concentrations at or above 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 24.5 percent by volume (**Table 6**).

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 southwestern 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, the port on G-1S was replaced. An inventory of wellhead conditions revealed that the valves on G-2S, G2D, and GPW-1M need to be replaced. Valves are anticipated to be replaced during the second half of 2016. 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 2015 and April through June 2016 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 during the spring and wet months of the reporting period, particularly in the drainage way east of GW7. Several small groves of trees have grown in the northern portion of the landfill cap. Continued growth of these trees may be detrimental to the clay cap integrity.

Areas of sparse vegetation were observed along the southern portion of the landfill cap near GW1, GW2, and GW4.

6.2 Sedimentation Basin

The sedimentation basin was visited during September 2015 to evaluate the distance between the invert of the outlet structure and the top of the sediment. Approximately 14 inches of clearance existed between the outlet pipe and the sediment surface below. The sediment basin was monitored again in June 2016 during the annual activities at the landfill. Approximately 14 to 16 inches of clearance existed in a 1-foot radius around the outlet pipe.

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 1.0 feet to 42.6 feet above well bottom.
- Approximately 148,645 gallons of leachate were removed from RHL. Monthly leachate recovery volumes ranged from approximately 1,765 gallons to 24,341 gallons.
- Concentrations of inorganic compounds in the quarterly leachate samples were less than the discharge permit effluent limitations.
- In December 2015, the solenoid and unloader on the compressor were replaced. The number of leachate pumps in operation was restricted throughout the reporting period to prevent the compressor from operating above the manufacturer's recommended duty cycle range.
- Select leachate pumps could not be removed from the well for maintenance due to apparent issues with the well casing. Select pumps would not operate following the annual cleaning event due to issues with internal components or the associated lines.
- Sewer balls have been installed in the GW5 laterals (GW5-LWSP, GW5-LWMSP, and GW5-LESP) in order to prevent a vacuum on the laterals when methane concentrations are low and oxygen concentrations are elevated.

- The LFG extraction blower was taken off-line for short periods when methane concentrations were below operating levels or oxygen levels were elevated. In addition, the blower was taken off-line while the flare was non-operational. The extraction blower operated approximately 36 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 6 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 stormwater collecting on the landfill surface, particularly in the drainage way east of GW7. In addition, small groves of trees have grown in the northern portion of the landfill cap and areas of limited vegetation have been observed on the southern portion of the landfill cap.
- The distance between the outlet pipe structure invert and the top of sediment was evaluated. The allowable storm water storage volume of the sedimentation basin appears to have diminished over time.

7.2 Recommendations

Based on the Site activities conducted to date, LBG recommends that the Department evaluate the remaining life cycle of the various system components and develop of prioritized list of capital expenditures that should be funded to optimize system operations. In addition to the life cycle evaluation, the following tasks are being recommended for implementation during the subsequent contract year:

- Complete mowing activities within the fenced-in areas of the system (i.e. wellheads, blower/flare station, leachate tank);
- Coordinate leachate pump maintenance with representatives from the pump manufacturers in order to maximize the number of operational leachate pumps; and
- Seed areas of sparse vegetation on the southern portion of the landfill cap.

TABLES

Leggette, Brashears & Graham, Inc.

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	7/23/2015	53.7	38.2	15.5								No pump
GW1	8/17/2015	53.7	38.5	15.2								No pump
GW1	9/17/2015	53.7	40.2	13.6								No pump
GW1	10/26/2015	53.7	41.91	11.8								No pump
GW1	11/19/2015	53.7	41.81	11.9								No pump.
GW1	1/4/2016	53.7	37.11	16.6								No pump.
GW1	1/20/2016	53.70	36.97	16.7								No pump.
GW1	2/19/2016	53.70	37.15	16.6								No pump.
GW1	3/22/2016	53.70	36.56	17.1								No pump.
GW1	4/29/2016	53.70	36.00	17.7								No pump.
GW1	5/31/2016	53.70	36.33	17.4								No pump.
GW1	6/16/2016	53.70	36.80	16.9								No pump.
GW2	7/23/2015	53.9	36.5	17.4								No pump
GW2	8/17/2015	53.9	36.6	17.3								No pump
GW2	9/17/2015	53.9	28.3	25.6								No pump
GW2	10/26/2015	53.9	37.02	16.9								No pump
GW2	11/19/2015	53.9	37.10	16.8								No pump.
GW2	1/4/2016	53.90	33.20	20.7								No pump.
GW2	1/20/2016	53.90	35.95	18.0								No pump.
GW2	2/19/2016	53.90	35.75	18.2								No pump.
GW2	3/22/2016	53.90	35.46	18.4								No pump.
GW2	4/29/2016	53.90	36.40	17.5								No pump.
GW2	5/31/2016	53.90	35.90	18.0								No pump.
GW2	6/16/2016	53.90	36.30	17.6								No pump.
GW3	7/23/2015	59.7	55.4	4.3								No pump
GW3	8/17/2015	59.7	55.4	4.3								No pump
GW3	9/17/2015	59.7	55.4	4.3								No pump
GW3	10/26/2015	59.7	55.4	4.3								No pump
GW3	11/19/2015	59.70	55.44	4.26								No pump.
GW3	1/4/2016	59.7	54.70	5.0								No pump.
GW3	1/20/2016	59.7	55.42	4.3								No pump.

TABLE 1

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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	
GW3	2/19/2016	59.7	56.48	3.2								No pump.
GW3	3/22/2016	59.70	55.21	4.5								No pump.
GW3	4/29/2016	59.70	55.45	4.3								No pump.
GW3	5/31/2016	59.70	55.39	4.3								No pump.
GW3	6/16/2016	59.70	55.50	4.2								No pump.
GW4	7/23/2015	~65	57.9	7.1	67	763,888	27,906	40				Pump on entire reporting period
GW4	8/17/2015	~65	56.9	8.1	80	787,737	23,849	40				Pump on entire reporting period
GW4	9/17/2015	~65	56.9	8.1	75	812,185	24,448	33				Pump on entire reporting period
GW4	10/26/2015	~65	64.0	1.0	45	828,307	16,122	17				Electric Tape obstructed at 64'; pump on; cycle heard.
GW4	11/19/2015	~65	55.84	9.16	40	854,725	26,418	46				Confirmed cycling; pump on.
GW4	1/4/2016	~65	32.55	32.5	74	886,587	31,862	29				Confirmed cycling; pump on.
GW4	1/20/2016	~65	45.67	19.3	60	902,111	15,524	40				Pump continuously discharging air, no leachate pumping. Turned pump off.
GW4	2/19/2016	~65	34.16	30.8	80	941,560	39,449	55				Pump confirmed cycling.
GW4	3/22/2016	~65	33.35	31.7	55	944,511	2,951	4				Pump confirmed cycling.
GW4	4/29/2016	~65	32.40	32.6	50	944,511	0	0				Pump confirmed cycling. Left off due to the toll the pump puts on the compressor's duty cycle.
GW4	5/31/2016	~65	34.95	30.1	60	944,515	4	0				Pump was previously off; however, confirmed cycling. Left on.
GW4	6/16/2016	~65	36.00	29.0	40	103,350	88,985	232				Pump was confirmed cycling; however, turned off due to a high compressor duty cycle.
GW5	7/23/2015	~70	41.0	29.0	72	435,619	0	0	17,972	0	0	Pump off; cycled when reset
GW5	8/17/2015	~70	40.4	29.6	60	435,619	0	0	17,972	0	0	Pump off; cycled when reset
GW5	9/17/2015	~70	41.3	28.7	58	435,619	0	0	17,972	0	0	Pump off; no cycle when reset

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

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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	10/26/2015	~70	41.38	28.6	58	435,619	0	0	17,972	0	0	Pump off; no cycle when reset
GW5	11/19/2015	~70	39.77	30.23	--	435,619	0	0	17,972	0	0	No evidence of cycling after initial cycle; pump off.
GW5	1/4/2016	~70	40.60	29.4	--	435,619	0	0	17,972	0	0	No evidence of cycling after initial cycle; pump off.
GW5	1/20/2016	~70	39.31	30.7	67	435,619	0	0	17,972	0	0	No evidence of cycling after initial cycle; pump off.
GW5	2/19/2016	~70	38.90	31.1	70	435,619	0	0	17,972	0	0	Pump cycled once and then was confirmed not cycling.
GW5	3/22/2016	~70	37.84	32.2	68	435,620	1	0	17,972	0	0	Pump cycled once and then was confirmed not cycling.
GW5	4/29/2016	~70	39.75	30.3	60	435,620	0	0	17,972	0	0	Pump cycled once and then was confirmed not cycling.
GW5	5/31/2016	~70	40.57	29.4	73	435,619	1	0	17,972	0	0	Pump cycled once and then was confirmed not cycling.
GW5	6/16/2016	~70	41.40	28.6	75	435,619	0	0	17,972	0	0	Pump cycled once and then was confirmed not cycling.
GW6	7/23/2015	40.0	34.8	5.2								No pump
GW6	8/17/2015	40.0	34.9	5.1								No pump
GW6	9/30/2015	40.0	35.4	4.6								No pump
GW6	10/26/2015	40.0	35.0	5.0								No pump
GW6	11/19/2015	40.00	34.30	5.7								No pump.
GW6	1/4/2016	40.00	34.97	5.0								No pump.
GW6	1/20/2016	40.00	33.98	6.0								No pump.
GW6	2/19/2016	40.00	34.83	5.2								No pump.
GW6	3/22/2016	40.00	34.03	6.0								No pump.

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	
GW6	4/29/2016	40.00	34.85	5.2								No pump.
GW6	5/31/2016	40.00	35.07	4.9								No pump.
GW6	6/16/2016	40.00	35.10	4.9								No pump.
GW7	7/23/2015	~60	40.0	20	77	561,141	--	--	843,604	--	--	Pump not running; air on
GW7	8/17/2015	~60	37.8	22.2	65	561,261	120	0	843,604	0	0	Pump not running
GW7	9/28/2015	~60	42.5	17.5	--	--	--	--	--	--	--	Pump off; Pump stuck in well. Turn off air valve
GW7	10/26/2015	~60	42.26	17.74	--	--	--	--	--	--	--	Pump off, Pump stuck in well. Turn off air valve; remove regulator.
GW7	11/19/2015	~60	40.75	19.25	--	--	--	--	--	--	--	Pump stuck in well; pump off.
GW7	1/4/2016	~60	40.80	19.2	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW7	1/20/2016	~60	38.50	21.5	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW7	2/19/2016	~60	39.22	20.8	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW7	3/22/2016	~60	35.63	24.4	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW7	4/29/2016	~60	40.10	19.9	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW7	5/31/2016	~60	42.24	17.8	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW7	6/16/2016	~60	42.50	17.5	--	--	--	--	--	--	--	Pump stuck in well and no regulator; pump off.
GW8	7/23/2015	~69	40.90	28.1	62	656,020	0	0	654,863	0	0	Pump not running; air on

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	8/17/2015	~69	41.0	28.0	78	656,021	1	0	654,863	0	0	Pump on; did not hear cycle
GW8	9/28/2015	~69	42.2	26.8	80	656,021	0	0	654,863	0	0	Air on; no evidence of cycling.
GW8	10/26/2015	~69	44.47	24.53	55	656,043	22	0	654,874	11	0	Was off; Turned on, cycled once.
GW8	11/19/2015	~69	39.81	29.19	–	656,046	3	0	654,875	1	0	No evidence of cycling after initial cycle.
GW8	1/4/2016	~69	42.30	26.7	83	656,049	3	0	654,876	1	0	No evidence of cycling after initial cycle; pump off.
GW8	1/20/2016	~69	40.98	28.0	87	656,051	2	0	654,878	2	0	No evidence of cycling after initial cycle; pump off.
GW8	2/19/2016	~69	40.60	28.4	60	656,056	5	0	654,881	3	0	Pump cycled once and then was confirmed not cycling.
GW8	3/22/2016	~69	39.10	29.9	80	656,058	2	0	654,882	1	0	Pump cycled once and then was confirmed not cycling.
GW8	4/29/2016	~69	38.75	30.3	60	656,058	0	0	654,882	0	0	Pump cycled once and then was confirmed not cycling.
GW8	5/31/2016	~69	40.81	28.2	65	656,066	8	0	654,885	3	0	Pump cycled once and then was confirmed not cycling.
GW8	6/16/2016	~69	40.96	28.0	70	656,066	0	0	654,885	0	0	Pump cycled once and then was confirmed not cycling.
GW9	7/23/2015	~65	43.90	21.1	0	583,004	0	0	57,148	0	0	Pump off; air leaks when on
GW9	8/17/2015	~65	43.5	21.5	0	583,004	0	0	57,148	0	0	Pump off; air on
GW9	9/28/2015	~65	45.6	19.4	0	583,004	0	0	57,148	0	0	Pump off
GW9	10/26/2015	~65	45.80	19.20	--	--	--	--	--	--	--	No regulator; pump off.
GW9	11/19/2015	~65	44.88	20.12	--	--	--	--	--	--	--	No regulator; pump off.
GW9	1/4/2016	~65	45.90	19.1	--	--	--	--	--	--	--	No regulator; pump off.
GW9	1/20/2016	~65	44.83	20.2	--	--	--	--	--	--	--	No regulator; pump 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	
GW9	2/19/2016	~65	44.88	20.1	--	--	--	--	--	--	--	No regulator; pump off.
GW9	3/22/2016	~65	42.35	22.7	--	--	--	--	--	--	--	No regulator; pump off.
GW9	4/29/2016	~65	42.40	22.6	--	--	--	--	--	--	--	No regulator; pump off.
GW9	5/31/2016	~65	44.03	21.0	--	--	--	--	--	--	--	No regulator; pump off.
GW9	6/16/2016	~65	44.30	20.7	--	--	--	--	--	--	--	No regulator; pump off.
GW10	7/23/2015	~70	60.10	9.9	65	715,290	0	0				Pump on but did not observe cycle
GW10	8/17/2015	~70	60.1	9.9	65	715,290	0	0				Pump on but did not hear cycle
GW10	9/28/2015	~70	60.0	10.04	NM	715,290	0	0				Pump on; no evidence of cycling.
GW10	10/26/2015	~70	62.8	7.2	55	715,663	373	1				Turned on; heard leachate.
GW10	11/19/2015	~70	50.51	19.49	40	716,061	398	1				Confirmed cycling, but counter not registering cycles; pump off.
GW10	1/4/2016	~70	56.95	13.1	62	716,062	1	0				Confirmed no cycling after pump turned on; pump off.
GW10	1/20/2016	~70	57.83	12.2	9	716,781	719	2				Confirmed no cycling after pump turned on, very low pressure in air line; pump off.
GW10	2/19/2016	~70	57.35	12.7	65	716,786	724	1				Pump turns on and constantly cycles; pump off.
GW10	3/22/2016	~70	52.86	17.1	60	723,755	6,969	9				Pump ran periodically in March; however, shuts off on itself. Pump off.
GW10	4/29/2016	~70	54.75	15.3	60	723,792	37	0				Pump turned on and cycled rapidly. Little leachate was heard. Left off.
GW10	5/31/2016	~70	55.91	14.1	60	723,830	38	0				Pump turned on and cycled rapidly. Little leachate was heard. Left 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	
GW10	6/16/2016	~70	54.98	15.0	60	723,837	7	0				Pump turned on and cycled rapidly. Leachate was heard and discharge piping was adjusted to allow for unrestricted flow. Pump on.
GW11	7/23/2015	~65	44.0	21.0	10	100,890	0	0	919,963	1	0	Pump off. Cycled once when turned on.
GW11	8/17/2015	~65	42.4	22.6	5	100,890	0	0	919,963	0	0	Pump off
GW11	9/28/2015	~65	45.2	19.8	0	100,890	0	0	919,963	0	0	Pump off
GW11	10/26/2015	~65	60.51	4.5	58	100,891	1	0	942,781	22,818	34	Pump on; cycled leachate.
GW11	11/19/2015	~65	59.75	5.25	45	100,891	0	0	966,034	23,253	40	Pump cycling.
GW11	1/4/2016	~65	46.05	19.0	60	100891	0	0	966046	12	0	Heard leachate but no cycling; pump off.
GW11	1/20/2016	~65	44.29	20.7	67	100,892	1	0	966,048	2	0	Heard leachate but no cycling; pump off.
GW11	2/19/2016	~65	42.08	22.9	72	100,898	6	0	966,050	2	0	Pump cycled once and then got stuck on; pump off.
GW11	3/22/2016	~65	60.12	4.9	70	100,908	10	0	978,322	12,272	16	Pump confirmed cycling.
GW11	4/29/2016	~65	60.55	4.5	80	100,909	1	0	1,033,522	55,200	61	Pump confirmed cycling.
GW11	5/31/2016	~65	61.97	3.0	80	100,909	0	0	1,064,708	31,186	41	Pump confirmed cycling.
GW11	6/16/2016	~65	62.00	3.0	68	100,909	0	0	1,100,909	36,201	94	Pump confirmed cycling.
GW12	7/23/2015	~81	68.6	12.4	69	54,450	0	0	245,962	103,679	149	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	
GW12	8/17/2015	~81	60.8	20.2	67	54,450	0	0	437,326	191,364	319	Pump on; did not hear cycle
GW12	9/28/2015	~81	48.1	32.9	65	54,451	1	0	437,330	4	0	Pump on, very slow rate.
GW12	10/26/2015	~81	45.31	35.7	40	54,452	1	0	437,332	2	0	Pump off; turned on, did not hear cycle, turned off.
GW12	11/19/2015	~81	44.43	36.57	30	54454	2	0	437,336	4	0	No evidence of cycling.
GW12	1/4/2016	~81	46.00	35.0	50	54454	0	0	437,336	0	0	No evidence of cycling; pump off.
GW12	1/20/2016	~81	43.96	37.0	55	54,456	2	0	437,340	4	0	No evidence of cycling; pump off.
GW12	2/19/2016	~81	43.46	37.5	60	54,457	1	0	437,342	2	0	Pump confirmed not cycling.
GW12	3/22/2016	~81	40.17	40.8	60	54,463	6	0	437,379	37	0	Pump turns on and cycles once. Leachate release out of air discharge. Pump off.
GW12	4/29/2016	~81	38.40	42.6	60	54,463	0	0	437,380	1	0	Pump confirmed not cycling.
GW12	5/31/2016	~81	41.49	39.5	50	54,465	2	0	437,384	4	0	Pump confirmed not cycling. Large discharge of leachate from air-out line.
GW12	6/16/2016	~81	41.81	39.2	55	54,465	0	0	437,385	1	0	Pump confirmed not cycling. Large discharge of leachate from air-out line.
GW13	7/23/2015	~69	47.3	21.7	--	--	--	--	--	--	--	Missing regulator; pump off
GW13	8/17/2015	~69	47.3	21.7	--	--	--	--	--	--	--	Missing regulator; pump 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	
GW13	9/28/2015	~69	50.2	18.79	--	--	--	--	--	--	--	Missing Regulator; pump off
GW13	10/26/2015	~69	47.78	21.22	45	561335	--	--	843678	--	--	Turned on; heard air but no leachate, turned off.
GW13	11/19/2015	~69	47.12	21.88	45	561336	1	0	843679	1	0	No evidence of cycling.
GW13	1/4/2016	~69	48.10	20.9	85	561341	5	0	843680	1	0	No evidence of cycling; pump off.
GW13	1/20/2016	~69	46.27	22.7	83	561,346	10	0	843,681	1	0	No evidence of cycling; pump off.
GW13	2/19/2016	~69	44.39	24.6	80	561,349	3	0	843,682	1	0	Pump cycles but does not pump leachate; pump off.
GW13	3/22/2016	~69	44.45	24.6	85	561,353	4	0	843,682	0	0	Pump cycles but does not pump leachate; pump off.
GW13	4/29/2016	~69	43.85	25.2	70	561,354	1	0	843,682	0	0	Pump confirmed not cycling.
GW13	5/31/2016	~69	48.45	20.6	83	561,356	2	0	843,684	2	0	Pump stuck in well and confirmed not cycling.
GW13	6/16/2016	~69	48.64	20.4	80	561,360	4	0	843,685	1	0	Pump stuck in well and confirmed not cycling.

~ : Value approximated.

psi : Pounds per square inch.

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 2015	9,577	9,577
August 2015	14,539	24,116
September 2015	7,641	31,757
October 2015	9,208	40,965
November 2015	13,086	54,051
December 2015	19,422	73,473
January 2016	18,272	91,745
February 2016	1,765	93,510
March 2016	14,830	108,340
April 2016	24,341	132,681
May 2016	9,210	141,891
June 2016	6,754	148,645
Total	**148,645**	

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**
9/28/2015	0.0012 J	0.021	<0.0038 F1	0.039	0.0080	<0.000061	<0.0022	0.028	<0.0046	<0.0013	0.10	0.0074 JB
12/4/2015	0.0012 J	0.0049 J	<0.0025 H F1	0.0032J	<0.0025	<0.000073 JB	<0.0022	0.015	<0.0046	<0.0013	0.011 J	0.0042 J
3/22/2016	<0.00094	0.014	<0.0025 F1	0.0067 JB	<0.0025	<0.00011	<0.0022	0.034	<0.0046	<0.0013	0.016 J	0.0089 J
6/21/2016	0.0013 J	0.026	<0.0051 F1	0.0032 J	<0.0025	<0.00011	<0.0022	0.057	0.0053 J	<0.0013	0.014 JB ^	0.014

* : 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.
^ : Instrument related quality control is outside acceptance limits.
< : Less than laboratory method detection limit
F1 : MS and/or MSD recovery exceeds the control limits
H : Sample was analyzed past the holding time.

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	7/23/2015	61.5	0.4	45.0	-6.9	0.00	--	--	150	7	91.2
GW1	8/17/2015	57.0	0.0	49.0	-6.0	0.0	--	--	25	1	88.3
GW1	9/17/2015	53.5	1.0	36.4	9.1	0	--	--	0	0	76.2
GW1	10/22/2015	2.0	20.0	1.8	76.3	0	--	--	0	0	79.6
GW1	11/19/2015	0.1	21.3	0.0	78.6	-0.10	0	0	0	0	--
GW1	12/30/2015	44.0	0.2	30.4	25.4	0	0	0	0	0	34.3
GW1	1/20/2016	56.0	0.0	34.2	9.8	0	0	0	0	0	39.1
GW1	2/19/2016	49.5	0.1	36.6	13.8	0	0	0	0	0	46.0
GW1	3/22/2016	49.5	1.4	34.4	14.7	0	0	0	0	0	64.0
GW1	4/29/2016	47.0	2.0	39.4	11.6	0	0	0	0	0	59.1
GW1	5/31/2016	45.5	5.2	45.0	4.3	0	0	0	0	0	--
GW1	6/16/2016	46.0	4.8	56.8	-7.6	0	0	0	--	--	--
GW2	7/23/2015	60.5	0.8	46.4	-7.7	0.00	--	--	85	4	101.6
GW2	8/17/2015	53.5	1.4	4.0	41.1	0.0	--	--	41	2	109.3
GW2	9/17/2015	52.5	1.0	38.0	8.5	0	--	--	0	0	76.2
GW2	10/22/2015	9.5	16.6	7.8	66.1	0	--	--	0	0	83.6
GW2	11/19/2015	1.3	20.9	1.2	76.6	0	0	0	0	0	--
GW2	12/30/2015	55.0	0.2	36.6	8.2	0	0	0	0	0	34.3
GW2	1/20/2016	56.0	0.1	36.4	7.5	0	0	0	0	0	32.3
GW2	2/19/2016	34.0	5.4	30.2	30.4	0	0	0	0	0	46.0
GW2	3/22/2016	25.5	3.6	14.6	56.3	0	0	0	0	0	62.2
GW2	4/29/2016	3.1	19.1	2.8	75.1	0	0	0	0	0	64.7
GW2	5/31/2016	31.0	10.2	19.3	39.5	0	0	0	0	0	--
GW2	6/16/2016	45.5	3.3	57.0	-5.8	0	0	0	--	--	--
GW3	7/23/2015	48.5	6.0	24.2	21.3	0.00	--	--	99	4	97.8
GW3	8/17/2015	66.5	0.5	38.0	-5.0	0.0	--	--	43	2	101.4
GW3	9/17/2015	63.0	0.5	28.6	7.9	0	--	--	0	0	80.0
GW3	10/22/2015	1.3	20.7	1.2	76.8	-4	0	0	230	10	78.7
GW3	11/19/2015	3.1	20.6	2.6	73.7	-4	0	0	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)
GW3	12/30/2015	61.5	0.2	31.8	6.5	1	0	0	0	0	34.1
GW3	1/20/2016	61.5	1.5	32.0	5.0	3	0	0	160	7	31.0
GW3	2/19/2016	56.0	0.1	32.0	11.9	2	0	0	0	0	46.4
GW3	3/22/2016	56.0	1.2	29.8	13.0	3	0	0	0	0	57.0
GW3	4/29/2016	15.0	14.2	12.0	58.8	3	0	0	0	0	59.1
GW3	5/31/2016	57.5	4.0	34.4	4.1	0	0	0	0	0	--
GW3	6/16/2016	54.5	5.8	41.6	-1.9	0	0	0	--	--	--
GW4	7/23/2015	2.4	20.2	1.0	76.4	-16.00	0	100	--	--	87.4
GW4	8/17/2015	3.3	19.0	1.8	75.9	-14.0	--	--	--	--	--
GW4	9/17/2015	0.7	20.4	0.4	78.6	-17	0	0	1210	54	82.2
GW4	10/22/2015	0.4	20.7	0.2	78.7	-16	0	0	--	--	--
GW4	11/19/2015	0.1	20.9	0.2	78.8	-27	0	0	--	--	
GW4	12/30/2015	57.0	1.3	24.2	17.5	0.25	0	100	0	0	38.4
GW4	1/20/2016	3.5	20.6	0.4	75.6	-21	100	0	798	36	32.8
GW4	2/19/2016	0.3	20.9	0.2	78.6	-20	0	0	755	34	46.2
GW4	3/22/2016	3.9	18.6	2.0	75.5	-23	0	0	1039	47	60.6
GW4	4/29/2016	0.1	20.5	0.0	79.4	-19	0	0	1538	69	55.1
GW4	5/31/2016	35.8	5.7	32.8	25.7	--	0	100	--	--	--
GW4	6/16/2016	52.5	4.7	33.6	9.2	--	100	100	--	--	--
GW5	7/23/2015	0.2	20.8	0.0	79.1	-18.0	0	0	814	37	88.6
GW5	8/17/2015	0.2	20.6	0.0	79.3	-16.0	--	--	975	44	103.1
GW5	9/17/2015	0.2	20.4	0.2	79.3	-19	0	0	850	38	83.2
GW5	10/22/2015	1.5	20.0	0.6	77.9	-21	0	0	1088.0	49	77.7
GW5	11/19/2015	0.1	20.9	0.0	79.1	-27	0	0	1332	60	42.9
GW5	12/30/2015	63.0	0.5	29.6	6.9	0.20	0	100	0	0	36.1
GW5	1/20/2016	2.0	20.9	0.2	76.9	-21	100	0	907	41	34.3
GW5	2/19/2016	0.2	20.9	0.2	78.7	-21	0	0	525	24	40.3
GW5	3/22/2016	0.1	20.7	0.0	79.3	-25	0	0	823	37	62.7
GW5	4/29/2016	0.0	20.7	0.0	79.3	-21	0	0	706	32	58.8
GW5	5/31/2016	55.5	3.9	36.6	4.0	--	0	100	--	--	--

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	6/16/2016	22.0	12.5	17.4	48.1	--	100	0	--	--	--
GW5 - Lat East	7/23/2015	0.1	20.9	0.0	79.0	-19.00	0	0	--	--	--
GW5 - Lat East	8/17/2015	0.2	20.7	0.0	79.2	-17.0	--	--	--	--	--
GW5 - Lat East	9/17/2015	0.1	20.3	0.0	79.6	-19	--	--	--	--	--
GW5 - Lat East	10/22/2015	0.0	20.9	0.0	79.1	-20	--	--	--	--	--
GW5 - Lat East	11/19/2015	0.1	20.9	0.2	78.8	-27	--	--	--	--	--
GW5 - Lat East	12/30/2015	57.5	0.1	26.4	16.0	0.20	--	--	--	--	--
GW5 - Lat East	1/20/2016	2.2	20.3	1.6	75.9	-21	--	--	--	--	--
GW5 - Lat East	2/19/2016	0.6	20.9	0.4	78.2	-21	--	--	--	--	--
GW5 - Lat East	3/22/2016	0.0	20.7	0.0	79.3	-25	--	--	--	--	--
GW5 - Lat East	4/29/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat East	5/31/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat East	6/16/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat West	7/23/2015	3.8	19.2	2.2	74.9	-18.0	0	0	--	--	--
GW5 - Lat West	8/17/2015	0.9	20.2	0.4	78.6	-16.0	--	--	--	--	--
GW5 - Lat West	9/17/2015	1.3	19.2	1.2	78.3	-19	--	--	--	--	--
GW5 - Lat West	10/22/2015	0.0	20.8	0.0	79.2	-20	--	--	--	--	--
GW5 - Lat West	11/19/2015	0.1	20.3	0.0	79.7	-28	--	--	--	--	--
GW5 - Lat West	12/30/2015	54.0	0.1	30.4	15.5	0.10	--	--	--	--	--
GW5 - Lat West	1/20/2016	0.1	20.9	0.2	78.8	-21	--	--	--	--	--
GW5 - Lat West	2/19/2016	0.1	20.9	0.2	78.8	-21	--	--	--	--	--
GW5 - Lat West	3/22/2016	0.0	20.7	0.0	79.3	-25	--	--	--	--	--
GW5 - Lat West	4/29/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat West	5/31/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat West	6/16/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat West Mid	7/23/2015	0.1	20.9	0.0	79.0	-18	0	0	--	--	--
GW5 - Lat West Mid	8/17/2015	0.2	18.6	0.0	81.3	0.0	--	--	--	--	--
GW5 - Lat West Mid	9/17/2015	0.3	20.4	0.0	79.4	-19	--	--	--	--	--
GW5 - Lat West Mid	10/22/2015	0.0	20.9	0.0	79.1	--	--	--	--	--	--

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	11/19/2015	0.1	20.9	0.0	79.1	-28	--	--	--	--	--
GW5 - Lat West Mid	12/30/2015	59.5	0.4	30.2	9.9	0.10	--	--	--	--	--
GW5 - Lat West Mid	1/20/2016	0.2	20.9	0.2	78.8	-21	--	--	--	--	--
GW5 - Lat West Mid	2/19/2016	0.1	20.9	0.2	78.8	-21	--	--	--	--	--
GW5 - Lat West Mid	3/22/2016	0.0	20.7	0.0	79.3	-25	--	--	--	--	--
GW5 - Lat West Mid	4/29/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat West Mid	5/31/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW5 - Lat West Mid	6/16/2016	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]	--[S]
GW6	7/23/2015	58.0	2.2	39.0	0.8	-18	100	100	3220	145	92.6
GW6	8/17/2015	56.5	0.7	44.4	-1.6	-17.0	--	--	2330	105	73.9
GW6	9/17/2015	50.5	1.9	31.8	15.8	-19	100	100	1000	45	78.2
GW6	10/22/2015	26.5	3.3	25.6	44.6	-21	100	100	2250	101	65.6
GW6	11/19/2015	24.0	0.2	25.8	50.0	-27	100	100	1410	63	45.3
GW6	12/30/2015	54.5	0.0	31.8	13.7	0	100	100	69	3	37.3
GW6	1/20/2016	45.5	3.3	28.2	23.0	-21	100	100	770	35	37.2
GW6	2/19/2016	38.0	3.3	28.2	30.5	-20	100	100	807	36	44.7
GW6	3/22/2016	44.5	2.1	27.2	26.2	-21	100	100	4273	192	62.4
GW6	4/29/2016	25.0	2.4	29.0	43.6	-20	100	100	--	--	55.9
GW6	5/31/2016	42.0	3.6	37.2	17.2	--	100	100	--	--	--
GW6	6/16/2016	49.0	4.2	49.8	-3.0	--	100	100	--	--	--
GW7	7/23/2015	50.0	5.5	20.8	23.7	-19.0	100	100	1227	55	94.6
GW7	8/17/2015	2.5	20.4	1.4	75.7	-15.0	--	--	3466	156	70.3
GW7	9/17/2015	46.0	3.3	22.6	28.1	-18	--	--	900	41	84.5
GW7	10/22/2015	22.0	4.6	19.8	53.6	-21	100	50	1183	53	71.0
GW7	11/19/2015	2.4	18.9	2.4	76.3	-24	50	20	919	41	43.4
GW7	12/30/2015	69.5	0.2	23.6	6.7	0.15	20	100	0	0	32.1
GW7	1/20/2016	3.6	20.9	0.6	74.9	-23	100	50	1034	47	34.5
GW7	2/19/2016	46.5	3.3	19.6	30.6	-19	50	100	880	40	42.4

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)
GW7	3/22/2016	23.5	11.0	9.6	55.9	-26	100	50	1060	48	62.7
GW7	4/29/2016	50.5	5.2	20.4	23.9	-20	50	100	--	--	56.0
GW7	5/31/2016	50.0	3.9	27.8	18.3	--	100	100	--	--	--
GW7	6/16/2016	57.0	6.3	42.4	-5.7	--	100	100	--	--	--
GW8	7/23/2015	37.0	10.7	20.4	31.9	-18	100	100	1155	52.0	101.2
GW8	8/17/2015	34.5	9.2	13.6	42.7	-14.0	--	--	1062	47.8	70.1
GW8	9/17/2015	32.0	9.5	10.6	47.9	-18	100	0	730	33	85.8
GW8	10/22/2015	61.0	1.0	22.4	15.6	-21	0	100	1207	54	72.1
GW8	11/19/2015	12.5	15.1	6.4	66.0	-27	100	0	1227	55	41.1
GW8	12/30/2015	69.5	1.1	24.8	4.6	0.05	0	100	37	2	33.9
GW8	1/20/2016	31.5	9.4	11.6	47.5	-24	100	0	1055	47	33.2
GW8	2/19/2016	55.0	0.7	23.0	21.3	-18	0	100	842	38	42.2
GW8	3/22/2016	35.0	6.3	15.0	43.7	-25	100	100	1111	50	62.9
GW8	4/29/2016	16.0	13.9	6.0	64.1	-19	100	0	--	--	56.7
GW8	5/31/2016	61.5	3.5	29.0	6.0	--	0	100	--	--	--
GW8	6/16/2016	54.0	2.9	42.6	0.5	--	100	100	--	--	--
GW9	7/23/2015	35.0	15.2	5.5	44.3	-18	100	75	1622	73	95.7
GW9	8/17/2015	26.0	12.6	4.8	56.6	-15.0	--	--	1760	79	93.5
GW9	9/17/2015	25.0	10.9	4.8	59.3	-18	100	0	900	41	84.9
GW9	10/22/2015	7.5	17.4	1.8	73.3	-20	100	0	1510	68	75.7
GW9	11/19/2015	73.5	0.0	13.2	13.3	-26	0	100	2870	129	40.0
GW9	12/30/2015	73.5	0.4	17.2	8.9	0.30	100	100	0	0	34.8
GW9	1/20/2016	31.0	10.8	5.6	52.6	-23	100	0	1242	56	32.3
GW9	2/19/2016	61.0	1.2	11.6	26.2	-20	0	100	730	33	42.0
GW9	3/22/2016	22.5	12.7	4.0	60.8	-26	100	0	1216	55	64.5
GW9	4/29/2016	60.5	3.0	12.0	24.5	-20	0	0	1034	47	55.9
GW9	5/31/2016	69.5	2.8	14.6	13.1	--	0	100	--	--	--

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 (%)			
GW9	6/16/2016	66.0	2.9	16.0	15.1	--	100	100	--	--	--
GW10	7/23/2015	63.0	2.3	24.8	9.9	-18	100	100	1128	51	92.1
GW10	8/17/2015	62.5	0.8	27.8	8.9	-5.0	--	--	706	32	70.5
GW10	9/17/2015	37.5	1.5	20.4	40.6	-8	100	100	790	36	80.4
GW10	10/22/2015	14.0	14.5	7.2	64.3	-1	100	0	600	27	72.4
GW10	11/19/2015	0.2	20.9	0.4	78.5	0	0	0	--	--	--
GW10	12/30/2015	24.0	4.1	15.4	56.5	0.0	0	50	0	0	33.6
GW10	1/20/2016	62.0	0.2	20.9	16.9	-6	50	0	327	15	26.7
GW10	2/19/2016	48.5	2.0	28.6	20.9	-9	0	100	490	22	42.4
GW10	3/22/2016	45.5	2.8	18.8	32.9	-17	100	100	659	30	62.2
GW10	4/29/2016	7.0	5.0	15.8	72.2	-20	100	0	--	--	56.8
GW10	5/31/2016	45.5	4.3	35.2	15.0	--	100	100	--	--	--
GW10	6/16/2016	47.0	4.1	34.8	14.1	--	100	100	--	--	--
GW11	7/23/2015	69.0	4.1	3.6	23.3	-16	100	100	1204	54.2	91.2
GW11	8/17/2015	56.0	4.5	13.6	25.9	-4.0	--	--	463	20.8	70.1
GW11	9/17/2015	30.5	10.4	6.4	52.7	-18	100	0	680	31	84.5
GW11	10/22/2015	21.0	11.3	10.6	57.1	-18	100	25	1041	47	77.1
GW11	11/19/2015	41.0	4.3	21.2	33.5	-28.0	0	50	1088	49	39.5
GW11	12/30/2015	68.0	0.3	20.6	11.1	0.30	50	100	0	0	35.0
GW11	1/21/2016	49.0	1.6	14.2	35.2	-23	100	100	1035	47	35.5
GW11	2/19/2016	46.1	5.2	12.0	36.7	-20	100	100	728	33	43.3
GW11	3/22/2016	61.0	1.1	13.4	24.5	-23	100	100	701	32	64.0
GW11	4/29/2016	23.5	10.0	11.4	55.1	-20	100	100	831	37	54.8
GW11	5/31/2016	64.0	2.9	20.2	12.9	--	100	100	--	--	--
GW11	6/16/2016	64.0	2.9	22.2	10.9	--	100	100	--	--	--
GW12	7/23/2015	61.5	2.1	31.0	5.4	-18	100	100	2265	101.9	82.6
GW12	8/17/2015	61.0	0.4	38.0	0.6	-15.0	--	--	1705	76.7	70.2

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 Initial (%)	Valve Position After (%)	Gas Velocity (fpm)	Gas Flow** (cfm)	Gas Temp (deg F)
GW12	9/17/2015	32.5	7.6	17.5	42.4	-18	100	0	1250	56	82.3
GW12	10/22/2015	54.0	2.1	26.8	17.1	-16	0	100	2020	91	77.5
GW12	11/19/2015	10.0	3.4	17.0	69.6	-27	100	0	1226	55	44.2
GW12	12/30/2015	63.5	0.5	27.0	9.0	0.35	0	100	31	1	36.1
GW12	1/21/2016	0.1	20.6	0.2	79.1	-23	100	0	1140	51	43.8
GW12	2/19/2016	51.5	0.8	27.6	20.1	-17	0	100	436	20	43.5
GW12	3/22/2016	34.5	6.4	18.4	40.7	-25	100	100	1992	90	63.3
GW12	4/29/2016	11.5	2.2	20.0	66.3	-20	100	100	3241	146	57.1
GW12	5/31/2016	33.0	3.6	26.8	36.6	--	100	100	--	--	--
GW12	6/16/2016	50.0	3.9	36.2	9.9	--	100	100	--	--	--
GW13	7/23/2015	64.0	0.8	34.0	1.2	-17.0	100	100	1133	51	89.9
GW13	8/17/2015	56.0	1.4	35.0	7.6	-14.0	--	--	86	4	70.8
GW13	9/17/2015	55.0	1.3	26.6	17.1	-20	100	100	950	43	81.8
GW13	10/22/2015	53.0	0.9	29.8	16.3	-17	100	100	1059	48	75.9
GW13	11/19/2015	39.5	0.2	29.6	30.7	-27	100	100	1146	52	39.9
GW13	12/30/2015	62.0	0.7	26.6	10.7	0	100	100	0	0	35.4
GW13	1/21/2016	50.0	1.3	25.6	23.1	-22	100	100	1016	46	36.3
GW13	2/19/2016	44.5	1.5	26.8	27.2	-19	100	100	907	41	42.2
GW13	3/22/2016	49.0	1.7	26.2	23.1	-25	100	100	1055	47	60.9
GW13	4/29/2016	37.0	3.2	29.2	30.6	-20	100	100	--	--	57.1
GW13	5/31/2016	57.0	4.8	33.6	4.6	--	100	100	--	--	--
GW13	6/16/2016	54.5	4.0	39.2	4.6	--	100	100	--	--	--

* : 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.

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)

-- : Not measured.
fpm : Feet per minute.
cfm : Cubic feet per minute.
in WC : Inches of water column.
deg F : Degrees Fahrenheit.
--^{s} : Sewer ball in place.

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 (%)	Fraction of Oil in Viewport	Oil Added (Y/N)	Comments
7/9/15 1:27 PM	63,259.8	0	0%	7.0	359	0	0%	2,999.8	167	47%	--	--	Blower and flare down upon arrival and departure.
7/16/15 1:33 PM	63,260.3	1	0%	7.0	168	1	0%	3,078.3	79	47%	--	--	Blower and flare down upon arrival and departure.
7/23/15 2:59 PM	63,264.5	4	2%	7.0	169	4	2%	3,157.9	80	47%	--	--	Blower and flare down upon arrival and departure.
7/29/15 1:04 PM	63,267.8	3	2%	6.0	142	3	2%	3,226.2	68	48%	--	--	Blower and flare down upon arrival and departure.
Monthly Summary		**8**	**1%**		**838**	**8**	**1%**		**393**	**47%**			
8/6/15 3:33 PM	63,267.9	0	0%	6.0	194	0	0%	3,316.6	90	46%	--	--	Blower and flare down upon arrival and departure.
8/13/15 3:43 PM	63,268.2	0	0%	7.0	168	0	0%	3,395.0	78	47%	--	--	Blower and flare down upon arrival and departure.
8/17/15 2:40 PM	63,272.1	4	4%	7.0	95	4	4%	3,439.3	44	47%	--	--	Blower and flare down upon arrival and departure.
8/27/15 3:21 PM	63,274.7	3	1%	6.0	241	3	1%	3,574.6	135	56%	--	--	Blower and flare down upon arrival and departure.
Monthly Summary		**7**	**1%**		**698**	**7**	**1%**		**348**	**50%**			
9/2/15 4:06 PM	63,275.0	0	0%	7.0	145	0	0%	3,656.4	82	57%	--	--	Blower and flare down upon arrival and departure.
9/11/15 3:45 PM	63,275.3	0	0%	6.0	216	0	0%	3,780.7	124	58%	--	--	Blower and flare down upon arrival and departure.
9/17/15 12:30 PM	63,279.0	4	3%	6.5	141	4	3%	3,860.2	80	56%	--	--	Blower and flare down upon arrival and departure.
9/24/15 3:43 PM	63,281.6	3	2%	6.5	171	3	2%	3,957.8	98	57%	--	--	Blower and flare down upon arrival and departure.
9/28/15 3:36 PM	63,285.0	3	4%	6.5	96	3	4%	4,016.9	59	62%	--	--	Blower and flare down upon arrival and departure.
Monthly Summary		**7**	**1%**		**768**	**10**	**1%**		**442**	**58%**			

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 (%)	Fraction of Oil in Viewport	Oil Added (Y/N)	Comments
10/6/15 4:11 PM	63285.40	0	0%	6.5	192.6	0	0%	4075.40	59	30%	--	--	Blower and flare down upon arrival and departure.
10/14/15 9:30 AM	63285.80	0	0%	6	185.3	0	0%	4226.10	151	81%	--	--	Blower and flare down on arrival, operational on departure.
10/22/15 2:27 PM	63482.30	196.5	100%	5	196.9	197	100%	4422.60	197	100%	--	--	Blower and flare up on arrival and departure.
10/30/15 3:50 PM	63,676.1	193.8	100%	6.0	193.4	194	100%	4,616.4	194	100%	--	--	Blower and flare up on arrival and departure.
Monthly Summary		**391**	**51%**		**768**	**390**	**51%**		**600**	**78%**			
11/6/15 12:18 PM	63,841.9	165.8	101%	6.5	164.5	166	101%	4,781.9	166	101%	--	--	Blower and flare operational on arrival and departure.
11/12/15 2:28 PM	63,987.7	145.8	100%	6.0	146.2	146	100%	4,876.8	95	65%	--	--	Blower and flare operational on arrival and departure. Compressor shut down on 11/10/15 due to an elevated duty cycle. Compressor operational after 11/12/15 weekly.
11/19/15 4:08 PM	64,157.4	169.7	100%	6.0	169.7	170	100%	5,046.5	170	100%	--	--	Blower and flare operational on arrival and departure. Compressor shut down after 11/19/15 weekly due to an elevated duty cycle.
11/25/15 2:28 PM	64,299.7	142.3	100%	6.0	142.3	142	100%	5,047.0	1	0%	--	--	Blower and flare operational on arrival and departure. Compressor shut down since 11/19/15.
Monthly Summary		**624**	**100%**		**623**	**624**	**100%**		**431**	**69%**			
12/4/15 9:46 AM	64,511.0	211.3	100%	6.0	211.3	211	100%	5,047.0	0	0%	--	--	Blower and flare operational on arrival and departure. Compressor shut down since 11/19/15. Met mechanic on Site to diagnose compressor issue.
12/11/15 2:14 PM	64,683.5	172.5	100%	6.0	172.5	173	100%	5,047.2	0	0%	--	--	Blower and flare operational on arrival and departure. Compressor shut down.

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 (%)	Fraction of Oil in Viewport	Oil Added (Y/N)	Comments
12/17/15 3:15 PM	64,828.5	145.0	100%	6.0	145.0	0*	0%	5,076.7	30	20%	--	--	Flare down on arrival and departure; Blower operational on arrival, down on departure. Unable to start flare while on weekly Site visit. Compressor maintenance conducted 12/15/15; compressor running after 12/15/15.
12/24/15 12:40 PM	64,829.0	0.5	0%	8.0	165.4	0.5	0%	5,153.3	77	46%	--	--	Blower and flare down upon arrival and departure.
12/30/15 2:24 PM	64,829.7	0.7	0%	7.0	145.7	0.7	0%	5,223.7	70	48%	--	--	Blower and flare down upon arrival and departure.
Monthly Summary		**530**	**63%**		**840**	**385**	**46%**		**177**	**21%**			
1/7/16 4:27 PM	64,829.8	0.1	0%	7.0	194.1	0	0%	5,317.8	94	48%	3/4	N	Blower and flare down upon arrival and departure.
1/14/16 3:03 PM	64,830.5	0.7	0%	7.0	166.6	1	0%	5,409.6	92	55%	>1/2	N	Blower and flare down upon arrival and departure.
1/20/16 2:25 PM	64,832.5	2.0	1%	7.0	143.4	2	1%	5,507.3	98	68%	1/2	N	Blower and flare down upon arrival and departure. Blower running during monthly monitoring event. Compressor shut down due to elevated duty cycle.
1/26/16 11:38 AM	64,835.0	2.5	2%	7.0	141.2	2.5	2%	5,508.2	1	1%	1/4	Y	Blower and flare down upon arrival and departure. Blower running during monthly monitoring event. Compressor running upon departure. Oil filled to 3/4 full.
Monthly Summary		**5**	**1%**		**645**	**5**	**1%**		**285**	**44%**			
2/4/16 1:44 PM	64,835.3	0.3	0%	7.0	218.1	0.3	0%	5,651.9	144	66%	>1/2	N	Blower and flare down upon arrival and departure. Blower and flare only on during weekly monitoring event.
2/11/16 2:15 PM	64,835.7	0.4	0%	7.0	168.5	0.4	0%	5,760.5	109	64%	>1/2	N	Blower and flare down upon arrival and departure. Blower and flare only on during weekly monitoring event.
2/19/16 2:20 PM	64,839.5	3.8	2%	6.0	192.1	3.8	2%	5,881.5	121	63%	1/2	N	Blower and flare down upon arrival and departure. Blower and flare only on during weekly/monthly monitoring event.

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 (%)	Fraction of Oil in Viewport	Oil Added (Y/N)	Comments
2/25/16 2:12 PM	64,839.5	0.0	0%	6.0	143.9	0.0	0%	5,972.1	91	63%	<1/3	Y	Blower and flare down upon arrival and departure. Oil filled to 3/4 full.
Monthly Summary		**5**	**0%**		**723**	**5**	**1%**		**464**	**64%**			
3/2/16 11:26 AM	64,840.1	0.6	0%	7.0	141.2	0.6	0%	6,079.0	107	76%	2/3	N	Blower and flare down upon arrival and departure.
3/9/16 2:28 PM	64,842.4	2.3	1%	7.0	171.0	2.3	1%	6,179.0	100	58%	1/2	N	Blower and flare down upon arrival and departure. Blower and flare only on during pump cleaning event.
3/18/16 2:00 PM	64,843.0	0.6	0%	7.0	215.5	0.6	0%	6,278.3	99	46%	<1/2	Y	Blower and flare down upon arrival and departure. Oil filled to 3/4 full.
3/24/16 2:18 PM	64,893.0	50.0	35%	6.0	144.3	50.0	35%	6,372.0	94	65%	>1/2	N	Blower and flare operational upon arrival and departure. Brought on-line 3/22/16.
3/31/16 10:37 AM	65,057.4	164.4	100%	6.0	164.3	164.4	100%	6,446.9	75	46%	>1/2	N	Blower and flare operational upon arrival and departure.
Monthly Summary		**218**	**26%**		**836**	**218**	**26%**		**475**	**57%**			
4/7/16 1:42 PM	65,228.5	171.1	100%	7.0	171.1	171.1	100%	6,520.0	73	43%	1/2	N	Blower and flare operational upon arrival and departure.
4/14/16 9:23 AM	65,392.1	163.6	100%	6.0	163.7	163.6	100%	6,586.4	66	41%	<1/2	Y	Blower and flare operational upon arrival; however, turned off upon departure for scheduled flare maintenance on 4/15/16. Blower and flare will become operational after 4/15/16 maintenance.

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 (%)	Fraction of Oil in Viewport	Oil Added (Y/N)	Comments
4/21/16 10:40 AM	65,536.5	144.4	85%	6.0	169.3	144.4	85%	6,655.4	69	41%	3/4	N	Blower and flare operational upon arrival and departure.
4/29/16 2:24 PM	65,732.2	195.7	100%	6.0	195.7	195.7	100%	6,737.6	82	42%	3/4	N	Blower and flare operational upon arrival and departure.
Monthly Summary		**675**	**96%**		**700**	**675**	**96%**		**291**	**42%**			
5/3/16 3:08 PM	65,828.7	96.5	100%	6.0	96.7	96.5	100%	6,778.4	41	42%	3/4	N	Blower and flare operational upon arrival; however, turned off upon departure for scheduled flare maintenance on 5/4/16. Blower and flare will become operational after 5/4/16 maintenance.
5/13/16 10:10 AM	66,041.0	212.3	90%	6.0	235.0	212.3	90%	6,875.0	97	41%	>1/2	N	Blower and flare operational upon arrival and departure.
5/20/16 10:00 AM	66,208.7	167.7	100%	6.0	167.8	167.7	100%	6,943.7	69	41%	>1/2	N	Blower and flare operational upon arrival and departure.
5/25/16 10:37 AM	66,329.4	120.7	100%	6.0	120.6	120.7	100%	6,992.8	49	41%	>1/2	N	Blower and flare operational upon arrival. Flare would not restart after a brief shut-down and the system was non-operational upon departure.
Monthly Summary		**597**	**96%**		**620**	**597**	**96%**		**255**	**41%**			
6/3/16 2:37 PM	66,331.0	1.6	0%	--	220.0	1.6	1%	7,101.9	109	50%	1/2	N	Blower and flare non-operational due to transformer issues at the flare. System down upon arrival and departure.
6/10/16 9:22 AM	66,331.0	0.0	0%	--	162.8	0.0	0%	7,167.7	66	40%	1/2	N	Blower and flare non-operational due to transformer issues at the flare. System down upon arrival and departure.

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 (%)	Fraction of Oil in Viewport	Oil Added (Y/N)	Comments
6/16/16 8:53 AM	66,331.0	0.0	0%	--	143.5	0.0	0%	7,264.8	97	68%	1/2	N	Blower and flare non-operational due to transformer issues at the flare. System down upon arrival and departure.
6/21/16 3:08 PM	66,331.0	0.0	0%	--	126.3	0.0	0%	7,323.1	58	46%	1/2	N	Blower and flare non-operational due to transformer issues at the flare. System down upon arrival and departure.
6/29/16 8:00 AM	66,331.0	0.0	0%	--	311.1	0.0	0%	7,410.6	146	47%	1/2	N	Blower and flare non-operational due to transformer issues at the flare. System down upon arrival and departure.
Monthly Summary		**2**	**0%**		**964**	**2**	**0%**		**476**	**49%**			
Annual Summary		**3061**	**36%**		**9024**	**2925**	**32%**		**4,636**	**51%**			

* Current system configuration does not allow for notification when the flare 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	CH_4*		O_2	CO_2	Balance Gas**	Comments
		(in. WC)	(% LEL)	(% Vol)	(% Vol)	(% Vol)	(% Vol)	
G-1S	7/29/15	0.00	--	**24.5**	0.5	28.0	47.0	
G-1S	8/27/15	0.00	--	**18.5**	0.1	21.8	59.6	
G-1S	9/24/15	0.00	--	**18.5**	0.9	19.6	61.0	
G-1S	10/26/15	0.00	--	**9.0**	0.0	17.4	73.6	
G-1S	11/25/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-1S	12/29/15	0.00	1.0	0.1	20.9	0.0	79.1	
G-1S	1/26/16	--	1.0	0.1	20.9	0.0	79.1	
G-1S	2/26/16	0.00	1.0	0.1	20.9	0.0	79.1	Port fell off tube.
G-1S	3/21/16	0.00	93.0	4.7	7.1	6.6	81.7	Replaced port.
G-1S	4/26/16	0.00	1.0	0.1	20.9	0.0	79.1	
G-1S	5/25/16	0.00	0.0	0.0	10.9	6.8	82.3	
G-1S	6/29/16	0.00	--	**13.0**	2.9	22.0	62.1	
G-1D	7/29/15	0.00	--	**16.0**	0.4	24.2	59.4	
G-1D	8/27/15	0.00	--	**10.5**	0.2	18.2	71.1	
G-1D	9/24/15	0.00	--	**10.5**	0.4	17.0	72.1	
G-1D	10/26/15	0.00	1.0	0.1	2.3	12.0	85.7	
G-1D	11/25/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-1D	12/29/15	0.00	1.0	0.1	20.9	0.0	79.1	
G-1D	1/26/16	--	1.0	0.1	20.9	0.0	79.1	
G-1D	2/26/16	0.00	1.0	0.1	20.9	0.0	79.1	
G-1D	3/21/16	0.00	0.0	0.0	20.9	0.4	78.7	
G-1D	4/26/16	0.00	1.0	0.1	20.9	0.0	79.0	
G-1D	5/25/16	0.00	0.0	0.0	7.5	9.8	82.7	
G-1D	6/29/16	0.00	--	**11.0**	3.5	22.4	63.1	
G-2S	7/28/15	0.00	8.5	0.4	0.5	19.8	79.3	
G-2S	8/27/15	0.00	0.0	**5.5**	3.4	14.6	76.5	
G-2S	9/24/15	0.00	10.0	0.5	18.5	1.8	79.2	

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-2S	10/26/15	0.00	5.0	0.3	19.4	1.2	79.2	
G-2S	11/25/15	0.00	1.0	0.1	20.9	0.2	78.9	
G-2S	12/29/15	0.00	4.0	0.2	21.3	0.4	78.1	
G-2S	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
G-2S	2/26/16	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	3/21/16	0.00	--	**5.0**	0.1	16.6	78.3	
G-2S	4/26/16	0.00	0.0	0.0	20.9	0.0	79.1	Needs replacemet valve.
G-2S	5/25/16	0.00	--	**5.0**	8.2	13.8	73.0	Needs replacement valve.
G-2S	6/29/16	0.00	44.0	2.2	11.2	10.6	76.0	Needs replacement valve.
G-2D	7/29/15	0.00	0.0	0.0	18.7	2.0	79.3	
G-2D	8/27/15	0.00	0.0	0.0	17.8	2.0	80.2	
G-2D	9/24/15	0.00	0.0	0.0	18.5	2.0	79.5	
G-2D	10/26/15	0.00	0.0	0.0	20.7	1.2	78.1	
G-2D	11/25/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	12/29/15	0.00	3.0	0.2	21.3	0.4	78.2	
G-2D	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
G-2D	2/26/16	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	3/21/16	0.00	1.0	0.1	20.9	0.2	78.9	
G-2D	4/26/16	0.00	0.0	0.0	20.9	0.0	79.1	Needs replacement valve.
G-2D	5/25/16	0.00	0.0	0.0	18.3	2.4	79.3	Needs replacement valve.
G-2D	6/29/16	0.00	0.0	0.0	18.0	11.8	70.2	Needs replacement valve.
G-5	7/29/15	--	0.0	0.0	20.9	0.2	78.9	No Port
G-5	8/27/15	--	0.0	0.0	20.9	0.0	79.1	No Port
G-5	9/24/15	--	1.0	0.1	20.3	0.8	78.9	No Port
G-5	10/26/15	--	0.0	0.0	20.9	0.6	78.5	No Port
G-5	11/25/15	--	2.0	0.1	20.9	0.2	78.8	No Port
G-5	12/29/15	--	4.0	0.2	20.9	1.0	77.9	No Port
G-5	1/26/16	--	0.0	0.0	20.9	0.0	79.1	No Port

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	2/26/16	--	0.0	0.0	20.9	0.0	79.1	No Port
G-5	3/21/16	--	0.0	0.0	20.7	0.4	78.9	No Port
G-5	4/26/16	--	1.0	0.1	20.9	0.0	79.0	No Port
G-5	5/25/16	--	0.0	0.0	20.9	0.0	79.1	No Port.
G-5	6/29/16	--	0.0	0.0	20.9	0.0	79.1	No Port.
G-6	7/29/15	--	0.0	0.0	20.9	0.4	78.7	No Port
G-6	8/27/15	--	0.0	0.0	18.8	0.8	80.4	No Port
G-6	9/24/15	--	0.0	0.0	19.2	0.8	80.0	No Port
G-6	10/26/15	--	0.0	0.0	18.1	1.2	80.7	No Port
G-6	11/25/15	--	0.0	0.0	20.9	0.0	79.1	No Port
G-6	12/29/15	--	1.0	0.1	21.0	0.2	78.8	No Port
G-6	1/26/16	--	1.0	0.1	20.9	0.0	79.1	No Port
G-6	2/26/16	--	1.0	0.1	20.9	0.6	78.5	No Port
G-6	3/21/16	--	0.0	0.0	20.9	0.6	78.5	No Port
G-6	4/26/16	--	1.0	0.1	20.9	0.0	79.0	No Port
G-6	5/25/16	--	0.0	0.0	20.5	0.6	78.9	No Port.
G-6	6/29/16	--	0.0	0.0	20.9	0.0	79.1	No Port.
G-8	7/29/15	0.00	0.0	0.0	20.3	0.0	79.7	
G-8	8/27/15	0.00	0.0	0.0	20.6	0.0	79.4	
G-8	9/24/15	0.00	0.0	0.0	19.5	0.0	80.5	
G-8	10/26/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-8	11/25/15	0.00	0.0	0.0	20.5	0.0	79.5	
G-8	12/29/15	0.00	2.0	0.1	20.9	0.2	78.8	
G-8	1/26/16	--	2.0	0.1	21.4	0.2	78.3	
G-8	2/26/16	0.00	2.0	0.1	20.9	0.2	78.8	
G-8	3/21/16	0.00	0.0	0.0	20.9	0.0	79.1	
G-8	4/26/16	0.00	1.0	0.1	20.9	0.0	79.0	
G-8	5/25/16	0.00	0.0	0.0	19.3	0.0	80.7	
G-8	6/29/16	0.00	0.0	0.0	17.9	0.0	82.1	

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-9	7/29/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-9	8/27/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-9	9/24/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-9	10/26/15	0.00	0.0	0.0	20.9	0.0	79.1	
G-9	11/25/15	0.00	0.0	0.0	15.4	2.6	82.0	
G-9	12/29/15	0.00	3.0	0.2	20.6	1.2	78.1	
G-9	1/26/16	--	0.0	0.0	15.6	3.0	81.4	
G-9	2/26/16	0.00	3.0	0.2	20.9	0.8	78.2	
G-9	3/21/16	0.00	0.0	0.0	20.9	0.2	78.9	
G-9	4/26/16	0.00	1.0	0.1	20.9	0.0	79.0	
G-9	5/25/16	0.00	0.0	0.0	20.9	0.0	79.1	
G-9	6/29/16	0.00	0.0	0.0	20.9	0.0	79.1	
G-10	7/29/15	--	0.0	0.0	20.9	0.0	79.1	No Port
G-10	8/27/15	--	0.0	0.0	20.9	0.0	79.1	No Port
G-10	9/24/15	--	0.0	0.0	20.9	0.0	79.1	No Port
G-10	10/26/15	--	0.0	0.0	20.9	0.0	79.1	No Port
G-10	11/25/15	--	0.0	0.0	20.8	0.2	79.0	No Port
G-10	12/29/15	--	2.0	0.1	20.9	0.2	78.8	No Port
G-10	1/26/16	--	1.0	0.1	21.1	0.2	78.7	No Port
G-10	2/26/16	--	2.0	0.1	20.9	0.0	79.0	No Port
G-10	3/21/16	--	0.0	0.0	20.9	0.0	79.1	No Port
G-10	4/26/16	--	1.0	0.1	20.9	0.0	79.0	No Port
G-10	5/25/16	--	0.0	0.0	20.7	0.2	79.1	No Port.
G-10	6/29/16	--	0.0	0.0	20.9	0.0	79.1	No Port.
GP-8	7/29/15	0.00	1.0	0.1	18.1	3.4	78.5	
GP-8	8/27/15	0.00	0.0	0.0	18.3	2.6	79.1	
GP-8	9/24/15	0.00	1.0	0.1	18.5	2.8	78.7	
GP-8	10/26/15	0.00	0.0	0.0	18.6	3.6	77.8	

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-8	11/25/15	0.00	2.0	0.1	19.1	2.2	78.6	
GP-8	12/29/15	0.00	4.0	0.2	20.9	1.2	77.7	
GP-8	1/26/16	--	0.0	0.0	19.9	1.4	78.7	
GP-8	2/26/16	0.00	0.0	0.0	19.5	1.0	79.5	
GP-8	3/21/16	0.00	1.0	0.1	20.7	0.6	78.7	
GP-8	4/26/16	0.00	1.0	0.1	18.9	2.0	79.0	
GP-8	5/25/16	0.00	0.0	0.0	18.6	2.2	79.2	
GP-8	6/29/16	0.00	0.0	0.0	18.0	3.2	78.8	
GP-11S	7/29/15	0.00	--	**5.0**	15.6	2.4	77.0	
GP-11S	8/27/15	0.00	70.0	3.5	0.4	15.8	80.3	
GP-11S	9/24/15	0.00	61.0	3.1	0.6	15.0	81.4	
GP-11S	10/26/15	0.00	0.0	0.0	18.5	2.4	79.1	
GP-11S	11/25/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-11S	12/29/15	0.00	3.0	0.2	21.1	0.6	78.2	
GP-11S	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
GP-11S	2/26/16	0.00	3.0	0.2	21.1	0.4	78.4	
GP-11S	3/21/16	0.00	1.0	0.1	20.9	0.4	78.7	
GP-11S	4/26/16	0.00	1.0	0.1	18.7	2.0	79.2	
GP-11S	5/25/16	0.00	42.0	2.1	3.1	10.6	84.2	
GP-11S	6/29/16	0.00	86.0	4.3	5.6	13.8	76.3	
GP-11D	7/29/15	0.00	--	**6.0**	2.8	16.4	74.8	
GP-11D	8/27/15	0.00	--	**5.0**	0.7	15.4	78.9	
GP-11D	9/24/15	0.00	--	**5.0**	1.3	14.6	79.1	
GP-11D	10/26/15	0.00	13.0	0.7	18.0	2.8	78.6	
GP-11D	11/25/15	0.00	1.0	0.1	20.9	0.0	79.1	
GP-11D	12/29/15	0.00	3.0	0.2	21.3	0.4	78.2	
GP-11D	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
GP-11D	2/26/16	0.00	3.0	0.2	21.1	0.4	78.4	

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-11D	3/21/16	0.00	1.0	0.1	20.9	0.2	78.9	
GP-11D	4/26/16	0.00	18.0	0.9	2.0	11.2	85.9	
GP-11D	5/25/16	0.05	--	**6.0**	3.5	15.8	74.7	
GP-11D	6/29/16	0.00	--	**5.0**	4.9	15.4	74.7	
GP-12S	7/29/15	0.00	4.0	0.2	16.2	4.2	79.4	
GP-12S	8/27/15	0.00	0.0	0.0	17.5	3.0	79.5	
GP-12S	9/24/15	0.00	1.0	0.1	18.6	2.2	79.2	
GP-12S	10/26/15	0.00	1.0	0.1	18.7	2.4	78.9	
GP-12S	11/25/15	0.00	1.0	0.1	18.4	3.0	78.6	
GP-12S	12/29/15	0.00	4.0	0.2	20.9	1.4	77.5	
GP-12S	1/26/16	--	0.0	0.0	20.9	0.2	78.9	
GP-12S	2/26/16	0.00	0.0	0.0	19.4	1.2	79.4	
GP-12S	3/21/16	0.00	1.0	0.1	18.5	2.2	79.3	
GP-12S	4/26/16	0.02	1.0	0.1	19.3	2.0	78.6	
GP-12S	5/25/16	0.00	--	**5.5**	3.6	10.8	80.1	
GP-12S	6/29/16	0.00	1.0	0.1	15.9	4.4	79.7	
GP-12D	7/29/15	0.00	--	**5.5**	12.0	9.8	72.7	
GP-12D	8/27/15	0.00	--	**13.5**	12.1	8.4	66.0	CH4 reading inceasing slowly
GP-12D	9/24/15	0.00	46.0	2.3	17.0	3.8	76.9	
GP-12D	10/26/15	0.00	39.0	2.0	18.0	3.0	77.1	
GP-12D	11/25/15	0.00	28.0	1.4	19.1	2.2	77.3	
GP-12D	12/29/15	0.00	29.0	1.5	20.9	1.8	75.9	
GP-12D	1/26/16	--	1.0	0.1	20.9	0.0	79.1	
GP-12D	2/26/16	0.00	8.0	0.4	20.9	0.4	78.3	
GP-12D	3/21/16	0.05	--	**5.0**	14.4	7.0	73.6	
GP-12D	4/26/16	0.01	--	**16.0**	3.1	20.8	60.1	
GP-12D	5/25/16	0.00	--	**10.5**	9.0	16.2	64.3	

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-12D	6/29/16	0.00	--	8.5	9.2	16.2	66.1	
GP-13S	7/29/15	0.00	1.0	0.1	9.6	7.2	83.2	
GP-13S	8/27/15	0.00	0.0	0.0	16.0	3.6	80.4	
GP-13S	9/24/15	0.00	0.0	0.0	17.7	3.0	79.3	
GP-13S	10/26/15	0.00	0.0	0.0	19.9	1.2	78.9	
GP-13S	11/25/15	0.00	1.0	0.1	20.9	0.2	78.9	
GP-13S	12/29/15	0.00	4.0	0.2	20.9	0.8	78.1	
GP-13S	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
GP-13S	2/26/16	0.00	0.0	0.0	20.9	0.0	79.1	
GP-13S	3/21/16	0.00	1.0	0.1	19.4	1.2	79.4	
GP-13S	4/26/16	0.00	0.0	0.0	20.3	1.6	78.1	
GP-13S	5/25/16	0.00	1.0	0.1	4.7	6.6	88.7	
GP-13S	6/29/16	0.00	0.0	0.0	12.7	6.2	81.1	
GP-13D	7/29/15	0.00	15.0	0.8	11.8	6.0	81.5	
GP-13D	8/27/15	0.00	7.0	0.4	17.8	2.2	79.7	
GP-13D	9/24/15	0.00	8.0	0.4	17.6	2.6	79.4	
GP-13D	10/26/15	0.00	8.0	0.4	18.8	1.8	79.0	
GP-13D	11/25/15	0.00	1.0	0.1	20.9	0.2	78.9	
GP-13D	12/29/15	0.00	4.0	0.2	21.1	0.4	78.3	
GP-13D	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
GP-13D	2/26/16	0.00	0.0	0.0	20.9	0.0	79.1	
GP-13D	3/21/16	0.00	0.0	0.0	20.9	0.2	78.9	
GP-13D	4/26/16	0.00	0.0	0.0	20.9	0.0	79.1	
GP-13D	5/25/16	0.03	27.0	1.4	9.2	8.8	80.7	
GP-13D	6/29/16	0.00	33.0	1.7	12.1	7.6	78.7	
GPW-1S	7/29/15	0.00	0.0	0.0	19.7	1.2	79.1	

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)	
GPW-1S	8/27/15	0.00	0.0	0.0	19.5	1.0	79.5	
GPW-1S	9/24/15	0.00	0.0	0.0	19.6	1.0	79.4	
GPW-1S	10/26/15	0.00	0.0	0.0	20.2	1.2	78.6	
GPW-1S	11/25/15	0.00	0.0	0.0	18.0	2.0	80.0	
GPW-1S	12/29/15	0.00	3.0	0.2	20.4	1.6	77.9	
GPW-1S	1/26/16	--	0.0	0.0	20.3	0.8	78.9	
GPW-1S	2/26/16	0.00	2.0	0.1	20.4	1.2	78.3	
GPW-1S	3/21/16	0.00	0.0	0.0	19.2	1.4	79.4	
GPW-1S	4/26/16	0.00	1.0	0.1	19.6	1.2	79.1	
GPW-1S	5/25/16	0.00	0.0	0.0	20.7	0.8	78.5	
GPW-1S	6/29/16	0.00	0.0	0.0	20.1	1.6	78.3	
GPW-1M	7/29/15	-0.15	0.0	0.0	20.9	0.0	79.1	
GPW-1M	8/27/15	0.20	0.0	0.0	19.6	1.0	79.4	
GPW-1M	9/24/15	0.15	0.0	0.0	20.9	0.0	79.1	
GPW-1M	10/26/15	0.25	0.0	0.0	19.1	1.4	79.5	
GPW-1M	11/25/15	0.10	0.0	0.0	18.1	1.4	80.5	
GPW-1M	12/29/15	-0.35	3.0	0.2	21.1	0.2	78.6	
GPW-1M	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
GPW-1M	2/26/16	0.15	2.0	0.1	19.4	1.6	78.9	
GPW-1M	3/21/16	0.40	0.0	0.0	20.9	1.4	77.7	
GPW-1M	4/26/16	-0.45	1.0	0.1	20.9	0.0	79.0	Needs replacement valve.
GPW-1M	5/25/16	0.30	0.0	0.0	20.9	0.2	78.9	Needs replacement valve.
GPW-1M	6/29/16	-0.10	0.0	0.0	20.9	0.0	79.1	Needs replacement valve.
GPW-1D	7/29/15	-0.20	0.0	0.0	20.6	0.6	78.8	
GPW-1D	8/27/15	0.35	0.0	0.0	18.3	2.0	79.7	

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)	
GPW-1D	9/24/15	0.15	0.0	0.0	18.0	2.4	79.6	
GPW-1D	10/26/15	0.25	0.0	0.0	18.9	2.0	79.1	
GPW-1D	11/25/15	0.10	0.0	0.0	17.6	2.2	80.2	
GPW-1D	12/29/15	-0.60	3.0	0.2	19.1	1.0	79.8	
GPW-1D	1/26/16	--	0.0	0.0	20.9	0.0	79.1	
GPW-1D	2/26/16	0.25	2.0	0.1	18.8	2.0	79.1	
GPW-1D	3/21/16	0.50	0.0	0.0	18.4	1.8	79.8	
GPW-1D	4/26/16	-0.40	1.0	0.1	20.9	0.0	79.0	
GPW-1D	5/25/16	0.30	0.0	0.0	19.3	1.8	78.9	
GPW-1D	6/29/16	-0.15	0.0	0.0	19.0	2.4	78.6	
Speedway Buildings	7/29/15		--	0.0	20.9	0.0	79.1	
Speedway Buildings	8/27/15		--	0.0	18.8	0.0	81.2	
Speedway Buildings	9/24/15		--	0.0	20.0	0.0	80.0	
Speedway Buildings	10/26/15		--	0.0	20.9	0.0	79.1	
Speedway Buildings	11/25/15		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	12/29/15		1.0	0.1	20.9	0.0	79.0	
Speedway Buildings	1/26/16		1.0	0.1	20.9	0.0	79.1	
Speedway Buildings	2/26/16		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	3/21/16		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	4/26/16		1.0	0.1	20.9	0.0	79.0	
Speedway Buildings	5/25/16		0.0	0.0	20.9	0.0	79.1	
Speedway Buildings	6/29/16		0.0	0.0	20.1	0.0	79.1	

* : Percent volume calculated as % LEL/20.

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

in. WC: Inches of water column.

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)	

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.

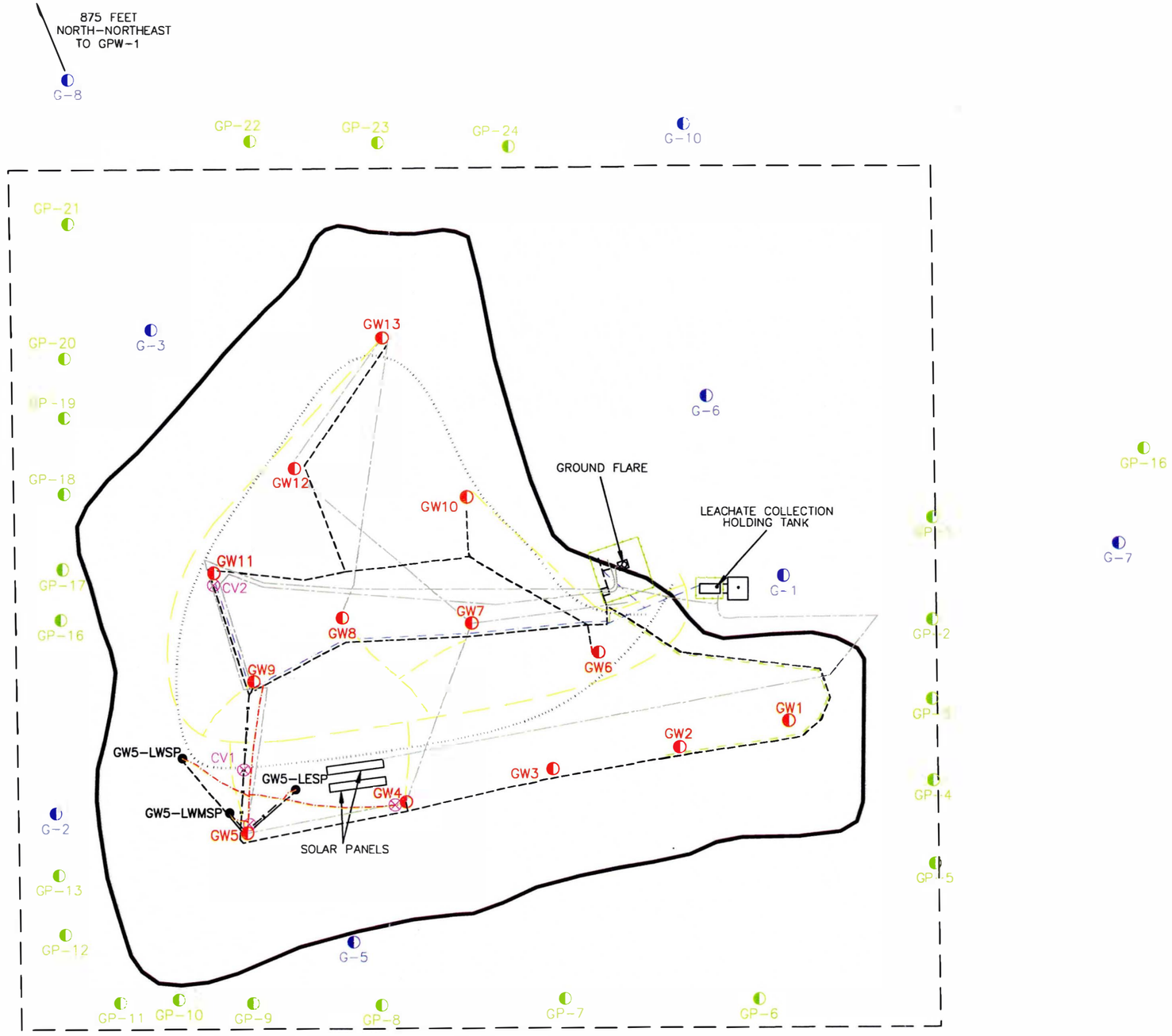
--: Not measured.

FIGURES

LEGGETTE, BRASHEARS & GRAHAM, INC.

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 (2007-2016)

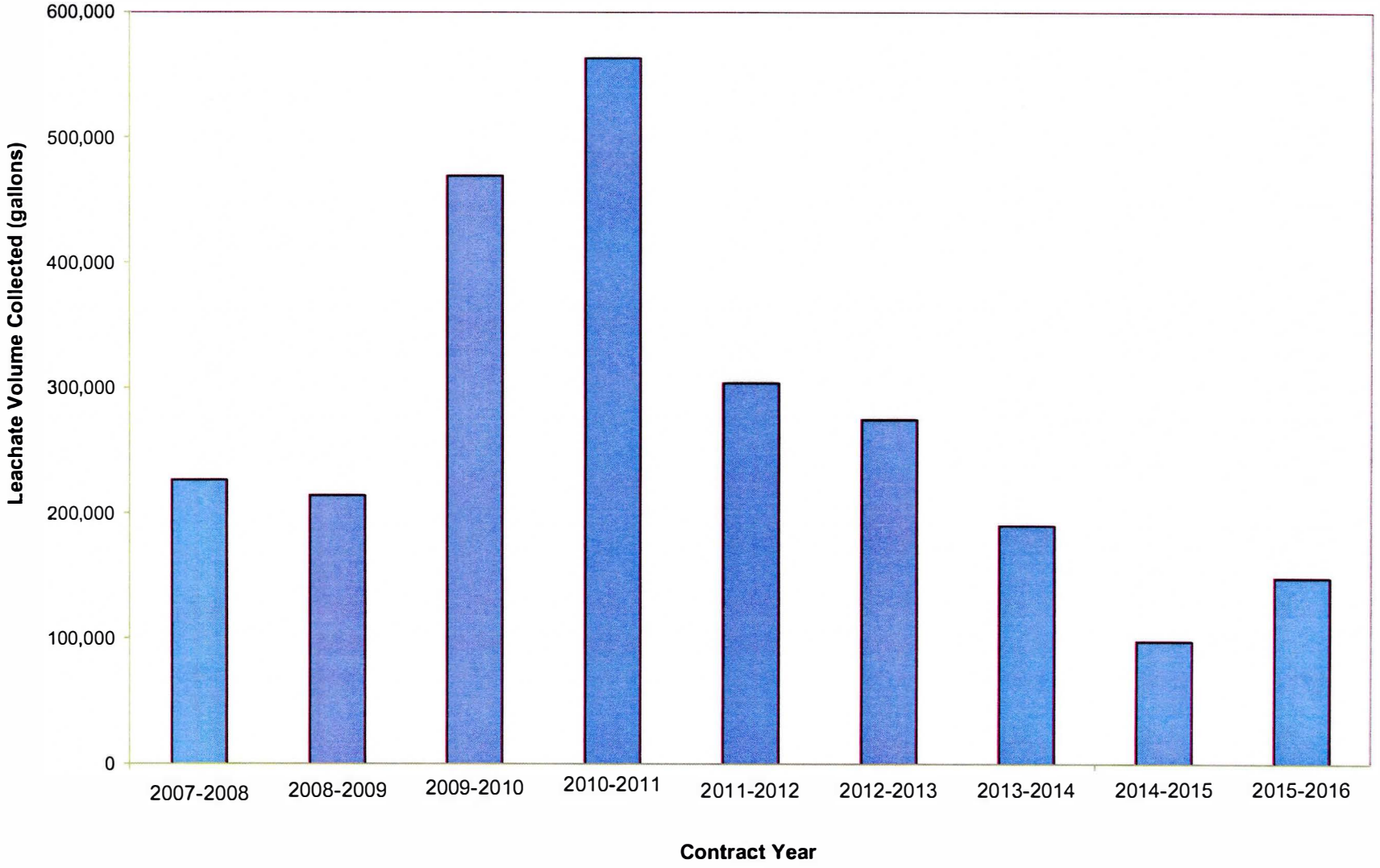
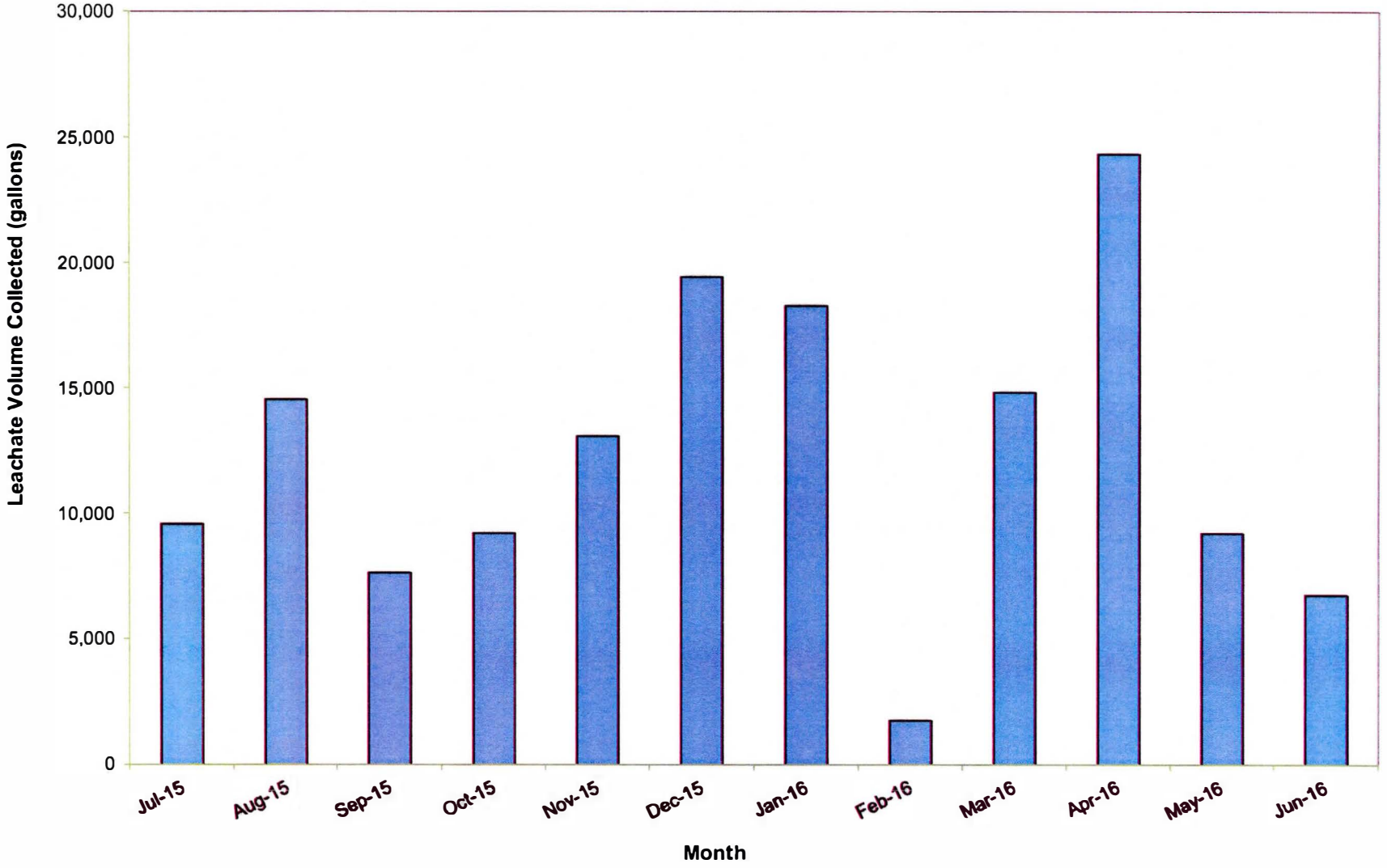


FIGURE 3

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY LEACHATE COLLECTION VOLUME (JULY 2015-JUNE 2016)



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: 500-101797-1
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:
10/2/2015 12:15:24 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 Landfill

TestAmerica Job ID: 500-101797-1

Job ID: 500-101797-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-101797-1

Comments
No additional comments.

Receipt
The sample was received on 9/29/2015 10:05 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

Metals
Method(s) 6010B: The interference check standard solution (ICSA) associated with Analytical batch 500-306519 had results for Cadmium above the reporting limit (RL). Associated sample Leachate (500-101797-1) was a non-detect for Cadmium, 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 Landfill

TestAmerica Job ID: 500-101797-1

Client Sample ID: Leachate

Lab Sample ID: 500-101797-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0012	J ^	0.0020	0.00094	mg/L	1		8010B	Total/NA
Chromium	0.021		0.010	0.0024	mg/L	1		6010B	Total/NA
Copper	0.039		0.010	0.0022	mg/L	1		6010B	Total/NA
Lead	0.0080		0.0050	0.0025	mg/L	1		6010B	Total/NA
Nickel	0.028		0.010	0.0031	mg/L	1		6010B	Total/NA
Zinc	0.10		0.020	0.0093	mg/L	1		6010B	Total/NA
Cyanide, Total	0.0074	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: 500-101797-1

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: 500-101797-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-101797-1	Leachate	Leachate	09/28/15 15:40	09/29/15 10:05

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Client Sample Results

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

TestAmerica Job ID: 500-101797-1

Client Sample ID: Leachate

Date Collected: 09/28/15 15:40
Date Received: 09/29/15 10:05

Lab Sample ID: 500-101797-1

Matrix: Leachate

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0012	J ^	0.0020	0.00094	mg/L		09/29/15 13:19	09/30/15 16:56	1
Chromium	0.021		0.010	0.0024	mg/L		09/29/15 13:19	09/30/15 16:56	1
Copper	0.039		0.010	0.0022	mg/L		09/29/15 13:19	09/30/15 16:56	1
Lead	0.0080		0.0050	0.0025	mg/L		09/29/15 13:19	09/30/15 16:56	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		09/29/15 13:19	09/30/15 16:56	1
Nickel	0.028		0.010	0.0031	mg/L		09/29/15 13:19	09/30/15 16:56	1
Selenium	<0.0046		0.010	0.0046	mg/L		09/29/15 13:19	09/30/15 16:56	1
Silver	<0.0013		0.0050	0.0013	mg/L		09/29/15 13:19	09/30/15 16:56	1
Zinc	0.10		0.020	0.0093	mg/L		09/29/15 13:19	10/01/15 15:24	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		09/30/15 15:30	10/01/15 12:09	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			09/29/15 13:12	1
Cyanide, Total	0.0074	J B	0.010	0.0012	mg/L		09/29/15 19:00	09/29/15 21:38	1

Definitions/Glossary

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

TestAmerica Job ID: 500-101797-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
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
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.
F1	MS and/or MSD Recovery is outside acceptance limits.

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: 500-101797-1

Metals

Prep Batch: 306250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	3010A	
LCS 500-306250/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-306250/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 306440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	7470A	
LCS 500-306440/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-306440/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 306519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	6010B	306250
LCS 500-306250/2-A	Lab Control Sample	Total/NA	Water	6010B	306250
MB 500-306250/1-A	Method Blank	Total/NA	Water	6010B	306250

Analysis Batch: 306582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	7470A	306440
LCS 500-306440/13-A	Lab Control Sample	Total/NA	Water	7470A	306440
MB 500-306440/12-A	Method Blank	Total/NA	Water	7470A	306440

Analysis Batch: 306694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	6010B	306250
LCS 500-306250/2-A	Lab Control Sample	Total/NA	Water	6010B	306250
MB 500-306250/1-A	Method Blank	Total/NA	Water	6010B	306250

General Chemistry

Prep Batch: 306283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	Distill/CN	
LCS 500-306283/1-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-306283/2-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 306299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	SM 4500 CN E	306283
LCS 500-306283/1-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	306283
MB 500-306283/2-A	Method Blank	Total/NA	Water	SM 4500 CN E	306283

Analysis Batch: 306388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-101797-1	Leachate	Total/NA	Leachate	SM 3500 CR B	
500-101797-1 MS	Leachate	Total/NA	Leachate	SM 3500 CR B	
LCS 500-306388/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
LCSD 500-306388/5	Lab Control Sample Dup	Total/NA	Water	SM 3500 CR B	
MB 500-306388/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-306250/1-A
Matrix: Water
Analysis Batch: 306519

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094	^	0.0020	0.00094	mg/L		09/29/15 13:19	09/30/15 16:15	1
Chromium	<0.0024		0.010	0.0024	mg/L		09/29/15 13:19	09/30/15 16:15	1
Copper	<0.0022		0.010	0.0022	mg/L		09/29/15 13:19	09/30/15 16:15	1
Lead	<0.0025		0.0050	0.0025	mg/L		09/29/15 13:19	09/30/15 16:15	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		09/29/15 13:19	09/30/15 16:15	1
Nickel	<0.0031		0.010	0.0031	mg/L		09/29/15 13:19	09/30/15 16:15	1
Selenium	<0.0046		0.010	0.0046	mg/L		09/29/15 13:19	09/30/15 16:15	1
Silver	<0.0013		0.0050	0.0013	mg/L		09/29/15 13:19	09/30/15 16:15	1

Lab Sample ID: MB 500-306250/1-A
Matrix: Water
Analysis Batch: 306694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	<0.0093		0.020	0.0093	mg/L		09/29/15 13:19	10/01/15 15:09	1

Lab Sample ID: LCS 500-306250/2-A
Matrix: Water
Analysis Batch: 306519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0496	^	mg/L		99	80 - 120
Chromium	0.200	0.199		mg/L		99	80 - 120
Copper	0.250	0.258		mg/L		103	80 - 120
Lead	0.100	0.0966		mg/L		97	80 - 120
Molybdenum	1.00	1.02		mg/L		102	80 - 120
Nickel	0.500	0.516		mg/L		103	80 - 120
Selenium	0.100	0.0937		mg/L		94	80 - 120
Silver	0.0500	0.0476		mg/L		95	80 - 120

Lab Sample ID: LCS 500-306250/2-A
Matrix: Water
Analysis Batch: 306694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	0.500	0.496		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-306440/12-A
Matrix: Water
Analysis Batch: 306582

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.061		0.20	0.061	ug/L		09/30/15 15:30	10/01/15 11:21	1

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

Lab Sample ID: LCS 500-306440/13-A
Matrix: Water
Analysis Batch: 306582

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	1.65		ug/L		83	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-306388/3
Matrix: Water
Analysis Batch: 306388

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			09/29/15 13:10	1

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Lab Sample ID: LCS 500-306388/4
Matrix: Water
Analysis Batch: 306388

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 500-306388/5
Matrix: Water
Analysis Batch: 306388

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	0.265		mg/L		106	85 - 115	4	20

Lab Sample ID: 500-101797-1 MS
Matrix: Leachate
Analysis Batch: 306388

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	0.113	F1	mg/L		45	85 - 115

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-306283/2-A
Matrix: Water
Analysis Batch: 306299

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306283

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.00190	J	0.010	0.0012	mg/L		09/29/15 19:00	09/29/15 21:30	1

Lab Sample ID: LCS 500-306283/1-A
Matrix: Water
Analysis Batch: 306299

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306283

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.108		mg/L		108	80 - 120

Lab Chronicle

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

TestAmerica Job ID: 500-101797-1

Client Sample ID: Leachate

Date Collected: 09/28/15 15:40
Date Received: 09/29/15 10:05

Lab Sample ID: 500-101797-1

Matrix: Leachate

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			306250	09/29/15 13:19	PJH	TAL CHI
Total/NA	Analysis	6010B		1	306519	09/30/15 16:56	PJ1	TAL CHI
Total/NA	Prep	3010A			306250	09/29/15 13:19	PJH	TAL CHI
Total/NA	Analysis	6010B		1	306694	10/01/15 15:24	PJ1	TAL CHI
Total/NA	Prep	7470A			306440	09/30/15 15:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	306582	10/01/15 12:09	MJD	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	306388		CCK	TAL CHI
					(Start)	09/29/15 13:12		
					(End)	09/29/15 13:13		
Total/NA	Prep	Distill/CN			306283	09/29/15 19:00	ELR	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	306299		ELR	TAL CHI
					(Start)	09/29/15 21:38		
					(End)	09/29/15 21:39		

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: 500-101797-1

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	08-31-16

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

(optional)

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

(optional)

Bill To
Contact: Jennifer Shelton
Company: LBG
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-101797
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 0.7

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

Preservative: 3 | 4 | 8

Parameter: Metals Mercury | Cyanide | Hex. Chromium

Preservative Key

500-101797 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Metals Mercury	Cyanide	Hex. Chromium	Comments
1		Leachate	9-28-15	15:40	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
JLV	LBG	9-28-15	15:45		TAL	09/29/15	1005
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

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: Cadmium, Chromium, copper, lead, Selenium, Silver, Zinc, molybdenum, nickel.

Lab Comments:

10/2/2015

Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-101797-1

Login Number: 101797
List Number: 1
Creator: Kelsey, Shawn 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	0.7c
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.	True	

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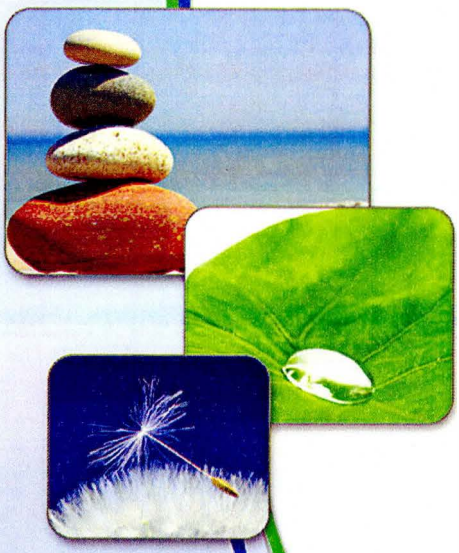
TestAmerica

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: 500-104855-1
Client Project/Site: Refuse Hideaway Landfill

For:
Leggette, Brashears & Graham, Inc.
5957 McKee Road,
Suite 7
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Sandie Fredrick

Authorized for release by:
12/15/2015 4:37:05 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 Landfill

TestAmerica Job ID: 500-104855-1

Job ID: 500-104855-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-104855-1

Comments
No additional comments.

Receipt
The sample was received on 12/5/2015 10:10 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -1.0° C.

Receipt Exceptions
The following sample(s) was received outside of holding time:Cr+6 (500-104855-1)

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: 500-104855-1

Client Sample ID: Leachate

Lab Sample ID: 500-104855-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0012	J	0.0020	0.00094	mg/L	1		6010B	Total/NA
Chromium	0.0049	J	0.010	0.0024	mg/L	1		6010B	Total/NA
Copper	0.0032	J	0.010	0.0022	mg/L	1		6010B	Total/NA
Nickel	0.015		0.010	0.0031	mg/L	1		6010B	Total/NA
Zinc	0.011	J	0.020	0.0093	mg/L	1		6010B	Total/NA
Mercury	0.073	J B	0.20	0.061	ug/L	1		7470A	Total/NA
Cyanide, Total	0.0042	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: 500-104855-1

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: 500-104855-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104855-1	Leachate	Water	12/04/15 10:15	12/05/15 10:10

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

TestAmerica Job ID: 500-104855-1

Client Sample ID: Leachate
Date Collected: 12/04/15 10:15
Date Received: 12/05/15 10:10

Lab Sample ID: 500-104855-1
Matrix: Water

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Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0012	J	0.0020	0.00094	mg/L		12/07/15 16:00	12/08/15 13:29	1
Chromium	0.0049	J	0.010	0.0024	mg/L		12/07/15 16:00	12/08/15 13:29	1
Copper	0.0032	J	0.010	0.0022	mg/L		12/07/15 16:00	12/08/15 13:29	1
Lead	<0.0025		0.0050	0.0025	mg/L		12/07/15 16:00	12/08/15 13:29	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		12/07/15 16:00	12/08/15 13:29	1
Nickel	0.015		0.010	0.0031	mg/L		12/07/15 18:00	12/08/15 13:29	1
Selenium	<0.0046		0.010	0.0046	mg/L		12/07/15 16:00	12/08/15 13:29	1
Silver	<0.0013		0.0050	0.0013	mg/L		12/07/15 16:00	12/08/15 13:29	1
Zinc	0.011	J	0.020	0.0093	mg/L		12/07/15 16:00	12/08/15 13:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.073	J B	0.20	0.061	ug/L		12/07/15 16:15	12/08/15 12:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0025	H F1	0.010	0.0025	mg/L			12/05/15 15:59	1
Cyanide, Total	0.0042	J	0.010	0.0012	mg/L		12/07/15 14:30	12/07/15 18:56	1

Definitions/Glossary

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

TestAmerica Job ID: 500-104855-1

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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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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: 500-104855-1

Metals

Prep Batch: 315436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	7470A	
LCS 500-315436/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-315436/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 315458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	3010A	
LCS 500-315458/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-315458/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 315563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	7470A	315436
LCS 500-315436/13-A	Lab Control Sample	Total/NA	Water	7470A	315436
MB 500-315436/12-A	Method Blank	Total/NA	Water	7470A	315436

Analysis Batch: 315593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	6010B	315458
LCS 500-315458/2-A	Lab Control Sample	Total/NA	Water	6010B	315458
MB 500-315458/1-A	Method Blank	Total/NA	Water	6010B	315458

General Chemistry

Analysis Batch: 315281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	SM 3500 CR B	
500-104855-1 MS	Leachate	Total/NA	Water	SM 3500 CR B	
LCS 500-315281/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
LCSD 500-315281/5	Lab Control Sample Dup	Total/NA	Water	SM 3500 CR B	
MB 500-315281/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Prep Batch: 315394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	Distill/CN	
LCS 500-315394/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-315394/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 315463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104855-1	Leachate	Total/NA	Water	SM 4500 CN E	315394
LCS 500-315394/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	315394
MB 500-315394/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	315394

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-315458/1-A
Matrix: Water
Analysis Batch: 315593

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315458

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		12/07/15 16:00	12/08/15 13:04	1
Chromium	<0.0024		0.010	0.0024	mg/L		12/07/15 16:00	12/08/15 13:04	1
Copper	<0.0022		0.010	0.0022	mg/L		12/07/15 16:00	12/08/15 13:04	1
Lead	<0.0025		0.0050	0.0025	mg/L		12/07/15 16:00	12/08/15 13:04	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		12/07/15 16:00	12/08/15 13:04	1
Nickel	<0.0031		0.010	0.0031	mg/L		12/07/15 16:00	12/08/15 13:04	1
Selenium	0.00561	J	0.010	0.0046	mg/L		12/07/15 16:00	12/08/15 13:04	1
Silver	<0.0013		0.0050	0.0013	mg/L		12/07/15 16:00	12/08/15 13:04	1
Zinc	<0.0093		0.020	0.0093	mg/L		12/07/15 16:00	12/08/15 13:04	1

Lab Sample ID: LCS 500-315458/2-A
Matrix: Water
Analysis Batch: 315593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315458

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0514		mg/L		103	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Copper	0.250	0.259		mg/L		104	80 - 120
Lead	0.100	0.0993		mg/L		99	80 - 120
Molybdenum	1.00	1.02		mg/L		102	80 - 120
Nickel	0.500	0.505		mg/L		101	80 - 120
Selenium	0.100	0.0936		mg/L		94	80 - 120
Silver	0.0500	0.0492		mg/L		98	80 - 120
Zinc	0.500	0.502		mg/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-315436/12-A
Matrix: Water
Analysis Batch: 315563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315436

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0727	J	0.20	0.061	ug/L		12/07/15 16:15	12/08/15 12:00	1

Lab Sample ID: LCS 500-315436/13-A
Matrix: Water
Analysis Batch: 315563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.06		ug/L		103	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-315281/3
Matrix: Water
Analysis Batch: 315281

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0025		0.010	0.0025	mg/L			12/05/15 15:55	1

Lab Sample ID: LCS 500-315281/4
Matrix: Water
Analysis Batch: 315281

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	0.264		mg/L		106	85 - 115

Lab Sample ID: LCSD 500-315281/5
Matrix: Water
Analysis Batch: 315281

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	0.265		mg/L		106	85 - 115	0	20

Lab Sample ID: 500-104855-1 MS
Matrix: Water
Analysis Batch: 315281

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	<0.0025	H F1	0.250	0.182	F1	mg/L		73	85 - 115

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-315394/1-A
Matrix: Water
Analysis Batch: 315463

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315394

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0012		0.010	0.0012	mg/L		12/07/15 14:30	12/07/15 18:46	1

Lab Sample ID: LCS 500-315394/2-A
Matrix: Water
Analysis Batch: 315463

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315394

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0898		mg/L		90	80 - 120

Lab Chronicle

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

TestAmerica Job ID: 500-104855-1

Client Sample ID: Leachate
Date Collected: 12/04/15 10:15
Date Received: 12/05/15 10:10

Lab Sample ID: 500-104855-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			315458	12/07/15 16:00	PJH	TAL CHI
Total/NA	Analysis	6010B		1	315593	12/08/15 13:29	KML	TAL CHI
Total/NA	Prep	7470A			315436	12/07/15 16:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	315563	12/08/15 12:30	MJD	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	315281		EAT	TAL CHI
					(Start)	12/05/15 15:59		
					(End)	12/05/15 16:01		
Total/NA	Prep	Distill/CN			315394	12/07/15 14:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	315463		EAT	TAL CHI
					(Start)	12/07/15 18:56		
					(End)	12/07/15 18:56		

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: 500-104855-1

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	08-31-16

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TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-104855 COC

(optional)

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

(optional)

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

Chain of Custody Record

Lab Job #: 500-104855

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: -1.0

Client	Client Project #	Preservative	3	4	8
LBG		Parameter	Metals / mercury	Cyanide	Hex. Chrome
Project Name: Refuse Hideaway Landfill					
Project Location/State: Middleton, WI	Lab Project #				
Sampler: Jillian Votava	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	12-4-15	10:15	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 JAV	LBG	12-4-15	10:20	Sherri Scott	TA-CAT	12/5/15	1010
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:

TAL-4124-500 (1209)

12/15/2015

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Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-104855-1

Login Number: 104855
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	-1.0
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.	False	Hex Chrome receved past hold
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: 500-109148-1
Client Project/Site: Refuse Hideaway

For:
Leggette, Brashears & Graham, Inc.
5957 McKee Road,
Suite 7
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Sandie Fredrick

Authorized for release by:
3/28/2016 3:43:49 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

TestAmerica Job ID: 500-109148-1

Job ID: 500-109148-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-109148-1

Comments
No additional comments.

Receipt
The sample was received on 3/23/2016 8:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.5° 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

TestAmerica Job ID: 500-109148-1

Client Sample ID: Leachate

Lab Sample ID: 500-109148-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.014		0.010	0.0024	mg/L	1		6010B	Total/NA
Copper	0.0067	J B	0.010	0.0022	mg/L	1		6010B	Total/NA
Nickel	0.034		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	0.0089	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

TestAmerica Job ID: 500-109148-1

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",

SW646 = "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

TestAmerica Job ID: 500-109148-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-109148-1	Leachate	Water	03/22/16 16:00	03/23/16 08:30

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Client Sample Results

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

TestAmerica Job ID: 500-109148-1

Client Sample ID: Leachate

Date Collected: 03/22/16 16:00
Date Received: 03/23/16 08:30

Lab Sample ID: 500-109148-1

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		03/24/16 08:21	03/28/16 13:39	1
Chromium	0.014		0.010	0.0024	mg/L		03/24/16 08:21	03/28/16 13:39	1
Copper	0.0067	J B	0.010	0.0022	mg/L		03/24/16 08:21	03/28/16 13:39	1
Lead	<0.0025		0.0050	0.0025	mg/L		03/24/16 08:21	03/28/16 13:39	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		03/24/16 08:21	03/28/16 13:39	1
Nickel	0.034		0.010	0.0031	mg/L		03/24/16 08:21	03/28/16 13:39	1
Selenium	<0.0046		0.010	0.0046	mg/L		03/24/16 08:21	03/26/16 13:39	1
Silver	<0.0013		0.0050	0.0013	mg/L		03/24/16 08:21	03/28/16 13:39	1
Zinc	0.016	J	0.020	0.0093	mg/L		03/24/16 06:21	03/26/16 13:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		03/24/16 16:15	03/25/16 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0025	F1	0.010	0.0025	mg/L			03/23/16 15:13	1
Cyanide, Total	0.0069	J	0.010	0.0012	mg/L		03/24/16 09:40	03/24/16 16:21	1

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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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance 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)

QC Association Summary

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

TestAmerica Job ID: 500-109148-1

Metals

Prep Batch: 328474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	3010A	
LCS 500-328474/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-328474/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 328567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	7470A	
LCS 500-328567/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-328567/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 328698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	7470A	328567
LCS 500-328567/13-A	Lab Control Sample	Total/NA	Water	7470A	328567
MB 500-328567/12-A	Method Blank	Total/NA	Water	7470A	328567

Analysis Batch: 328909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	6010B	328474
LCS 500-328474/2-A	Lab Control Sample	Total/NA	Water	6010B	328474
MB 500-328474/1-A	Method Blank	Total/NA	Water	6010B	328474

General Chemistry

Analysis Batch: 328387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	SM 3500 CR B	
500-109148-1 MS	Leachate	Total/NA	Water	SM 3500 CR B	
LCS 500-328387/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
LCSD 500-328387/5	Lab Control Sample Dup	Total/NA	Water	SM 3500 CR B	
MB 500-328387/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Prep Batch: 328394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	Distill/CN	
LCS 500-328394/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-328394/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 328577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109148-1	Leachate	Total/NA	Water	SM 4500 CN E	328394
LCS 500-328394/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	328394
MB 500-328394/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	328394

QC Sample Results

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

TestAmerica Job ID: 500-109148-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-328474/1-A
Matrix: Water
Analysis Batch: 328909

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		03/24/16 08:21	03/28/16 13:30	1
Chromium	<0.0024		0.010	0.0024	mg/L		03/24/16 08:21	03/28/16 13:30	1
Copper	0.00232	J	0.010	0.0022	mg/L		03/24/16 08:21	03/28/16 13:30	1
Lead	<0.0025		0.0050	0.0025	mg/L		03/24/16 08:21	03/28/16 13:30	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		03/24/16 08:21	03/28/16 13:30	1
Nickel	<0.0031		0.010	0.0031	mg/L		03/24/16 08:21	03/28/16 13:30	1
Selenium	<0.0046		0.010	0.0046	mg/L		03/24/16 08:21	03/28/16 13:30	1
Silver	<0.0013		0.0050	0.0013	mg/L		03/24/16 08:21	03/28/16 13:30	1
Zinc	<0.0093		0.020	0.0093	mg/L		03/24/16 08:21	03/28/16 13:30	1

Lab Sample ID: LCS 500-328474/2-A
Matrix: Water
Analysis Batch: 328909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328474

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0486		mg/L		97	80 - 120
Chromium	0.200	0.201		mg/L		100	80 - 120
Copper	0.250	0.252		mg/L		101	80 - 120
Lead	0.100	0.106		mg/L		106	80 - 120
Molybdenum	1.00	1.05		mg/L		105	80 - 120
Nickel	0.500	0.523		mg/L		105	80 - 120
Selenium	0.100	0.0956		mg/L		96	80 - 120
Silver	0.0500	0.0476		mg/L		95	80 - 120
Zinc	0.500	0.525		mg/L		105	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-328567/12-A
Matrix: Water
Analysis Batch: 328698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		03/24/16 16:15	03/25/16 11:00	1

Lab Sample ID: LCS 500-328567/13-A
Matrix: Water
Analysis Batch: 328698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.12		ug/L		106	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-328387/3
Matrix: Water
Analysis Batch: 328387

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0025		0.010	0.0025	mg/L			03/23/16 15:11	1

Lab Sample ID: LCS 500-328387/4
Matrix: Water
Analysis Batch: 328387

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	0.252		mg/L		101	85 - 115

Lab Sample ID: LCSD 500-328387/5
Matrix: Water
Analysis Batch: 328387

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	0.253		mg/L		101	85 - 115	0	20

Lab Sample ID: 500-109148-1 MS
Matrix: Water
Analysis Batch: 328387

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	<0.0025	F1	0.250	0.176	F1	mg/L		70	85 - 115

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-328394/1-A
Matrix: Water
Analysis Batch: 328577

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328394

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0012		0.010	0.0012	mg/L		03/24/16 09:40	03/24/16 16:15	1

Lab Sample ID: LCS 500-328394/2-A
Matrix: Water
Analysis Batch: 328577

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328394

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.108		mg/L		108	80 - 120

Lab Chronicle

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

TestAmerica Job ID: 500-109148-1

Client Sample ID: Leachate

Date Collected: 03/22/16 16:00
Date Received: 03/23/16 08:30

Lab Sample ID: 500-109148-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			328474	03/24/16 08:21	JEF	TAL CHI
Total/NA	Analysis	6010B		1	328909	03/28/16 13:39	PJ1	TAL CHI
Total/NA	Prep	7470A			328567	03/24/16 16:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	328698	03/25/16 11:44	MJD	TAL CHI
Total/NA	Analysis	SM 3500 CR B		1	328387		JBJ	TAL CHI
					(Start)	03/23/16 15:13		
					(End)	03/23/16 15:13		
Total/NA	Prep	Distill/CN			328394	03/24/16 09:40	EAT	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	328577		EAT	TAL CHI
					(Start)	03/24/16 16:21		
					(End)	03/24/16 16:21		

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

TestAmerica Job ID: 500-109148-1

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	08-31-16

TestAmerica

THE LEADER IN ENVIRONMENTA

2417 Bond Street, University Park, IL 6
Phone: 708.534.5200 Fax: 708.53

500-109148 COC

Chain of Custody Record

Lab Job #: 500-109148

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 6.5

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

Client: LBG	Client Project #		Preservative	3	4	8							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
Project Name: Refuse Hideaway Landfill			Parameter	Metals / Mercury	Cyanide	Hex. Chrome							
Project Location/State: Middleton, WI	Lab Project #												
Sampler: Bradley DalSanto	Lab PM												
Lab ID	MS/MSD	SampleID	Sampling Date	Sampling Time	# of Containers	Matrix							Comments
1		Leachate	3/22/16	1600	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
BJD	LBG	3/24/2016	1620	Allen Scott	TA-CHI	3/23/16	0830

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:

TAL-4124-500 (1209)

3/28/2016

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Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-109148-1

Login Number: 109148
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	5.5
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 (excluding tests with immediate HTs)	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	

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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: 500-113327-1
Client Project/Site: Refuse Hideaway Landfill

For:
Leggette, Brashears & Graham, Inc.
5957 McKee Road,
Suite 7
Madison, Wisconsin 53719

Attn: Jennifer Shelton

Sandie Fredrick

Authorized for release by:
6/27/2016 6:09:42 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 Landfill

TestAmerica Job ID: 500-113327-1

Job ID: 500-113327-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-113327-1

Comments
No additional comments.

Receipt
The sample was received on 6/22/2016 8:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

Metals
Method(s) 6010B: The continuing calibration verification (CCV) associated with batch 500-341213 recovered above the upper control limit for Zinc. The sample associated with this CCV was below the RL for the affected analyte; therefore, the data have been reported. The following sample is impacted: Leachate (500-113327-1).

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

General Chemistry
Method(s) SM 3500 CR B: Please note that the following hexavalent chromium sample in batch 500-341060 has been reported as a non-detect with an elevated reporting limit due to the matrix of the sample: Leachate (500-113327-1).

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

Detection Summary

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

TestAmerica Job ID: 500-113327-1

Client Sample ID: Leachate

Lab Sample ID: 500-113327-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0013	J	0.0020	0.00094	mg/L	1		6010B	Total/NA
Chromium	0.026		0.010	0.0024	mg/L	1		6010B	Total/NA
Copper	0.0032	J	0.010	0.0022	mg/L	1		6010B	Total/NA
Nickel	0.057		0.010	0.0031	mg/L	1		6010B	Total/NA
Selenium	0.0053	J	0.010	0.0046	mg/L	1		6010B	Total/NA
Zinc	0.014	J B ^	0.020	0.0093	mg/L	1		6010B	Total/NA
Cyanide, Total	0.014		0.010	0.0036	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: 500-113327-1

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: 500-113327-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-113327-1	Leachate	Water	06/21/16 15:18	06/22/16 08:00

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Client Sample Results

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

TestAmerica Job ID: 500-113327-1

Client Sample ID: Leachate

Date Collected: 06/21/16 15:18
Date Received: 06/22/16 08:00

Lab Sample ID: 500-113327-1

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0013	J	0.0020	0.00094	mg/L		06/22/16 14:57	06/23/16 22:47	1
Chromium	0.026		0.010	0.0024	mg/L		06/22/16 14:57	06/23/16 22:47	1
Copper	0.0032	J	0.010	0.0022	mg/L		06/22/16 14:57	06/23/16 22:47	1
Lead	<0.0025		0.0050	0.0025	mg/L		06/22/16 14:57	06/23/16 22:47	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		06/22/16 14:57	06/23/16 22:47	1
Nickel	0.057		0.010	0.0031	mg/L		06/22/16 14:57	06/23/16 22:47	1
Selenium	0.0053	J	0.010	0.0046	mg/L		06/22/16 14:57	06/23/16 22:47	1
Silver	<0.0013		0.0050	0.0013	mg/L		06/22/16 14:57	06/23/16 22:47	1
Zinc	0.014	J B ^	0.020	0.0093	mg/L		06/22/16 14:57	06/23/16 22:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		06/23/16 16:00	06/24/16 10:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0051	F1	0.020	0.0051	mg/L			06/22/16 13:54	2
Cyanide, Total	0.014		0.010	0.0036	mg/L		06/23/16 13:10	06/23/16 17:12	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.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

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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: 500-113327-1

Metals

Prep Batch: 340942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	3010A	
LCS 500-340942/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-340942/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 341112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	7470A	
LCS 500-341112/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-341112/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 341213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	6010B	340942
LCS 500-340942/2-A	Lab Control Sample	Total/NA	Water	6010B	340942
MB 500-340942/1-A	Method Blank	Total/NA	Water	6010B	340942

Analysis Batch: 341276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	7470A	341112
LCS 500-341112/13-A	Lab Control Sample	Total/NA	Water	7470A	341112
MB 500-341112/12-A	Method Blank	Total/NA	Water	7470A	341112

General Chemistry

Analysis Batch: 341060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	SM 3500 CR B	
500-113327-1 MS	Leachate	Total/NA	Water	SM 3500 CR B	
LCS 500-341060/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
LCSD 500-341060/5	Lab Control Sample Dup	Total/NA	Water	SM 3500 CR B	
MB 500-341060/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Prep Batch: 341080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	Distill/CN	
LCS 500-341080/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 500-341080/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 341165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-113327-1	Leachate	Total/NA	Water	SM 4500 CN E	341080
LCS 500-341080/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	341080
MB 500-341080/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	341080

QC Sample Results

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

TestAmerica Job ID: 500-113327-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-340942/1-A
Matrix: Water
Analysis Batch: 341213

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 340942

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00094		0.0020	0.00094	mg/L		06/22/16 14:57	06/23/16 21:08	1
Chromium	<0.0024		0.010	0.0024	mg/L		06/22/16 14:57	06/23/16 21:08	1
Copper	<0.0022		0.010	0.0022	mg/L		06/22/16 14:57	06/23/16 21:08	1
Lead	<0.0025		0.0050	0.0025	mg/L		06/22/16 14:57	06/23/16 21:08	1
Molybdenum	<0.0022		0.010	0.0022	mg/L		06/22/16 14:57	06/23/16 21:08	1
Nickel	<0.0031		0.010	0.0031	mg/L		06/22/16 14:57	06/23/16 21:08	1
Selenium	<0.0046		0.010	0.0046	mg/L		06/22/16 14:57	06/23/16 21:08	1
Silver	<0.0013		0.0050	0.0013	mg/L		06/22/16 14:57	06/23/16 21:08	1
Zinc	0.00960	J ^	0.020	0.0093	mg/L		06/22/16 14:57	06/23/16 21:08	1

Lab Sample ID: LCS 500-340942/2-A
Matrix: Water
Analysis Batch: 341213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 340942

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0442		mg/L		88	80 - 120
Chromium	0.200	0.192		mg/L		96	80 - 120
Copper	0.250	0.229		mg/L		92	80 - 120
Lead	0.100	0.0887		mg/L		89	80 - 120
Molybdenum	1.00	0.951		mg/L		95	80 - 120
Nickel	0.500	0.482		mg/L		96	80 - 120
Selenium	0.100	0.0796		mg/L		80	80 - 120
Silver	0.0500	0.0437		mg/L		87	80 - 120
Zinc	0.500	0.507	^	mg/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-341112/12-A
Matrix: Water
Analysis Batch: 341276

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 341112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		06/23/16 16:00	06/24/16 09:38	1

Lab Sample ID: LCS 500-341112/13-A
Matrix: Water
Analysis Batch: 341276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 341112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	1.92		ug/L		96	80 - 120

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 500-341060/3
Matrix: Water
Analysis Batch: 341060

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	<0.0025		0.010	0.0025	mg/L			06/22/16 13:51	1

Lab Sample ID: LCS 500-341060/4
Matrix: Water
Analysis Batch: 341060

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	0.261		mg/L		104	85 - 115

Lab Sample ID: LCSD 500-341060/5
Matrix: Water
Analysis Batch: 341060

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	0.250		mg/L		100	85 - 115	4	20

Lab Sample ID: 500-113327-1 MS
Matrix: Water
Analysis Batch: 341060

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	<0.0051	F1	0.500	0.208	F1	mg/L		42	85 - 115

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 500-341080/1-A
Matrix: Water
Analysis Batch: 341165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 341080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0036		0.010	0.0036	mg/L		06/23/16 13:10	06/23/16 17:06	1

Lab Sample ID: LCS 500-341080/2-A
Matrix: Water
Analysis Batch: 341165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 341080

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0997		mg/L		100	80 - 120

Lab Chronicle

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

TestAmerica Job ID: 500-113327-1

Client Sample ID: Leachate

Date Collected: 06/21/16 15:18
Date Received: 06/22/16 08:00

Lab Sample ID: 500-113327-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			340942	06/22/16 14:57	JNH	TAL CHI
Total/NA	Analysis	6010B		1	341213	06/23/16 22:47	PJ1	TAL CHI
Total/NA	Prep	7470A			341112	06/23/16 16:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	341276	06/24/16 10:24	MJD	TAL CHI
Total/NA	Analysis	SM 3500 CR B		2	341060		SLM	TAL CHI
					(Start)	06/22/16 13:54		
					(End)	06/22/16 13:55		
Total/NA	Prep	Distill/CN			341080	06/23/16 13:10	EAT	TAL CHI
Total/NA	Analysis	SM 4500 CN E		1	341165		EAT	TAL CHI
					(Start)	06/23/16 17:12		
					(End)	06/23/16 17:12		

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: 500-113327-1

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	08-31-16 *

* Certification renewal pending - certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

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

500-113327 COC

Chain of Custody Record

Lab Job #: 500-113327
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 2.4

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

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	3	4	8
							Parameter	Metals/Mercury	Cyanide	Hex. Chrome
1		Leachate	6-21-16	1518	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

Comments

AGM

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
AGM	LBG	6-21-16	1600		TAL	06/22/16	0800

Lab Courier:
Shipped: Fed Ex.
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:

6/27/2016
TAL-4124-500 (1209)

13

Login Sample Receipt Checklist

Client: Leggette, Brashears & Graham, Inc.

Job Number: 500-113327-1

Login Number: 113327
List Number: 1
Creator: Kelsey, Shawn 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	2.4c
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 (excluding tests with immediate HTs)	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.	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

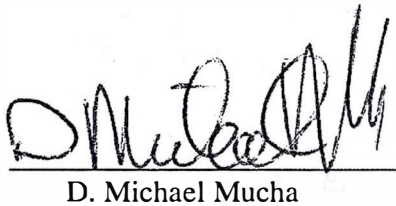
is hereby authorized to discharge leachate from the **Refuse Hideaway Landfill** located at the above address, via a permitted waste hauler, to the Nine Springs Wastewater Treatment Plant in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit.

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

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)
BLOWER	North Branch										
	7/9/2015	-19		43.5	7.2	19.0	30.3	100	1781	329	76.8
	7/16/2015	-20		35.0	8.4	18.4	38.2	100	1715	317	71.7
	7/23/2015	-19		21.5	12.3	11.4	54.8	100	1404	260	86.8
	7/29/2015	-19		19.5	12.3	11.8	56.4	100	1655	306	84.9
	8/6/2015	-17		30.5	8.4	19.8	41.3	100	1949	361	77.7
	8/13/2015	-15		32.0	8.0	20.6	39.4	100	2888	534	76.6
	8/17/2015	-17		17.5	12.2	12.6	57.7	100	1216	225	69.8
	8/27/2015	-17		17.0	11.7	10.6	60.7	100	1955	362	78.6
	9/2/2015	-18		32.5	6.9	20.2	40.4	50	2105	389	76.6
	9/11/2015	-18		29.0	7.8	18.8	44.4	10	1375	254	76.2
	9/17/2015	-20		10.5	12.9	8.6	68.0	100	1780	329	82.7
	9/24/2015	-18		12.0	12.2	9.8	66.0	0	2050	379	77.7
	9/28/2015	-23		6.0	17.2	3.6	73.2	0	1310	242	79.8
	10/6/2015	-23		18.5	13.0	9.8	58.7	100	1887	349	75.0
	10/14/2015	-25		15.5	14.7	4.6	65.2	100	1238	229	64.7
	10/22/2015	-19		47.5	3.8	24.6	24.1	100	1388	257	73.1
	10/30/2015	--		13.0	6.4	16.0	64.6	100	1294	239	63.8
	11/6/2015	-26		12.0	6.0	15.8	66.2	0	1284	238	58.6
	11/12/2015	-27		17.0	3.3	19.4	60.3	100	1284	238	52.6
	11/19/2015	-27		16.0	7.8	15.2	61.0	0	1314	243	42.6
	11/25/2015	-30		22.5	6.8	18.6	52.1	25	1371	254	55.2
	12/4/2015	-24		14.0	8.8	14.4	62.8	0	1204	223	53.4
	12/11/2015	-27		20.0	8.4	16.6	55.0	75	1349	250	53.7
	12/17/2015	-28		19.5	8.1	16.2	56.2	100	1489	275	55.2
	12/24/2015	-26		39.5	3.8	15.8	40.9	100	1336	247	48.0
	12/30/2015	-23		24.5	12.1	11.2	52.2	0	1307	242	42.7
	1/7/2016	-25		36.0	8.3	14.8	40.9	0	1532	283	54.1
	1/14/2016	-25		26.0	11.0	10.2	52.8	0	1495	277	61.6
	1/20/2016	-20		29.0	11.3	20.8	38.9	0	2322	430	44.5
	1/26/2016	-24		3.7	19.4	2.0	75.0	0	897	166	37.0
	2/4/2016	-25		11.5	16.9	4.2	67.4	0	1310	242	48.7
	2/11/2016	-22		4.0	19.6	2.0	74.5	0	1355	251	41.8
	2/19/2016	-22		11.0	9.2	5.6	74.2	0	1281	237	43.3
	2/25/2016	-22		26.5	10.1	11.0	52.4	0	900	167	51.1
	3/2/2016	-21		20.5	12.3	10.4	56.8	0	1410	261	47.1
	3/9/2016	-25		43.5	5.6	17.2	33.7	0	1274	236	65.6
	3/18/2016	-24		34.5	7.3	15.8	42.4	0	1092	202	53.5
	3/24/2016	-27		23.5	3.9	19.0	53.6	100	994	184	39.9
	3/31/2016	-28		15.0	4.4	16.8	63.8	50	1158	214	60.7
	4/7/2016	-28		12.0	5.5	15.0	67.5	0	1161	215	58.6
	4/14/2016	-27		11.0	5.7	14.2	69.1	0	1060	196	64.7
	4/21/2016	-24		10.5	5.5	13.2	70.8	0	1013	187	72.4
	4/29/2016	-20		9.5	8.6	13.2	68.7	100	--	--	55.0
	5/3/2016	-21		9.5	7.5	13.8	69.2	100	--*	--*	75.3
	5/13/2016	-17		10.5	8.2	14.2	67.1	50	--*	--*	70.1
	5/20/2016	-18		10.5	6.9	17.8	64.8	0	--*	--*	72.1
	5/25/2016	-20		5.5	8.1	14.2	72.2	0	479	22	79.4
	6/3/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/10/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/16/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/21/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/29/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	Central Branch										

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure	CH_4		O_2	CO_2	Balance Gas*	Valve Position	Gas Velocity	Gas Flow**	Gas Temp
		(in. WC)	(% LEL)	(% Vol)	(% Vol)	(% Vol)	(% Vol)	(% open)	(fpm)	(scfm)	(deg F)
	7/9/2015	-19		48.5	4.2	30.6	16.7	100	2105	389	73.0
	7/16/2015	-20		41.5	4.6	30.0	23.9	100	2190	405	70.6
	7/23/2015	-19		28.0	9.3	20.4	42.3	100	2275	421	86.4
	7/29/2015	-19		25.0	9.3	21.2	44.5	100	2218	410	82.7
	8/6/2015	-17		37.0	5.4	30.0	27.6	100	3179	588	78.4
	8/13/2015	-18		37.5	4.9	31.0	26.6	100	2526	467	75.5
	8/17/2015	-18		23.5	9.0	22.2	45.3	100	1350	250	69.0
	8/27/2015	-17		24.5	8.4	18.4	48.7	100	1902	352	76.6
	9/2/2015	-19		43.0	3.7	30.2	23.1	100	2741	507	74.4
	9/11/2015	-18		39.5	4.7	28.2	27.6	100	2422	448	70.6
	9/17/2015	-20		24.0	7.6	19.8	48.6	100	2170	401	81.4
	9/24/2015	-18		29.0	6.4	21.4	43.2	0	2670	494	78.0
	9/28/2015	-22		47.0	1.9	29.2	21.9	0	1700	315	78.9
	10/6/2015	-25		53.5	1.4	32.0	13.1	100	2626	486	74.6
	10/14/2015	-25		49.0	1.4	28.2	21.4	100	1771	328	63.1
	10/22/2015	-20		31.0	1.9	27.0	40.1	100	1034	191	70.8
	10/30/2015	--		23.5	2.2	24.4	49.9	100	1094	202	61.5
	11/6/2015	-26		21.0	2.5	23.4	53.1	100	1256	232	60.2
	11/12/2015	-27		22.5	1.9	23.6	52.0	100	1250	231	52.6
	11/19/2015	-29		21.0	2.0	24.0	53.0	100	678	125	44.0
	11/25/2015	-27		13.5	4.3	18.2	64.0	100	1282	237	53.4
	12/4/2015	-26		22.0	2.0	23.8	52.2	100	1098	203	51.6
	12/11/2015	--		25.0	1.2	24.0	49.8	100	1421	263	52.6
	12/17/2015	-28		26.0	1.0	24.4	48.6	100	1314	243	51.9
	12/24/2015	-26		21.5	2.0	19.2	57.3	100	966	179	51.4
	12/30/2015	-23		44.0	3.6	23.8	28.6	0	1500	278	46.9
	1/7/2016	-25		51.5	2.8	27.0	18.7	0	1404	260	50.5
	1/14/2016	-25		47.0	2.9	24.6	25.5	0	2165	401	61.5
	1/20/2016	-20		62.0	0.3	27.0	10.7	0	2463	456	44.0
	1/26/2016	-24		20.5	11.8	13.4	54.3	0	811	150	37.0
	2/4/2016	-25		51.5	3.0	28.8	16.7	0	1580	292	49.9
	2/11/2016	-22		53.0	3.5	27.0	16.5	0	1985	367	52.5
	2/19/2016	-22		5.5	18.4	2.2	73.9	0	1493	276	44.0
	2/25/2016	-22		9.5	16.5	4.6	69.4	0	1383	256	48.7
	3/2/2016	-24		7.5	17.5	4.0	71.0	0	1410	261	51.7
	3/9/2016	-24		16.5	14.6	5.4	63.5	0	1294	239	65.8
	3/18/2016	-24		14.0	14.9	5.4	65.7	0	1123	208	53.7
	3/24/2016	-27		38.5	3.7	28.0	29.8	100	1091	202	40.2
	3/31/2016	-28		32.0	2.6	27.0	38.4	100	1282	237	58.0
	4/7/2016	-28		26.0	3.2	24.6	46.2	100	1305	241	56.2
	4/14/2016	-27		24.0	1.8	24.8	49.4	100	1448	268	64.0
	4/21/2016	-24		26.5	1.7	26.0	45.8	100	1310	242	70.5
	4/29/2016	-20		26.0	3.0	27.0	44.0	100	--	--	55.2
	5/3/2016	-21		24.5	3.6	24.8	47.1	100	--*	--*	74.2
	5/13/2016	-17		28.0	3.9	29.0	39.1	100	--*	--*	68.5
	5/20/2016	-18		24.0	5.1	28.2	42.7	100	--*	--*	71.8
	5/25/2016	-20		25.5	3.7	32.6	38.2	100	874	39	78.4
	6/3/2016	--*		--*	--*	--*	--*	0	--*	--*	--*

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)
	6/10/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/16/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/21/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	6/29/2016	--*		--*	--*	--*	--*	0	--*	--*	--*
	South Branch										
	7/9/2015	-18		17.5	14.9	5.8	61.8	5	198	37	76.4
	7/16/2015	-20		8.0	16.1	6.6	69.3	5	225	42	71.5
	7/23/2015	-17		0.3	20.5	0.0	79.2	5	318	59	86.3
	7/29/2015	-12		0.3	19.8	0.0	79.9	5	161	30	84.1
	8/6/2015	-15		1.5	19.3	1.0	78.3	5	367	68	79.3
	8/13/2015	-5		8.5	15.6	8.4	67.5	5	270	50	77.3
	8/17/2015	-16		0.6	19.8	8.4	71.2	5	220	41	71.5
	8/27/2015	-14		0.3	19.4	0.0	80.4	5	105	19	78.8
	9/2/2015	-17		5.0	16.3	4.2	74.5	5	218	40	81.6
	9/11/2015	-17		8.5	14.7	6.6	70.2	5	410	76	71.5
	9/17/2015	-20		0.4	20.4	0.2	79.1	5	880	163	84.9
	9/24/2015	-18		0.1	20.9	0.2	78.8	5	775	143	79.8
	9/28/2015	-23		0.3	19.6	0.2	79.9	5	1190	220	82.9
	10/6/2015	-25		0.8	18.0	0.8	80.5	100	3050	564	78.6
	10/14/2015	-23		0.3	19.8	0.2	79.8	100	528	98	60.7
	10/22/2015	-19		0.1	18.3	0.0	81.6	100	445	82	73.0
	10/30/2015	--		0.1	18.5	0.2	81.2	100	383	71	59.8
	11/6/2015	-27		0.0	19.2	0.0	80.8	5	1460	270	60.9
	11/12/2015	-23		0.1	19.8	0.4	79.7	5	537	99	51.6
	11/19/2015	-23		0.2	20.0	0.6	79.2	5	196	36	40.8
	11/25/2015	-23		0.05	18.2	0.0	81.8	5	506	94	52.1
	12/4/2015	-16		0.1	18.9	0.2	80.8	5	259	48	49.9
	12/11/2015	-20		0.05	17.4	0.0	82.6	5	206	38	51.7
	12/17/2015	-17		0.15	20.9	0.2	78.8	5	577	107	48.4
	12/24/2015	-25		0.2	19.5	0.4	79.9	5	625	116	45.6
	12/30/2015	-25		3.1	19.3	2.2	75.4	5	1290	239	46.9
	1/7/2016	-25		4.1	17.6	2.6	75.8	5	1157	214	49.2
	1/14/2016	-25		3.0	19.4	1.0	76.7	5	1277	236	60.4
	1/20/2016	0		10.0	12.9	8.0	69.1	5	122	23	44.0
	1/26/2016	-2		10.5	11.1	8.8	69.6	5	0	0	36.1
	2/4/2016	0		11.0	10.8	10.4	67.8	5	0	0	51.2
	2/11/2016	0		8.5	10.5	10.2	70.8	5	0	0	35.0
	2/19/2016	-18		0.3	20.9	0.0	78.8	5	402	74	44.0
	2/25/2016	-18		0.5	19.8	0.8	79.0	5	242	45	44.4
	3/2/2016	-3		3.5	14.0	6.4	76.2	5	0	0	40.9
	3/9/2016	-22		0.1	20.4	0.0	79.6	5	509	94	68.7
	3/18/2016	-19		0.1	20.4	0.2	79.3	5	458	85	53.9
	3/24/2016	-24		0.1	17.7	0.0	82.2	5	474	88	41.1
	3/31/2016	-23		0.1	15.8	0.0	84.1	5	503	93	57.4
	4/7/2016	-27		0.1	16.2	0.0	83.7	5	480	89	55.7
	4/14/2016	-25		0.1	16.0	0.0	84.0	5	618	114	66.5
	4/21/2016	-21		0.0	17.4	0.0	82.6	5	530	98	76.6
	4/29/2016	-20		0.1	20.5	0.0	79.5	5	--	--	54.8
	5/3/2016	-19		0.0	20.0	0.0	80.0	5	--*	--*	75.5
	5/13/2016	-16		0.0	16.6	0.0	83.4	5	--*	--*	73.0
	5/20/2016	-17		0.1	16.2	0.0	83.8	5	--*	--*	76.8
	5/25/2016	-18		0.1	16.1	0.0	83.9	5	219	10	84.8
	6/3/2016	--*		--*	--*	--*	--*	5	--*	--*	--*
	6/10/2016	--*		--*	--*	--*	--*	5	--*	--*	--*

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)
	6/16/2016	--*		--*	--*	--*	--*	5	--*	--*	--*
	6/21/2016	--*		--*	--*	--*	--*	5	--*	--*	--*
	6/29/2016	--*		--*	--*	--*	--*	5	--*	--*	--*
	Branches-Total Flow***										
	7/9/2015								4084	756	
	7/16/2015								4130	764	
	7/23/2015								3997	739	
	7/29/2015								4034	746	
	8/6/2015								5495	1017	
	8/13/2015								5684	1052	
	8/17/2015								2786	515	
	8/27/2015								3962	733	
	9/2/2015								5064	937	
	9/11/2015								4207	778	
	9/17/2015								4830	894	
	9/24/2015								5495	1017	
	9/28/2015								4200	777	
	10/6/2015								7563	1399	
	10/14/2015								3537	654	
	10/22/2015								2867	530	
	10/30/2015								2771	513	
	11/6/2015								4000	740	
	11/12/2015								3071	568	
	11/19/2015								2188	405	
	11/25/2015								3159	584	
	12/4/2015								2561	474	
	12/11/2015								2976	551	
	12/17/2015								3380	625	
	12/24/2015								2927	541	
	12/30/2015								4097	758	
	1/7/2016								4093	757	
	1/14/2016								4937	913	
	1/20/2016								4907	908	
	1/26/2016								1708	316	
	2/4/2016								2890	535	
	2/11/2016								3340	618	
	2/19/2016								3176	588	
	2/25/2016								2525	467	
	3/2/2016								2820	522	
	3/9/2016								3077	569	
	3/18/2016								2673	495	
	3/24/2016								2559	473	
	3/31/2016								2943	544	
	4/7/2016								2946	545	
	4/14/2016								3126	578	
	4/21/2016								2853	528	
	4/29/2016								--	--	
	5/3/2016								--*	--*	
	5/13/2016								--*	--*	
	5/20/2016								--*	--*	
	5/25/2016								1572	71	
	6/3/2016								--*	--*	
	6/10/2016								--*	--*	
	6/16/2016								--*	--*	

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)
	6/21/2016								--*	--*	
	6/29/2016								--*	--*	
	Inlet Sample Port A										
	7/9/2015	-20		44.5	5.8	24.6	25.1				
	7/16/2015	-20		37.0	6.6	24.4	32.0				
	7/23/2015	-19		25.0	10.5	16.4	48.1				
	7/29/2015	-19		22.5	10.4	16.8	50.3				
	8/6/2015	-17		33.0	6.7	25.0	35.3				
	8/13/2015	-17		33.5	6.6	25.8	34.1				
	8/17/2015	-17		20.5	10.2	17.8	51.5				
	8/27/2015	-17		21.0	9.7	14.6	54.7				
	9/2/2015	-20		35.5	5.5	24.4	34.6				
	9/11/2015	-19		34.0	6.0	25.0	35.0				
	9/17/2015	-20		16.5	7.5	13.8	62.2				
	9/24/2015	-19		21.5	8.9	16.2	53.4				
	9/28/2015	-23		27.5	8.5	18.2	45.8				
	10/6/2015	-25		37.0	6.4	21.6	35.0				
	10/14/2015	-25		31.5	8.1	18.6	41.8				
	10/22/2015	-20		36.0	3.3	25.4	35.3				
	10/30/2015	--		15.5	5.1	19.4	60.0				
	11/6/2015	-27		17.5	3.9	20.8	57.8				
	11/12/2015	-27		21.0	2.7	22.2	54.1				
	11/19/2015	-29		16.5	4.0	20.1	59.4				
	11/25/2015	-27		19.0	4.2	20.0	56.8				
	12/4/2015	-25		16.0	3.5	20.0	60.5				
	12/11/2015	-27		24.5	3.5	21.4	50.6				
	12/17/2015	-28		21.0	4.2	20.4	54.4				
	12/24/2015	-27		28.0	3.1	18.0	50.9				
	12/30/2015	-25		33.5	7.6	18.0	40.9				
	1/7/2016	-26		40.0	6.2	20.8	33.0				
	1/14/2016	-25		35.0	7.4	17.6	40.0				
	1/20/2016	-20		33.5	8.8	16.2	41.5				
	1/26/2016	-25		11.5	15.6	7.6	65.3				
	2/4/2016	-25		35.5	8.6	19.4	36.5				
	2/11/2016	-23		24.0	11.8	14.4	49.8				
	2/19/2016	-23		8.0	17.5	4.2	70.3				
	2/25/2016	-22		15.0	14.2	6.6	64.2				
	3/2/2016	-25		13.5	15.0	6.8	64.7				
	3/9/2016	-25		27.5	10.6	10.6	51.3				
	3/18/2016	-25		23.0	11.2	10.0	55.8				
	3/24/2016	-27		26.5	6.5	21.6	45.4				
	3/31/2016	-28		24.5	3.4	22.4	49.7				
	4/7/2016	-28		20.0	4.6	21.0	54.4				
	4/14/2016	-27		15.5	6.1	19.6	58.8				
	4/21/2016	-24		19.0	4.0	20.4	56.6				
	4/29/2016	-20		18.5	5.6	21.2	54.7				
	5/3/2016	-22		18.5	4.9	22.0	54.6				
	5/13/2016	-17		19.5	6.1	21.6	52.8				
	5/20/2016	-18		18.5	5.8	24.0	51.7				
	5/25/2016	-20		19.0	5.5	25.8	49.7				
	6/3/2016	--*		--*	--*	--*	--*				
	6/10/2016	--*		--*	--*	--*	--*				
	6/16/2016	--*		--*	--*	--*	--*				
	6/21/2016	--*		--*	--*	--*	--*				

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)
	6/29/2016	--*		--*	--*	--*	--*				
	Inlet Sample Port B										
	7/9/2015	-20		43.5	6.0	24.2	26.3				
	7/16/2015	-21		36.5	6.7	24.0	32.8				
	7/23/2015	-20		25.0	10.5	16.4	48.1				
	7/29/2015	-19		22.5	10.4	17.0	50.1				
	8/6/2015	-18		32.5	7.0	24.6	35.9				
	8/13/2015	-18		33.0	6.6	25.6	34.8				
	8/17/2015	-18		20.5	10.2	17.4	51.9				
	8/27/2015	-18		20.5	9.8	14.8	54.9				
	9/2/2015	-20		35.5	5.4	24.6	34.5				
	9/11/2015	-20		33.5	6.0	24.4	36.1				
	9/17/2015	-20		18.0	9.7	14.8	57.5				
	9/24/2015	-19		21.5	8.9	16.6	53.0				
	9/28/2015	-23		27.5	8.6	17.4	46.5				
	10/6/2015	-25.0		36.5	6.4	21.8	35.3				
	10/14/2015	-25.0		31.5	8.2	18.6	41.7				
	10/22/2015	-20.0		31.5	3.0	24.4	41.1				
	10/30/2015	–		15.0	5.3	19.2	60.5				
	11/6/2015	-26		17.5	4.0	20.6	57.9				
	11/12/2015	-26		18.5	3.1	21.0	57.4				
	11/19/2015	-28		17.0	4.1	19.0	59.9				
	11/25/2015	-27		17.5	3.9	19.2	59.4				
	12/4/2015	-24		14.0	4.7	17.4	63.9				
	12/11/2015	-27		20.0	4.1	19.8	56.1				
	12/17/2015	-28		21.0	4.3	20.0	54.7				
	12/24/2015	-27		28.0	3.3	18.0	50.7				
	12/30/2015	-25		33.0	7.8	17.4	41.8				
	1/7/2016	-26		38.5	6.2	20.4	34.9				
	1/14/2016	-25		33.5	7.7	17.4	41.4				
	1/20/2016	-20		32.0	9.4	15.6	43.0				
	1/26/2016	-25		11.5	15.4	7.6	65.5				
	2/4/2016	-25		36.0	8.3	20.0	35.7				
	2/11/2016	-23		24.0	12.0	13.8	50.2				
	2/19/2016	-23		8.0	17.5	4.2	70.3				
	2/25/2016	-23		12.5	15.2	6.0	66.3				
	3/2/2016	-25		13.5	14.8	7.0	64.7				
	3/9/2016	-25		27.5	10.6	10.4	51.5				
	3/18/2016	-24		23.0	11.2	10.0	55.8				
	3/24/2016	-27		31.5	3.3	24.4	40.8				
	3/31/2016	-28		24.5	3.5	22.6	49.4				
	4/7/2016	-28		20.5	4.3	20.6	54.6				
	4/14/2016	-27		18.0	4.2	20.2	57.6				
	4/21/2016	-23		19.0	4.0	20.4	56.6				
	4/29/2016	-20		18.5	5.6	21.2	54.7				
	5/3/2016	-22		18.0	5.8	21.6	54.6				
	5/13/2016	-17		19.5	6.0	22.0	52.5				
	5/20/2016	-18		18.5	5.8	23.8	51.9				
	5/25/2016	-20		19.0	5.6	25.4	50.0				
	6/3/2016	--*		--*	--*	--*	--*				
	6/10/2016	--*		--*	--*	--*	--*				
	6/16/2016	--*		--*	--*	--*	--*				
	6/21/2016	--*		--*	--*	--*	--*				
	6/29/2016	--*		--*	--*	--*	--*				

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)
	Outlet Sample Port A										
	7/9/2015	6		44.0	6.0	24.6	25.4				
	7/16/2015	8		37.5	6.8	24.4	31.3				
	7/23/2015	7		25.5	10.6	17.0	46.9				
	7/29/2015	7		23.5	10.6	17.6	48.3				
	8/6/2015	8		34.0	7.1	25.6	33.3				
	8/13/2015	8		34.5	6.8	26.2	32.5				
	8/17/2015	7		21.5	10.4	18.4	49.7				
	8/27/2015	7		22.0	10.0	15.6	52.4				
	9/2/2015	10		37.0	5.9	25.8	31.3				
	9/11/2015	10		35.5	5.7	25.6	33.2				
	9/17/2015	7		19.0	10.0	15.8	55.2				
	9/24/2015	7		22.5	9.1	17.2	51.2				
	9/28/2015	4		28.5	8.8	19.0	43.7				
	10/6/2015	5		38.5	6.4	22.2	32.9				
	10/14/2015	5		33.0	8.4	19.6	39.0				
	10/22/2015	6		32.5	3.1	25.4	39.0				
	10/30/2015	--		16.5	5.0	20.6	57.9				
	11/6/2015	5		18.5	3.9	21.8	55.8				
	11/12/2015	5		20.0	3.2	22.4	54.4				
	11/19/2015	4		18.5	3.8	21.6	56.1				
	11/25/2015	4		17.0	4.4	19.6	59.0				
	12/4/2015	3		16.5	4.4	19.8	59.3				
	1/7/2016	4		42.0	5.9	22.0	30.1				
	12/11/2015	3		21.5	4.2	21.2	53.1				
	1/14/2016	7		35.0	8.2	18.2	38.6				
	12/17/2015	5		22.5	4.3	21.8	51.4				
	1/20/2016	13		33.0	10.0	15.8	41.2				
	12/24/2015	6		30.0	3.4	19.2	47.4				
	1/26/2016	7		12.5	15.6	8.4	63.5				
	12/30/2015	5		35.5	8.2	18.8	37.5				
	2/4/2016	6		37.0	9.1	20.4	33.5				
	2/11/2016	8		26.0	12.2	15.2	46.6				
	2/19/2016	8		8.5	18.2	4.2	69.1				
	2/25/2016	8		15.0	14.9	7.4	62.7				
	3/2/2016	7		14.0	15.4	7.0	63.6				
	3/9/2016	5		28.5	11.0	10.8	49.7				
	3/18/2016	5		24.5	11.6	10.4	53.5				
	3/24/2016	3		33.5	3.2	26.8	36.5				
	3/31/2016	4		26.0	3.7	23.6	46.7				
	4/7/2016	3		21.5	4.4	22.2	51.9				
	4/14/2016	4		18.5	4.4	20.6	56.5				
	4/21/2016	3		20.0	4.1	21.4	54.5				
	4/29/2016	5		19.0	5.5	22.0	53.5				
	5/3/2016	4		19.0	5.7	22.4	52.9				
	5/13/2016	4		20.0	6.2	22.6	51.2				
	5/20/2016	3		19.0	5.9	25.0	50.1				
	5/25/2016	4		19.5	5.7	26.6	48.2				
	6/3/2016	--*		--*	--*	--*	--*				
	6/10/2016	--*		--*	--*	--*	--*				
	6/16/2016	--*		--*	--*	--*	--*				
	6/21/2016	--*		--*	--*	--*	--*				
	6/29/2016	--*		--*	--*	--*	--*				
	Annual Average			25.5	7.5						

TABLE A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION GAS MONITORING

Location	Date	Pressure (in. WC)	CH_4 (% LEL)	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)

* : 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.

% LEL : Percent of lower explosive limit.

-- : Not measured.

fpm : Feet per minute.

scfm : Standard cubic feet per minute.

--* : Blower and flare non-operational due to broken transformer at flare.