OPERATION AND MAINTENANCE ANNUAL REPORT - JULY 2009 THROUGH JUNE 2010

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

Prepared For:

Wisconsin Department of Natural Resources

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TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

1.1 Project Background Information 1
1.2 Timeline of Significant Events 2

2.0 LEACHATE RECOVERY SYSTEM 3

2.1 Leachate Quantity 3
2.2 Leachate Quality 3
2.3 Leachate Discharge Permit Compliance 4
2.4 Leachate Levels within RHL 4
2.5 Leachate Recovery System Repairs 6
2.5.1 Compressor Repairs 6
2.5.2 Pneumatic Pumps 7

3.0 LFG COLLECTION NETWORK 8

3.1 Operational Duration 8
3.2 Collection Network 9
3.3 Landfill Perimeter Gas Probe Monitoring Points 9
3.4 Troubleshooting Activities 10
3.4.1 Gas Extraction from GW4 and GW5 via Central Branch 10
3.4.2 Gas Extraction from South Branch 11

4.0 LFG COMBUSTION SYSTEM 11

4.1 Operational Duration 11
4.2 Synopsis of Equipment Condition 12
4.3 Troubleshooting Activities 12

5.0 TASKS ON HOLD 12

5.1 Automation of Blower Shutdown 12
5.2 Flare Pilot Light Assembly Replacement 13
5.3 Gas to Energy Alternatives Evaluation 13

6.0 CONCLUSIONS AND RECOMMENDATIONS 14

6.1 Conclusions 14
6.2 Recommendations 15

LIST OF TABLES
(at end of report)

Table

1	Monthly Leachate Volume (July 2009-June 2010)
2	Quarterly Leachate Effluent Analytical Results-Inorganics
3	Annual Leachate Effluent Analytical Results-VOCs
4	Leachate Extraction Well Summary
5	Blower and Flare Station Operational Duration
6	Monthly Gas Probe Monitoring Results for Well Clusters G-1, G-2 and GP-11

LIST OF FIGURES
(at end of report)

Figure

1	Site Map
2	Annual Leachate Volume (2007-2010)
3	Monthly Leachate Volume (July 2009-June 2010)

LIST OF APPENDICES
(at end of report)

Appendix

I	Leachate Laboratory Analytical Reports and Chain-of-Custody Documents
II	Madison Metropolitan Sewerage District Wastewater Discharge Permit NTO-5.11

OPERATION AND MAINTENANCE ANNUAL REPORT - JULY 2009 THROUGH JUNE 2010 REFUSE HIDEAWAY LANDFILL 7562 U.S. HIGHWAY 14 MIDDLETON, WISCONSIN 53562

1.0 INTRODUCTION

The following Operation and Maintenance Annual Report (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 at the Site by LBG during the July 2009 through June 2010 contract period. The report includes project background information, a project timeline, a summary of leachate recovery system operational data, a synopsis of landfill gas (LFG) extraction and combustion system operations, and a description of equipment repair activities. The results of out-of-scope troubleshooting and system evaluation tasks conducted during the contract period are also provided and recommendations for future Site activities are presented.

1.1 Project Background Information

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 was covered in October 1988 with a minimum 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, a candlestick flare (previously used as a backup combustion unit but now out of service), and associated controls and appurtenances. The LFG collection network consists of 13 extraction wells, four drip legs, and associated gas header piping. Eleven monitoring wells are

located throughout the Site and additional ambient air monitoring locations have been designated within nearby Speedway buildings. 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.

1.2 Timeline of Significant Events

The following timeline was prepared to summarize major Site events that occurred during the contract period.

July 1, 2009	LBG began providing routine O&M services
July 2009	Baseline monitoring and out-of-scope pump maintenance conducted
September 28, 2009	Quarterly leachate sample collected for laboratory analysis of inorganics
October 8, 2009	Project team meeting held to discuss LBG's initial Site observations
January 5, 2010	Approval granted to conduct additional maintenance activities
January 20, 2010	Quarterly leachate sample collected for laboratory analysis of inorganics; annual leachate sample collected for VOC analysis
February 26, 2010	Economic cost evaluation conducted on potential combustion alternatives
March 10, 2010	Approval requested to conduct a gas to energy feasibility/economic evaluation
March 31, 2010	Quarterly leachate sample collected for laboratory analysis of inorganics
June 29, 2010	Quarterly leachate sample collected for laboratory analysis of inorganics; high vacuum extraction event conducted at GW5, GW9 and South branch clean-out #2
June 30, 2010	LBG completed the first year of the O&M agreement and the contract was renewed for an additional one-year term.

2.0 LEACHATE RECOVERY SYSTEM

2.1 Leachate Quantity

The compressed air delivery system operated on a consistent basis during the contract period. The compressor was off-line for a few brief periods for maintenance or due to electrical service interruptions. The operation of individual leachate pumps proved to be more sporadic. As summarized on **Table 1,** approximately 469,239 gallons of leachate was recovered and removed from RHL from July 2009 through June 2010. This volume represents a 107 percent increase from the reported volume recovered by the previous O&M contractor during the July 2008 through June 2009 contract term. Based on data provided by the Department, 214,360 gallons were recovered from July 2008 through June 2009 and 226,606 gallons of leachate was recovered during the July 2007 through June 2008 contract period. A graph of annual leachate recovery for the past three years is included as **Figure 1**. Based on National Weather Service precipitation data stored at the National Climate Data Center, the precipitation total for the contract period was 36.25 inches. During the previous two contract periods, the precipitation totals were 37.13 inches (July 2008-June 2009) and 55.24 inches (July 2007-June 2008).

During the current contract period, monthly leachate recovery volumes ranged from approximately 14,400 to 64,900 gallons. The volume of leachate recovered is influenced by numerous factors including, but not limited to, the number of operational pneumatic pumps, interruptions to compressor operations, the severity of blockages within the leachate piping network (i.e. freezing wellhead conditions, biological fouling), seasonal weather variations, the condition of the clay cap, the frequency and duration of precipitation events, and the corresponding leachate elevation within the landfill. A graph of the monthly leachate recovery volumes is included as **Figure 2**. The highest recovery rate was evident during March 2010 and the lowest recovery rate was observed during September 2009. The pump in GW7, which typically recovers the greatest volume of leachate, was not operational for a period in September.

2.2 Leachate Quality

Leachate samples were collected on a quarterly basis for laboratory analysis. On September 28, 2009, January 20, 2010, March 31, 2010 and June 29, 2010, leachate samples

were collected by LBG personnel by lowering a disposable bailer into the UST. The samples were placed in the appropriate containers, packaged in ice in a cooler, and sent to Test America, Inc. (Wisconsin Certification No. 128053530) for laboratory analysis of 13 inorganic parameters. Pursuant to the MMSD Wastewater Discharge Permit NTO-5.11 (Permit) and the Department's request for proposal, the samples were analyzed for cadmium, total chromium, hexavalent chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc, and cyanide. As indicated on **Table 2,** concentrations of the inorganic compounds were less than the discharge permit effluent limitations. The laboratory analytical reports are included in **Appendix I**.

In addition to the quarterly leachate sampling for inorganics, a leachate sample was collected on January 20, 2010 for volatile organic compound (VOC) analysis. The sample was collected in order to evaluate the potential impact that leachate within the landfill may be having on the residual groundwater contaminant plume. As indicated on **Table 3**, the concentrations of VOCs detected in a leachate sample from the UST were less than the Department's enforcement standards and preventive action limits. The laboratory analytical report is included in **Appendix I**. In order to obtain a better representation of leachate VOC impacts, additional leachate samples could be collected directly from leachate extraction wells with the Department's approval (see **Section 6.2 Recommendations**).

2.3 Leachate Discharge Permit Compliance

The 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. To fulfill the reporting requirements of Permit (Part 3, Section 3.01), monitoring results were submitted to the MMSD within sixty days of the end of each quarterly monitoring period. A copy of the Permit is included as **Appendix II**. As stated above, concentrations of the analyzed parameters did not exceed any discharge permit limits.

2.4 Leachate Levels within RHL

Leachate levels have typically been measured on a monthly basis in the gas extraction wells utilizing two different methods. For the gas extraction wells that are not actively pumped (GW1, GW2, GW3, and GW6), leachate levels were measured using an electric water level indicator. For the gas extraction wells with a leachate pump installed, the Department's remote

liquid level indicator (i.e. bubbler tube system) was used to obtain leachate levels. The bubbler tube system mitigates the risk of having an electric water level indicator become lodged within the well and the numerous down-hole conduits. The leachate head measurements in the gas extraction wells are summarized on **Table 4**. The leachate head was routinely measured as being greater than 12.5 feet in the various extraction wells equipped with pumps.

An elevated leachate head in a well can be attributed to various causes including, but not limited to, operational issues with the pumps, undersized equipment, inaccurate readings by bubbler system, precipitation events, and elevated backpressure/blockage of leachate discharge lines. Each of these potential causes was evaluated during the contract period. The frequent operational interruptions to the pumps does contribute to elevated leachate head levels within the landfill; however, the measured leachate head in the wells remained elevated even after several pumps were successfully repaired and leachate generation rates increased dramatically. An evaluation of the pneumatic pump specifications does not indicate that the pumps are undersized. Manufacturer's information indicates that the pumps can operate at 6 gallons per minute (gpm) or more at the given pressure and depth at which they are set. During April 2010, nine loads of leachate (~45,000 gallons) were removed from the Site. If one pump would have operated at 6 gpm continuously for the entire month, approximately 260,000 gallons would have been recovered; therefore, the capacity of the pumps does not appear to be a limiting factor. Because the compressor routinely cycles on/off, air supply and air pressure also do not appear to be limiting factors.

During necessary pump maintenance activities at select extraction wells, the condition of the air line and bubbler lines was inspected. The inspections did not indicate that excessive fouling/blockage of the lines was occurring.

The bubbler system could indicate higher than actual leachate head values under the following conditions: bubbler system malfunction, blocked reference air line, plugged or increased backpressure in bubbler line, bubbler line terminates below typical cone of depression of the pump. While troubleshooting the bubbler system, a head of approximately 60 inches of water column (inches W.C.) registered on the panel even though the equipment was not connected to any well lines. Further testing of the bubbler system revealed that the equipment was reporting a head of 90 inches W.C. in a pail when in fact the liquid level was only 10 inches. The meter has been returned to the manufacturer for additional troubleshooting and calibrating.

When the bubbler system becomes available and another pump is pulled for cleaning or adjustments, LBG will conduct additional verification testing activities to confirm leachate head readings obtained in the field.

2.5 Leachate Recovery System Repairs

During the contract period, numerous repairs and troubleshooting activities were conducted on the components of the leachate recovery system. The following paragraphs provide details on the scope of these activities.

2.5.1 Compressor Repairs

On November 19, 2009, LBG discovered that the compressed air delivery system was down. No pressure was observed in the air compressor reservoir or at any of the leachate collection pumps. On November 23, 2009, LBG replaced three fuses associated with the air compressor system, reset the breaker located within the air compressor control panel, and successfully restarted the compressor.

On December 7, 2009, the underground compressed air delivery line near GW4 was severed during trenching activities by another contractor. The trenching activities were associated with the installation of a buried electrical line for the solar panel pilot project. As a result, pressure in the entire compressed air delivery system was lost and all of the leachate collection pumps ceased operation. On December 17, personnel from Full Spectrum Solar repaired the air line and LBG resumed operation of the compressed air delivery system. Upon turning the air compressor on, LBG discovered the solenoid valve, located down stream from the air compressor and compressed air dryer system, had malfunctioned and was bypassing the compressed air to the atmosphere. Because the telemetry system/leachate overflow alarm on the leachate holding tank had been disconnected by a previous operator, the solenoid bypass valve was no longer needed. LBG removed the solenoid valve and replaced it with straight pipe. The compressed air delivery system was restarted.

On May 28, 2010, a malfunctioning internal solenoid valve was preventing the compressor from achieving sufficient pressure to operate all the pneumatic leachate recovery pumps effectively. The compressor was off-line until the valve was replaced on June 4, 2010.

2.5.2 Pneumatic Pumps

At the onset of the contract period, activities were initiated in order to reduce the leachate head in the gas extraction wells and increase the volume of leachate pumped from the landfill. Pump cycle readings are typically scheduled to be recorded on a monthly basis; however, well pump data were recorded weekly (July 2, July 8, and July 14) to provide baseline operations information. These data indicated that leachate pumps in six of the nine extraction wells (GW4, GW5, GW9, GW11, GW12 and GW13) were not cycling. Only the pumps in GW7, GW8 and GW10 operated during this baseline period. Following the baseline period, well pump troubleshooting activities were conducted on several occasions.

On July 15, 2009, the pump in GW5 was pulled from the well and cleaned. After repositioning the pump in the well, it began cycling rapidly. The float in pump GW4 was dislodged from its stuck position and the pump began cycling as well. The cycle counter in GW7 was adjusted and became operational.

On September 24, 2009, pump troubleshooting activities were initiated at GW11. The pump was pulled from the well and the magnet spacing was adjusted to decrease the tension on the float release spring. Using a repetitive process, the tension was able to be set at an optimal level allowing the pump to continue cycling without the float becoming fixated along the rod prior to discharging leachate.

On October 1, 2009, pumps in GW9 and GW13 were removed for troubleshooting. Replacement parts were needed in order to bring the GW9 pump back on-line and GW13 was removed in order to be dismantled and fully cleaned. Pump troubleshooting activities continued at GW12 and GW13 on October 7, 2009 and at GW4 and GW5 on October 21, 2009. The pumps were cleaned and the magnet spacings were adjusted to allow for proper cycling. After being cleaned and inspected, the pump in GW13 appeared to be in working condition; however, when the pump was placed back into the well, it still did not function. The manufacturer for the smaller model pump in GW13 has been contacted for additional troubleshooting support. Replacement parts were installed in pump GW9 and the pump was placed back in the well on April 30, 2010 after the above-grade wellhead piping thawed.

Late in 2009, interruptions to GW7 pump operations were periodically observed. The previous O&M contractor had indicated that this pump was lodged in the well and could not be removed when lifting was attempted with a backhoe. The pump can be agitated slightly but

cannot be removed. On select occasions, an agitation of the pump wellhead connection would cause the pump to resume cycling; however, on other occasions, an agitation of the wellhead connection was not beneficial. As an out-of-scope task, a sewer camera was lowered into the well to evaluate the condition of the well and the pump. Due to the opacity of the water in the well, inspection of the well interior could not be conducted. The water in the well was opaque and made it somewhat difficult to inspect the well interior. At a depth of approximately 55 feet, it was apparent that the well screen had shifted from its vertical alignment. This shift in alignment is severe enough to obstruct the pump during attempts to remove it.

During the annual site inspection activities completed near the end of the contract year, the pumps in wells GW8, GW9, and GW12, which had been operating sporadically, were cleaned and adjusted. Following the maintenance activities, the pumps in GW8 and GW9 were working properly. The pump in GW12 cycled several times before stopping. When the leachate line was disconnected, the pump again cycled regularly, which suggested that the leachate line from GW12 was blocked. Leachate line cleaning activities were initiated and the pump became operational.

3.0 LFG COLLECTION NETWORK

3.1 Operational Duration

The telemetry system and flare controls associated with the LFG collection system were taken off-line or bypassed by a previous operator due to low flare operational temperatures and malfunctioning sensors/controls. Under this operating scenario, the landfill extraction blower can operate without interruption and directly discharge LFG to the atmosphere when the flare is off-line. To reduce the volume of gas directly discharged to the atmosphere and increase the operational duration of the flare, the LFG extraction blower was taken off-line for short periods when methane concentrations were below operating levels. Cycling the gas extraction system on and off resulted in the extraction blower operating approximately 67 percent of the contract period (**Table 5**). The blower did not experience any malfunctions during the contract period.

3.2 Collection Network

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 South and Central branches at their extremities contains a buried control valve CVl, consisting of a butterfly valve with a geared actuator extended to the surface. The pipe segment connecting the Central and North branches at their extremities contains control valve CV2 (Figure 1). The control valves may be opened to re-route flow in the event a branch becomes unusable. The three branches enter the blower station and are valved individually. The three flows are then combined before entering the blower.

At the onset of the contract period, sufficient vacuum was noted at the wells connected to the North and Central branches. Wellhead vacuum was not evident at wellheads GW1 through GW5. Vacuum could not be induced through either the South branch header or the redundant pipe segment that connects the extremities of the Central and South branches.

3.3 Landfill Perimeter Gas Probe Monitoring Points

During the contract period, methane was detected in three perimeter gas probe clusters (G-1S/G-1D, G-2S/G-2D and GP-11S/GP-11D) at concentrations greater than the lower explosive limit (LEL), which is 5 percent by volume. The methane concentrations at these three clusters ranged from non-detect to 13 percent by volume (**Table 6)**. These clusters 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 within the closest Speedway building during the contract period. Clusters G-2 and GP-11 are located in close proximity to the property line. Well GW5 is the closest extraction well to clusters G-2 and GP-11. Troubleshooting activities have been conducted at the GW5 extraction well to improve the recovery of methane from this area.

3.4 Troubleshooting Activities

Troubleshooting activities were conducted in an attempt to restore the flow of LFG from the South branch wells and reduce methane concentrations periodically detected in the perimeter gas probes.

3.4.1 Gas Extraction from GW4 and GW5 via Central Branch

On June 29, 2010, a vacuum truck was utilized to identify what type of blockage (liquid, pipe collapse, broken valve, etc) existed in the pipe connecting GW5 and GW9. The leachate and LFG extraction systems were taken offline prior to the vacuum event. The vacuum truck was connected to the dual LFG/leachate pipe at the GW5 wellhead. A high vacuum was applied to the piping network and liquids were recovered by the truck. The piping network appeared to be intact as an elevated vacuum was noted at the wellheads of adjacent extraction wells GW4 and GW9. Following the extraction of recoverable liquid from the pipe network, the vacuum truck was mobilized to the GW9 wellhead location. A vacuum was applied to the clean-out pipe located near GW9; however, a corresponding vacuum was not evident at adjacent wells.

Following the vacuum event, the LFG extraction system was restarted. Sufficient vacuum readings were noted at GW4 and GW5 via their connection to the Central branch. At the GW5 wellhead, the invert elevation of this connector pipe is approximately 999 feet. Valve CV1 is located at the high point of this pipe run and is at an elevation of approximately 1,012 feet. The segment then slopes back down to an elevation of approximately 1,008 feet at GW9. The results of the vacuum testing activities confirmed that leachate and/or condensate collects in the lateral pipe segment between GW5 and control valve CV1 instead of draining into the LFG conveyance line that slopes from GW5 toward GW4.

The leachate recovery pumps in GW4 and GW5 were kept off-line following the vacuum event to allow the collection of additional LFG quantity and quality data at these wells. During a subsequent monthly inspection, the GW4 pump will be brought back on-line. Monitoring will ensue to determine if leachate effectively drains from GW4 through the South branch and if LFG can still be recovered from this well through the Central branch. Additional construction photographs or as-built information will be requested from the Department for the GW5 wellhead to determine the cause for liquids to collect in the redundant line between GW5 and GW9 instead of draining toward GW4.

Even though vacuum was successfully restored to the GW5 vertical well, pressure was still evident in the one-inch riser pipes that are located at the end of each of the two lateral gas extraction wells that extend from GW5. The observed pressure within the lateral extraction wells indicates that there is likely a blockage within the solid pipe that extends halfway through each of the trench segments and connects to the perforated pipe in the latter half of the trench. Various options for removing accumulated condensate/leachate from the lateral extraction wells will be evaluated. Potential options include, but are not limited to, utilizing the compressed air supply at the wellhead to push condensate from the solid pipe to the screened segment, utilizing a vacuum source to extract the liquid, and modifying the piping network. The potential for adding oxygen to the fill will be considered during the evaluation of the alternatives.

3.4.2 Gas Extraction from South Branch

Following the extraction event at GW5 and GW9, the vacuum truck was mobilized to clean-out #2 along the South branch leachate conveyance header between GW1 and the blower station. An undetermined volume of liquid was removed from the cleanout. In total, approximately 450 gallons of liquid was removed from the piping network during the limited vacuum event. Sufficient vacuum readings were noted at GW1 through GW5 following the completion of the vacuum events at GW5 and at the cleanouts. An access point for extracting condensate from the separate gas header pipe in the area between GW1 and the blower station is not available.

4.0 LFG COMBUSTION SYSTEM

4.1 Operational Duration

The LFG combustion system was not fully operational during the contract period. As indicated on **Table 5**, the LFG extraction blower operated 67 percent of the time. The flare operated within the range of 36 to 67 percent of the time. The telemetry system and select system controls were taken off-line by a previous operator so a more accurate estimate of the flare operational duration cannot be made. On numerous occasions, the LFG collection and combustion systems were taken off-line for a period of a few days in an attempt to reduce the volume of gas directly discharged to the atmosphere and to increase the operational duration of

the flare and the methane concentration of the recovered LFG. Upon system restart, elevated methane concentrations were typically evident.

4.2 Synopsis of Equipment Condition

As indicated by the low operational percentage of the flare, the enclosed flare is approaching the end of its useful life cycle. Many repairs would be necessary at this time to bring the flare back to an acceptable level of performance. These repairs could include, but are not limited to, installing an additional ultraviolet sensor, replacing a thermocouple, modifying the position of cooling dampers, adjusting the combustion air shutters, installing a temperature monitor, replacing the pilot light assembly, and reconnecting the LFG isolation valve on the influent line. Although these repairs would assist in operating the combustion system, they would not likely significantly increase the life of the flare. Therefore, alternatives to repairing the enclosed flare were proposed for additional evaluation.

4.3 Troubleshooting Activities

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

The pilot light would not operate on numerous occasions because the spark rod had become misaligned resulting in an ineffective spark gap. This required the pilot light assembly to be dismantled, cleaned if necessary, and repositioned as accurately as possible. The thermal fuse in flare inlet shut-off valve was also replaced during the contract period.

5.0 TASKS ON HOLD

5.1 Automation of Blower Shutdown

Under the current operating scenario, the landfill extraction blower is able to directly discharge LFG to the atmosphere when the flare is off line. Telemetry system/flare controls were taken off-line or bypassed by a previous operator due to low flare operational temperatures and malfunctioning sensors/controls. Furthermore, the LFG isolation valve on the influent line to the

flare was bypassed by a previous operator resulting in an unsafe working environment. When the flame goes out, LFG is emitted to the flare/blower area either by the extraction blower or by positive pressure created in the landfill as gas is generated. Elevated methane concentrations could occur at the blower/flare station and result in a dangerous situation if an ignition spark is present.

During October 2009, LBG requested funding to address this situation by automating the shutdown of the blower when the flame goes out. Through subsequent conversations with combustion equipment service providers and the Department, it became evident that upgrading the existing enclosed flare would not likely extend its operational life cycle for a sufficient duration. Due to the Department's interest in sustainable or "greener" cleanups and the state of deterioration of existing enclosed landfill flare, a feasibility study/economic evaluation regarding potential gas to energy alternatives for RHL will be conducted to identify the optimal path forward regarding the LFG.

5.2 Flare Pilot Light Assembly Replacement

As stated above, the pilot light would not operate on numerous occasions because the spark rod had come out of alignment resulting in an ineffective spark gap. During October 2009, LBG requested funding to address this situation; however, the task is on hold until approval is granted to conduct the gas to energy alternatives evaluation.

5.3 Gas to Energy Alternatives Evaluation

Upon approval from the Department, LBG will evaluate the energy potential of the current volume and quality of LFG being generated and identify potential LFG collection system operational configurations that would be optimal for gas to energy alternatives. Following the completion of the evaluation, potential paths forward for the Site include the implementation of a gas to energy system, the installation of a candlestick or smaller enclosed flare, or upgrading the existing enclosed flare system.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

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

- Approximately 469,239 gallons of leachate was removed from RHL during the contract year, representing a 107 percent increase from the volume recovered during the preceding year by the previous O&M contractor.
- Due to the influence of numerous Site conditions, monthly leachate recovery volumes ranged from approximately 14,400 gallons to 64,900 gallons.
- Concentrations of inorganic compounds in the leachate samples collected quarterly from the UST were less than the discharge permit effluent limitations.
- Concentrations of VOCs detected in a leachate sample from the UST were less than the Department's preventive action limits.
- Due to the telemetry system and flare controls being taken off-line by a previous operator, the landfill extraction blower can operate without interruption and directly discharge LFG to the atmosphere when the flare is off-line. The LFG extraction blower was taken off-line for short periods when methane concentrations were below operating levels resulting in the extraction blower operating approximately 67 percent of the contract period.
- The results of high vacuum testing activities confirmed that leachate collects in the lateral pipe segment between GW5 and control valve CV1 instead of draining into the LFG conveyance line that slopes from GW5 toward GW4.
- The observed pressure within the GW5 lateral extraction wells indicates that there is likely a blockage within the solid pipe that extends halfway through each of the trench segments.
- Sufficient vacuum readings were noted at all of the South Branch wells following the completion of the vacuum events at GW5 and at the cleanouts.
- The enclosed flare is approaching the end of its useful life cycle and many repairs would be necessary at this time to bring the flare back to an acceptable level of performance.

6.2 Recommendations

Based on the Site activities conducted by LBG during the July 2009 through June 2010 contract period, a few additional tasks are being recommended for implementation during the subsequent contract year to supplement routine O&M tasks. These recommendations are as follows:

- In order to obtain a more representative sample of leachate VOC impacts, a leachate sample should be collected directly from leachate extraction well(s) to evaluate the degree of variation in leachate concentrations throughout the landfill. If elevated VOC concentrations are detected in select wells, resources can be appropriated as necessary to ensure effective leachate recovery in that area.
- Additional verification testing will be conducted in the field to confirm that leachate head measurements are accurate after the bubbler system has been repaired and calibrated by the manufacturer.
- Additional construction photographs or as-built information will be requested from the Department for the GW5 wellhead to determine the cause for liquids to collect in the redundant line between GW5 and CV1 instead of draining toward GW4.
- The feasibility of utilizing the compressed air supply at the wellhead to remove accumulated condensate/leachate from the lateral extraction wells will be evaluated.
- The energy potential of the current volume and quality of LFG being generated will be evaluated and potential LFG collection system operational configurations will be identified that would be optimal for the Site.

TABLES

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY LEACHATE COLLECTION VOLUME

Month	Reported Volume Hauled (gallons)	Cumulative Volume Hauled (gallons)
July-09	34,008	34,008
August-09	32,752	66,760
September-09	14,412	81,172
October-09	42,897	124,069
November-09	24,184	148,253
December-09	29,151	177,404
January-10	27,109	204,513
February-10	44,951	249,464
March-10	64,910	314,374
April-10	44,734	359,108
May-10	45,042	404,150
June-10	65,089	469,239
Total	469,239	

TABLE 2

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**
9/28/2009	0.0064 J	0.026	< 0.0025 H3	< 0.036	< 0.026	< 0.000065	0.013 J	0.077	< 0.090	< 0.0026	0.025	< 0.017
1/20/2010	0.0030 J	0.0099 J	< 0.0050	< 0.036	< 0.026	< 0.000065	< 0.013	0.048	< 0.090	0.0098 B	0.017 J	< 0.051
3/31/2010	< 0.0050	0.014 J	< 0.0030	< 0.018	0.020 J	< 0.000065	< 0.050	0.041	< 0.044	< 0.0037	0.020	< 0.051
6/29/2010	< 0.0050	0.011 J	< 0.0060	< 0.018	< 0.016	< 0.000065	< 0.010	0.036 J	0.056	< 0.0037	0.0092 J	< 0.0081

* : Madison Metropolitan Sewerage District Use Ordinance - Wastewater Discharge Permit NTO-5.11.

J : Results reported between the method detection limit and the limit of quantitation (LOQ) are less certain than results at or above the LOQ.

-- : Effluent limitation not set.

< : Less than laboratory method detection limit.

TABLE 3

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

ANNUAL LEACHATE EFFLUENT ANALYTICAL RESULTS - VOCs
(all results are in micrograms per liter (µg/L))

Date	Benzene	Bromodi-chloro-methane	Bromo-form	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-dibromo-methane	Chloro-ethane	Chloro-form	Chloro-methane	1,2-Dichloro-benzene	1,4-Dichloro-benzene	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	1,2-Dichloro-propane
WI DNR NR 140 ES	**5**	**0.6**	**4.4**	**10**	**5**	**100**	**60**	**400**	**6**	**3**	**600**	**75**	**850**	**5**	**7**	**70**	**100**	**5**
WI DNR NR 140 PAL	**0.5**	**0.06**	**0.44**	**1**	**0.5**	**20**	**6**	**80**	**0.6**	**0.3**	**60**	**15**	**85**	**0.5**	**0.7**	**7**	**20**	**0.5**
1/20/2010	**1.1**	< 0.20	< 0.20	< 0.50	< 0.80	**1.2**	< 0.20	< 1.0	< 0.20	< 0.30	**0.49 J**	**4.0**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Notes

WI DNR NR 140 ES: Wisconsin Department of Natural Resources Public Health Enforcement Standard

WI DNR NR 140 PAL: Wisconsin Department of Natural Resources Public Health Preventive Action Limit

[t]: ES and PAL listed for 1,2,4- and 1,3,5-Trimethylbenzene combined.

<: Reported concentration is below the laboratory method detection limit (MDL).

MTBE: methyl-tertiary butyl ether

VOC: Volatile organic compounds

J: Estimated concentration (reported result is between the MDL and the limit of quantitation).

Bold values indicate that the compound was detected above the laboratory MDL.

: Reported concentration exceeds WI DNR NR 140 PAL.

TABLE 3

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

ANNUAL LEACHATE EFFLUENT ANALYTICAL RESULTS - VOCs
(all results are in micrograms per liter (µg/L))

Date	cis-1,3-Dichloro-propene	trans-1,3-Dichloro-propene	Ethyl-benzene	Methylene Chloride	MTBE	Naph-thalene	Styrene	1,1,2,2-Tetra-chloro-ethane	Tetra-chloro-ethene	Toluene	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Trichloro-ethene	Trichloro-fluoro-methane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Total Xylenes
WI DNR NR 140 ES	**0.2**	**0.2**	**700**	**5**	**60**	**100**	**100**	**0.2**	**5**	**1,000**	**200**	**5**	**5**	**3490**	**480[t]**		**0.2**	**10,000**
WI DNR NR 140 PAL	**0.02**	**0.02**	**140**	**0.5**	**12**	**10**	**10**	**0.02**	**0.5**	**200**	**40**	**0.5**	**0.5**	**698**	**96[t]**		**0.02**	**1,000**
1/20/2010	< 0.20	< 0.20	**0.58 J**	< 1.0	< 0.50	**2.1**	< 0.50	< 0.25	< 0.50	< 0.50	< 0.50	< 0.25	< 0.20	< 0.50	**1.2**	**0.42 J**	< 0.20	**4.1**

Notes

WI DNR NR 140 ES: Wisconsin Department of Natural Resources Public Health Enforcement Standard

WI DNR NR 140 PAL: Wisconsin Department of Natural Resources Public Health Preventative Action Limit

[t]: ES and PAL listed for 1,2,4- and 1,3,5-Trimethylbenzene combined.

< : Reported concentration is below the laboratory method detection limit (MDL).

MTBE : methyl-tertiary butyl ether

VOC : Volatile organic compounds

J : Estimated concentration (reported result is between the MDL and the limit of quantitation).

Bold values indicate that the compound was detected above the laboratory MDL.

: Reported concentration exceeds WI DNR NR 140 PAL.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW1	3/18/2009	53.7		17.0								
GW1	4/3/2009	53.7		17.6								
GW1	7/31/2009	53.7	36.83	16.9								
GW1	8/25/2009	53.7	36.85	16.9								
GW1	10/30/2009	53.7	40.1	13.6								
GW1	11/24/2009	53.7	40.27	13.4								
GW1	12/30/2009	53.7	38.19	15.5								
GW1	1/29/2010	53.7	39.50	14.2								
GW1	2/26/2010	53.7	39.70	14.0								
GW1	3/29/2010	53.7	35.31	18.4								
GW1	4/27/2010	53.7	36.00	17.7								
GW1	5/28/2010	53.7	36.30	17.4								
GW1	6/25/2010	53.7	36.00	17.7								
GW1	7/29/2010	53.7	35.05	18.7								
GW2	3/18/2009	53.9		17.9								
GW2	4/3/2009	53.9		17.6								
GW2	7/14/2009	53.9	35.50	18.4								
GW2	7/31/2009	53.9	35.90	18.0								
GW2	9/25/2009	53.9	35.10	18.8								
GW2	10/30/2009	53.9	35.00	18.9								
GW2	11/24/2009	53.9	35.27	18.6								
GW2	12/30/2009	53.9	33.20	20.7								
GW2	1/29/2010	53.9	35.20	18.7								
GW2	2/26/2010	53.9	36.10	17.8								
GW2	3/29/2010	53.9	34.85	19.1								
GW2	4/27/2010	53.9	35.20	18.7								
GW2	5/28/2010	53.9	35.50	18.4								
GW2	6/25/2010	53.9	35.15	18.8								
GW2	7/29/2010	53.9	30.50	23.4								
GW3	3/18/2009	59.7		6.3								
GW3	4/3/2009	59.7		20.0								
GW3	8/25/2009	59.7	NM	NM								Electric water level indicator became lodged in well.
GW3	9/25/2009	59.7	NM	NM								
GW3	10/30/2009	59.7	53.40	6.3								Electric water level indicator retrieved from well.
GW3	11/24/2009	59.7	53.33	6.4								
GW3	12/30/2009	59.7	53.80	5.9								
GW3	1/29/2010	59.7	51.80	7.9								
GW3	2/26/2010	59.7	53.10	6.6								
GW3	3/29/2010	59.7	53.55	6.2								
GW3	4/27/2010	59.7	53.45	6.3								

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW3	5/28/2010	59.7	53.70	6.0								
GW3	6/25/2010	59.7	51.90	7.8								
GW3	7/29/2010	59.7	51.50	8.2								Well depth meter inconsistent
GW4	3/18/2009	~65		12.5	–	926544	16238	–				–
GW4	4/3/2009			> 12.5	–	926,546	2	11,520				–
GW4	7/2/2009	~65		NM	> 90.0	932,669	6,123	21				–
GW4	7/8/2009	~65		NM	NM	932,669	0	–				–
GW4	7/14/2009	~65		NM	> 10.0	932,662	-7	–				–
GW4	7/16/2009	~65		NM	> 90.0	933,184	522	6				Maintenance performed; float still catching. Pump operating upon departure.
GW4	7/17/2009	~65		NM	NM	935,804	2,620	1				Observed cycling
GW4	7/23/2009	~65		NM	> 90.0	935,806	2	4,320				Not cycling; agitated pump; cycling constantly upon departure.
GW4	7/24/2009	~65		> 12.5	NM	NM	NM	–				Not cycling; agitated pump; cycling upon departure.
GW4	7/31/2009	~65		> 12.5	> 90.0	944,082	8,276	1				Observed cycling
GW4	8/6/2009	~65		NM	> 85.0	949,242	5,160	2				Observed cycling
GW4	8/13/2009	~65		NM	> 91.0	949,242	0	–				Not cycling; agitated pump; cycling upon departure.
GW4	8/20/2009	~65		NM	> 90.0	954,786	5,544	2				Not cycling; agitated pump; cycling upon departure.
GW4	8/25/2009	~65		NM	> 90.0	956,792	2,006	4				Not cycling; agitated pump; cycling upon departure.
GW4	9/8/2009	~65		NM	> 90.0	959,039	2,247	9				Not cycling; agitated pump; cycling upon departure.
GW4	9/11/2009	~65		NM	> 90.0	961,498	2,459	2				Not cycling; agitated pump; cycling upon departure.
GW4	10/1/2009	~65		NM	> 94.0	971,247	9,749	3				Not cycling; agitated pump; cycling upon departure.
GW4	10/9/2009	~65		NM	> 95.0	974,380	3,133	4				Not cycling; agitated pump; cycling upon departure.
GW4	10/16/2009	~65		NM	> 91.0	976,933	2,553	4				Not cycling; agitated pump; cycling upon departure.
GW4	10/30/2009	~65		> 10.0	> 87.0	984,431	7,498	3				Pump serviced on 10/21/09. Pump observed cycling
GW4	11/6/2009	~65		NM	> 94.0	987,587	3,156	3				Pump observed cycling
GW4	11/13/2009	~65		NM	> 95.0	990,942	3,355	3				Pump observed cycling
GW4	11/19/2009	~65		NM	> 0.0	991,499	557	16				Compressor down. No pressure in system.
GW4	11/24/2009	~65		> 10.0	> 92.0	994,287	2,788	3				Pump observed cycling
GW4	12/4/2009	~65		NM	> 90.0	998,802	4,515	3				Pump observed cycling
GW4	12/21/2009	~65		NM	> 85.0	941	2,139	11				Pump not cycling
GW4	12/23/2009	~65		NM	> 83.0	941	0	–				Pump not cycling

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW4	12/30/2009	~65		> 12.5	> 91.0	5,247	4,306	2				Pump observed cycling
GW4	1/4/2010	~65		–	> 93.0	8,311	3,064	2				Pump observed cycling
GW4	1/22/2010	~65		–	> 20.0	9,754	1,443	18				Air line frozen. Clear Air line; pump observed cycling.
GW4	1/29/2010	~65		> 10.0	> 95.0	15,752	5,998	2				Pump observed cycling
GW4	2/5/2010	~65		–	> 40.0	19,806	4,054	2				Air line frozen; clear ice from air line. Pump observed cycling.
GW4	2/12/2010	~65		–	> 25.0	23,824	4,018	3				Air line frozen; clear ice from air line. Pump observed cycling.
GW4	2/19/2010	~65		–	> 85.0	33,434	9,610	1				Pump observed cycling
GW4	2/26/2010	~65		> 10.4	> 84.0	38,887	5,453	2				Pump observed cycling
GW4	3/5/2010	~65		–	> 90.0	43,705	4,818	2				Pump observed cycling
GW4	3/19/2010	~65		–	> 91.0	57,480	13,775	1				Pump observed cycling
GW4	3/29/2010	~65		> 10.0	> 86.0	69,791	12,311	1				Pump observed cycling
GW4	4/9/2010	~65		–	> 85.0	85,553	15,762	1				Pump observed cycling
GW4	4/15/2010	~65		–	> 91.0	91,316	5,763	1				Pump observed cycling
GW4	4/23/2010	~65		–	> 85.0	107,723	16,407	1				Pump observed cycling
GW4	4/27/2010	~65		> 11.3	> 94.0	116,328	8,605	1				Pump observed cycling.
GW4	5/21/2010	~65		–	> 84.0	160,767	44,439	1				Pump observed cycling
GW4	5/28/2010	~65		–	> 40.0	179,061	18,294	1				Pump observed cycling
GW4	6/4/2010	~65		–	85	179,829	768	13.1				Pump observed cycling
GW4	6/10/2010	~65		–	85	201,413	21,584	0.4				Pump observed cycling
GW4	6/25/2010	~65		–	87	221,103	19,690	1.1				Pump observed cycling
GW4	7/29/2010	~65		>12.5	0	221,136	33	1483.6				Turned off
GW5	3/18/2009	~70		> 12.5	–	–	–	–	74,625	0	0	Pump off-line due to blocked branch
GW5	4/3/2009	~70		> 12.5	–	–	–	–	74,625	0	0	Pump off-line due to blocked branch
GW5	7/2/2009	~70		NM	95	241,900	–	–	NR	–	00	–
GW5	7/8/2009	~70		NM	NM	241,900	0	–	78,189	3,564	39	April through July 8
GW5	7/14/2009	~70		NM	10	241,900	0	–	78,189	0	–	–
GW5	7/16/2009	~70		NM	90	241,900	0	–	79,068	879	3	Pulled pump; unable to open pump. Cleaned pump exterior; float still catching; pump operating.
GW5	7/17/2009	~70		NM	NM	NM	–	–	82,806	3,738	0	Pump operating.
GW5	7/23/2009	~70		NM	85	241,900	0	–	82,808	2	4,320	Not cycling; agitated pump; cycling constantly upon departure.
GW5	7/24/2009	~70		NM	NM	NM	–	–	NM	–	–	Not cycling; agitated pump; may have pumped leachate down.
GW5	7/31/2009	~70		> 12.5	90	241,900	0	–	88,244	5,436	2	Pump operating.
GW5	8/6/2009	~70		NM	90	241,900	0	–	88,245	1	8,640	Not cycling.
GW5	8/13/2009	~70		NM	90	241,900	0	–	88,245	0	–	Not cycling; agitated pump; still not cycling.
GW5	8/20/2009	~70		NM	90	241,900	0	–	88,248	3	3,360	Not cycling; agitated pump; still not cycling.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW5	8/25/2009	~70		4.17	85	241,900	0	–	88,259	11	655	Not cycling; agitated pump; still not cycling.
GW5	9/8/2009	~70		NM	90	241,900	0	–	88,651	392	51	Not cycling; agitated pump; cycling upon departure.
GW5	9/25/2009	~70		NM	85	241,900	0	–	99,932	11,281	2	Not cycling; agitated pump; cycling upon departure.
GW5	10/1/2009	~70		NM	90	241,900	0	–	106,372	6,440	1	Not cycling; agitated pump; cycling upon departure.
GW5	10/9/2009	~70		NM	86	241,900	0	–	111,832	5,460	2	Not cycling; agitated pump; still not cycling upon departure.
GW5	10/16/2009	~70		NM	91	241,900	0	–	111,849	17	593	Not cycling; agitated pump; still not cycling upon departure.
GW5	10/30/2009	~70		8.33	85	241,900	0	–	166,569	54,720	0	Pump serviced on 10/21/09. Pump observed cycling
GW5	11/6/2009	~70		NM	85	241,900	0	–	269,204	102,635	0	Pump observed cycling. Taken offline due to constant cycling.
GW5	11/13/2009	~70		NM	91	241,900	0	–	269,257	53	190	Put pump back online. Pump observed cycling
GW5	11/19/2009	~70		NM	0	241,900	0	–	279,453	10,196	1	Compressor down. No pressure in system.
GW5	11/24/2009	~70		10	95	241,900	0	–	290,214	10,761	1	Pump observed cycling. Taken offline due to constant cycling.
GW5	12/4/2009	~70		NM	87	241,900	0	–	290,266	52	277	Put pump back online. Pump observed cycling
GW5	12/21/2009	~70		NM	90	241,900	0	–	337,355	47,089	1	Put pump back online. Pump observed cycling
GW5	12/23/2009	~70		NM	NM	NM	–	–	NM	–	–	–
GW5	12/30/2009	~70		7.92	90	241,900	0	–	337,357	2	5,040	Pump not cycling
GW5	1/4/2010	~70		–	85	241,900	0	–	337,357	0	–	Pump not cycling
GW5	1/22/2010	~70		–	90	241,900	0	–	369,687	32,330	1	Pump observed cycling
GW5	1/29/2010	~70		> 12.5	45	241,900	0	–	391,820	22,133	0	Pump observed cycling
GW5	2/5/2010	~70		–	85	241,900	0	–	402,501	10,681	1	Pump observed cycling
GW5	2/12/2010	~70		–	0	241,900	0	–	431,529	29,028	0	Air line frozen; not able to clear. Pump not cycling.
GW5	2/19/2010	~70		–	86	241,900	0	–	463,804	32,275	0	Pump observed cycling
GW5	2/26/2010	~70		10.83	85	241,900	0	–	480,250	16,446	1	Pump observed cycling
GW5	3/5/2010	~70		–	90	241,900	0	–	481,091	841	12	Pump observed cycling
GW5	3/19/2010	~70		–	90	241,900	0	–	546,421	65,330	0	Pump observed cycling
GW5	3/29/2010	~70		11.25	85	241,900	0	–	588,165	41,744	0	Pump observed cycling
GW5	4/9/2010	~70		–	85	241,900	0	–	634,246	46,081	0	Pump observed cycling
GW5	4/15/2010	~70		–	91	241,900	0	–	662,870	28,624	0	Pump observed cycling
GW5	4/23/2010	~70		–	87	241,900	0	–	698,883	36,013	0	Pump observed cycling
GW5	4/27/2010	~70		10	90	241,900	0	–	718,063	19,180	0	Pump observed cycling.
GW5	5/21/2010	~70		–	86	241,901	1	34,560	792,320	74,257	0	Pump observed cycling
GW5	5/28/2010	~70		–	40	270,282	28,381	0	846,781	54,461	0	Pump observed cycling
GW5	6/4/2010	~70		–	92	270,791	509	20	848,078	1,297	8	Pump observed cycling
GW5	6/10/2010	~70		–	70	317,124	46,333	0.2	894,190	46,112	0.2	Pump observed cycling

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW5	6/25/2010	~70		–	83	392,549	75,425	0.3	894,530	340	88.9	Pump observed cycling
GW5	7/29/2010	~70		11.7	0	417,219	24,670	2.0	894,530	0	–	Turned off
GW6	4/3/2009	40.0	–	8.8								–
GW6	7/14/2009	40.0	31.85	8.2								–
GW6	7/23/2009	40.0	NM	NM								–
GW6	8/25/2009	40.0	NM	NM								–
GW6	9/25/2009	40.0	NM	NM								–
GW6	10/30/2009	40.0	31.60	8.4								–
GW6	11/24/2009	40.0	32.37	7.6								–
GW6	12/30/2009	40.0	30.60	9.4								–
GW6	1/29/2010	40.0	31.50	8.5								–
GW6	2/26/2010	40.0	32.00	8.0								–
GW6	3/29/2010	40.0	31.73	8.3								–
GW6	4/27/2010	40.0	31.71	8.3								–
GW6	5/28/2010	40.0	31.90	8.1								–
GW6	6/25/2010	40.0	31.60	8.4								–
GW6	7/29/2010	40.0	30.70	9.3								–
GW7	3/18/2009	~60		12.5	–	–	–	–	378,310	0	0.0	–
GW7	4/3/2009			12.5	–	–	–	–	378,312	2	11,520.0	–
GW7	7/2/2009	~60		NM	72	856,940	–	–	464,033	85,721	1.5	–
GW7	7/8/2009	~60		NM	NM	856,940	0	–	464,033	0	–	Observed cycling; cycle counter maintenance required
GW7	7/14/2009	~60		NM	15	856,940	0	–	464,033	0	–	–
GW7	7/17/2009	~60		NM	90	856,942	2	–	464,176	143	30.2	Pump cycle counter adjusted/fixed.
GW7	7/23/2009	~60		NM	90	856,942	0	–	486,633	22,457	0.4	Pump observed cycling
GW7	7/31/2009	~60		> 12.5	90	856,942	0	–	522,089	35,456	0.3	Pump observed cycling
GW7	8/6/2009	~60		NM	90	856,942	0	–	548,631	26,542	0.3	Pump observed cycling
GW7	8/13/2009	~60		NM	90	856,942	0	–	564,710	16,079	0.6	Pump observed cycling
GW7	9/11/2009	~60		NM	90	856,942	0	–	585,976	21,266	2.0	Pump observed cycling
GW7	9/18/2009	~60		NM	90	856,942	0	–	589,716	3,740	2.7	Pump observed cycling
GW7	9/25/2009	~60		NM	90	856,942	0	–	589,716	0	–	Pump not operating
GW7	10/1/2009	~60		NM	90	856,942	0	–	589,726	10	864.0	Not cycling; agitated pump; cycling upon departure.
GW7	10/9/2009	~60		NM	90	856,942	0	–	591,386	1,660	6.9	Pump observed cycling
GW7	10/16/2009	~60		NM	90	856,942	0	–	591,566	180	56.0	Pump observed cycling
GW7	10/30/2009	~60		> 12.5	89	856,942	0	–	617,475	25,909	0.8	Pump observed cycling
GW7	11/6/2009	~60		NM	87	856,942	0	–	622,903	5,428	1.9	Pump observed cycling
GW7	11/13/2009	~60		NM	88	856,942	0	–	632,416	9,513	1.1	Pump observed cycling
GW7	11/19/2009	~60		NM	0	856,942	0	–	632,416	0	–	Compressor down. No pressure in system.
GW7	11/24/2009	~60		> 12.5	90	856,942	0	–	632,416	0	–	Pump not observed cycling
GW7	12/4/2009	~60		NM	90	856,943	1	–	633,566	1,150	12.5	Pump observed cycling

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW7	12/21/2009	~60		NM	85	856,943	0	–	633,576	10	2,448.0	Pump observed cycling
GW7	12/23/2009	~60		NM	85	856,943	0	–	633,576	0	–	Pump observed cycling
GW7	12/30/2009	~60		> 12.5	80	856,943	0	–	634,356	780	12.9	Pump observed cycling
GW7	1/4/2010	~60		–	83	856,943	0	–	634,696	340	21.2	Pump observed cycling
GW7	1/22/2010	~60		–	80	856,943	0	–	644,847	10,151	2.6	Pump observed cycling
GW7	1/29/2010	~60		> 12.5	85	856,943	0	–	647,974	3,127	3.2	Pump observed cycling
GW7	2/5/2010	~60		–	80	856,943	0	–	654,001	6,027	1.7	Pump observed cycling
GW7	2/12/2010	~60		–	85	856,943	0	–	664,576	10,575	1.0	Pump observed cycling
GW7	2/19/2010	~60		–	85	856,944	1	–	675,304	10,728	0.9	Pump observed cycling
GW7	2/26/2010	~60		9.2	95	856,944	0	–	686,129	10,825	0.9	Pump observed cycling
GW7	3/5/2010	~60		–	95	856,950	6	–	707,191	21,062	0.5	Pump observed cycling
GW7	3/19/2010	~60		–	95	856,950	0	–	769,656	62,465	0.3	Pump observed cycling
GW7	3/29/2010	~60		> 12.5	91	856,955	5	–	794,993	25,337	–	Pump observed cycling
GW7	4/9/2010	~60		–	90	856,955	0	–	794,993	0	–	Pump not observed cycling
GW7	4/15/2010	~60		–	89	856,955	0	–	794,993	0	–	Pump not observed cycling
GW7	4/23/2010	~60		–	91	856,955	0	–	794,993	0	–	Pump not observed cycling
GW7	4/27/2010	~60		> 12.5	93	856,962	7	–	794,994	1	–	Pump not observed cycling
GW7	5/21/2010	~60		–	87	856,962	0	–	794,994	0	–	Pump not observed cycling
GW7	5/28/2010	~60		–	45	856,962	0	–	843,387	48,393	0.2	Pump observed cycling
GW7	6/4/2010	~60		–	86	856,963	1	10,080	843,445	58	173.8	Pump observed cycling
GW7	6/10/2010	~60		–	92	947,795	90,832	0.1	843,450	5	1728.0	Pump observed cycling
GW7	6/25/2010	~60		5.8	94	173037	225,242	0.1	843,450	5	–	Pump observed cycling
GW7	7/29/2010	~60		>12.5	–	492404	319,367	0.2	843,450	0	–	Pump not observed cycling
GW8	3/18/2009	~69		12.5	–	–	–	–	96036	3	–	–
GW8	4/3/2009	~69		12.5	–	–	–	–	96,415	379	60.8	Pump observed cycling
GW8	7/2/2009	~69		NM	89	51,748	–	–	160,409	63,994	2.0	Pump observed cycling
GW8	7/8/2009	~69		NM	NM	54,890	3,142	2.7	163,558	3,149	2.7	Pump observed cycling
GW8	7/14/2009	~69		NM	5	58,196	3,306	2.6	166,853	3,295	2.6	Pressure low due to compressor maintenance activities.
GW8	7/16/2009	~69		NM	87	61,913	3,717	0.8	170,542	3,689	0.8	Pump observed cycling
GW8	7/23/2009	~69		NM	90	69,885	7,972	1.3	178,098	7,556	1.3	Pump observed cycling
GW8	7/31/2009	~69		> 12.5	90	78,075	8,190	1.4	185,976	7,878	1.5	Pump observed cycling
GW8	8/6/2009	~69		NM	91	83,249	5,174	1.7	191,132	5,156	1.7	Pump observed cycling
GW8	8/13/2009	~69		NM	90	89,227	5,978	1.7	197,077	5,945	1.7	Pump observed cycling
GW8	9/8/2009	~69		NM	90	95,355	6,128	–	203,202	6,125	6.1	Not cycling; agitated pump; cycling upon departure.
GW8	9/11/2009	~69		NM	85	98,844	3,489	1.2	206,674	3,472	1.2	Pump observed cycling
GW8	9/18/2009	~69		NM	85	100,175	1,331	7.6	208,004	1,330	7.6	Pump observed cycling
GW8	9/25/2009	~69		NM	85	100,175	0	–	208,004	0	–	Pump not observed cycling.
GW8	10/1/2009	~69		NM	90	100,175	0	–	208,004	0	–	Not cycling; agitated pump; cycling upon departure.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW8	10/9/2009	~69		NM	90	109,563	9,388	1.2	217,313	9,309	1.2	Pump observed cycling
GW8	10/16/2009	~69		NM	94	113,181	3,618	2.8	221,145	3,832	2.6	Pump observed cycling
GW8	10/30/2009	~69		10.8	91	120,145	6,964	2.9	226,993	5,848	3.4	Pump observed cycling
GW8	11/6/2009	~69		NM	85	127,080	6,935	1.5	233,481	6,488	1.6	Pump observed cycling
GW8	11/13/2009	~69		NM	89	130,605	3,525	2.9	236,152	2,671	3.8	Pump observed cycling
GW8	11/19/2009	~69		NM	0	131,216	611	14.1	236,551	399	21.7	Compressor down. No pressure in system.
GW8	11/24/2009	~69		12.1	85	132,791	1,575	4.6	238,040	1,489	4.8	Pump observed cycling
GW8	12/4/2009	~69		NM	90	137,931	5,140	2.8	241,205	3,165	4.5	Pump observed cycling
GW8	12/21/2009	~69		NM	90	139,702	1,771	13.8	242,945	1,740	14.1	Pump observed cycling
GW8	12/23/2009	~69		NM	89	139,708	6	480.0	242,955	10	288.0	Pump observed cycling
GW8	12/30/2009	~69		> 12.5	90	141,211	1,503	6.7	244,265	1,310	7.7	Pump observed cycling
GW8	1/4/2010	~69		–	85	141,211	0	–	244,265	0	–	Pump not observed cycling.
GW8	1/22/2010	~69		–	87	144,208	2,997	8.6	247,090	2,825	9.2	Pump observed cycling
GW8	1/29/2010	~69		> 12.5	89	144,958	750	13.4	247,750	660	15.3	Pump observed cycling
GW8	2/5/2010	~69		–	89	144,958	0	–	247,750	0	–	Pump not observed cycling.
GW8	2/12/2010	~69		–	91	144,959	1	10,080.0	247,751	1	10,080.0	Pump not observed cycling.
GW8	2/19/2010	~69		–	89	144,959	0	–	247,751	0	–	Agitated pump; observed cycling
GW8	2/26/2010	~69		3.3	86	150,496	5,537	1.8	252,833	5,082	2.0	Pump observed cycling
GW8	3/5/2010	~69		–	95	153,665	3,169	3.2	255,886	3,053	3.3	Pump observed cycling
GW8	3/19/2010	~69		–	94	153,665	0	–	255,886	0	–	Agitated pump; observed cycling
GW8	3/29/2010	~69		> 12.5	86	158,998	5,333	2.7	261,134	5,248	2.7	Pump observed cycling
GW8	4/9/2010	~69		–	90	160,335	1,337	11.8	262,326	1,192	13.3	Agitated pump; observed cycling
GW8	4/15/2010	~69		–	92	166,325	5,990	1.4	267,785	5,459	1.6	Agitated pump; observed cycling
GW8	4/23/2010	~69		–	91	167,487	1,162	9.9	268,703	918	12.5	Agitated pump; observed cycling
GW8	4/27/2010	~69		> 12.5	88	170,105	2,618	2.2	271,216	2,513	2.3	Pump observed cycling.
GW8	5/21/2010	~69		–	87	170,105	0	–	271,216	0	–	Agitated pump; observed cycling
GW8	5/28/2010	~69		–	40	170,845	740	13.6	271,915	699	14.4	Pump observed cycling.
GW8	6/4/2010	~69		–	90	171,454	609	16.6	272,492	577	17.5	Pump observed cycling.
GW8	6/10/2010	~69		–	80	171,913	459	18.8	272,871	379	22.8	Agitated pump, running.
GW8	6/25/2010	~69		9.2	85	172,974	1,061	20.4	273,654	783	27.6	Pump not observed cycling.
GW8	7/27/2010	~69		>12.5	93	172,975	1	46080.0	273,656	2	23040.0	Pump not cycling. Pulled, cleaned & adjusted.
GW8	7/29/2010	~69		11.4	91	179,841	6,866	0.4	278,551	4,895	0.6	Pump observed cycling
GW9	3/18/2009	~66		–	–	–	–	–	41,286	0	–	Pump cycle case off pedestal
GW9	4/3/2009			–	–	–	–	–	41,291	5	4,608	–
GW9	7/2/2009	~66		NM		706,675	–	–	87,651	46,360	3	–
GW9	7/8/2009	~66		NM		706,675	0	0	87,651	0	–	–
GW9	7/14/2009	~66		NM	5	706,675	0	0	87,651	0	–	Pressure low due to compressor maintenance activities.
GW9	7/16/2009	~66		NM	90	706,677	2	1,440	87,653	2	1,440	Pump observed cycling.
GW9	7/23/2009	~66		NM	90	706,677	0	0	87,653	0	–	Not cycling; agitated pump; pump still not cycling.
GW9	7/31/2009	~66		10.83	90	706,682	5	2,304	87,659	6	1,920	Pump not observed cycling.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW9	8/20/2009	~66		NM	90	706,684	2	–	87,662	3	9,600	Pump not observed cycling.
GW9	8/25/2009	~66		5	85	706,684	0	–	87,662	0	–	Pump not observed cycling.
GW9	9/11/2009	~66		NM	90	706,685	1	–	87,663	1	24,480	Pump not observed cycling.
GW9	9/18/2009	~66		NM	90	706,685	0	–	87,663	0	–	Pump not observed cycling.
GW9	9/25/2009	~66		NM	90	706,685	0	–	87,663	0	–	Pump not observed cycling.
GW9	10/1/2009	~66		NM	0	706,687	2	–	87,666	3	2,880	Pump offline due to maintenance.
GW9	10/9/2009	~66		NM	0	706,687	0	–	87,666	0	–	Pump offline due to maintenance.
GW9	10/16/2009	~66		NM	0	706,687	0	–	87,666	0	–	Pump offline due to maintenance.
GW9	10/30/2009	~66		NM	0	706,687	0	–	87,667	1	20,160	Pump offline due to maintenance.
GW9	11/6/2009	~66		NM	0	706,687	0	–	87,667	0	–	Pump offline due to maintenance.
GW9	11/13/2009	~66		NM	0	706,687	0	–	87,667	0	–	Pump offline due to maintenance.
GW9	11/19/2009	~66		NM	0	706,687	0	–	87,667	0	–	Pump offline due to maintenance.
GW9	11/24/2009	~66		NM	0	706,687	0	–	87,667	0	–	Pump offline due to maintenance.
GW9	12/4/2009	~66		NM	0	NM	–	–	NM	–	–	Pump offline due to maintenance.
GW9	12/30/2009	~66		NM	0	NM	–	–	NM	–	–	Pump offline due to maintenance.
GW9	1/29/2010	~66		–	0	–	–	–	–	–	–	Pump offline due to maintenance.
GW9	2/26/2010	~66		–	0	–	–	–	–	–	–	Pump offline due to maintenance.
GW9	3/29/2010	~66		–	0	–	–	–	–	–	–	Pump offline due to maintenance.
GW9	4/27/2010	~66		–	–	–	–	–	–	–	–	Pump offline due to maintenance.
GW9	4/30/2010	~66		–	83	706,735	–	–	87,723	–	–	Pump restarted; observed cycling.
GW9	5/21/2010	~66		–	85	706,781	46	657	87,768	45	672	Agitated pump; observed cycling
GW9	5/28/2010	~66		–	40	706,783	2	5,040	87,770	2	5,040	Pump not observed cycling.
GW9	6/4/2010	~66		–	86	706,783	0	–	87,770	0	–	Agitated pump; pump not operating.
GW9	6/10/2010	~66		–	90	706,785	2	4320.0	87,772	2	4320.0	Pump not observed cycling.
GW9	6/25/2010	~66		>12.5	86	706,785	0	–	87,772	0	–	Pump not observed cycling.
GW9	7/27/2010	~66		>12.5	83	706,788	3	15360.0	87,775	3	15360.0	Pump not operating. Pulled, cleaned & adjusted
GW9	7/29/2010	~66		>12.5	–	715,657	8,869	0.3	96,627	8,852	0.3	Pump observed cycling
GW10	3/18/2009	~70		12.5	–	348,256	12,484	–				Pump observed cycling
GW10	4/3/2009			9.2	–	357,336	9,080	2.5				Pump observed cycling
GW10	7/2/2009	~70		NM	65	386,034	28,698	4.5				Pump observed cycling
GW10	7/8/2009	~70		NM	NM	387,320	1,286	6.7				Pump observed cycling
GW10	7/14/2009	~70		NM	0	388,584	1,264	6.8				Pressure low due to compressor maintenance activities.
GW10	7/16/2009	~70		NM	65	389,884	1,300	2.2				–
GW10	7/23/2009	~70		NM	65	392,833	2,949	3.4				Pump observed cycling
GW10	8/13/2009	~70		NM	65	399,668	6,835	4.4				Pump observed cycling
GW10	8/20/2009	~70		NM	65	401,463	1,795	5.6				Pump observed cycling
GW10	8/25/2009	~70		NM	65	402,623	1,160	6.2				Pump observed cycling
GW10	9/11/2009	~70		NM	65	408,119	5,496	4.5				Pump observed cycling
GW10	9/18/2009	~70		NM	65	410,525	2,406	4.2				Pump observed cycling
GW10	9/25/2009	~70		NM	65	412,127	1,602	6.3				Pump observed cycling

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW10	10/1/2009	~70		NM	65	416,796	4,669	1.9				Pump observed cycling
GW10	10/9/2009	~70		NM	65	418,092	1,296	8.9				Pump observed cycling
GW10	10/16/2009	~70		NM	65	419,329	1,237	8.1				Pump observed cycling
GW10	10/30/2009	~70		7.5	65	424,172	4,843	4.2				Pump observed cycling
GW10	11/6/2009	~70		NM	65	425,535	1,363	7.4				Pump observed cycling
GW10	11/13/2009	~70		NM	66	428,127	2,592	3.9				Pump observed cycling
GW10	11/19/2009	~70		NM	0	428,523	396	21.8				Compressor down. No pressure in system.
GW10	11/24/2009	~70		7.92	65	428,524	1	7,200.0				Pump observed cycling
GW10	12/4/2009	~70		NM	65	430,807	2,283	6.3				Pump observed cycling
GW10	12/21/2009	~70		NM	75	431,244	437	56.0				Pump observed cycling
GW10	12/23/2009	~70		NM	65	431,245	1	–				Pump cycle counter not working
GW10	12/30/2009	~70		> 12.5	65	431,245	0	–				Pump cycle counter not working .
GW10	1/4/2010	~70		–	40	431,245	0	–				Pump cycle counter not working
GW10	1/22/2010	~70		–	65	431,252	7	3,702.9				Pump not observed cycling.
GW10	1/29/2010	~70		7.92	65	431,895	643	15.7				Pump observed cycling
GW10	2/5/2010	~70		–	65	432,574	679	14.8				Pump observed cycling
GW10	2/12/2010	~70		–	65	433,126	552	18.3				Pump observed cycling
GW10	2/19/2010	~70		–	65	434,080	954	10.6				Pump observed cycling
GW10	2/26/2010	~70		8.33	65	434,362	282	35.7				Pump observed cycling
GW10	3/5/2010	~70		–	65	435,563	1,201	8.4				Pump observed cycling
GW10	3/19/2010	~70		–	65	439,151	3,588	5.6				Pump observed cycling
GW10	3/29/2010	~70		10.83	65	443,292	4,141	3.5				Pump observed cycling
GW10	4/9/2010	~70		–	65	448,992	5,700	2.8				Pump observed cycling
GW10	4/15/2010	~70		–	65	451,101	2,109	4.1				Pump observed cycling
GW10	4/23/2010	~70		–	65	453,867	2,766	4.2				Pump observed cycling
GW10	4/27/2010	~70		11.25	65	455,275	1,408	4.1				Pump observed cycling.
GW10	5/21/2010	~70		–	65	461,754	6,479	5.3				Pump observed cycling
GW10	5/28/2010	~70		–	40	463,495	1,741	5.8				Pump observed cycling
GW10	6/4/2010	~70		–	65	463,768	273	36.9				Pump observed cycling
GW10	6/10/2010	~70		–	65	464,953	1,185	7.3				Pump observed cycling
GW10	6/25/2010	~70		6.7	65	470,384	5,431	4.0				Pump observed cycling
GW10	7/29/2010	~70		>12.5	–	483,792	13,408	3.7				Pump observed cycling
GW11	3/18/2009	~65		> 12.5	–	–	–	–	100,802	0	0	–
GW11	4/3/2009			> 12.5	–	–	–	–	100,802	0	0	–
GW11	7/2/2009	~65		NM	89	317,716	–	–	100,813	11	11,782	–
GW11	7/8/2009	~65		NM	NM	317,716	0	–	100,813	0	–	–
GW11	7/14/2009	~65		NM	10	317,716	0	–	100,813	0	–	Pressure low due to compressor maintenance activities.
GW11	7/16/2009	~65		NM	90	317,716	0	–	100,813	0	–	–
GW11	7/23/2009	~65		NM	95	317,719	3	3,360	100,817	4	2,520	Not cycling; agitated pump; cycling constantly upon departure.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW11	7/24/2009	~65		NM	NM	NM	–	–	NM	–	–	Not cycling; agitated pump; may have pumped leachate down.
GW11	8/13/2009	~65		NM	90	320,756	3,037	10	100,822	5	6,048	Not cycling; agitated pump; cycling upon departure.
GW11	8/20/2009	~65		NM	86	322,668	1,912	5	100,822	0	–	Not cycling; agitated pump; cycling upon departure.
GW11	8/25/2009	~65		10.83	85	322,675	7	1,029	100,826	4	1,800	Not cycling; agitated pump; cycling upon departure.
GW11	9/8/2009	~65		NM	85	324,321	1,646	12	100,827	1	20,160	Not cycling; agitated pump; cycling upon departure.
GW11	9/11/2009	~65		NM	85	325,821	1,500	3	100,827	0	–	Not cycling; agitated pump; cycling upon departure.
GW11	9/18/2009	~65		NM	88	327,200	1,379	7	100,827	0	–	Not cycling; agitated pump; cycling upon departure.
GW11	9/25/2009	~65		NM	87	330,878	3,678	3	100,827	0	–	Pump observed cycling
GW11	10/1/2009	~65		NM	91	338,784	7,906	1	100,827	0	–	Pump observed cycling
GW11	10/9/2009	~65		NM	93	340,413	1,629	7	100,837	10	2,016	Pump observed cycling
GW11	10/16/2009	~65		NM	95	341,707	1,294	8	100,837	0	–	Pump observed cycling
GW11	10/30/2009	~65		7.5	95	344,249	2,542	8	100,837	0	–	Pump observed cycling
GW11	11/6/2009	~65		NM	95	347,472	3,223	3	100,838	1	30,240	Pump observed cycling
GW11	11/13/2009	~65		NM	91	348,876	1,404	7	100,838	0	–	Pump observed cycling
GW11	11/19/2009	~65		NM	0	349,080	204	42	100,838	0	–	Compressor down. No pressure in system.
GW11	11/24/2009	~65		> 12.5	94	350,589	1,509	5	100,838	0	–	Pump observed cycling
GW11	12/4/2009	~65		NM	95	353,232	2,643	5	100,839	1	21,600	Pump observed cycling
GW11	12/21/2009	~65		NM	87	356,050	2,818	9	100,839	0	–	Pump observed cycling
GW11	12/23/2009	~65		NM	93	356,230	180	16	100,839	0	–	Pump observed cycling
GW11	12/30/2009	~65		> 12.5	95	357,397	1,167	9	100,840	1	12,960	Pump observed cycling
GW11	1/4/2010	~65		–	90	359,339	1,942	4	100,841	1	17,280	Pump observed cycling
GW11	1/22/2010	~65		–	95	364,387	5,048	5	100,841	0	–	Pump observed cycling
GW11	1/29/2010	~65		> 12.5	90	366,339	1,952	5	100,841	0	–	Pump observed cycling
GW11	2/5/2010	~65		–	90	368,088	1,749	6	100,842	0	–	Pump observed cycling
GW11	2/12/2010	~65		–	91	372,548	4,460	2	100,842	0	–	Pump observed cycling
GW11	2/19/2010	~65		–	90	374,272	1,724	6	100,842	0	–	Pump observed cycling
GW11	2/26/2010	~65		> 12.5	94	375,840	1,568	6	100,842	0	–	Pump observed cycling
GW11	3/5/2010	~65		–	95	380,216	4,376	2	100,843	1	20,160	Pump observed cycling
GW11	3/19/2010	~65		–	91	383,253	3,037	7	100,843	0	–	Pump observed cycling
GW11	3/29/2010	~65		> 12.5	91	388,459	5,206	3	100,843	0	–	Pump observed cycling
GW11	4/9/2010	~65		–	89	397,318	8,859	2	100,844	1	30,240	Pump observed cycling
GW11	4/15/2010	~65		–	94	398,906	1,588	5	100,844	0	–	Pump observed cycling
GW11	4/23/2010	~65		–	90	407,482	8,576	1	100,844	0	–	Pump observed cycling
GW11	4/27/2010	~65		11.67	96	408,832	1,350	4	100,844	0	–	Pump observed cycling.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW11	5/21/2010	~65		–	86	418,401	9,569	4	100,844	0	–	Pump observed cycling
GW11	5/28/2010	~65		–	40	421,185	2,784	4	100,844	0	–	Pump observed cycling
GW11	6/4/2010	~65		–	84	421,728	543	19	100,844	0	–	Pump observed cycling
GW11	6/10/2010	~65		–	85	426,331	4,603	2	100,844	0	–	Pump observed cycling
GW11	6/25/2010	~65		7.5	91	433,145	6,814	3.2	100,844	0	–	Pump observed cycling
GW11	7/29/2010	~65		>12.5	–	470,222	37,077	1.3	100,844	0	–	Pump observed cycling
GW12	3/18/2009	~81		> 12.5	–	–	–	–	322,053	1,291	0	–
GW12	4/3/2009			> 12.5	–	–	–	–	330,800	8,747	3	–
GW12	7/2/2009	~81		NM	76	851,852	–	–	332,107	1,307	99	–
GW12	7/8/2009	~81		NM	NM	851,852	0	–	332,170	63	137	–
GW12	7/14/2009	~81		NM	0	851,852	0	–	332,170	0	–	Pressure low due to compressor maintenance activities.
GW12	7/16/2009	~81		NM	73	851,856	4	720	332,180	10	288	Pump checked to confirm operation; appears that leachate head not high enough to pump
GW12	7/31/2009	~81		> 12.5	75	851,865	9	2,400	332,119	-61	-354	Pump not observed cycling.
GW12	8/6/2009	~81		NM	75	851,867	2	4,320	332,114	-5	–	Pump not observed cycling.
GW12	8/13/2009	~81		NM	77	851,867	0	–	332,114	0	–	Pump not observed cycling.
GW12	8/20/2009	~81		NM	77	851,867	0	–	332,114	0	–	Pump not observed cycling.
GW12	8/25/2009	~81		6.25	75	851,867	0	–	332,114	0	–	Pump not observed cycling.
GW12	9/11/2009	~81		NM	75	851,867	0	–	332,114	0	–	Pump not observed cycling.
GW12	9/18/2009	~81		NM	75	851,870	3	3,360	332,115	1	34,560	Pump not observed cycling.
GW12	9/25/2009	~81		NM	75	851,870	0	–	332,116	1	20,160	Pump not observed cycling.
GW12	10/1/2009	~81		NM	0	851,870	0	–	332,116	0	–	Pump offline due to maintenance.
GW12	10/9/2009	~81		NM	80	877,775	25,905	0	332,119	3	–	Pump serviced on 10/07/09. Pump observed cycling
GW12	10/16/2009	~81		NM	82	903,196	25,421	0	332,119	0	–	Pump observed cycling
GW12	10/30/2009	~81		> 12.5	80	966,129	62,933	0	332,120	1	–	Pump observed cycling
GW12	11/6/2009	~81		NM	85	982,943	16,814	1	332,119	-1	–	Pump observed cycling
GW12	11/13/2009	~81		NM	85	14,948	32,005	0	332,119	0	–	Pump observed cycling
GW12	11/19/2009	~81		NM	0	20,761	5,813	1	332,119	0	–	Compressor down. No pressure in system.
GW12	11/24/2009	~81		11.25	88	25,771	5,010	1	332,119	0	–	Pump observed cycling
GW12	12/4/2009	~81		NM	85	47,019	21,248	1	332,119	0	–	Pump observed cycling
GW12	12/21/2009	~81		NM	84	48,118	1,099	22	332,119	0	–	Pump observed cycling
GW12	12/23/2009	~81		NM	85	48,118	0	–	332,119	0	–	Pump observed cycling
GW12	12/30/2009	~81		> 12.5	87	52,183	4,065	2	332,119	0	–	Pump observed cycling
GW12	1/4/2010	~81		–	82	53,266	1,083	7	332,119	0	–	Pump observed cycling
GW12	1/22/2010	~81		–	83	53,363	97	267	332,120	1	–	Pump not observed cycling.
GW12	1/29/2010	~81		> 12.5	85	53,382	19	531	332,120	0	–	Pump not observed cycling.
GW12	2/5/2010	~81		–	80	53,839	457	22	332,120	0	–	Pump not observed cycling.
GW12	2/12/2010	~81		–	89	53,840	1	10,080	332,120	0	–	Pump not observed cycling.
GW12	2/19/2010	~81		–	83	53,841	1	10,080	332,120	0	–	Pump not observed cycling.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW12	2/26/2010	~81		–	85	53,841	0	–	332,120	0	–	Pump not observed cycling.
GW12	3/5/2010	~81		–	83	53,842	1	10,080	332,120	0	–	Pump not observed cycling.
GW12	3/19/2010	~81		–	80	53,843	1	20,160	332,120	0	–	Agitated pump; observed cycling
GW12	3/29/2010	~81		> 12.5	84	53,843	0	–	332,120	0	–	Pump not observed cycling.
GW12	4/9/2010	~81		–	80	53,845	2	7,920	332,120	0	–	Pump not observed cycling.
GW12	4/15/2010	~81		–	80	53,845	0	–	332,120	0	–	Agitated pump; observed cycling
GW12	4/23/2010	~81		–	85	53,845	0	–	332,120	0	–	Agitated pump; observed cycling
GW12	4/27/2010	~81		12.08	86	53,846	1	–	333,908	1,788	3	Pump not observed cycling.
GW12	5/21/2010	~81		–	79	53,846	0	–	334,253	345	100	Agitated pump; observed cycling
GW12	5/28/2010	~81		–	30	53,846	0	–	335,796	1,543	7	Pump observed cycling
GW12	6/4/2010	~81		–	80	53,846	0	–	335,952	156	64.6	Pump observed cycling
GW12	6/10/2010	~81		–	80	53,846	0	–	338,810	2,858	3.0	Pump not observed cycling.
GW12	6/25/2010	~81		7.5	82	53,846	0	–	338,812	2	10800.0	Pump observed cycling.
GW12	7/27/2010	~81		>12.5	83	53,846	0	–	339,841	1,031	65.6	Pump cycling when discharge disconnected. Discharge line is plugged.
GW12	7/29/2010	~81		>12.5	–	53,854	8	360.0	341,017	2,205	22.2	Pump not observed cycling.
GW13	3/18/2009	~69		> 12.5	–	–	–	–	357,535	13	0.0	–
GW13	4/3/2009			11.7	–	–	–	–	357,535	0	0	–
GW13	7/2/2009	~69		NM	85	624,808	–	–	357,553	18	7,200	–
GW13	7/8/2009	~69		NM	NM	624,808	0	–	357,553	0	–	–
GW13	7/14/2009	~69		NM	NM	624,808	0	–	357,553	0	–	–
GW13	7/24/2009	~69		> 12.5	NM	NM	–	–	NM	–	–	–
GW13	7/31/2009	~69		> 12.5	90	624,813	5	–	357,564	11	916	Pump not observed cycling.
GW13	8/6/2009	~69		NM	85	624,813	0	–	357,564	0	–	Pump not observed cycling.
GW13	8/13/2009	~69		NM	80	624,813	0	–	357,564	0	–	Pump not observed cycling.
GW13	8/20/2009	~69		NM	83	624,813	0	–	357,564	0	–	Pump not observed cycling.
GW13	8/25/2009	~69		NM	90	624,813	0	–	357,565	1	7,200	Pump not observed cycling.
GW13	9/11/2009	~69		NM	85	624,813	0	–	357,566	1	24,480	Pump not observed cycling.
GW13	9/18/2009	~69		NM	80	624,813	0	–	357,566	0	–	Pump not observed cycling.
GW13	9/25/2009	~69		NM	87	624,813	0	–	357,566	0	–	Pump not observed cycling.
GW13	10/1/2009	~69		NM	86	624,813	0	–	357,566	0	–	Pump not observed cycling.
GW13	10/9/2009	~69		NM	90	624,819	6	–	357,580	14	823	Pump not observed cycling.
GW13	10/16/2009	~69		NM	87	624,819	0	–	357,581	1	10,080	Pump not observed cycling.
GW13	10/30/2009	~69		> 12.5	92	624,819	0	–	357,581	0	–	Pump not observed cycling.
GW13	11/6/2009	~69		NM	94	624,819	0	–	357,585	4	2,520	Pump not observed cycling.
GW13	11/13/2009	~69		NM	92	624,819	0	–	357,585	0	–	Pump not observed cycling.
GW13	11/19/2009	~69		NM	0	624,819	0	–	357,585	0	–	Pump not observed cycling.
GW13	11/24/2009	~69		> 12.5	90	624,819	0	–	357,586	1	7,200	Pump not observed cycling.
GW13	12/4/2009	~69		NM	85	624,819	0	–	357,587	1	14,400	Pump not observed cycling.
GW13	12/21/2009	~69		NM	84	624,819	0	–	357,588	1	24,480	Pump not observed cycling.
GW13	12/23/2009	~69		NM	91	624,819	0	–	357,588	0	–	Pump not observed cycling.

TABLE 4

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	Average Cycle Frequency**	Pump Cycle Reading	Cycles Per Period	Average Cycle Frequency**	
GW13	12/30/2009	~69		> 12.5	91	624,819	0	–	357,588	0	–	Pump not observed cycling.
GW13	1/4/2010	~69		–	90	624,819	0	–	357,588	0	–	Pump not observed cycling.
GW13	1/22/2010	~69		–	90	624,819	0	–	357,590	2	12,960	Pump not observed cycling.
GW13	1/29/2010	~69		> 12.5	94	624,819	0	–	357,590	0	–	Pump not observed cycling.
GW13	2/5/2010	~69		–	85	624,819	0	–	357,590	0	–	Pump not observed cycling.
GW13	2/12/2010	~69		–	90	624,819	0	–	357,591	1	10,080	Pump not observed cycling.
GW13	2/19/2010	~69		–	90	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	2/26/2010	~69		–	87	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	3/5/2010	~69		–	87	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	3/19/2010	~69		–	86	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	3/29/2010	~69		> 12.5	91	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	4/9/2010	~69		–	90	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	4/15/2010	~69		–	90	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	4/23/2010	~69		–	90	624,819	0	–	357,591	0	–	Pump not observed cycling.
GW13	4/27/2010	~69		> 12.5	94	624,819	0	–	357,592	1	5,760	Pump not observed cycling.
GW13	5/21/2010	~69		–	90	624,819	0	–	357,594	2	17,280	Pump not observed cycling.
GW13	5/28/2010	~69		–	35	624,819	0	–	357,594	0	–	Pump not observed cycling.
GW13	6/4/2010	~69		–	80	624,819	0	–	357,595	1	10080.0	Pump not observed cycling.
GW13	6/25/2010	~69		10.8	87	624,819	0	–	357,595	0	–	Pump not observed cycling.
GW13	7/29/2010	~69		>12.5	–	624,819	0	–	357,601	6	8160.0	Pump not observed cycling.

* : Remote liquid level indicator would not hold pressure long enough for an accurate level reading to be obtained.

** : Pump cycle frequency is in minutes per cycle.

~ : Value approximated.

– : Not measured or not calculated.

psi : Pounds per square inch.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
7/1/2009								
7/2/2009	33,092.8	0	0	0	24	0	0%	Blower/ground flare off-line since 6/29/09; awaiting replacement fuse for gas flare inlet thermal valve assembly.
7/8/2009	33,092.8	0	0	0	144	0	0%	
7/14/2009	33,092.8	0	0	0	144	0	0%	Flare restarted.
7/15/2009	NM				24	24	100%	Blower and ground flare operational.
7/16/2009	33,142.8	50	100%	1	24	24	100%	Blower and ground flare operational.
7/17/2009	NM				24	24	100%	Blower and ground flare operational.
7/20/2009	NM				72	72	100%	Blower and ground flare operational.
7/23/2009	33,309.6	167	99%	6	72	72	100%	Blower and ground flare operational.
7/24/2009	NM				24	24	100%	Blower and ground flare operational.
7/27/2009	NM				72	72	100%	Blower and ground flare operational.
7/31/2009	33,500.3	191	99%	7	96	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
Monthly Summary		**408**	**59%**		**720**	**312**	**43%**	
8/3/2009	NM				72	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
8/6/2009	33,641.1	140.8	98%	6.0	72	72	100%	Blower and ground flare operational.
8/10/2009	NM				96	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
8/13/2009	33,808.7	167.6	100%	6.0	72	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
8/17/2009	NM				96	96	100%	Blower and ground flare operational.
8/20/2009	33,979.1	170.4	101%	6.0	72	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
8/25/2009	34,097.1	118.0	98%	6.0	120	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
8/28/2009	NM				72	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit despite numerous attempts to restart it. Blower shut down to let methane concentrations rebuild.
8/31/2009	34,177.6	80.5	56%	NM	72	0	0%	Blower and flare restarted.
Monthly Summary		**677**	**91%**		**744**	**168**	**23%**	

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
9/2/2009	34,225.6	48.0	100%	6.0	48	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
9/4/2009	NM				48	48	100%	Blower and ground flare operational.
9/8/2009	NM				96	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
9/9/2009	NM				24	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit despite numerous attempts to restart it. Blower shut down to let methane concentrations rebuild.
9/11/2009	34,396.5	170.9	79%	7.0	48	0	0%	Blower and flare restarted.
9/14/2009	NM				72	0 *	0%	Blower operational. Ground flare down upon arrival; flare restarted.
9/16/2009	NM				48	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit despite numerous attempts to restart it. Blower shut down to let methane concentrations rebuild.
9/18/2009	34,516.5	120.0	71%	7.0	48	0	0%	Blower and flare restarted.
9/21/2009	NM				72	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit despite numerous attempts to restart it. Blower shut down to let methane concentrations rebuild.
9/23/2009	NM				48	0	0%	Several attempts made to restart flare. Pilot dissassembled to perform maintenance and cleaning. Blower and flare remain off.
9/24/2009	NM				24	0	0%	Pilot reassembled and flare restarted.
9/25/2009	34,610.6	94.1	56%	7.0	24	24	100%	Blower and ground flare operational.
9/28/2009	NM				72	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit; blower and flare taken off-line.
9/30/2009	34,682.4	71.8	60%	NM	48	0	0%	Blower and ground flare restarted.
Monthly Summary		**531**	**71%**		**720**	**72**	**10%**	
10/1/2009	34,708.7	26.3	110%	NM	24	24	100%	Blower and ground flare operational.
10/5/2009	NM				96	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit; blower and flare taken off-line.
10/7/2009	NM				48	0	0%	Blower and ground flare restarted.
10/9/2009	34,847.2	138.5	72%	7.0	48	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit; blower and flare taken off-line.
10/12/2009	NM				72	0	0%	Blower and ground flare restarted.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
10/13/2009	NM				24	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit; blower and flare taken off-line.
10/16/2009	34,872.9	25.7	15%	7.0	72	0	0%	Blower and ground flare restarted.
10/19/2009	34,942.9	70.0	97%	7.0	72	72	100%	Blower and ground flare operational.
10/20/2009	NM				24	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit; blower and flare taken off-line.
10/23/2009	34,966.7	23.8	25%	7.0	72	0	0%	Blower and ground flare restarted.
10/26/2009	35,037.4	70.7	98%	7.0	72	0 *	0%	Blower operational. Ground flare down upon arrival; flare would not remain lit; blower and flare taken off-line.
10/29/2009	35,037.6	0.2	0%	7.0	72	0	0%	Blower and ground flare restarted.
10/30/2009	35,058.0	20.4	85%	7.0	24	24	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
Monthly Summary		**349**	**50%**		**720**	**120**	**17%**	
11/2/2009	35,061.4	3.4	5%	7.0	72	0	0%	Blower and ground flare restarted.
11/6/2009	35,156.3	94.9	100%	6.0	96	96	100%	Blower and ground flare operational.
11/9/2009	35,229.8	73.5	100%	NM	72	72	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
11/12/2009	35,229.9	0.1	0%	NM	72	0	0%	Blower and ground flare restarted.
11/13/2009	35,254.9	25.0	100%	7.0	24	24	100%	Blower and ground flare operational.
11/16/2009	35,326.7	71.8	100%	7.0	72	72	100%	Blower and ground flare operational.
11/19/2009	35,398.3	71.6	100%	7.0	72	72	100%	Blower and ground flare operational.
11/23/2009	35,496.2	97.9	100%	NM	96	96	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
11/24/2009	35,496.2	0.0	0%	7.0	24	0	0%	Blower and ground flare restarted.
11/25/2009	35,524.3	28.1	100%	NM	24	24	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
11/30/2009	35,524.3	0.0	0%	NM	120	0	0%	Blower and ground flare restarted.
Monthly Summary		**466**	**69%**		**744**	**456**	**61%**	

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
12/1/2009	35,548.0	23.7	99%	NM	24	24	100%	Blower and ground flare operational.
12/2/2009	35,570.7	22.7	95%	NM	24	24	100%	Blower and ground flare operational.
12/3/2009	35,594.8	24.1	100%	NM	24	24	100%	Blower and ground flare operational.
12/4/2009	35,615.7	20.9	87%	7.0	24	24	100%	Blower and ground flare operational.
12/7/2009	35,688.8	73.1	102%	NM	72	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
12/10/2009	35,689.1	0.3	0%	7.0	72	0	0%	Blower and ground flare restarted.
12/14/2009	35,787.2	98.1	100%	NM	96	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
12/17/2009	35,787.2	0.0	0%	7.0	72	0	0%	Blower and ground flare restarted.
12/18/2009	35,812.2	25.0	100%	NM	24	24	100%	Blower and ground flare operational.
12/21/2009	35,880.5	68.3	95%	NM	72	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
12/23/2009	35,880.5	0.0	0%	NM	48	0	0%	Blower and ground flare restarted.
12/28/2009	36,007.6	127.1	100%	NM	120	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
12/30/09 8:25 AM	36,007.6	0.0	0%	7.0	56	0	0%	Blower and ground flare restarted.
Monthly Summary		**483**	**69%**		**728**	**120**	**16%**	
1/4/10 10:00 AM	36,129.8	122.2	100%	7.0	122	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
1/6/10 10:30 AM	36,129.8	0.0	0%	–	49	0 *	0%	Ground flare will not start due to low methane and cold temeratures. Allow methane to build.
1/8/10 8:15 AM	36,130.7	0.9	2%	–	46	0	0%	Ground flare frozen; flare will not start. Blower and ground flare remain offline.
1/15/10 2:25 PM	36,130.7	0.0	0%	–	174	0	0%	Electricity offline due to improvements to Site. Blower and ground flare remain offline.
1/18/10 9:45 AM	36,130.7	0.0	0%	–	67	0	0%	Blower and ground flare restarted.
1/20/10 3:15 PM	36,183.8	53.1	100%	–	53	53	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
1/22/10 9:30 AM	36,183.8	0.0	0%	7.0	42	0	0%	Blower and ground flare restarted.
1/22/10 4:00 PM	36,190.3	6.5	100%	–	6	6	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
1/25/10 11:30 AM	36,190.3	0.0	0%	–	68	0	0%	Blower and ground flare restarted.
1/27/10 1:30 PM	36,240.2	49.9	100%	–	50	50	100%	Blower and ground flare operational.
1/29/10 8:45 AM	36,282.7	42.5	98%	7.0	43	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
Monthly Summary		**275**	**38%**		**720**	**109**	**15%**	
2/2/10 11:00 AM	36,285.2	3	3%	–	98	3	3%	Blower and ground flare restarted.
2/5/10 9:45 AM	36,356.3	71	100%	7.0	71	71	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
2/8/10 3:45 PM	36,357.1	1	1%	–	78	0	0%	Blower and ground flare restarted.
2/10/10 2:10 PM	36,403.4	46	100%	–	46	46	100%	Blower and ground flare operational.
2/12/10 9:45 AM	36,447.2	44	100%	7.0	44	44	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
2/16/10 10:10 AM	36,447.9	1	1%	–	96	0	0%	Blower and ground flare restarted.
2/19/10 9:00 AM	36,519.0	71	100%	7	71	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
2/22/10 9:15 AM	36,591.6	73	100%	–	72	72	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
2/25/10 2:35 PM	36,591.6	0	0%	–	77	0	0%	Blower and ground flare restarted.
2/26/10 8:05 AM	36,609.1	18	100%	7	17	17	97%	Blower and ground flare operational.
Monthly Summary		**326**	**57%**		**671**	**253**	**38%**	

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REFUSE HIDEAWAY LANDFILL

MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
3/2/10 3:20 PM	36,712.3	103	100%	–	103	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
3/5/10 10:44 AM	36,712.3	0	0%	7	67	0	0%	Blower and ground flare restarted.
3/9/10 2:20 PM	36,812.2	100	100%	–	100	100	100%	Blower and ground flare operational.
3/12/10 1:10 PM	36,882.7	71	100%	7	71	71	100%	Blower and ground flare operational.
3/15/10 11:00 AM	36,951.9	69	99%	–	70	70	100%	Blower and ground flare operational.
3/19/10 8:20 AM	37,044.9	93	100%	7	93	0 *	0%	Blower operational. Ground flare down upon arrival. Adjustments made to well network. Flare restarted. Blower and flare running upon departure.
3/22/10 1:45 PM	37,122.3	77	100%	–	77	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
3/24/10 1:55 PM	37,122.4	0	0%	7	48	0	0%	Blower and ground flare restarted.
3/26/2010 14:20	37,170.8	48	100%	–	48	0 *	0%	Blower operational. Ground flare down upon arrival; blower and flare taken off-line
3/29/2010 8:25	37,170.9	0	0%	7	66	0	0%	Blower and ground flare restarted.
3/31/2010 15:15	37,225.6	55	100%	–	55	55	100%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
Monthly Summary		**617**	**77%**		**799**	**296**	**37%**	
4/5/10 3:55 PM	37,225.6	0	0%	–	121	0	0%	Blower and ground flare restarted.
4/9/10 8:25 AM	37,314.0	88	100%	7.0	89	0 *	0%	Blower operational. Ground flare down upon arrival. Adjustments made to well network. Flare restarted. Blower and flare running upon departure.
4/13/10 11:35 AM	37,413.3	99	100%	–	99	99	100%	Blower and ground flare operational.
4/15/10 10:40 AM	37,460.3	47	100%	7.0	47	47	100%	Blower and ground flare operational.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
4/19/10 4:25 PM	37,561.8	102	100%	6.5	102	102	100%	Blower and ground flare operational.
4/23/10 8:25 AM	37,650.1	88	100%	7.0	88	88	100%	Blower and ground flare operational.
4/27/10 8:25 AM	37,746.0	96	100%	7.0	96	96	100%	Blower and ground flare operational.
4/30/10 10:00 AM	37,822.8	96	100%	--	74	0 *	0%	Blower and ground flare operational. Blower and ground flare taken offline due to low methane concentrations.
Monthly Summary		**520**	**73%**		**715**	**432**	**60%**	
5/3/10 10:35 AM	37,822.8	0	0%	7.0	73	0	0%	Blower and ground flare restarted.
5/7/10 1:40 PM	37,921.8	99	100%	--	99	99	100%	Blower and ground flare operational.
5/10/10 8:25 AM	37,988.6	67	100%	--	67	67	100%	Blower and ground flare operational. Blower and ground flare taken off-line for upgrades to the on-site electrical system.
5/17/10 11:20 AM	37,988.6	0	0%	6.0	171	0	0%	Blower and ground flare restarted.
5/21/10 9:45 AM	38,083.2	95	100%	6.0	94	94	100%	Blower and ground flare operational.
5/28/10 7:55 AM	38,249.4	166	100%	6.0	166	166	100%	Blower and ground flare operational.
Monthly Summary		**427**	**64%**		**670**	**426**	**64%**	
6/1/10 3:05 PM	38,352.6	103	100%	--	103	0 *	0%	Blower operational. Ground flare down upon arrival. Adjustments made to well network. Flare restarted. Blower and flare running upon departure.
6/2/10 8:10 AM	38,369.7	17	100%	--	17	17	100%	Blower and ground flare operational. Contact with Enegenics, possibly check valve.
6/3/10 11:45 AM	38,394.1	24	88%	--	28	0 *	0%	Blower operational. Ground flare down upon arrival. Landscaping done. Flare restarted. Blower and flare running upon departure.
6/4/10 9:40 AM	38,416.1	22	100%	7.0	22	22	100%	Blower and ground flare operational.
6/7/10 12:15 PM	38,490.2	74	99%	--	75	0 *	0%	Blower operational. Ground flare down upon arrival. Adjustments made to well network. Flare restarted. Blower and flare running upon departure.

TABLE 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

BLOWER AND FLARE STATION OPERATIONAL DURATION

Date	Blower				Flare (Worst Case)*			Comments
	Hour Counter (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	Motor Current (amps)	Hours Per Period (hours)	Operational Hours Per Period (hours)	Percent Operational (%)	
6/10/10 12:50 PM	38,562.8	73	100%	–	73	73	100%	Blower and ground flare operational.
6/15/10 8:00 AM	38,677.9	115	100%	–	115	115	100%	Blower and ground flare operational.
6/18/10 8:30 AM	38,750.5	73	100%	–	72	72	100%	Blower and ground flare operational.
6/21/10 9:28 AM	38,823.5	73	100%	–	73	73	100%	Blower and ground flare operational.
6/25/10 8:05 AM	38,918.1	95	100%	–	95	0 *	0%	Blower operational. Ground flare down upon arrival. Flare restarted. Blower and flare running upon departure.
6/29/10 10:57 AM	39,017.0	99	100%	–	99	0 *	0%	Blower operational. Ground flare down upon arrival. Flare restarted. Blower and flare running upon departure.
Monthly Summary		**768**	**100%**		**771**	**372**	**48%**	
Annual Summary		**5847**	**67%**		**8723**	**3136**	**36%**	

* 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.

– Not measured.

TABLE 6

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY GAS PROBE MONITORING RESULTS
FOR WELL CLUSTERS G-1, G-2 AND GP-11

Location	Date	Pressure	CH_4		O_2	CO_2	Balance Gas**	Comments
		(in. WC)	(% LEL)	(% Vol)	(% Vol)	(% Vol)	(% Vol)	
G-1S	7/31/09	0.00	13.5	0.7	0.0	21.0	78.3	
G-1S	8/25/09	0.00	49.0	2.5	0.3	16.2	81.1	
G-1S	9/25/09	0.00	--	*13.0*	0.0	19.6	67.4	
G-1S	10/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-1S	11/24/09	0.00	0.0	0.0	16.8	0.0	83.2	
G-1S	12/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-1S	1/29/10	-0.07	0.0	0.0	20.9	0.0	79.1	
G-1S	2/26/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-1S	3/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-1S	4/27/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-1S	5/28/10	--	--	--	--	--	--	
G-1S	6/25/10	0.00	7.0	0.4	2.7	9.4	87.6	
G-1D	7/31/09	0.00	0.0	0.0	0.1	16.2	83.7	
G-1D	8/25/09	0.00	0.0	0.0	0.0	16.8	83.2	
G-1D	9/25/09	0.00	0.0	0.0	0.0	18.0	82.0	
G-1D	10/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-1D	11/24/09	0.00	0.0	0.0	11.6	6.6	81.8	
G-1D	12/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-1D	1/29/10	-0.07	0.0	0.0	20.9	0.0	79.1	
G-1D	2/26/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-1D	3/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-1D	4/27/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-1D	5/28/10	--	--	--	--	--	--	
G-1D	6/25/10	0.00	--	5.0	0.0	16.2	78.8	
G-2S	7/31/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	8/25/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	9/25/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	10/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	11/24/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	12/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	1/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	2/26/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	3/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	4/27/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2S	5/28/10	--	--	--	--	--	--	
G-2S	6/25/10	0.00	3.0	0.2	10.8	8.2	80.9	
G-2S	6/29/10	--	0.0	0.0	20.9	0.2	78.9	
G-2D	7/31/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	8/25/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	9/25/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	10/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	11/24/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	12/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	1/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	2/26/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	3/29/10	0.00	0.0	0.0	20.9	1.8	77.3	

TABLE 6

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY GAS PROBE MONITORING RESULTS
FOR WELL CLUSTERS G-1, G-2 AND GP-11

Location	Date	Pressure	CH_4		O_2	CO_2	Balance Gas**	Comments
		(in. WC)	(% LEL)	(% Vol)	(% Vol)	(% Vol)	(% Vol)	
G-2D	4/27/10	0.00	0.0	0.0	20.9	0.0	79.1	
G-2D	5/28/10	--	--	--	--	--	--	
G-2D	6/25/10	0.00	--	*10.5*	0.0	21.8	67.7	
G-2D	6/29/10	--	0.0	0.0	11.9	8.4	79.7	
GP-11S	7/31/09	NM	NM	NM	NM	NM	NM	Gas probe was not located.
GP-11S	9/25/09	0.00	0.0	0.0	6.3	18.2	75.5	
GP-11S	10/30/09	0.00	0.0	0.0	7.4	11.0	81.6	
GP-11S	11/24/09	0.05	0.0	0.0	19.8	0.2	80.0	
GP-11S	12/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11S	1/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11S	2/26/10	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11S	3/29/10	0.00	0.0	0.0	20.9	0.2	78.9	
GP-11S	4/27/10	0.00	0.0	0.0	19.7	1.0	79.3	
GP-11S	5/28/10	--	--	--	--	--	--	
GP-11S	6/25/10	0.00	--	*12.0*	0.0	14.6	73.4	
GP-11S	6/29/10	--	--	*9.0*	0.8	13.0	77.2	
GP-11D	7/31/09	NM	NM	NM	NM	NM	NM	Gas probe was not located.
GP-11D	9/25/09	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	10/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	11/24/09	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	12/30/09	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	1/29/10	-0.05	0.0	0.0	20.9	0.0	79.1	
GP-11D	2/26/10	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	3/29/10	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	4/27/10	0.00	0.0	0.0	20.9	0.0	79.1	
GP-11D	5/28/10	--	--	--	--	--	--	
GP-11D	6/25/10	0.00	--	*12.5*	0.1	16.8	70.6	
GP-11D	6/29/10	--	--	*10.5*	0.8	15.6	73.1	

% LEL: Percent of lower explosive limit.
% Vol: Percent volume.
*: Percent volume calculated as % LEL/20.
**: : Balance gas calculated as 100% - (%CH_4+%CO_2+%O_2).
in. WC: Inches of water column.
-- Not measured.

Values in *italics* font 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.

FIGURES

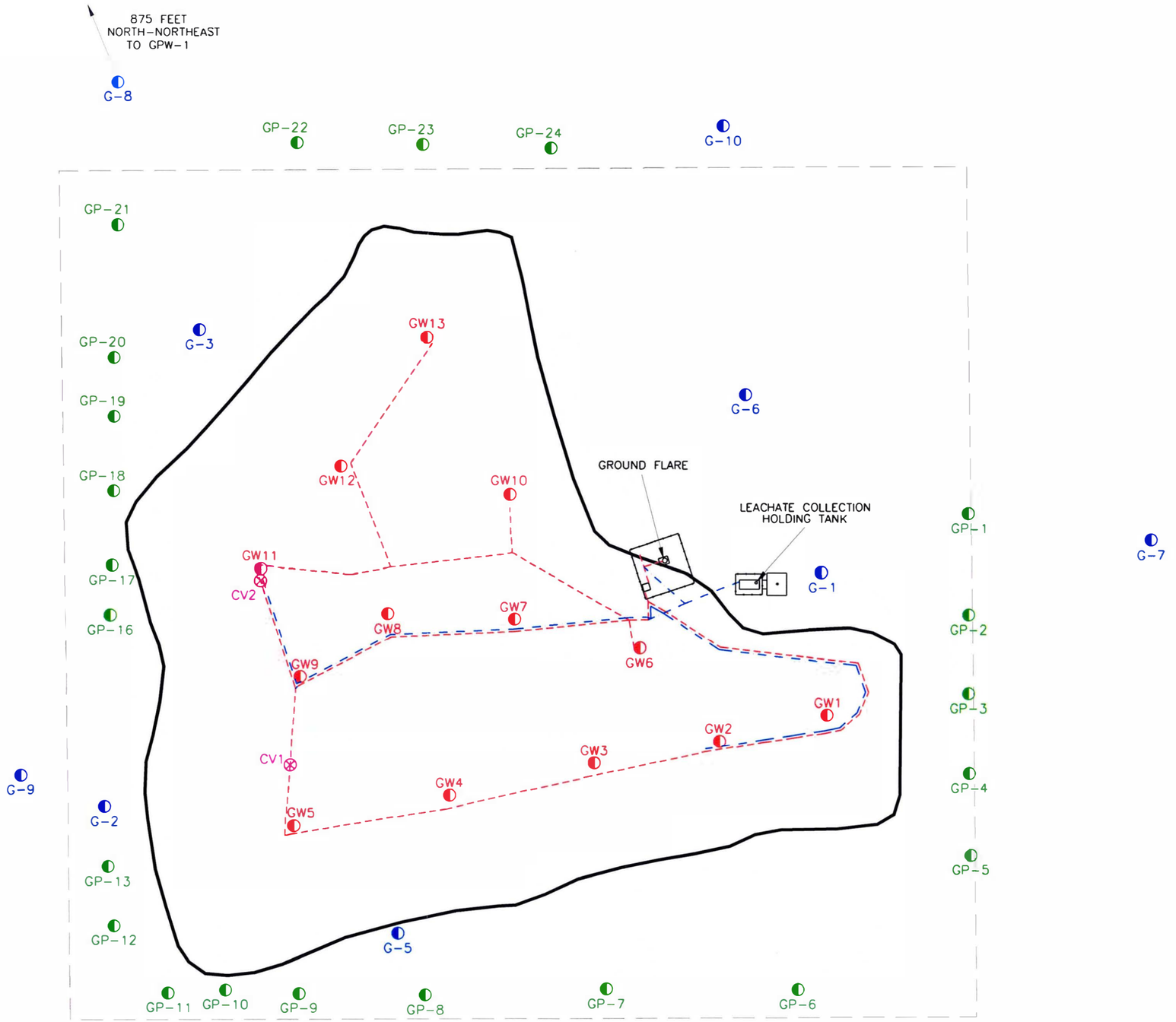
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WI

SITE MAP

FILE: SITEMAP.DWG | DATE: SEPTEMBER 2009 | FIGURE: 1

LEGEND

- GW9 — EXISTING LEACHATE/GAS EXTRACTION WELL LOCATION
- G-8 — GAS PROBE LOCATION ("G" SERIES)
- GP-16 — GAS PROBE LOCATION ("GP" SERIES)
- CV1 — CONTROL VALVE LOCATION
- PROPERTY BOUNDARY
- FILL LIMITS
- GAS HEADER PIPE
- LEACHATE CONVEYANCE PIPE
- FENCE LINE



N

0 180

SCALE IN FEET

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and
Environmental Engineering Services
6409 Odana Road, Suite C
Madison, WI 53719
608.441.5544

REVISED 5/02

FIGURE 2

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEWAY LANDFILL
MIDDLETON, WISCONSIN

ANNUAL LEACHATE COLLECTION VOLUME

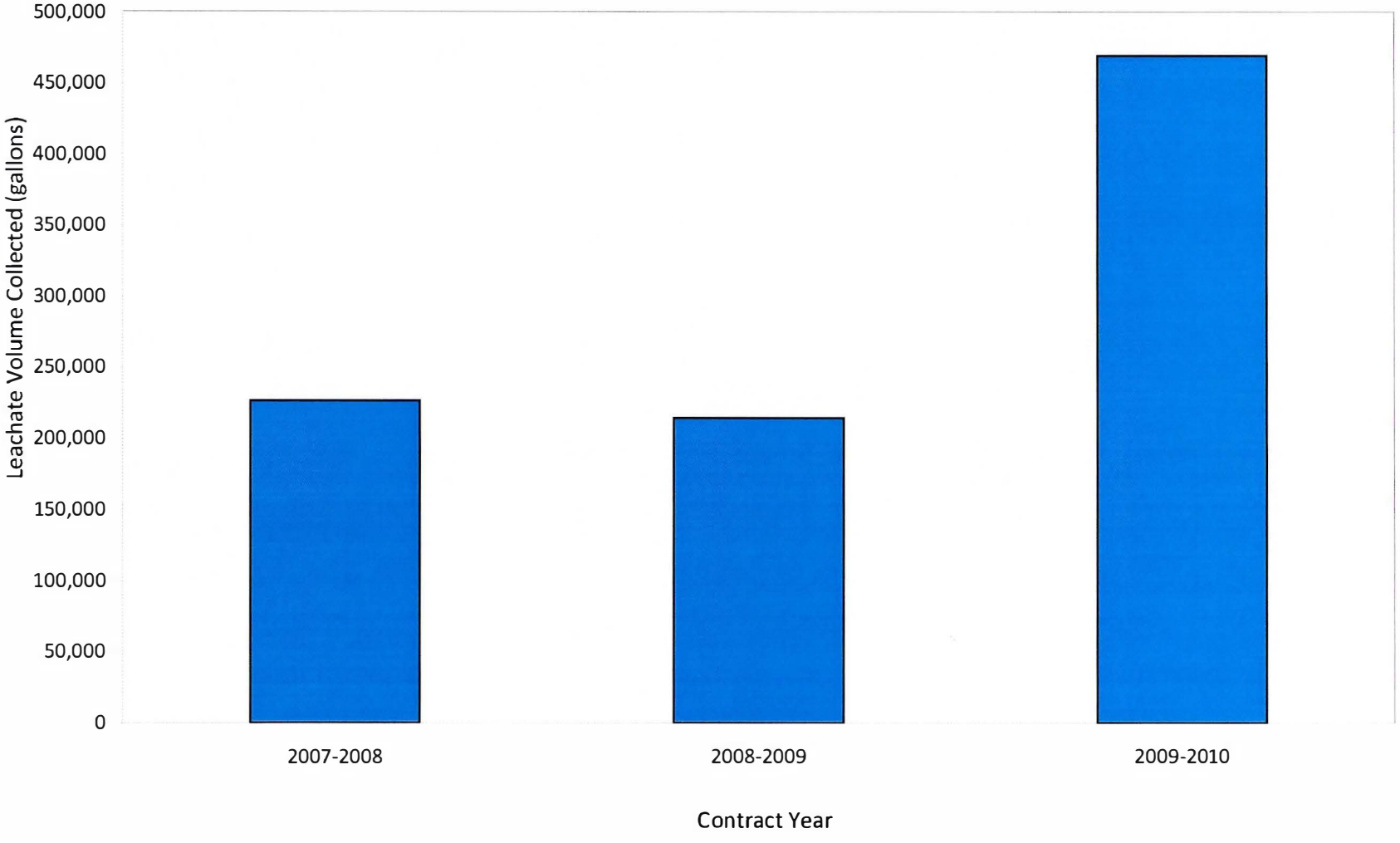
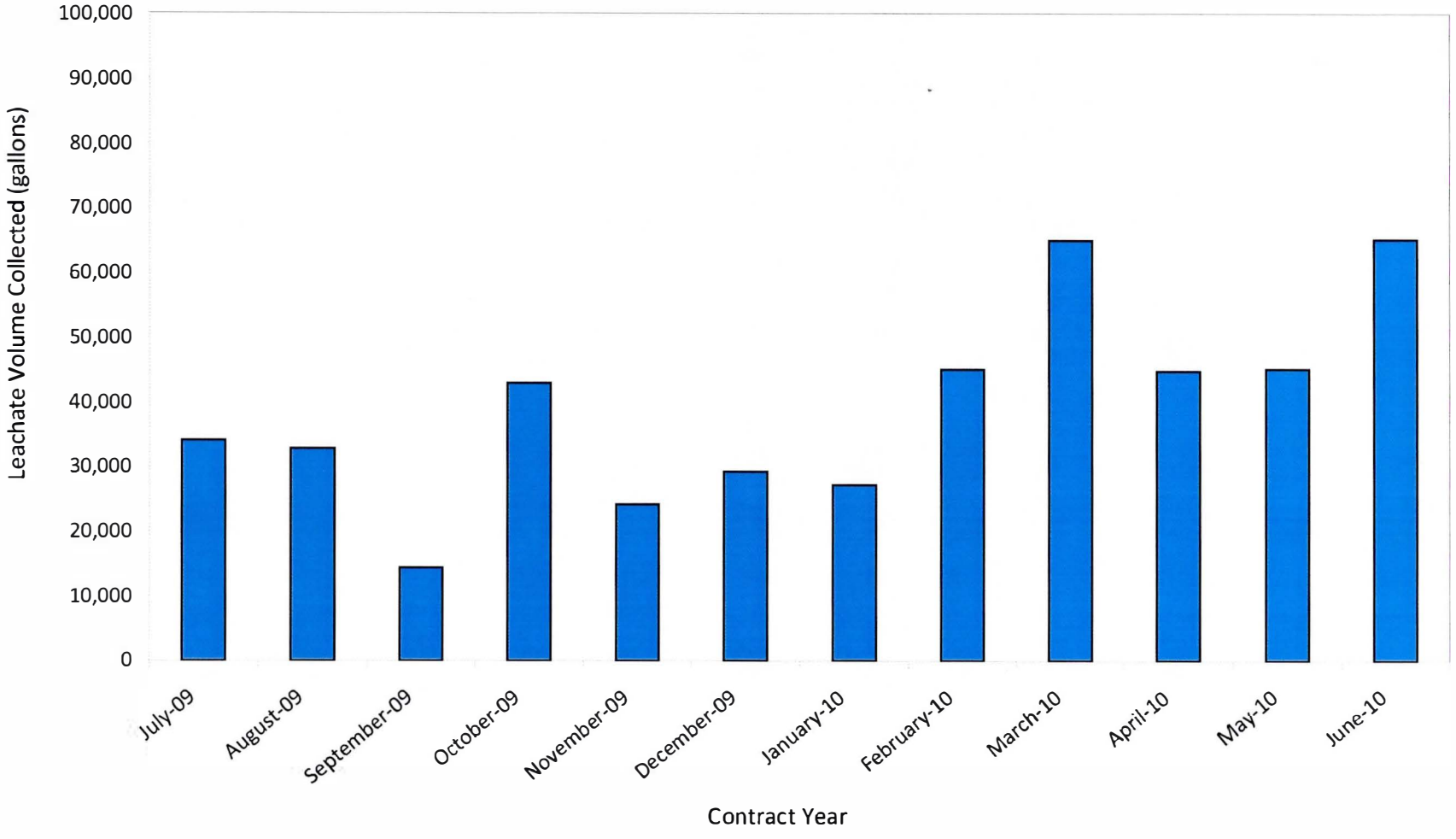


FIGURE 3

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEWAY LANDFILL
MIDDLETON, WISCONSIN

MONTHLY LEACHATE COLLECTION VOLUME



APPENDIX I

LEACHATE LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

October 06, 2009

Client:	LEGGETTE, BRASHEARS & GRAHAM, INC. (WI) 6409 Odana Road, Suite C Madison, WI 53719	Work Order: Project Name: Project Number:	WSI0974 Refuse Hideaway LF WDNR-RHL
Attn:	Ms. Jennifer Shelton	Date Received:	09/29/09

An executed copy of the chain of custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-833-7036

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Leachate	WSI0974-01	09/28/09 12:10

Samples were received on ice into laboratory at a temperature of 5 °C.

Wisconsin Certification Number: 128053530

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

Unless subcontracted, volatiles analyses (including VOC, PVOC, GRO, BTEX, and TPH gasoline) performed by TestAmerica Watertown at 1101 Industrial Drive, Units 9&10. All other analyses performed at the address shown in the heading of this report.

Approved By:

Michael M Miller

TestAmerica Watertown
Mike Miller For Dan F. Milewsky
Project Manager

602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WSI0974
Project: Refuse Hideaway LF
Project Number: WDNR-RHL

Received: 09/29/09
Reported: 10/06/09 11:22

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	LOQ	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: WSI0974-01 (Leachate - Ground Water)							**Sampled: 09/28/09 12:10**			
General Chemistry Parameters										
Chromium, Hexavalent	<0.0025	H3	mg/L	0.0025	0.0083	1	09/29/09 14:30	JEJ	9090878	SM 3500CrD
Cyanide (total)	<0.017		mg/L	0.017	0.057	1	10/06/09 10:47	tds	9100088	EPA 335.4
Metals										
Cadmium	**0.0064**	J	mg/L	0.0022	0.0073	2	10/01/09 11:42	gaf	9090868	SW 6010B
Chromium	**0.026**		mg/L	0.0042	0.014	2	10/01/09 11:42	gaf	9090868	SW 6010B
Copper	<0.036		mg/L	0.036	0.12	2	10/01/09 11:42	gaf	9090868	SW 6010B
Lead	<0.026		mg/L	0.026	0.087	2	10/01/09 11:42	gaf	9090868	SW 6010B
Mercury	<0.000065		mg/L	0.000065	0.00022	1	10/02/09 11:17	jej	9100023	SW 7470A
Molybdenum	**0.013**	J	mg/L	0.013	0.045	2	10/01/09 11:42	gaf	9090868	SW 6010B
Nickel	**0.077**		mg/L	0.0080	0.027	2	10/01/09 11:42	gaf	9090868	SW 6010B
Selenium	<0.090		mg/L	0.090	0.30	2	10/01/09 11:42	gaf	9090868	SW 6010B
Silver	<0.0026		mg/L	0.0026	0.0087	2	10/01/09 11:42	gaf	9090868	SW 6010B
Zinc	**0.025**		mg/L	0.0056	0.019	2	10/01/09 11:42	gaf	9090868	SW 6010B

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
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Ms. Jennifer Shelton

Work Order: WSI0974
Project: Refuse Hideaway LF
Project Number: WDNR-RHL

Received: 09/29/09
Reported: 10/06/09 11:22

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Cyanide (total)	9100088			mg/L	0.017	0.058	<0.017							
Metals														
Cadmium	9090868			mg/L	0.0011	0.0040	<0.0011							
Chromium	9090868			mg/L	0.0021	0.0072	<0.0021							
Copper	9090868			mg/L	0.018	0.065	<0.018							
Lead	9090868			mg/L	0.013	0.047	<0.013							
Molybdenum	9090868			mg/L	0.0067	0.024	<0.0067							
Nickel	9090868			mg/L	0.0040	0.014	<0.0040							
Selenium	9090868			mg/L	0.045	0.16	<0.045							
Silver	9090868			mg/L	0.0013	0.0046	<0.0013							
Zinc	9090868			mg/L	0.0028	0.0095	<0.0028							
Mercury	9100023			mg/L	0.000065	0.00023	<0.000065							

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WSI0974
Project: Refuse Hideaway LF
Project Number: WDNR-RHL

Received: 09/29/09
Reported: 10/06/09 11:22

CCV QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Metals														
Silver	9J01003		1.0	mg/L	N/A	N/A	0.977		98		90-110			
Cadmium	9J01003		5.0	mg/L	N/A	N/A	4.76		95		90-110			
Chromium	9J01003		5.0	mg/L	N/A	N/A	4.79		96		90-110			
Copper	9J01003		5.0	mg/L	N/A	N/A	4.85		97		90-110			
Lead	9J01003		5.0	mg/L	N/A	N/A	4.79		96		90-110			
Molybdenum	9J01003		5.0	mg/L	N/A	N/A	4.77		95		90-110			
Nickel	9J01003		5.0	mg/L	N/A	N/A	4.77		95		90-110			
Selenium	9J01003		5.0	mg/L	N/A	N/A	4.77		95		90-110			
Zinc	9J01003		5.0	mg/L	N/A	N/A	4.79		96		90-110			
Silver	9J01003		1.0	mg/L	N/A	N/A	0.963		96		90-110			
Cadmium	9J01003		5.0	mg/L	N/A	N/A	4.66		93		90-110			
Chromium	9J01003		5.0	mg/L	N/A	N/A	4.73		95		90-110			
Copper	9J01003		5.0	mg/L	N/A	N/A	4.89		98		90-110			
Lead	9J01003		5.0	mg/L	N/A	N/A	4.75		95		90-110			
Molybdenum	9J01003		5.0	mg/L	N/A	N/A	4.73		95		90-110			
Nickel	9J01003		5.0	mg/L	N/A	N/A	4.72		94		90-110			
Selenium	9J01003		5.0	mg/L	N/A	N/A	4.72		94		90-110			
Zinc	9J01003		5.0	mg/L	N/A	N/A	4.73		95		90-110			
Silver	9J01003		1.0	mg/L	N/A	N/A	0.955		95		90-110			
Cadmium	9J01003		5.0	mg/L	N/A	N/A	4.53		91		90-110			
Chromium	9J01003		5.0	mg/L	N/A	N/A	4.65		93		90-110			
Copper	9J01003		5.0	mg/L	N/A	N/A	4.90		98		90-110			
Lead	9J01003		5.0	mg/L	N/A	N/A	4.66		93		90-110			
Molybdenum	9J01003		5.0	mg/L	N/A	N/A	4.66		93		90-110			
Nickel	9J01003		5.0	mg/L	N/A	N/A	4.65		93		90-110			
Selenium	9J01003		5.0	mg/L	N/A	N/A	4.68		94		90-110			
Zinc	9J01003		5.0	mg/L	N/A	N/A	4.64		93		90-110			

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WSI0974
Project: Refuse Hideaway LF
Project Number: WDNR-RHL

Received: 09/29/09
Reported: 10/06/09 11:22

LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: WSI0974-01													
Chromium, Hexavalent	9090878	<0.0025		mg/L	0.0025	0.0088	<0.0025					8	

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
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Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WSI0974
Project: Refuse Hideaway LF
Project Number: WDNR-RHL

Received: 09/29/09
Reported: 10/06/09 11:22

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Cyanide (total)	9100088		0.20	mg/L	0.017	0.058	0.194		97		90-110			
Metals														
Cadmium	9090868		1.0	mg/L	0.0011	0.0040	0.962		96		83-109			
Chromium	9090868		1.0	mg/L	0.0021	0.0072	0.975		97		84-110			
Copper	9090868		2.0	mg/L	0.018	0.065	2.00		100		84-111			
Lead	9090868		2.0	mg/L	0.013	0.047	1.95		98		84-110			
Molybdenum	9090868		2.0	mg/L	0.0067	0.024	1.99		100		84-110			
Nickel	9090868		2.0	mg/L	0.0040	0.014	1.94		97		83-108			
Selenium	9090868		4.0	mg/L	0.045	0.16	3.91		98		84-110			
Silver	9090868		1.0	mg/L	0.0013	0.0046	0.994		99		80-123			
Zinc	9090868		1.0	mg/L	0.0028	0.0095	0.982		98		82-111			
Mercury	9100023		0.0025	mg/L	0.000065	0.00023	0.00268		107		78-131			

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WSI0974
Project: Refuse Hideaway LF
Project Number: WDNR-RHL

Received: 09/29/09
Reported: 10/06/09 11:22

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
QC Source Sample: WSJ0118-01														
Cyanide (total)	9100088	1.29	0.20	mg/L	0.017	0.058	1.47	1.45	90	80	57-138	1	21	
Metals														
QC Source Sample: WSI0923-02														
Cadmium	9090868	0.00112	1.0	mg/L	0.0011	0.0040	0.907	0.938	91	94	65-118	3	18	
Chromium	9090868	<0.0021	1.0	mg/L	0.0021	0.0072	0.922	0.958	92	96	63-122	4	21	
Copper	9090868	0.163	2.0	mg/L	0.018	0.065	2.08	2.16	96	100	69-123	4	25	
Lead	9090868	<0.013	2.0	mg/L	0.013	0.047	1.84	1.92	92	96	67-120	4	18	
Molybdenum	9090868	0.00721	2.0	mg/L	0.0067	0.024	1.90	1.98	95	99	69-119	4	24	
Nickel	9090868	<0.0040	2.0	mg/L	0.0040	0.014	1.82	1.89	91	95	63-117	4	21	
Selenium	9090868	<0.045	4.0	mg/L	0.045	0.16	3.73	3.88	93	97	70-123	4	20	
Silver	9090868	<0.0013	1.0	mg/L	0.0013	0.0046	0.940	0.970	94	97	70-124	3	20	
Zinc	9090868	0.0534	1.0	mg/L	0.0028	0.0095	1.01	1.05	96	99	63-125	4	30	
QC Source Sample: WSI1000-01														
Mercury	9100023	<0.000065	0.0025	mg/L	0.000065	0.00023	0.00251	0.00247	100	99	67-141	1	13	

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)	Work Order:	WSI0974	Received:	09/29/09
6409 Odana Road, Suite C	Project:	Refuse Hideaway LF	Reported:	10/06/09 11:22
Madison, WI 53719	Project Number:	WDNR-RHL		
Ms. Jennifer Shelton				

CERTIFICATION SUMMARY

TestAmerica Watertown

Method	Matrix	Nelac	Wisconsin
EPA 335.4	Water - NonPotable	X	X
SM 3500CrD	Water - NonPotable	X	X
SW 6010B	Water - NonPotable	X	X
SW 7470A	Water - NonPotable		X

602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)	Work Order:	WSI0974	Received:	09/29/09
6409 Odana Road, Suite C	Project:	Refuse Hideaway LF	Reported:	10/06/09 11:22
Madison, WI 53719	Project Number:	WDNR-RHL		
Ms. Jennifer Shelton				

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
J	Results reported between the Method Detection Limit (MDL) and Limit of Quantitation (LOQ) are less certain than results at or above the LOQ.

ADDITIONAL COMMENTS

TestAmerica Watertown
Mike Miller For Dan F. Milewsky
Project Manager

WSI 0974

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Watertown Division
602 Commerce Drive
Watertown, WI 53094

Phone 920-261-1660 or 800-833-7036
Fax 920-261-8120

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: _____

Client Name: ~~[illegible]~~ Leggette Brashears & Graham Client #: _____
Address: 6409 Odana Rd Ste C
City/State/Zip Code: Madison WI 53719
Project Manager: Jennifer Shelton jshelton@LBGMad.com
Telephone Number: 608.441.5544 Fax: .5545
Sampler Name: (Print Name) ANDREW SOLBERG
Sampler Signature: And Solb

Project Name: WDNR - RHL
Project #: _____
Site/Location ID: Middleton State: WI
Report To: LBG Madison
Invoice To: LBG Madison
Quote #: _____ PO#: _____

E-mail address: _____

TAT: X Standard; ___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N
E-mail: Y N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: SEE ATTACHED TABLE	REMARKS
LEACHATE	9-28-09	1210	X		GW	1		1			1		X	

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: _____

Special Instructions:

LABORATORY COMMENTS:
Init Lab Temp: 5
Rec Lab Temp:
Custody Seals: Y (N) N/A
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment:

	Date:	Time:		Date:	Time:
Relinquished By: And Solb	9-28	1645	Received By: M Hatt	9/29/09	1244
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAL-0020 (1207)

Cooler Receipt Log

Work Order(s): 10S10974 Client Name/Project: Leggette Bra # of Coolers: 1

1. How did samples arrive? ☑ Fed-Ex ☐ UPS ☐ TestAmerica ☐ Client ☑ Dunham ☐ Speedy ☐ _____
2. Were custody seals intact, signed and dated correctly? ☑ Yes ☐ No ☐ NA

Date/time cooler was opened: 9/29/09 By: M Pate

3. Temperature taken ☑ Yes ☐ No
4. Does this Project require quick turn around analysis? ☐ Yes ☑ No
5. Are there any short hold time tests? ☑ Yes ☐ No

48 hours or less	7 days
Coliform Bacteria 8/30 hours	Aqueous Organic Prep
Chloride/Hex Cr 24 hours	TS
BOD	TDS
Nitrate (DW is 14 days)	TSS
Nitrite	Sulfide
Orthophosphate	Volatile Solids
Surfactants (MBAS)	

Are any samples ☐ within 2 days of or ☐ past expiration of hold-time? ☐ Yes ☑ No Provide details in space at bottom of form
Which Ops Mgr, PM or Analyst was informed of short hold and when? Who _____ When _____
Is the date and time of collection recorded? Date ☑ Yes ☐ No Time ☑ Yes ☐ No
Are all sample containers listed on the COC received and intact? ☑ Yes ☐ No Provide details in space at bottom of form
Do sample IDs match the COC? ☑ Yes ☐ No Provide details in space at bottom of form
Are dissolved parameters field filtered or being filtered in the lab? ☐ Field ☐ Lab ☑ NA
Are sample volumes and preservatives adequate for tests requested? Vol. ☑ Yes ☐ No Pres. ☑ Yes ☐ No
Are VOC samples free of bubbles >6mm? ☐ Yes ☐ No ☑ NA
Are any samples on hold? ☐ Yes ☑ No Provide details in space at bottom of form
Are there samples to be subcontracted? ☐ Yes ☑ No

If any changes are made to this Work Order after Login, or if comments must be made regarding this cooler, explain them below:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

February 02, 2010

Client:	LEGGETTE, BRASHEARS & GRAHAM, INC. (WI) 6409 Odana Road, Suite C Madison, WI 53719	Work Order: Project Name: Project Number:	WTA0507 Refuse Hideaway LF Landfill Leachate
Attn:	Ms. Jennifer Shelton	Date Received:	01/21/10

An executed copy of the chain of custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-833-7036

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Leachate	WTA0507-01	01/20/10 15:16

Samples were received on ice into laboratory at a temperature of 0 °C.

Wisconsin Certification Number: 128053530

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

Unless subcontracted, volatiles analyses (including VOC, PVOC, GRO, BTEX, and TPH gasoline) performed by TestAmerica Watertown at 1101 Industrial Drive, Units 9&10. All other analyses performed at the address shown in the heading of this report.

Approved By:

Brian DeJong

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	LOQ	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: WTA0507-01 (Leachate - Ground Water)							**Sampled: 01/20/10 15:16**			
General Chemistry Parameters										
Chromium, Hexavalent	<0.0050		mg/L	0.0050	0.017	2	01/21/10 11:45	tds	10A0402	SM 3500CrD
Cyanide (total)	<0.051		mg/L	0.051	0.17	3	01/26/10 15:41	tds	10A0449	EPA 335.4
Metals										
Cadmium	**0.0030**	J	mg/L	0.0022	0.0073	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Chromium	**0.0099**	J	mg/L	0.0042	0.014	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Copper	<0.036		mg/L	0.036	0.12	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Lead	<0.026		mg/L	0.026	0.087	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Mercury	<0.000065		mg/L	0.000065	0.00022	1	02/02/10 09:39	jej	10A0536	SW 7470A
Molybdenum	<0.013		mg/L	0.013	0.045	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Nickel	**0.048**		mg/L	0.0080	0.027	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Selenium	<0.090		mg/L	0.090	0.30	2	01/25/10 15:37	gaf	10A0380	SW 6010B
Silver	**0.0098**	B	mg/L	0.0026	0.0087	2	01/25/10 15:36	gaf	10A0380	SW 6010B
Zinc	**0.017**	J	mg/L	0.0056	0.019	2	01/25/10 15:37	gaf	10A0380	SW 6010B
VOCs by SW8260B										
Benzene	**1.1**		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Bromobenzene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Bromochloromethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Bromodichloromethane	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Bromoform	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Bromomethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
n-Butylbenzene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
sec-Butylbenzene	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
tert-Butylbenzene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Carbon Tetrachloride	<0.80		ug/L	0.80	2.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Chlorobenzene	**1.2**		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Chlorodibromomethane	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Chloroethane	<1.0		ug/L	1.0	3.3	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Chloroform	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Chloromethane	<0.30		ug/L	0.30	1.0	1	01/25/10 16:26	MAE	10A0408	SW 8260B
2-Chlorotoluene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
4-Chlorotoluene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2-Dibromo-3-chloropropane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2-Dibromoethane (EDB)	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Dibromomethane	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2-Dichlorobenzene	**0.49**	J	ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,3-Dichlorobenzene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,4-Dichlorobenzene	**4.0**		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Dichlorodifluoromethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1-Dichloroethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2-Dichloroethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1-Dichloroethene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
cis-1,2-Dichloroethene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
trans-1,2-Dichloroethene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2-Dichloropropane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,3-Dichloropropane	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
2,2-Dichloropropane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1-Dichloropropene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
cis-1,3-Dichloropropene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
trans-1,3-Dichloropropene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

Analyte	Sample Result	Data Qualifiers	Units	MDL	LOQ	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: WTA0507-01RE1 (Leachate - Ground Water) - cont.							**Sampled: 01/20/10 15:16**			
VOCs by SW8260B - cont.										
2,3-Dichloropropene	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Isopropyl Ether	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Ethylbenzene	**0.58**	J	ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Hexachlorobutadiene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Isopropylbenzene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
p-Isopropyltoluene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Methylene Chloride	<1.0		ug/L	1.0	3.3	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Methyl tert-Butyl Ether	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Naphthalene	**2.1**		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
n-Propylbenzene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Styrene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1,1,2-Tetrachloroethane	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1,2,2-Tetrachloroethane	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Tetrachloroethene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Toluene	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2,3-Trichlorobenzene	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2,4-Trichlorobenzene	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1,1-Trichloroethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,1,2-Trichloroethane	<0.25		ug/L	0.25	0.83	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Trichloroethene	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Trichlorofluoromethane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2,3-Trichloropropane	<0.50		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,2,4-Trimethylbenzene	**1.2**		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
1,3,5-Trimethylbenzene	**0.42**	J	ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Vinyl chloride	<0.20		ug/L	0.20	0.67	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Xylenes, Total	**4.1**		ug/L	0.50	1.7	1	01/25/10 16:26	MAE	10A0408	SW 8260B
Surr: Dibromofluoromethane (82-122%)	*107 %*									
Surr: Toluene-d8 (86-117%)	*98 %*									
Surr: 4-Bromofluorobenzene (83-118%)	*99 %*									

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Chromium, Hexavalent	10A0402			mg/L	0.0025	0.0088	<0.0025							
Cyanide (total)	10A0449			mg/L	0.017	0.058	<0.017							
Metals														
Cadmium	10A0380			mg/L	0.0011	0.0040	<0.0011							
Chromium	10A0380			mg/L	0.0021	0.0072	<0.0021							
Copper	10A0380			mg/L	0.018	0.065	<0.018							
Lead	10A0380			mg/L	0.013	0.047	<0.013							
Molybdenum	10A0380			mg/L	0.0067	0.024	<0.0067							
Nickel	10A0380			mg/L	0.0040	0.014	<0.0040							
Selenium	10A0380			mg/L	0.045	0.16	<0.045							
Silver	10A0380			mg/L	0.0013	0.0046	0.00134							J
Zinc	10A0380			mg/L	0.0028	0.0095	<0.0028							
Mercury	10A0536			mg/L	0.000065	0.00023	<0.000065							
VOCs by SW8260B														
Benzene	10A0408			ug/L	0.20	0.67	<0.20							
Bromobenzene	10A0408			ug/L	0.20	0.67	<0.20							
Bromochloromethane	10A0408			ug/L	0.50	1.7	<0.50							
Bromodichloromethane	10A0408			ug/L	0.20	0.67	<0.20							
Bromoform	10A0408			ug/L	0.20	0.67	<0.20							
Bromomethane	10A0408			ug/L	0.50	1.7	<0.50							
n-Butylbenzene	10A0408			ug/L	0.20	0.67	<0.20							
sec-Butylbenzene	10A0408			ug/L	0.25	0.83	<0.25							
tert-Butylbenzene	10A0408			ug/L	0.20	0.67	<0.20							
Carbon Tetrachloride	10A0408			ug/L	0.80	2.6	<0.80							
Chlorobenzene	10A0408			ug/L	0.20	0.67	<0.20							
Chlorodibromomethane	10A0408			ug/L	0.20	0.67	<0.20							
Chloroethane	10A0408			ug/L	1.0	3.3	<1.0							
Chloroform	10A0408			ug/L	0.20	0.67	<0.20							
Chloromethane	10A0408			ug/L	0.30	1.0	<0.30							
2-Chlorotoluene	10A0408			ug/L	0.50	1.7	<0.50							
4-Chlorotoluene	10A0408			ug/L	0.20	0.67	<0.20							
1,2-Dibromo-3-chloropropane	10A0408			ug/L	0.50	1.7	<0.50							
1,2-Dibromoethane (EDB)	10A0408			ug/L	0.20	0.67	<0.20							
Dibromomethane	10A0408			ug/L	0.20	0.67	<0.20							
1,2-Dichlorobenzene	10A0408			ug/L	0.20	0.67	<0.20							
1,3-Dichlorobenzene	10A0408			ug/L	0.20	0.67	<0.20							
1,4-Dichlorobenzene	10A0408			ug/L	0.50	1.7	<0.50							
Dichlorodifluoromethane	10A0408			ug/L	0.50	1.7	<0.50							
1,1-Dichloroethane	10A0408			ug/L	0.50	1.7	<0.50							
1,2-Dichloroethane	10A0408			ug/L	0.50	1.7	<0.50							
1,1-Dichloroethene	10A0408			ug/L	0.50	1.7	<0.50							
cis-1,2-Dichloroethene	10A0408			ug/L	0.50	1.7	<0.50							
trans-1,2-Dichloroethene	10A0408			ug/L	0.50	1.7	<0.50							
1,2-Dichloropropane	10A0408			ug/L	0.50	1.7	<0.50							

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
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Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
VOCs by SW8260B														
1,3-Dichloropropane	10A0408			ug/L	0.25	0.83	<0.25							
2,2-Dichloropropane	10A0408			ug/L	0.50	1.7	<0.50							
1,1-Dichloropropene	10A0408			ug/L	0.50	1.7	<0.50							
cis-1,3-Dichloropropene	10A0408			ug/L	0.20	0.67	<0.20							
trans-1,3-Dichloropropene	10A0408			ug/L	0.20	0.67	<0.20							
2,3-Dichloropropene	10A0408			ug/L	0.25	0.83	<0.25							
Isopropyl Ether	10A0408			ug/L	0.50	1.7	<0.50							
Ethylbenzene	10A0408			ug/L	0.50	1.7	<0.50							
Hexachlorobutadiene	10A0408			ug/L	0.50	1.7	<0.50							
Isopropylbenzene	10A0408			ug/L	0.20	0.67	<0.20							
p-Isopropyltoluene	10A0408			ug/L	0.20	0.67	<0.20							
Methylene Chloride	10A0408			ug/L	1.0	3.3	<1.0							
Methyl tert-Butyl Ether	10A0408			ug/L	0.50	1.7	<0.50							
Naphthalene	10A0408			ug/L	0.25	0.83	<0.25							
n-Propylbenzene	10A0408			ug/L	0.50	1.7	<0.50							
Styrene	10A0408			ug/L	0.50	1.7	<0.50							
1,1,1,2-Tetrachloroethane	10A0408			ug/L	0.25	0.83	<0.25							
1,1,2,2-Tetrachloroethane	10A0408			ug/L	0.20	0.67	<0.20							
Tetrachloroethene	10A0408			ug/L	0.50	1.7	<0.50							
Toluene	10A0408			ug/L	0.50	1.7	<0.50							
1,2,3-Trichlorobenzene	10A0408			ug/L	0.25	0.83	<0.25							
1,2,4-Trichlorobenzene	10A0408			ug/L	0.25	0.83	<0.25							
1,1,1-Trichloroethane	10A0408			ug/L	0.50	1.7	<0.50							
1,1,2-Trichloroethane	10A0408			ug/L	0.25	0.83	<0.25							
Trichloroethene	10A0408			ug/L	0.20	0.67	<0.20							
Trichlorofluoromethane	10A0408			ug/L	0.50	1.7	<0.50							
1,2,3-Trichloropropane	10A0408			ug/L	0.50	1.7	<0.50							
1,2,4-Trimethylbenzene	10A0408			ug/L	0.20	0.67	<0.20							
1,3,5-Trimethylbenzene	10A0408			ug/L	0.20	0.67	<0.20							
Vinyl chloride	10A0408			ug/L	0.20	0.67	<0.20							
Xylenes, Total	10A0408			ug/L	0.50	1.7	<0.50							
Surrogate: Dibromofluoromethane	*10A0408*			ug/L					*108*		*82-122*			
Surrogate: Toluene-d8	*10A0408*			ug/L					*100*		*86-117*			
Surrogate: 4-Bromofluorobenzene	*10A0408*			ug/L					*97*		*83-118*			

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

CCV QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Metals														
Silver	T000138		1.0	mg/L	N/A	N/A	0.923		92		90-110			
Cadmium	T000138		5.0	mg/L	N/A	N/A	4.76		95		90-110			
Chromium	T000138		5.0	mg/L	N/A	N/A	4.71		94		90-110			
Copper	T000138		5.0	mg/L	N/A	N/A	4.64		93		90-110			
Lead	T000138		5.0	mg/L	N/A	N/A	4.68		94		90-110			
Molybdenum	T000138		5.0	mg/L	N/A	N/A	4.59		92		90-110			
Nickel	T000138		5.0	mg/L	N/A	N/A	4.69		94		90-110			
Selenium	T000138		5.0	mg/L	N/A	N/A	4.68		94		90-110			
Zinc	T000138		5.0	mg/L	N/A	N/A	4.73		95		90-110			
Silver	T000138		1.0	mg/L	N/A	N/A	0.906		91		90-110			
Cadmium	T000138		5.0	mg/L	N/A	N/A	4.72		94		90-110			
Chromium	T000138		5.0	mg/L	N/A	N/A	4.62		92		90-110			
Copper	T000138		5.0	mg/L	N/A	N/A	4.55		91		90-110			
Lead	T000138		5.0	mg/L	N/A	N/A	4.63		93		90-110			
Molybdenum	T000138		5.0	mg/L	N/A	N/A	4.55		91		90-110			
Nickel	T000138		5.0	mg/L	N/A	N/A	4.60		92		90-110			
Selenium	T000138		5.0	mg/L	N/A	N/A	4.60		92		90-110			
Zinc	T000138		5.0	mg/L	N/A	N/A	4.65		93		90-110			
VOCs by SW8260B														
Benzene	T000130		50	ug/L	N/A	N/A	50.0		100		80-120			
Bromobenzene	T000130		50	ug/L	N/A	N/A	45.7		91		80-120			
Bromochloromethane	T000130		50	ug/L	N/A	N/A	47.2		94		80-120			
Bromodichloromethane	T000130		50	ug/L	N/A	N/A	47.7		95		80-120			
Bromoform	T000130		50	ug/L	N/A	N/A	50.2		100		80-120			
Bromomethane	T000130		50	ug/L	N/A	N/A	33.6		67		80-120			
n-Butylbenzene	T000130		50	ug/L	N/A	N/A	49.2		98		80-120			
sec-Butylbenzene	T000130		50	ug/L	N/A	N/A	47.7		95		80-120			
tert-Butylbenzene	T000130		50	ug/L	N/A	N/A	47.4		95		80-120			
Carbon Tetrachloride	T000130		50	ug/L	N/A	N/A	45.4		91		80-120			
Chlorobenzene	T000130		50	ug/L	N/A	N/A	45.5		91		80-120			
Chlorodibromomethane	T000130		50	ug/L	N/A	N/A	47.8		96		80-120			
Chloroethane	T000130		50	ug/L	N/A	N/A	49.8		100		80-120			
Chloroform	T000130		50	ug/L	N/A	N/A	48.1		96		80-120			
Chloromethane	T000130		50	ug/L	N/A	N/A	49.7		99		80-120			
2-Chlorotoluene	T000130		50	ug/L	N/A	N/A	47.0		94		80-120			
4-Chlorotoluene	T000130		50	ug/L	N/A	N/A	46.4		93		80-120			
1,2-Dibromo-3-chloropropane	T000130		50	ug/L	N/A	N/A	48.1		96		80-120			
1,2-Dibromoethane (EDB)	T000130		50	ug/L	N/A	N/A	47.1		94		80-120			
Dibromomethane	T000130		50	ug/L	N/A	N/A	45.6		91		80-120			
1,2-Dichlorobenzene	T000130		50	ug/L	N/A	N/A	46.4		93		80-120			
1,3-Dichlorobenzene	T000130		50	ug/L	N/A	N/A	46.8		94		80-120			
1,4-Dichlorobenzene	T000130		50	ug/L	N/A	N/A	45.7		91		80-120			
Dichlorodifluoromethane	T000130		50	ug/L	N/A	N/A	50.4		101		80-120			
1,1-Dichloroethane	T000130		50	ug/L	N/A	N/A	50.4		101		80-120			
1,2-Dichloroethane	T000130		50	ug/L	N/A	N/A	50.6		101		80-120			
1,1-Dichloroethene	T000130		50	ug/L	N/A	N/A	50.1		100		80-120			
cis-1,2-Dichloroethene	T000130		50	ug/L	N/A	N/A	49.8		100		80-120			

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road. Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

CCV QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
VOCs by SW8260B														
trans-1,2-Dichloroethene	T000130		50	ug/L	N/A	N/A	49.6		99		80-120			
1,2-Dichloropropane	T000130		50	ug/L	N/A	N/A	49.0		98		80-120			
1,3-Dichloropropane	T000130		50	ug/L	N/A	N/A	48.9		98		80-120			
2,2-Dichloropropane	T000130		50	ug/L	N/A	N/A	51.2		102		80-120			
1,1-Dichloropropene	T000130		50	ug/L	N/A	N/A	52.4		105		80-120			
cis-1,3-Dichloropropene	T000130		50	ug/L	N/A	N/A	50.3		101		80-120			
trans-1,3-Dichloropropene	T000130		50	ug/L	N/A	N/A	50.6		101		80-120			
2,3-Dichloropropene	T000130		50	ug/L	N/A	N/A	49.2		98		80-120			
Isopropyl Ether	T000130		50	ug/L	N/A	N/A	52.8		106		80-120			
Ethylbenzene	T000130		50	ug/L	N/A	N/A	46.4		93		80-120			
Hexachlorobutadiene	T000130		50	ug/L	N/A	N/A	43.7		87		80-120			
Isopropylbenzene	T000130		50	ug/L	N/A	N/A	48.0		96		80-120			
p-Isopropyltoluene	T000130		50	ug/L	N/A	N/A	47.5		95		80-120			
Methylene Chloride	T000130		50	ug/L	N/A	N/A	48.6		97		80-120			
Methyl tert-Butyl Ether	T000130		50	ug/L	N/A	N/A	51.0		102		80-120			
Naphthalene	T000130		50	ug/L	N/A	N/A	52.2		104		80-120			
n-Propylbenzene	T000130		50	ug/L	N/A	N/A	47.2		94		80-120			
Styrene	T000130		50	ug/L	N/A	N/A	49.4		99		80-120			
1,1,1,2-Tetrachloroethane	T000130		50	ug/L	N/A	N/A	46.0		92		80-120			
1,1,2,2-Tetrachloroethane	T000130		50	ug/L	N/A	N/A	48.2		96		80-120			
Tetrachloroethene	T000130		50	ug/L	N/A	N/A	45.5		91		80-120			
Toluene	T000130		50	ug/L	N/A	N/A	46.1		92		80-120			
1,2,3-Trichlorobenzene	T000130		50	ug/L	N/A	N/A	45.5		91		80-120			
1,2,4-Trichlorobenzene	T000130		50	ug/L	N/A	N/A	46.4		93		80-120			
1,1,1-Trichloroethane	T000130		50	ug/L	N/A	N/A	49.8		100		80-120			
1,1,2-Trichloroethane	T000130		50	ug/L	N/A	N/A	47.5		95		80-120			
Trichloroethene	T000130		50	ug/L	N/A	N/A	46.8		94		80-120			
Trichlorofluoromethane	T000130		50	ug/L	N/A	N/A	49.6		99		80-120			
1,2,3-Trichloropropane	T000130		50	ug/L	N/A	N/A	47.1		94		80-120			
1,2,4-Trimethylbenzene	T000130		50	ug/L	N/A	N/A	47.9		96		80-120			
1,3,5-Trimethylbenzene	T000130		50	ug/L	N/A	N/A	47.8		96		80-120			
Vinyl chloride	T000130		50	ug/L	N/A	N/A	51.6		103		80-120			
Xylenes, Total	T000130		150	ug/L	N/A	N/A	141		94		80-120			
Surrogate: Dibromofluoromethane	*T000130*			ug/L					*104*		*80-120*			
Surrogate: Toluene-d8	*T000130*			ug/L					*101*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*T000130*			ug/L					*101*		*80-120*			

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: WTA0507-01													
Chromium, Hexavalent	10A0402	<0.0025		mg/L	0.0050	0.018	<0.0050					8	

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
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Project Number: Landfill Leachate

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Reported: 02/02/10 11:30

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Cyanide (total)	10A0449		0.20	mg/L	0.017	0.058	0.215		108		90-110			
Metals														
Cadmium	10A0380		1.0	mg/L	0.0011	0.0040	0.985		99		83-109			
Chromium	10A0380		1.0	mg/L	0.0021	0.0072	0.995		100		84-110			
Copper	10A0380		2.0	mg/L	0.018	0.065	1.99		100		84-111			
Lead	10A0380		2.0	mg/L	0.013	0.047	1.99		100		84-110			
Molybdenum	10A0380		2.0	mg/L	0.0067	0.024	2.01		100		84-110			
Nickel	10A0380		2.0	mg/L	0.0040	0.014	1.98		99		83-108			
Selenium	10A0380		4.0	mg/L	0.045	0.16	3.95		99		84-110			
Silver	10A0380		1.0	mg/L	0.0013	0.0046	0.997		100		80-123			B
Zinc	10A0380		1.0	mg/L	0.0028	0.0095	1.01		101		82-111			
Mercury	10A0536		0.0025	mg/L	0.000065	0.00023	0.00249		100		78-131			

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Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
QC Source Sample: WTA0457-03														
Cyanide (total)	10A0449	<0.017	0.60	mg/L	0.051	0.17	0.579	0.597	96	100	70-130	3	20	
Metals														
QC Source Sample: WTA0517-01														
Cadmium	10A0380	<0.0011	1.0	mg/L	0.0011	0.0040	0.874	0.903	87	90	65-118	3	18	
Chromium	10A0380	0.00519	1.0	mg/L	0.0021	0.0072	0.913	0.936	91	93	63-122	3	21	
Copper	10A0380	0.0323	2.0	mg/L	0.018	0.065	1.89	1.95	93	96	69-123	3	25	
Lead	10A0380	0.0434	2.0	mg/L	0.013	0.047	1.84	1.90	90	93	67-120	3	18	
Molybdenum	10A0380	0.231	2.0	mg/L	0.0067	0.024	2.09	2.16	93	96	69-119	3	24	
Nickel	10A0380	<0.0040	2.0	mg/L	0.0040	0.014	1.79	1.85	90	92	63-117	3	21	
Selenium	10A0380	<0.045	4.0	mg/L	0.045	0.16	3.74	3.80	93	95	70-123	2	20	
Silver	10A0380	<0.0013	1.0	mg/L	0.0013	0.0046	0.904	0.941	90	94	70-124	4	20	B
Zinc	10A0380	2.92	1.0	mg/L	0.0028	0.0095	3.92	4.05	99	113	63-125	3	30	
QC Source Sample: WTA0581-01														
Mercury	10A0536	<0.000065	0.0025	mg/L	0.000065	0.00023	0.00248	0.00250	99	100	67-141	1	13	
VOCs by SW8260B														
QC Source Sample: WTA0387-16														
Benzene	10A0408	0.600	50	ug/L	0.20	0.67	49.4	51.2	98	101	79-123	3	20	
Bromobenzene	10A0408	<0.20	50	ug/L	0.20	0.67	42.8	44.9	86	90	83-117	5	24	
Bromochloromethane	10A0408	<0.50	50	ug/L	0.50	1.7	44.5	46.9	89	94	78-113	5	14	
Bromodichloromethane	10A0408	<0.20	50	ug/L	0.20	0.67	44.9	46.5	90	93	84-119	4	19	
Bromoform	10A0408	<0.20	50	ug/L	0.20	0.67	45.1	46.2	90	92	79-124	3	26	
Bromomethane	10A0408	<0.50	50	ug/L	0.50	1.7	36.2	40.6	72	81	70-133	12	18	
n-Butylbenzene	10A0408	<0.20	50	ug/L	0.20	0.67	49.0	50.0	98	100	75-138	2	19	
sec-Butylbenzene	10A0408	<0.25	50	ug/L	0.25	0.83	48.2	49.5	96	99	79-136	3	19	
tert-Butylbenzene	10A0408	<0.20	50	ug/L	0.20	0.67	47.7	48.8	95	98	83-128	2	17	
Carbon Tetrachloride	10A0408	<0.80	50	ug/L	0.80	2.6	48.0	48.9	96	98	88-131	2	17	
Chlorobenzene	10A0408	<0.20	50	ug/L	0.20	0.67	43.9	45.4	88	91	86-115	3	16	
Chlorodibromomethane	10A0408	<0.20	50	ug/L	0.20	0.67	44.2	46.0	88	92	84-120	4	23	
Chloroethane	10A0408	<1.0	50	ug/L	1.0	3.3	47.5	49.4	95	99	75-131	4	17	
Chloroform	10A0408	<0.20	50	ug/L	0.20	0.67	46.3	48.4	93	97	83-120	4	14	
Chloromethane	10A0408	<0.30	50	ug/L	0.30	1.0	50.9	51.5	102	103	62-129	1	16	
2-Chlorotoluene	10A0408	<0.50	50	ug/L	0.50	1.7	45.4	47.0	91	94	80-131	4	26	
4-Chlorotoluene	10A0408	<0.20	50	ug/L	0.20	0.67	44.7	46.1	89	92	80-132	3	26	
1,2-Dibromo-3-chloropropane	10A0408	<0.50	50	ug/L	0.50	1.7	42.6	44.9	85	90	70-122	5	26	
1,2-Dibromoethane (EDB)	10A0408	<0.20	50	ug/L	0.20	0.67	43.6	45.1	87	90	83-114	3	19	
Dibromomethane	10A0408	<0.20	50	ug/L	0.20	0.67	42.4	44.0	85	88	81-116	4	26	
1,2-Dichlorobenzene	10A0408	<0.20	50	ug/L	0.20	0.67	43.3	45.2	87	90	81-118	4	23	
1,3-Dichlorobenzene	10A0408	<0.20	50	ug/L	0.20	0.67	44.6	46.2	89	92	80-121	4	21	
1,4-Dichlorobenzene	10A0408	<0.50	50	ug/L	0.50	1.7	42.8	44.3	86	89	80-116	3	21	
Dichlorodifluoromethane	10A0408	<0.50	50	ug/L	0.50	1.7	54.9	54.2	110	108	74-135	1	19	
1,1-Dichloroethane	10A0408	<0.50	50	ug/L	0.50	1.7	49.9	51.6	100	103	77-128	3	18	
1,2-Dichloroethane	10A0408	<0.50	50	ug/L	0.50	1.7	46.8	49.0	94	98	80-123	5	19	
1,1-Dichloroethene	10A0408	<0.50	50	ug/L	0.50	1.7	52.1	53.0	104	106	84-131	2	18	
cis-1,2-Dichloroethene	10A0408	<0.50	50	ug/L	0.50	1.7	48.4	50.5	97	101	82-121	4	17	
trans-1,2-Dichloroethene	10A0408	<0.50	50	ug/L	0.50	1.7	49.9	51.5	100	103	82-126	3	23	
1,2-Dichloropropane	10A0408	<0.50	50	ug/L	0.50	1.7	46.2	48.0	92	96	72-123	4	18	

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
VOCs by SW8260B														
QC Source Sample: WTA0387-16														
1,3-Dichloropropane	10A0408	<0.25	50	ug/L	0.25	0.83	45.1	46.8	90	94	79-119	4	24	
2,2-Dichloropropane	10A0408	<0.50	50	ug/L	0.50	1.7	52.3	54.1	105	108	82-136	3	16	
1,1-Dichloropropene	10A0408	<0.50	50	ug/L	0.50	1.7	54.1	54.9	108	110	85-127	1	16	
cis-1,3-Dichloropropene	10A0408	<0.20	50	ug/L	0.20	0.67	47.0	49.4	94	99	83-120	5	20	
trans-1,3-Dichloropropene	10A0408	<0.20	50	ug/L	0.20	0.67	47.4	49.0	95	98	82-121	3	26	
Isopropyl Ether	10A0408	<0.50	50	ug/L	0.50	1.7	49.5	51.8	99	104	65-133	4	20	
Ethylbenzene	10A0408	<0.50	50	ug/L	0.50	1.7	45.8	47.1	92	94	84-122	3	16	
Hexachlorobutadiene	10A0408	<0.50	50	ug/L	0.50	1.7	43.8	45.4	88	91	56-137	3	20	
Isopropylbenzene	10A0408	<0.20	50	ug/L	0.20	0.67	47.9	49.2	96	98	79-136	2	22	
p-Isopropyltoluene	10A0408	<0.20	50	ug/L	0.20	0.67	47.3	48.7	95	97	75-141	3	20	
Methylene Chloride	10A0408	<1.0	50	ug/L	1.0	3.3	46.1	48.4	92	97	77-123	5	24	
Methyl tert-Butyl Ether	10A0408	<0.50	50	ug/L	0.50	1.7	47.2	49.7	94	99	76-125	5	18	
Naphthalene	10A0408	<0.25	50	ug/L	0.25	0.83	47.1	49.9	94	100	62-130	6	24	
n-Propylbenzene	10A0408	<0.50	50	ug/L	0.50	1.7	46.8	48.2	94	96	83-130	3	23	
Styrene	10A0408	<0.50	50	ug/L	0.50	1.7	47.1	48.8	94	98	82-126	3	14	
1,1,1,2-Tetrachloroethane	10A0408	<0.25	50	ug/L	0.25	0.83	44.0	45.9	88	92	86-120	4	17	
1,1,2,2-Tetrachloroethane	10A0408	<0.20	50	ug/L	0.20	0.67	44.0	45.4	88	91	75-122	3	26	
Tetrachloroethene	10A0408	<0.50	50	ug/L	0.50	1.7	46.8	47.5	94	95	86-124	1	18	
Toluene	10A0408	<0.50	50	ug/L	0.50	1.7	45.6	46.9	91	94	86-120	3	18	
1,2,3-Trichlorobenzene	10A0408	<0.25	50	ug/L	0.25	0.83	41.9	44.0	84	88	64-126	5	24	
1,2,4-Trichlorobenzene	10A0408	<0.25	50	ug/L	0.25	0.83	42.8	45.0	86	90	67-128	5	21	
1,1,1-Trichloroethane	10A0408	<0.50	50	ug/L	0.50	1.7	50.9	52.2	102	104	87-128	3	19	
1,1,2-Trichloroethane	10A0408	<0.25	50	ug/L	0.25	0.83	44.2	45.8	88	92	82-117	4	28	
Trichloroethene	10A0408	<0.20	50	ug/L	0.20	0.67	46.6	47.7	93	95	90-118	2	18	
Trichlorofluoromethane	10A0408	<0.50	50	ug/L	0.50	1.7	50.9	51.4	102	103	80-143	1	19	
1,2,3-Trichloropropane	10A0408	<0.50	50	ug/L	0.50	1.7	42.8	44.4	86	89	77-120	4	26	
1,2,4-Trimethylbenzene	10A0408	<0.20	50	ug/L	0.20	0.67	46.2	47.8	92	96	77-135	3	24	
1,3,5-Trimethylbenzene	10A0408	<0.20	50	ug/L	0.20	0.67	47.1	48.4	94	97	79-132	3	24	
Vinyl chloride	10A0408	<0.20	50	ug/L	0.20	0.67	54.6	54.7	109	109	72-137	0	17	
Xylenes, Total	10A0408	<0.50	150	ug/L	0.50	1.7	138	142	92	95	85-121	3	13	
Surrogate: Dibromofluoromethane	*10A0408*			ug/L					*105*	*106*	*82-122*			
Surrogate: Toluene-d8	*10A0408*			ug/L					*100*	*101*	*86-117*			
Surrogate: 4-Bromofluorobenzene	*10A0408*			ug/L					*103*	*102*	*83-118*			

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Ms. Jennifer Shelton

Work Order: WTA0507
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 01/21/10
Reported: 02/02/10 11:30

CERTIFICATION SUMMARY

TestAmerica Watertown

Method	Matrix	Nelac	Wisconsin
EPA 335.4	Water - NonPotable	X	X
SM 3500CrD	Water - NonPotable	X	X
SW 6010B	Water - NonPotable	X	X
SW 7470A	Water - NonPotable		X
SW 8260B	Water - NonPotable	X	X

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

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Project:	Refuse Hideaway LF	Reported:	02/02/10 11:30
Project Number:	Landfill Leachate		

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.

J Results reported between the Method Detection Limit (MDL) and Limit of Quantitation (LOQ) are less certain than results at or above the LOQ.

WTA0507

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Watertown Division
602 Commerce Drive
Watertown, WI 53094

Phone 920-261-1660 or 800-833-7036
Fax 920-261-8120

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: ____

Client Name: Leggette Brashears + Graham, Inc
Client #: ____
Address: 6409 Odana Road Suite C
City/State/Zip Code: Madison WI 53719
Project Manager: Jennifer Shelton jShelton@LBGMAD.com
Telephone Number: 608-310-7672 Fax: 608-441-5545
Sampler Name: (Print Name) Jennifer Shelton
Sampler Signature: Jennifer Shelton
E-mail address: jShelton@LBGMAD.com

Project Name: WDNR - RHL
Project #:
Site/Location ID: Middleton State: WI
Report To: LBG Madison
Invoice To: LBG Madison
Quote #: PO#:

TAT: X Standard; ___ Rush (surcharges may apply)
Date Needed: ____
Fax Results: Y N
E-mail: (Y) N

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; ___ Other: ____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: See attached table	REMARKS
Leachate	1-20-10	3:16	G		GW	1		1			1		X	also received 3 HCL vials MP

Special Instructions:

Relinquished By	Date:	Time:	Received By	Date:	Time:
J. Shelton	1-20-10	3:55		01-20-10	15:55
Relinquished By:	Date:	Time:	Received By:	1/21/10	0822
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y (N) N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

TAL-0020 (1207)

Cooler Receipt Log

Work Order(s): WTA0507 Client Name/Project: LBG # of Coolers: _____

1. How did samples arrive? ☐ Fed-Ex ☐ UPS ☐ TestAmerica ☐ Client ☑ Dunham ☐ Speedy ☐ _____
2. Were custody seals intact, signed and dated correctly? ..... ☐ Yes ☑ No ☐ NA

Date/time cooler was opened: 11/26/10 1022 **By:** MPatton

3. Temperature taken ..... ☑ Yes ☐ No
4. Does this Project require RUSH turn around? ..... ☐ Yes ☑ No
5. Are there any short hold time tests? ..... ☑ Yes ☐ No

☐ within 1 hr of or ☐ past expiration of hold-time? ..... Provide details in space at bottom of form

48 hours or less	7 days
Coliform Bacteria ..... 8/30 hours	Aqueous Organic Prep
Chlorine/Hex Cr ..... 24 hours	TS
BOD	TDS
Nitrate ..... (DW is 14 days)	TSS
Nitrite	Sulfide
Orthophosphate)	Volatile Solids

6. Except for tests with hold times of 48 hrs or less, are any samples

☐ within 2 days of or ☐ past expiration of hold-time? ..... ☐ Yes ☑ No Provide details in space at bottom of form

Which Ops Mgr, PM or Analyst was informed of short hold and when? ..... Who_____ When_____

7. Is the date and time of collection recorded? ..... Date ☑ Yes ☐ No Time ☑ Yes ☐ No
8. Were all sample containers listed on the COC received and intact? ..... ☑ Yes ☐ No Provide details in space at bottom of form
9. Do sample IDs match the COC? ..... ☑ Yes ☐ No Provide details in space at bottom of form
10. Are dissolved parameters field filtered or being filtered in the lab? ..... ☐ Field ☐ Lab ☑ NA
11. Are sample volumes adequate and preservatives correct for test requested? .. Vol. ☑ Yes ☐ No Pres. ☑ Yes ☐ No
12. Are VOC samples free of bubbles >6mm? ..... ☐ Yes ☐ No ☑ NA
13. How were VOC soils received? ☐ Methanol ☐ Sodium Bisulfate ☐ Packed jar ☐ Encore ☐ Water* ☐ Other

*☐ within 48 hrs of sampling ☐ past 48 hrs of sampling ☐ Frozen ☐ Not Frozen

14. Are any samples on hold? ..... ☐ Yes ☑ No Provide details in space at bottom of form
15. Are there samples to be subcontracted? ..... ☐ Yes ☑ No
16. If any changes are made to this Work Order after Login, or if comments must be made regarding this cooler, explain them below:

rnm = ——

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

April 12, 2010

Client:	LEGGETTE, BRASHEARS & GRAHAM, INC. (WI) 6409 Odana Road, Suite C Madison, WI 53719	Work Order: Project Name: Project Number:	WTD0013 Refuse Hideaway LF Landfill Leachate
Attn:	Ms. Jennifer Shelton	Date Received:	04/01/10

An executed copy of the chain of custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-833-7036

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Leachate	WTD0013-01	03/31/10 15:00

Samples were received on ice into laboratory at a temperature of 0 °C.

Wisconsin Certification Number: 128053530

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

Unless subcontracted, volatiles analyses (including VOC, PVOC, GRO, BTEX, and TPH gasoline) performed by TestAmerica Watertown at 1101 Industrial Drive, Units 9&10. All other analyses performed at the address shown in the heading of this report.

Approved By:

Brian DeJong

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	LOQ	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: WTD0013-01 (Leachate - Ground Water)							**Sampled: 03/31/10 15:00**			
General Chemistry Parameters										
Chromium, Hexavalent	<0.0030		mg/L	0.0030	0.010	1	04/01/10 13:45	tds	10D0173	SM 3500CrD
Cyanide (total)	<0.051		mg/L	0.051	0.17	3	04/12/10 09:45	tds	10D0230	EPA 335.4
Metals										
Cadmium	<0.0050	P24	mg/L	0.0050	0.017	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Chromium	**0.014**	P24, J	mg/L	0.010	0.033	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Copper	<0.018	P24	mg/L	0.018	0.060	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Lead	**0.020**	P24, J	mg/L	0.016	0.053	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Mercury	<0.000065	P24	mg/L	0.000065	0.00022	1	04/09/10 11:39	jej	10D0142	SW 7470A
Molybdenum	<0.050	P24	mg/L	0.050	0.17	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Nickel	**0.041**	P24	mg/L	0.0049	0.016	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Selenium	<0.044	P24	mg/L	0.044	0.15	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Silver	<0.0037	P24	mg/L	0.0037	0.012	1	04/06/10 12:41	gaf	10D0077	SW 6010B
Zinc	**0.020**	P24	mg/L	0.0020	0.0067	1	04/06/10 12:41	gaf	10D0077	SW 6010B

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Chromium, Hexavalent	10D0173			mg/L	0.0030	0.010	<0.0030							
Cyanide (total)	10D0230			mg/L	0.017	0.058	<0.017							
Metals														
Cadmium	10D0077			mg/L	0.0050	0.017	<0.0050							
Chromium	10D0077			mg/L	0.010	0.033	<0.010							
Copper	10D0077			mg/L	0.018	0.065	<0.018							
Lead	10D0077			mg/L	0.016	0.055	<0.016							
Molybdenum	10D0077			mg/L	0.050	0.17	<0.050							
Nickel	10D0077			mg/L	0.0049	0.017	<0.0049							
Selenium	10D0077			mg/L	0.044	0.16	<0.044							
Silver	10D0077			mg/L	0.0037	0.013	<0.0037							
Zinc	10D0077			mg/L	0.0020	0.0071	<0.0020							
Mercury	10D0142			mg/L	0.000065	0.00023	<0.000065							

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

CCV QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Metals														
Silver	T000634		1.0	mg/L	N/A	N/A	1.00		100		90-110			
Cadmium	T000634		5.0	mg/L	N/A	N/A	4.82		96		90-110			
Chromium	T000634		5.0	mg/L	N/A	N/A	4.94		99		90-110			
Copper	T000634		5.0	mg/L	N/A	N/A	4.99		100		90-110			
Lead	T000634		5.0	mg/L	N/A	N/A	4.86		97		90-110			
Molybdenum	T000634		5.0	mg/L	N/A	N/A	4.80		96		90-110			
Nickel	T000634		5.0	mg/L	N/A	N/A	4.89		98		90-110			
Selenium	T000634		5.0	mg/L	N/A	N/A	4.85		97		90-110			
Zinc	T000634		5.0	mg/L	N/A	N/A	4.91		98		90-110			
Silver	T000634		1.0	mg/L	N/A	N/A	1.02		102		90-110			
Cadmium	T000634		5.0	mg/L	N/A	N/A	4.81		96		90-110			
Chromium	T000634		5.0	mg/L	N/A	N/A	4.95		99		90-110			
Copper	T000634		5.0	mg/L	N/A	N/A	5.01		100		90-110			
Lead	T000634		5.0	mg/L	N/A	N/A	4.87		97		90-110			
Molybdenum	T000634		5.0	mg/L	N/A	N/A	4.84		97		90-110			
Nickel	T000634		5.0	mg/L	N/A	N/A	4.90		98		90-110			
Selenium	T000634		5.0	mg/L	N/A	N/A	4.88		98		90-110			
Zinc	T000634		5.0	mg/L	N/A	N/A	4.91		98		90-110			

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: WTD0013-01													
Chromium, Hexavalent	10D0173	<0.0030		mg/L	0.0030	0.010	0.00560					8	

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Cyanide (total)	10D0230		0.20	mg/L	0.017	0.058	0.202		101		90-110			
Metals														
Cadmium	10D0077		1.0	mg/L	0.0050	0.017	0.958		96		85-115			
Chromium	10D0077		1.0	mg/L	0.010	0.033	0.961		96		85-115			
Copper	10D0077		2.0	mg/L	0.018	0.065	2.00		100		85-115			
Lead	10D0077		2.0	mg/L	0.016	0.055	1.96		98		85-115			
Molybdenum	10D0077		2.0	mg/L	0.050	0.17	1.97		98		85-115			
Nickel	10D0077		2.0	mg/L	0.0049	0.017	1.96		98		85-115			
Selenium	10D0077		4.0	mg/L	0.044	0.16	3.89		97		85-115			
Silver	10D0077		1.0	mg/L	0.0037	0.013	1.02		102		85-115			
Zinc	10D0077		1.0	mg/L	0.0020	0.0071	0.986		99		85-115			
Mercury	10D0142		0.0025	mg/L	0.000065	0.00023	0.00264		106		78-131			

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
QC Source Sample: WTD0125-01														
Cyanide (total)	10D0230	<0.017	0.60	mg/L	0.051	0.17	0.609	0.594	102	99	70-130	2	20	
Metals														
QC Source Sample: WTD0044-01														
Cadmium	10D0077	<0.0050	1.0	mg/L	0.0050	0.017	0.908	0.896	91	90	75-125	1	20	
Chromium	10D0077	<0.0100	1.0	mg/L	0.010	0.033	0.923	0.919	92	92	75-125	1	20	
Copper	10D0077	<0.018	2.0	mg/L	0.018	0.065	1.95	1.95	97	98	75-125	0	20	
Lead	10D0077	<0.016	2.0	mg/L	0.016	0.055	1.87	1.85	93	92	75-125	1	20	
Molybdenum	10D0077	<0.0100	2.0	mg/L	0.050	0.17	1.94	1.93	97	97	75-125	0	20	
Nickel	10D0077	<0.0049	2.0	mg/L	0.0049	0.017	1.88	1.87	94	94	75-125	0	20	
Selenium	10D0077	<0.044	4.0	mg/L	0.044	0.16	3.85	3.78	96	95	75-125	2	20	
Silver	10D0077	0.00406	1.0	mg/L	0.0037	0.013	0.962	0.959	96	96	75-125	0	20	
Zinc	10D0077	0.608	1.0	mg/L	0.0020	0.0071	1.58	1.59	97	98	75-125	1	20	
QC Source Sample: WTD0085-01														
Mercury	10D0142	<0.000065	0.0025	mg/L	0.000065	0.00023	0.00249	0.00258	100	103	67-141	3	13	

602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTD0013
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 04/01/10
Reported: 04/12/10 13:25

CERTIFICATION SUMMARY

TestAmerica Watertown

Method	Matrix	Nelac	Wisconsin
EPA 335.4	Water - NonPotable	X	X
SM 3500CrD	Water - NonPotable	X	X
SW 6010B	Water - NonPotable	X	X
SW 7470A	Water - NonPotable		X

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order:	WTD0013	Received:	04/01/10
Project:	Refuse Hideaway LF	Reported:	04/12/10 13:25
Project Number:	Landfill Leachate		

DATA QUALIFIERS AND DEFINITIONS

J	Results reported between the Method Detection Limit (MDL) and Limit of Quantitation (LOQ) are less certain than results at or above the LOQ.
P24	The sample pH was adjusted to <2 and was held for at least 24 hours prior to analysis.

TestAmerica Watertown
Brian DeJong For Dan F. Milewsky
Project Manager

WTD 0013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Watertown Division
602 Commerce Drive
Watertown, WI 53094

Phone 920-261-1660 or 800-833-7036
Fax 920-261-8120

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring

Client Name: Leggette Brashears + Graham Client #:
Address: 6409 Odana Rd Ste C
City/State/Zip Code: Madison WI 53719
Project Manager: Jennifer Shelton
Telephone Number: 608.310.7672 Fax: 441.5545
Sampler Name: (Print Name) ANDREW SOLBERG
Sampler Signature:

Project Name: WDNR - RHL
Project #:
Site/Location ID: Middleton State: WI
Report To: LBG Madison
Invoice To: LBG Madison
Quote #: PO#:

E-mail address:

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed:
Fax Results: Y N
E-mail: Y N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other:

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: SEE ATTACHED TABLE									REMARKS
LEACHATE	3/31/10	1500	G		GW	1		1			1		X									

Special Instructions:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 0 °C
Custody Seals: Y (N) N/A
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment: Fedex

	Date:	Time:		Date:	Time:
Relinquished By:	3/31	1545	Received By: Dunbar Exp.		
Relinquished By:	Date:	Time:	Received By:	4/1/10	1057
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAL-0020 (1207)

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE - QUARTERLY MONITORING PARAMETERS

INORGANIC PARAMETERS
Cadmium
Chromium
Copper
Lead
Nickel
Selenium
Silver
Zinc
Molybdenum
Mercury
Hexavalent chromium
Cyanide

Cooler Receipt Log

Work Order(s): WTD0013 Client Name/Project: Leggette # of Coolers: 1

1. How did samples arrive? ☐ Fed-Ex ☐ UPS ☐ TestAmerica ☐ Client ☑ Dunham ☐ Speedy ☐ _____

2. What was the condition of custody seals? ..... ☐ Intact ☐ Broken ☑ Not present

Date/time cooler was opened: 4/11/13 **By:** [signature]

3. Temperature °C 0 Received on ice? ☑ Yes ☐ No

4. Does this Project require RUSH turn around? ..... ☐ Yes ☑ No

5. Are there any short hold time tests? ..... ☐ Yes ☐ No

☐ within 1 hr of or ☐ past expiration of hold-time? ..... Provide details in space at bottom of form

48 hours or less	7 days
Coliform Bacteria ..... 8/30 hours	Aqueous Organic Prep
Chlorine/Hex Cr. ..... 24 hours	TS
BOD	TDS
Nitrate ..... (DW is 14 days)	TSS
Nitrite	Sulfide
Orthophosphate)	Volatile Solids

6. Except for tests with hold times of 48 hrs or less, are any samples

☐ within 2 days of or ☐ past expiration of hold-time? ..... ☐ Yes ☑ No Provide details in space at bottom of form

Which Ops Mgr, PM or Analyst was informed of short hold and when? ..... Who_____ When_____

7. Is the date and time of collection recorded? ..... Date ☑ Yes ☐ No Time ☑ Yes ☐ No

8. Were all sample containers listed on the COC received and intact? ..... ☑ Yes ☐ No Provide details in space at bottom of form

9. Do sample IDs match the COC? ..... ☑ Yes ☐ No Provide details in space at bottom of form

10. Are dissolved parameters field filtered or being filtered in the lab? ..... ☐ Field ☐ Lab ☑ NA

11. Are sample volumes adequate and preservatives correct for test requested?.. Vol. ☑ Yes ☐ No Pres. ☑ Yes ☐ No

12. Are VOC samples free of bubbles >6mm? ..... ☐ Yes ☐ No ☑ NA

13. How were VOC soils received? ☐ Methanol ☐ Sodium Bisulfate ☐ Packed jar ☐ Encore ☐ Water* ☐ Other

*☐ within 48 hrs of sampling ☐ past 48 hrs of sampling ☐ Frozen ☐ Not Frozen

14. Is an aqueous Trip Blank included? ☐ Yes ☐ No ☑ NA Is a Methanol Trip Blank included? ☐ Yes ☐ No ☑ NA

15. Are any samples on hold? ..... ☐ Yes ☑ No Provide details in space at bottom of form

16. Are there samples to be subcontracted? ..... ☐ Yes ☑ No

17. If any changes are made to this Work Order after Login, or if comments must be made regarding this cooler, explain them below:

nm = -----

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

July 13, 2010

Client: LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719

Attn: Ms. Jennifer Shelton

Work Order: WTF0924
Project Name: Refuse Hideaway LF
Project Number: Landfill Leachate

Date Received: 06/30/10

An executed copy of the chain of custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-833-7036

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Leachate	WTF0924-01	06/29/10 16:05

Samples were received on ice into laboratory at a temperature of 6 °C.

Wisconsin Certification Number: 128053530

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

Unless subcontracted, volatiles analyses (including VOC, PVOC, GRO, BTEX, and TPH gasoline) performed by TestAmerica Watertown at 1101 Industrial Drive, Units 9&10. All other analyses performed at the address shown in the heading of this report.

Approved By:

Michael M Miller

TestAmerica Watertown
Mike Miller For Dan F. Milewsky
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTF0924
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	MRL	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: WTF0924-01 (Leachate - Ground Water)							**Sampled: 06/29/10 16:05**			
General Chemistry Parameters										
Chromium, Hexavalent	<0.0060		mg/L	0.0060	0.020	2	06/30/10 15:10	tds	10G0020	SM 3500CrD
Cyanide (total)	<0.0081		mg/L	0.0081	0.075	3	07/02/10 13:59	tds	10G0055	EPA 335.4
Metals										
Cadmium	<0.0050	P24	mg/L	0.0050	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Chromium	**0.011**	J,P24	mg/L	0.010	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Copper	<0.018	P24	mg/L	0.018	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Lead	<0.016	P24	mg/L	0.016	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Mercury	<0.000065	P24	mg/L	0.000065	0.00023	1	07/08/10 11:32	jej	10G0086	SW 7470A
Molybdenum	<0.010	P24	mg/L	0.010	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Nickel	**0.036**	J,P24	mg/L	0.0049	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Selenium	**0.056**	P24	mg/L	0.044	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Silver	<0.0037	P24	mg/L	0.0037	0.010	1	07/07/10 14:26	gaf	10G0090	SW 6010B
Zinc	**0.0092**	J,P24	mg/L	0.0020	0.050	1	07/07/10 14:26	gaf	10G0090	SW 6010B

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTF0924
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Chromium, Hexavalent	10G0020			mg/L	0.0030	0.010	<0.0030							
Cyanide (total)	10G0055			mg/L	0.0027	0.025	<0.0027							
Metals														
Mercury	10G0086			mg/L	0.000065	0.00023	<0.000065							

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
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Ms. Jennifer Shelton

Work Order: WTF0924
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

CCV QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Metals														
Silver	T001455		1.0	mg/L	N/A	N/A	1.07		107		90-110			
Cadmium	T001455		5.0	mg/L	N/A	N/A	5.41		108		90-110			
Chromium	T001455		5.0	mg/L	N/A	N/A	5.40		108		90-110			
Copper	T001455		5.0	mg/L	N/A	N/A	5.49		110		90-110			
Lead	T001455		5.0	mg/L	N/A	N/A	5.39		108		90-110			
Molybdenum	T001455		5.0	mg/L	N/A	N/A	5.39		108		90-110			
Nickel	T001455		5.0	mg/L	N/A	N/A	5.43		109		90-110			
Selenium	T001455		5.0	mg/L	N/A	N/A	5.43		109		90-110			
Zinc	T001455		5.0	mg/L	N/A	N/A	5.31		106		90-110			

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
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Ms. Jennifer Shelton

Work Order: WTF0924
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: WTF0924-01													
Chromium, Hexavalent	10G0020	<0.0030		mg/L	0.0060	0.020	<0.0060					8	

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTF0924
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Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
Cyanide (total)	10G0055		0.20	mg/L	0.0027	0.025	0.209		105		90-110			
Metals														
Mercury	10G0086		0.0025	mg/L	0.000065	0.00023	0.00254		102		78-131			

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
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Ms. Jennifer Shelton

Work Order: WTF0924
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Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters														
QC Source Sample: WTF0947-03														
Cyanide (total)	10G0055	0.0420	0.60	mg/L	0.0081	0.075	0.657	0.678	103	106	70-130	3	20	
Metals														
QC Source Sample: WTG0065-04														
Mercury	10G0086	<0.000065	0.0025	mg/L	0.000065	0.00023	0.00268	0.00251	107	100	67-141	7	13	
QC Source Sample: WTG0063-02														
Cadmium	10G0090	0.00557	1.0	mg/L	0.0050	0.050	1.03	0.983	103	98	75-125	5	20	
Chromium	10G0090	0.140	1.0	mg/L	0.010	0.050	1.18	1.12	104	98	75-125	5	20	
Copper	10G0090	0.159	2.0	mg/L	0.018	0.050	2.44	2.29	114	107	75-125	6	20	
Lead	10G0090	<0.016	2.0	mg/L	0.016	0.050	2.08	1.95	104	98	75-125	6	20	
Molybdenum	10G0090	11.1	2.0	mg/L	0.010	0.050	13.5	12.8	122	86	75-125	5	20	
Nickel	10G0090	2.81	2.0	mg/L	0.0049	0.050	4.99	4.72	109	95	75-125	5	20	
Selenium	10G0090	<0.044	4.0	mg/L	0.044	0.050	4.55	4.22	114	105	75-125	8	20	
Silver	10G0090	<0.0037	1.0	mg/L	0.0037	0.010	0.963	0.914	96	91	75-125	5	20	
Zinc	10G0090	0.0157	1.0	mg/L	0.0020	0.050	1.08	1.02	107	101	75-125	5	20	

602 Commerce Drive Watertown, WI 53094 * 800-833-7036 * Fax 920-261-8120

LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)
6409 Odana Road, Suite C
Madison, WI 53719
Ms. Jennifer Shelton

Work Order: WTF0924
Project: Refuse Hideaway LF
Project Number: Landfill Leachate

Received: 06/30/10
Reported: 07/13/10 10:40

CERTIFICATION SUMMARY

TestAmerica Watertown

Method	Matrix	Nelac	Wisconsin
EPA 335.4	Water - NonPotable	X	X
SM 3500Cr D	Water - NonPotable	X	X
SW 6010B	Water - NonPotable	X	X
SW 7470A	Water - NonPotable		X

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LEGGETTE, BRASHEARS & GRAHAM, INC. (WI)	Work Order:	WTF0924	Received:	06/30/10
6409 Odana Road, Suite C	Project:	Refuse Hideaway LF	Reported:	07/13/10 10:40
Madison, WI 53719	Project Number:	Landfill Leachate		
Ms. Jennifer Shelton				

DATA QUALIFIERS AND DEFINITIONS

J	Results reported between the Method Detection Limit (MDL) and Limit of Quantitation (LOQ) are less certain than results at or above the LOQ.
P24	The sample pH was adjusted to <2 and was held for at least 24 hours prior to analysis.

TestAmerica Watertown
Mike Miller For Dan F. Milewsky
Project Manager

WTF0924

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Watertown Division
602 Commerce Drive
Watertown, WI 53094

Phone 920-261-1660 or 800-833-7036
Fax 920-261-8120

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: _____

Client Name: LBG, Inc Client #: _____
Address: 6409 Odana Rd Ste C
City/State/Zip Code: Madison WI 53719
Project Manager: Jennifer Shelton
Telephone Number: 608.310.7672 Fax: 608.441.5545
Sampler Name: (Print Name) ANDREW SOLBERG
Sampler Signature:
E-mail address: _____

Project Name: WDNR - RHL
Project #: _____
Site/Location ID: MIDDLETON State: WI
Report To: LBG Madison
Invoice To: LBG Madison
Quote #: _____ PO#: _____

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N
E-mail: Y N

SAMPLE ID | Date Sampled | Time Sampled | G = Grab, C = Composite | Field Filtered | Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other | Preservation & # of Containers: HNO_3 | HCl | NaOH | H_2SO_4 | Methanol | None | Other (Specify) | Analyze For: SEE ATTACHED TABLE | **REMARKS**

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: SEE ATTACHED TABLE	REMARKS
LEACHATE	6/29/10	1605	G		WW	1		1			1		X	

QC Deliverables
___ None
___ Level 2 *(Batch QC)*
___ Level 3
___ Level 4
Other: _____

Special Instructions:

Relinquished By:	Date: 6/29	Time: 1705	Received By: Dunham Ex	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 6/30/10	Time: 838
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 6
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment: Dunham

TAL-0020 (1207)

TABLE 1

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
REFUSE HIDEAWAY LANDFILL
MIDDLETON, WISCONSIN

LEACHATE - QUARTERLY MONITORING PARAMETERS

INORGANIC PARAMETERS
Cadmium
Chromium
Copper
Lead
Nickel
Selenium
Silver
Zinc
Molybdenum
Mercury
Hexavalent chromium
Cyanide

Cooler Receipt Log

Work Order(s): WTF0924 Client Name/Project: LBG # of Coolers: 1

How did samples arrive? ☐ Fed-Ex ☐ UPS ☐ TestAmerica ☐ Client ☒ Dunham ☐ Speedy ☐ _____

What was the condition of custody seals? ..... ☐ Intact ☐ Broken ☒ Not present

Date/time cooler was opened: 6/30/10 By: [signature]

Temperature °C 6 Received on ice? ..... ☒ Yes ☐ No ~~Wet Ice~~

Does this Project require RUSH turn around? ..... ☐ Yes ☒ No

Are there any short hold time tests? ..... ☒ Yes ☐ No

☐ within 1 hr of or ☐ past expiration of hold-time? ..... Provide details in space at bottom of form

48 hours or less	7 days
Coliform Bacteria ..... 8/30 hours	Aqueous Organic Prep
Chlorine/Hex Cr..... 24 hours	TS
BOD	TDS
Nitrate ..... (DW is 14 days)	TSS
Nitrite	Sulfide
Orthophosphate)	Volatile Solids

Except for tests with hold times of 48 hrs or less, are any samples

☐ within 2 days of or ☐ past expiration of hold-time? ..... ☐ Yes ☒ No Provide details in space at bottom of form

Which Ops Mgr, PM or Analyst was informed of short hold and when? ..... Who_____ When_____

Is the date and time of collection recorded? ..... Date ☒ Yes ☐ No Time ☒ Yes ☐ No

Were all sample containers listed on the COC received and intact? ..... ☒ Yes ☐ No Provide details in space at bottom of form

Do sample IDs match the COC? ..... ☒ Yes ☐ No Provide details in space at bottom of form

. Are dissolved parameters field filtered or being filtered in the lab? ..... ☐ Field ☐ Lab ☒ NA

. Are sample volumes adequate and preservatives correct for test requested?.. Vol. ☒ Yes ☐ No Pres. ☒ Yes ☐ No

. Are VOC samples free of bubbles >6mm? ..... ☐ Yes ☐ No ☒ NA

. How were VOC soils received? ☐ Methanol ☐ Sodium Bisulfate ☐ Packed jar ☐ Encore ☐ Water* ☐ Other

*☐ within 48 hrs of sampling ☐ past 48 hrs of sampling ☐ Frozen ☐ Not Frozen

. Is an aqueous Trip Blank included? ☐ Yes ☐ No ☒ NA Is a Methanol Trip Blank included? ☐ Yes ☐ No ☒ NA

. Are any samples on hold? ..... ☐ Yes ☒ No Provide details in space at bottom of form

. Are there samples to be subcontracted? ..... ☐ Yes ☒ No

'. If any changes are made to this Work Order after Login, or if comments must be made regarding this cooler, explain them below:

mm = ------

APPENDIX II

MADISON METROPOLITAN SEWERAGE DISTRICT
WASTEWATER DISCHARGE PERMIT NTO-5.11

MADISON METROPOLITAN SEWERAGE DISTRICT

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

Jon W. Schellpfeiffer
Chief Engineer & Director

Protecting Public Health and the Environment

June 30, 2009

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

Mr. Pagels:

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. Two changes from the previous permit (issued to Liesch Environmental) are noteworthy. We have removed the BTEX sampling parameters. Also, we have lengthened the reporting period from 30-days to 60-days from the end of each calendar quarter. Please include a report of your records of hauling volumes where this data is available for the quarterly reports. 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

metrogro

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, 2009 and shall expire at midnight, June 30, 2014. 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 30 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 _____
Jon W. Schellpfeffer
Chief Engineer and Director

Dated this 26th day of June, 2009.

Permit: NTO-5.11 Table of Contents

page

Part 1 - Limits

1.01 Introduction 3
1.02 Outfall NTO-5A 3
1.03 Other outfalls 4

Part 2 - Sampling

2.01 Sampling frequency for MMSD 5
2.02 Representative samples 5
2.03 Sample collection and analysis 5

Part 3 - Reporting

3.01 Self-monitoring reports 6
3.02 Report of violation and resampling 6
3.03 Notice of intent to change discharge 6
3.04 Signature by responsible corporate officer 7
3.05 Reporting address 7

Part 4 - Special Conditions

4.01 District rate determinations and billing 8

Part 5 - General Conditions

5.01 Compliance with local, state, and federal requirements ... 9
5.02 Severability 9
5.03 Duty to comply 9
5.04 Duty to mitigate 9
5.05 Duty to reapply 9
5.06 Continuation of expired permit 9
5.07 Permit modification 9
5.08 Permit transfer 10
5.09 Sampling location 10
5.10 Sampling facilities 10
5.11 Right of entry 10
5.12 No property rights created 10
5.13 Notice of intent 10
5.14 Review of proposed treatment facilities 10
5.15 Additional reports 11
5.16 Hazardous waste notification 11
5.17 Public information 11

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 February 26, 2007). 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. Corey Pagels
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 180-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 180-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.