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THIRTEENTH YEAR REPORT ON THE LEACHATE COLLECTION AND LANDFILL GAS EXTRACTION SYSTEMS

BLACKWELL FOREST PRESERVE LANDFILL SITE
DUPAGE COUNTY, ILLINOIS

MWH File No.: 1007333

Prepared For:

Forest Preserve District of
DuPage County, Illinois

Prepared By:

MWH

BUILDING A BETTER WORLD

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August 2011

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TABLE OF CONTENTS

Section **Page**

ACRONYMS AND ABBREVIATIONS v
1.0 INTRODUCTION 1
1.1 Background 2
1.1.1 Landfill Construction 2
1.1.2 Regulatory History 3
1.2 Report Presentation 4
2.0 GENERAL O&M 5
2.1 Description 5
2.2 Inspection and Maintenance Records 5
3.0 LANDFILL COVER O&M 6
3.1 Description 6
3.2 Inspection and Maintenance Records 6
3.3 Site Regrading Activities 7
3.4 Prairie Restoration Activities 7
4.0 LEACHATE COLLECTION SYSTEM O&M 10
4.1 Description 10
4.1.1 Extraction Wells 10
4.1.2 Lift Stations 10
4.1.3 Leachate Well Pumps 10
4.1.4 Leachate Holding Tank 11
4.1.5 Compressor/Control Building 11
4.1.6 Operation of the LCS 11
4.2 Inspection and Maintenance Records 11
4.3 Landfill Areas 12
4.4 Leachate Levels 13
4.5 Leachate Volume 13
4.5.1 Leachate Disposal 13
4.5.2 Extraction Wells 14
4.5.3 Lift Stations 15
4.6 Analytical Data 15
5.0 LANDFILL GAS O&M 17
5.1 Description 17
5.2 Inspection and Maintenance Records 17
5.3 Field and Analytical Data 17
5.4 LFG Emissions 18
5.5 LFG Trigger Levels 19

6.0 EVALUATIONS AND RECOMMENDATIONS FOR THE LEACHATE COLLECTION AND LANDFILL GAS SYSTEMS 20
6.1 Evaluation of LCS 20
6.1.1 Trendline Analysis 20
6.1.2 Augmentation Requirements - Record of Decision 20
6.1.3 Augmentation Requirements - O&M Plan 21
6.2 Evaluation of Landfill Gas 22
6.2.1 LFG Augmentation 22
6.2.2 Thermal Treatment 23
6.2.3 Passive vs. Active Gas Extraction 23
6.3 O&M Monitoring Frequency 24
7.0 REFERENCES 25

TABLES

Table 1	Leachate Levels
Table 2	Average Leachate Elevations per Year of Operation
Table 3	Leachate Disposal - Daily Basis
Table 4	Leachate Disposal - Yearly Basis
Table 5	Cumulative Leachate Removal
Table 6	Leachate Analytical Results
Table 7	Inspection, Monitoring, and Maintenance Schedule
Table 8	Landfill Gas Analytical Results
Table 9	Cumulative Risk of Exposure to Landfill Gas – May 2010
Table 10	Cumulative Risk of Exposure to Landfill Gas – July 2010
Table 11	Cumulative Risk of Exposure to Landfill Gas – November 2010
Table 12	Cumulative Risk of Exposure to Landfill Gas – January 2011

FIGURES

Figure 1	Site Location Map
Figure 2	Site Features Map
Figure 3	Topographic Map
Figure 4	LCS and LFG System Layout
Figure 5	Cumulative Leachate Level Trends Through the Thirteenth Year of LCS Operations

DRAWINGS

Drawing 1	Leachate Elevations in Landfill Area 1
Drawing 2	Leachate Elevations in Landfill Area 2
Drawing 3	Leachate Elevations in Landfill Area 3
Drawing 4	Leachate Elevations in Landfill Area 4
Drawing 5	Leachate Elevations in Landfill Area 5
Drawing 6	Leachate Elevations in Landfill Area 6
Drawing 7	Leachate Elevations in Landfill Area 7
Drawing 8	Leachate Elevations in Landfill Area 8
Drawing 9	Leachate Elevations in Landfill Area 9
Drawing 10	Leachate Elevations in Landfill Area 10
Drawing 11	Leachate Elevations in Landfill Area 11
Drawing 12	Leachate Elevations in Landfill Area 12
Drawing 13	Leachate Elevations in Landfill Area 13
Drawing 14	Leachate Elevations in Landfill Area 14
Drawing 15	Leachate Elevations in Landfill Area 15
Drawing 16	Cumulative Leachate Pumping Volume
Drawing 17	LFG Flowrate
Drawing 18	Static LFG Pressures - Extraction Wells
Drawing 19	Static LFG Pressures - Shallow Gas Vents

Drawing 20 Static LFG Pressures - Deep Gas Vents
Drawing 21 Methane Content – Extraction Wells
Drawing 22 Methane Content – Shallow Gas Vents
Drawing 23 Methane Content – Deep Gas Vents
Drawing 24 Annual Precipitation vs. Leachate Removed
Drawing 25 Range of TNMOC Emissions per Year of Operation

APPENDICES

Appendix A Inspection, Maintenance, Monitoring and Disposal Logs
A-1: Site Visit Operating Logs
A-2: Inspection Report Forms
A-3: Maintenance and Repair Record Forms
A-4: Leachate Disposal Logs
A-5: Landfill Gas Vent Monitoring Forms
Appendix B Leachate Analytical Results and Waste Disposal Permit
Appendix C Landfill Gas
Table C-1: Landfill Gas Composition
Table C-2: Landfill Gas Temperature
Table C-3: Static Landfill Gas Pressure
Table C-4: Landfill Gas Velocity
Table C-5: Landfill Gas Flow Rate
Table C-6: TNMOC Emission Rate
Appendix D Landfill Gas Analytical Data
Appendix E Groundwater Concentration vs. Time Plots

ACRONYMS AND ABBREVIATIONS

AOC	Administrative Order by Consent
District	Forest Preserve District of DuPage County
DV	Deep Vent
EW	Extraction Well
FV	Flare Vent
lb/hr	Pounds per hour
LCS	Leachate Collection System
LFG	Landfill Gas
LS	Lift Station
MWH	MWH Americas, Inc.
NPL	National Priorities List
O&M	Operations and Maintenance
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SV	Shallow Vent
SVOC	Semi-Volatile Organic Compound
TNMOC	Total Non-Methane Organic Compounds
U.S. EPA	United States Environmental Protection Agency
UAO	Unilateral Administrative Order
VOC	Volatile Organic Compound
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

This Thirteenth Year Report has been prepared by MWH Americas, Inc. (MWH) on behalf of the Forest Preserve District of DuPage County, Illinois (District). It presents a summary of the operations and maintenance (O&M) activities undertaken from May 2010 through April 2011 on various response actions previously constructed at the Blackwell Landfill. The response actions were constructed in 1997 and 1998, and were required by Administrative Order by Consent (AOC), Docket No. V-W-'96-C-341, between the United States Environmental Protection Agency (U.S. EPA) and the District. The response actions included repair of the existing landfill cover, installation of a leachate collection system (LCS) and installation of a landfill gas (LFG) venting system. A summary of O&M activities from initial construction of the response action in 1997 and 1998 through April 2010 is provided in the following reports:

- *First Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (Montgomery Watson, 1999c);
- *Second Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (Montgomery Watson, 2000b);
- *Third Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (Montgomery Watson Harza, 2001e);
- *Fourth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2002d);
- *Fifth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2003c);
- *Sixth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2004e);
- *Seventh Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2005d);
- *Eighth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2006c);
- *Ninth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2007c);
- *Tenth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2008c);
- *Eleventh Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2009e); and
- *Twelfth Year Report on the Leachate Collection and Landfill Gas Extraction Systems* (MWH, 2010d).

This Thirteenth Year Report meets the reporting requirements outlined in the February 1999 Final O&M Plan (Montgomery Watson, 1999a), modifications provided in the First and Second Year Reports on the Leachate Collection and Landfill Gas Extractions Systems (Montgomery Watson, 1999c and 2000b), and the April 9, 1999 Unilateral Administrative Order (UAO), Docket No. V-W-'99-C-541. The UAO requires an evaluation of the effectiveness of the current leachate and LFG extraction systems in managing leachate and landfill gas throughout the Site.

1.1 BACKGROUND

The Blackwell Landfill is located within the Blackwell Forest Preserve approximately six miles southwest of downtown Wheaton, Illinois in Section 26, Township 39 North, Range 9 East, DuPage County, Illinois (Figure 1). The Blackwell Forest Preserve encompasses 1,200 acres of woodlands, grasslands, wetlands and lakes, with the landfill covering approximately 40 acres in the central part of the preserve (Figure 2).

1.1.1 Landfill Construction

The Blackwell Landfill was constructed adjacent to an abandoned gravel pit that was purchased by the District in 1960 with the intent to create a large hill that could be used by the public for recreational purposes. The District began construction of the landfill in 1965 and accepted the final load of refuse in 1973. The District used soil material from the abandoned gravel pit, and so constructed a lake (Silver Lake) while building the hill.

Plans for the landfill, as well as photographs taken during the landfill construction, provide an understanding of the landfill construction. The landfill was laid out over an approximate 35-acre area. It was constructed on top of the existing ground surface, rather than being excavated into the ground. The first step was to put down a 2-foot layer of clay to act as the base liner. A series of 8 to 9 foot high berms were laid out to define eight major disposal areas, each three to five acres in size. These initial cells were then filled with a multitude of small refuse cells. Five to ten scavenger trucks would come in each working day and deposit refuse. In general, the refuse would be covered with available soil from the Silver Lake area.

The daily cover was obtained from the area to the east of the landfill that is now Silver Lake. As the District excavated the lake, it would sell the sand and gravel for off-site construction to help defray the costs of landfill construction. Therefore, daily cover generally consisted of the low permeability, fine-grained material that lacked the commercial value of the sand and gravel. When completed, each major cell had been filled with approximately one-half refuse and one-half daily cover.

When each of the cells had been filled, it was capped off with a two-foot clay layer that formed the base liner for the next cell. After the first level of cells was completed, new berms were placed to construct another series of cells. To enhance the ultimate stability of the hill, the new berms were offset from the berms below. Although a photographic history of construction was kept, as-built drawings were not maintained, so there is no specific map available for the locations of the berms or the cells. However, District officials have described the result as a "honey-comb" structure of small refuse cells surrounded by soil, and the photographic record supports this description.

By the time final contouring and landscaping was completed in 1975, forty to sixty feet of clay had been placed on top of refuse on the southwest side of the landfill to create Mount Hoy. Mount Hoy was finished at the final target elevation of approximately 840 feet above mean sea level, approximately 140 feet above the surrounding natural topography. Other areas of the landfill were covered with 2 to 15 feet of predominantly clay cover. In some areas, a vegetative cover of varying sand, gravel and clay composition was placed. A final layer of clayey topsoil (minimum of 4 to 6 inches thick) was installed and vegetated. The 2004 topography of the Site is shown in Figure 3.

The Blackwell Landfill contains approximately 1.5 million cubic yards of refuse classified as general household refuse and light industrial waste, and includes an equal volume of natural fill.

1.1.2 Regulatory History

In March 1986, the U.S. EPA evaluated the Site using the Hazard Ranking System. A composite score of 35.57 was assigned, which was above the 28.5 threshold for National Priorities List [NPL]. The following scores were assigned to each potential route: Surface Water 0.0; Air 0.0; and Groundwater 61.54. The Site was proposed for inclusion on the NPL in the Federal Register, Volume 53, Number 122, dated June 24, 1988. The Site received final listing on the NPL in the Federal Register, Volume 55, Number 35, dated February 21, 1990.

Subsequent to the final listing on the NPL, a Remedial Investigation/Feasibility Study (RI/FS) was performed at the landfill. The Final RI Report (Warzyn, 1994) was submitted to the U.S. EPA in 1994, while the Draft FS Report (Montgomery Watson, 1995) was submitted in 1995.

On March 7, 1996, the U.S. EPA and District agreed to an AOC (Docket No. V-W-'96-C-341), which specified response actions that the District would conduct at the Site. These response actions have been completed, or are part of ongoing O&M. They included:

- Delineation of the limits of waste at the landfill edges;
- Cap characterization to delineate areas which did not have two feet of low permeability soil over refuse;
- Repair of those portions of the landfill cover that had less than two feet of low permeability soil over refuse;
- Regrading to promote surface water drainage off the landfill;
- Installation of a leachate collection system;
- Installation of a passive landfill gas venting system;
- Treatment of landfill leachate;
- Collecting, analyzing, and evaluating groundwater samples annually; and
- Monitoring performance of the LCS and LFG venting system.

On September 30, 1998, the U.S. EPA issued the Record of Decision (ROD) for the Blackwell Landfill. The ROD requires long term O&M of the previously completed response actions, long-term monitoring, monitored natural attenuation of groundwater, and possible augmentation of the LCS and LFG venting system. On April 9, 1999, the U.S. EPA issued a UAO, Docket No. V-W-'99-C-541, to the District. This UAO directed the District to perform the selected remedial action described in the ROD and set forth the requirements for implementation of the remedial action.

1.2 REPORT PRESENTATION

The report is presented in the following seven sections:

- This Section 1.0 presents the purpose of the Thirteenth Year Report and describes the current conditions at the Blackwell Landfill;
- Section 2.0 describes general O&M activities conducted on the landfill;
- Section 3.0 describes O&M activities conducted on the landfill cover;
- Section 4.0 describes the operation of the LCS and summarizes O&M data;
- Section 5.0 describes the operation of the LFG venting system and summarizes O&M data;
- Section 6.0 evaluates the leachate and LFG data, and provides evaluations for future O&M inspections and monitoring; and
- Section 7.0 provides the references utilized in this Thirteenth Year Report.

2.0 GENERAL O&M

2.1 DESCRIPTION

O&M at the Blackwell Landfill from May 2010 through April 2011 was similar to the O&M conducted during previous years. Activities included inspection and maintenance of security measures around the LCS and LFG components (i.e., fencing, warning signs, vaults and vault covers), upkeep of access roads related to the LCS and LFG system, and control of vegetation around LCS and LFG components.

2.2 INSPECTION AND MAINTENANCE RECORDS

General inspection and maintenance requirements are outlined in the February 1999 Final O&M Plan, and included the following:

- Verifying that Site security measures such as fencing, vaults and gates continue to restrict unauthorized access to system components, and repairing these security measures, as necessary;
- Maintaining Site access roads, as necessary;
- Maintaining vegetation and trimming excess vegetation that hide, inhibited access or potentially could damage system components; and
- Repairing erosion of areas adjacent to the landfill, as necessary.

The inspection, maintenance, monitoring and leachate disposal activities were documented on forms on an as-needed basis. Copies of the completed forms are provided in Appendices A-1 through A-5.

O&M of the landfill was routine during the thirteenth year with no significant problems to note. Site security measures remained intact with no vandalism or security breaches noted. Some ruts were observed on the access road to the top of Mt. Hoy and on the access road near the southern edge of the landfill in July 2010 following a heavy rainfall event. The access roads were re-graded and repaired shortly after the ruts were observed. Vegetation is in good condition and no erosion was noted in areas adjacent to the landfill. An annual burn was conducted on the Blackwell landfill in April 2011 as part of the task of establishing natural prairie cover on the landfill.

3.0 LANDFILL COVER O&M

3.1 DESCRIPTION

Routine O&M of the landfill cover system includes inspection of the landfill surface, vegetative conditions and surface water drainage features. In addition, O&M of the landfill cover includes conducting a controlled prairie burn on an annual basis.

3.2 INSPECTION AND MAINTENANCE RECORDS

The landfill cover inspection and maintenance requirements are outlined in the February 1999 Final O&M Plan, with modifications provided in the First Year Report. Inspections were undertaken to identify necessary maintenance issues in the landfill cover system, including:

- Ponding of surface water as a result of landfill settlement and vehicular rutting;
- Stressed or dead vegetation as a result of LFG migration through the cover soils;
- Erosion of the landfill cover or surface water drainage features;
- Siltation of drainage ways;
- Excessive vegetation growth near LCS components and LFG vents;
- Bubbling of LFG through the landfill topsoil during the spring or summer following a one inch or greater rainfall event; and
- Tension cracks on the surface of the landfill cover caused by landfill settlement.

Inspections of the landfill cover were conducted during the bimonthly monitoring of leachate levels in LFG vents and extraction wells. The inspection activities are documented on forms provided in Appendix A-1 through A-3 and A-5.

The Final O&M Plan also required cover inspections following any 10-year, 24-hour rainfall event, defined as a rainfall event with a probable recurrence interval of once in 10 years as described by the National Weather Service in Technical Paper No. 40. Rainfall Frequency Atlas of the United States, May 1961. For the DuPage County area, a rainfall of 4.5 inches within a 24-hour period meets this definition. On July 24, 2010, the rain gauge at the DuPage County Airport reported 4.62 inches of precipitation. The District conducted an inspection of the landfill and the components of the leachate collection and landfill gas extraction systems on July 27, 2010.

During the inspection, no erosion or areas of dead or stressed vegetation associated with migration of landfill gas were observed on the landfill. Minor rutting was noted on the access road to the top of Mount Hoy. No large areas of standing water were observed on the landfill. The leachate extraction system continued to operate during the rainfall event and there was no damage to any of the leachate collection or landfill gas extraction systems components.

The inspections of the landfill cover were routine during the thirteenth year, with no significant problems observed. Some surface water ponding was observed on the north side of the landfill near the toboggan run and on the access road near Lift Station (LS) 1 on the south side of the landfill. No areas of stressed or dead vegetation were noted. Minor erosional ruts were observed during site inspections made throughout the thirteenth year; however, these ruts were shallow and the clay cap was not exposed.

3.3 SITE REGRADING ACTIVITIES

No site regrading activities were conducted during the period covered by this report (i.e., May 2010 through April 2011). However, additional gravel was added to repair ruts in the access road to the top of Mt. Hoy in July 2010. Ruts in the access road near the southern edge of the landfill were repaired in July 2010 as well.

3.4 PRAIRIE RESTORATION ACTIVITIES

In 2001, as part of the *Phase I Restoration Plan for the Revegetation of the Blackwell Forest Preserve Landfill* (Montgomery Watson and Conservation Design Forum, 2000), the District began the conversion of vegetation on the Blackwell Landfill from Eurasian grasses to native Illinois grasses. An herbicide was applied to kill or stunt the growth of existing vegetation, a prairie seed mixture was drilled into the landfill cover, and the vegetation was mowed in the fall of 2001. The prairie restoration activities are summarized in the *First Year Restoration Monitoring Report* (Conservation Design Forum, 2002a).

In order to continue the development of the Blackwell Landfill prairie, restoration activities are conducted on an annual basis. Targeted weed control using an herbicide is conducted between late spring and early fall. Woody sapling removal and re-seeding of any disturbed areas are also conducted on an as-needed basis. In early fall, native prairie grass seed is collected and dispersed across the Site and fire breaks are mowed around the LCS and LFG components in preparation for the annual prairie burn conducted in the spring.

A Root Penetration Assessment is conducted every five years to determine if root penetration has compromised the clay cap. On September 15, 2010, Conservation Design Forum, V3 Companies, the District, and MWH were on-site to conduct the 5-year Root Penetration Assessment of the Blackwell prairie in accordance with the December 2000, *Revised Phase I Restoration Plan for the Revegetation of the Blackwell Landfill.* Similar to the assessment in 2005, the 2010 assessment indicated that the roots of the trees and vegetation on the landfill have not penetrated the clay cap. Field observations during the 2005 and 2010 root penetration assessments have shown no evidence of root penetration of the cap. Therefore, it appears that another root assessment may not be warranted. A complete discussion of the September 2010 root penetration assessment can be found in the October 2010 *Root Penetration Field Report* (Conservation Design Forum, 2010b).

Summaries of prairie restoration activities conducted over the past nine years can be found in the corresponding standalone reports:

- *First-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, January 2002* (Conservation Design Forum, 2002a);
- *Second-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, December 2002* (Conservation Design Forum, 2002b);
- *Third-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, December 2003* (Conservation Design Forum, 2003);
- *Fourth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, December 2004* (Conservation Design Forum, 2004);
- *Fifth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, December 2005* (Conservation Design Forum, 2005);
- *Sixth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, December 2006* (Conservation Design Forum, 2006b);
- *Seventh-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, January 2008* (Conservation Design Forum, 2007); and
- *Eighth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, January 2009* (Conservation Design Forum, 2009).
- *Ninth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, January 2010* (Conservation Design Forum, 2010a).
- *Tenth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration, January 2011* (Conservation Design Forum, 2011).

Beginning in spring 2004, controlled burns were executed at the Blackwell Landfill. The following controlled burns have been conducted at the Blackwell Landfill:

- The 2004 prairie burn was conducted on April 20, 2004,
- The 2005 prairie burn was conducted on April 14, 2005,
- The 2006 prairie burn was scheduled for April 19, 2006, but was cancelled due to excessive rainfall earlier in the week,
- The 2007 prairie burn was conducted on April 9, 2007,
- The 2008 prairie burn was conducted on April 15, 2008,
- The 2009 prairie burn was conducted on April 23, 2009, and

- The 2010 prairie burn was conducted on April 15, 2010.

The 2011 Blackwell Landfill prairie burn was conducted on April 21, 2011. Similar to previous prairie burns, procedures followed the U.S. EPA-approved Burn Plan (MWH, 2005b). In accordance with this plan, the LCS and LFG venting systems were shut down and local governmental agencies were notified of the pending burn. After the burn was completed, MWH personnel inspected the landfill's LFG and LCS components for damage in accordance with the U.S. EPA-approved Field Sampling Plan Addendum. No damage was noted to any of the landfill's remedial components. Therefore, modifications to the current Burn Plan are not recommended at this time. A complete summary of the 2011 Blackwell prairie burn activities is presented in the *Phase I Prairie Restoration Controlled Burn Activities Summary Report* (MWH, 2011a).

4.0 LEACHATE COLLECTION SYSTEM O&M

4.1 DESCRIPTION

The LCS was put into operation in December 1997. The system includes nine leachate extraction wells (EW) and three lift stations that pump leachate into a common underground conveyance pipe system. The conveyance system transports leachate to a holding tank which is regularly pumped out and transported offsite by tanker trailers for treatment and disposal.

The components of the LCS are summarized below. Full details are provided in the February 1999 Final O&M Plan.

4.1.1 Extraction Wells

The LCS incorporates nine extraction wells (EW-1, EW-1A, and EW-2 through EW-8) located in the areas that previously had the highest indicated leachate head levels. The well pipes are installed within 3-foot diameter boreholes, and are constructed of 6-inch diameter Schedule 120 polyvinyl chloride pipe. The lower two-thirds of each well pipe is perforated and each borehole was backfilled with coarse aggregate. The wells are used to extract leachate and to allow LFG to flow through the passive gas venting system. A wellhead assembly connects the LFG and leachate discharges from each well to its respective conveyance piping system. The extraction well locations are shown on Figure 4. A description of the LFG venting system is described in Section 5.0 of this report.

Leachate levels within each extraction well are measured with a water level meter during bimonthly O&M monitoring.

4.1.2 Lift Stations

LS-1 collects stormwater from the south stormwater trench at existing manhole MH-20 and it collects condensate that has formed in the gas conveyance pipe from dripleg DL01. The pump in LS-2 did not run during Year 13 because LS-2 was dry. The shallow collection trench, installed downslope and north of EW-3, supplies surface water infiltration to LS-3. LS-3 continued to pump the collected surface water to the leachate holding tank throughout Year 13.

4.1.3 Leachate Well Pumps

The nine extraction wells and three lift stations are fitted with pneumatic leachate extraction pumps that are capable of pumping a maximum 4 gallons per minute. Clean Environment® manufactured all of the 12 pneumatic pumps. A description of the Clean Environment® pumps is provided in the Second Year Report (Montgomery Watson, 2000b). Previously, a pump manufactured by the Blackhawk Environmental Company® had been installed in LS-3. However, in April 2009, this pump malfunctioned and was replaced by a Clean Environment® pneumatic pump.

The volume of leachate pumped from each well is recorded remotely with a pump-stroke (i.e. cycle) counter within each wellhead/lift station and in the compressor station control building. Pump operation is confirmed by observing the cycle counters.

4.1.4 Leachate Holding Tank

A 10,000-gallon double-walled steel-reinforced STI-P3® holding tank is installed below grade near the compressor/control building north of the landfill to temporarily store extracted leachate and condensate (the tank provides monitoring of the interstice [space between the double walls] as a leak detection system). When the tank is full, the collected leachate is loaded into tanker trucks and hauled to the Wheaton Sanitary District Wastewater Treatment Plant (WWTP) in Wheaton, Illinois for treatment and disposal under permit. For the past 13 years, the leachate holding tank has generally been emptied one or two times per week.

4.1.5 Compressor/Control Building

The compressor/control building located north of the landfill contains the air compressor system and system controls. The compressor system includes a desiccant air dryer to maintain dry supply air to the leachate extraction pumps and to minimize freezing situations. The system controls include manual and automatic LCS system controls, holding tank liquid level alarms, leak detection indicators, and compressor and dryer status indicators.

4.1.6 Operation of the LCS

The LCS began operation in early December 1997. Following initial startup of the LCS, the system has been operated continuously with automatic shut down when the holding tank becomes full. Tanker trailers are scheduled in advance to collect and transport the leachate for disposal at the Wheaton WWTP for treatment. After the tank is emptied, the LCS is restarted.

4.2 INSPECTION AND MAINTENANCE RECORDS

The LCS inspection and maintenance requirements are outlined in the February 1999 Final O&M Plan with modifications provided in the First Year Report. The inspection and maintenance requirements include the following:

- Routinely verifying integrity and operation of system components;
- Recording system performance data, including pump-stroke counters;
- Scheduling leachate testing, load-out, and treatment;
- Responding to alarm conditions; and
- Performing maintenance and scheduling system repairs, or modifications.

The inspection, monitoring, and maintenance activities are documented on forms on an as needed basis. Copies of the forms are provided in Appendices A-1 through A-5.

During the thirteenth year of operation, the components of the LCS were inspected on a bimonthly, quarterly, semi-annual, annual, and as-needed bases in accordance with the schedule provided in Table 7. The control station and leachate holding tank were routinely inspected and monitored by the O&M operators, while components of the leachate extraction wells and lift stations were inspected on a bimonthly basis. Components of the control station, leachate holding tank, leachate extraction wells and lift stations found to be functioning improperly were immediately fixed by the O&M operators. The work conducted on these components was logged using the appropriate O&M maintenance forms (Appendix A-3).

In addition, the following O&M activities were conducted:

- Leachate head levels were measured in the leachate extraction wells and LFG vents on a bimonthly basis;
- Filters and lubricants within the compressor and dryer systems were replaced on a quarterly, annual, or as-required basis; and
- Leachate samples were submitted for required analytical testing on a quarterly basis. The results of these analyses for this reporting period are attached in Appendix B.

Maintenance of the LCS was generally routine. It consisted of maintaining pump operation and changing oil and filters and lubricating the air compressor and air dryer on a periodic basis. The non-routine maintenance of note, and maintenance that was not originally anticipated, included the following:

- Adjusted magnets on cycle counter in EW-1A on October 27, 2010.
- Installed a clean, rebuilt pump in EW-7 on October 28, 2010.
- Installed a new boot on EW-8 on October 28, 2010.
- Performed maintenance on pump float in LS-2 on February 17, 2011.

On October 28, 2010 the pump in EW-1 malfunctioned. The District removed the pump from EW-1 and made the necessary repairs. However, when placing the pump back into the extraction well, the District could not lower it to the proper depth due to silting that had occurred in the extraction well. On November 3, 2010 Advanced Waste jetted and vacuumed out EW-1 to remove the accumulated silt. Advanced Waste jetted and vacuumed out EW-1A on the same day since this extraction well showed some accumulated silt as well. The pumps were replaced in EW-1 and EW-1A on November 3, 2010 and both extraction wells returned to routine operation.

4.3 LANDFILL AREAS

The Blackwell Landfill has been sub-divided into 15 Landfill Areas for the purpose of presentation of data (Figure 5). The leachate elevation and extraction data for each of the 15 Landfill Areas are shown on Drawings 1 through 15.

4.4 LEACHATE LEVELS

The leachate levels within the extraction wells and LFG vents were measured on a bimonthly basis by inserting a water level meter into each well or LFG vent. The LCS pumps were shut down for a minimum of 48 hours prior to measuring the leachate levels so that the recorded data would represent equilibrium conditions and not pumping effects. A trendline has been maintained for each leachate extraction well and LFG vent to determine whether leachate levels have been increasing or decreasing (refer to Drawings 1 through 15).

The measured leachate levels in the twenty-five LFG vents and nine extraction wells are presented in Drawings 1 to 15 and in Table 1. In general, leachate levels have slightly decreased from Year 12 to Year 13 (May 2010 through April 2011). Average leachate levels increased in five of the eight extraction wells where leachate levels were measured (EW-1, EW-1A, EW-2, EW-5, and EW-7) from Year 12 to Year 13. Conversely, the remaining three extraction wells where leachate levels were measured (EW-3, EW-6, and EW-8) showed a decrease in average leachate levels. In addition, 18 of the 23 LFG vents where leachate was recorded showed a decrease in average leachate levels. Two LFG vents (SV-2 and DV-18) were dry throughout Year 13. Table 2 shows the average yearly leachate elevations at extraction wells and LFG vents since startup. Specific trends are discussed in Section 7.0 of this report.

4.5 LEACHATE VOLUME

The LCS conveys extracted leachate to the leachate holding tank which is regularly emptied into tanker trucks and the leachate is transported to the Wheaton WWTP for treatment and disposal. The District's original leachate disposal permit with the Wheaton WWTP (Permit No. 1995 EE-4467) expired August 1, 2000. Permits are valid for five years and have been renewed each time they have expired. The current permit dated April 2, 2010 will expire on March 31, 2015. A copy of the permit is included in Appendix B.

4.5.1 Leachate Disposal

The volume of leachate disposed of at the Wheaton WWTP is documented on Leachate Disposal Logs included in Appendix A-4. The cumulative cycles on the pneumatic extraction pumps within each extraction well and lift station (recorded on the pump-stroke counter within the control building) are documented on Site Visit Operating Logs each day that leachate was disposed of at the Wheaton WWTP. Copies of the Site Visit Operating Logs are provided in Appendix A-1. The volume of leachate removed from the extraction wells and lift stations is calculated based upon the disposal history and number of recorded pump cycles. A daily summary of the disposed leachate volumes during Year 13 is provided in Table 3. The cumulative volume of leachate removed from the landfill is presented in Drawing 16. Table 3 and Drawing 16 indicate that approximately 7,375,600 gallons of leachate has been removed from the landfill and disposed of since 1997.

The volume of leachate transported to the Wheaton WWTP and the number of leachate shipments during the past thirteen years are summarized below. This table indicates that a decreased volume of leachate was disposed of in Year 13 as compared to Year 12 although the extracted volume is 17% above the average for the 13 years of extraction.

Year	Volume Shipped (gallons)	Percent Change from Annual Average	Number of Leachate Shipments to WWTP
1 (12/97 to 4/99)	912,120	61%	108
2 (5/99 to 4/00)	460,050	-19%	58
3 (5/00 to 4/01)	640,958	13%	82
4 (5/01 to 4/02)	513,900	-9%	65
5 (5/02 to 4/03)	292,000	-49%	45
6 (5/03 to 4/04)	373,300	-34%	58
7 (5/04 to 4/05)	502,700	-11%	63
8 (5/05 to 4/06)	427,400	-25%	56
9 (5/06 to 4/07)	705,800	24%	85
10 (5/07 to 4/08)	482,775	-15%	60
11 (5/08 to 4/09)	725,550	28%	81
12 (5/09 to 4/10)	677,700	19%	83
13 (5/10 to 4/11)	661,300	17%	88
Annual Average	567,350	NA	72

4.5.2 Extraction Wells

The annual volumes of leachate removed from the nine extraction wells are summarized in Table 4. The cumulative volume of removed leachate, sorted by volume, is summarized in Table 5. The nine extraction wells have removed approximately 5,387,000 gallons of leachate since the LCS was put into operation. Table 5 indicates that 24.7 percent of the total leachate volume removed was removed by just one of the nine extraction wells (i.e., EW-8), extracting 1,822,074 gallons by the end of April 2011. In comparison, the least productive extraction well (EW-6) has produced a total 86,388 gallons over 13 years and has accounted for less than two percent of the total leachate volume removed.

The performances of the nine extraction wells are summarized in Drawings 3, 4, 5, 9, 10, 11, 14, and 15. The table below identifies the nine extraction wells and the drawings that summarize the performance of each well.

Extraction Well	Drawing
EW-1	Drawing 3
EW-1A	Drawing 3
EW-2	Drawing 4
EW-3	Drawing 5
EW-4	Drawing 15
EW-5	Drawing 9
EW-6	Drawing 14
EW-7	Drawing 10
EW-8	Drawing 11

These drawings present the cumulative volume of leachate removed from the wells over time, as well as the leachate levels within the wells. These figures indicate that rates of leachate removal are variable, with higher leachate removal rates typically observed in the spring and fall, and lower removal rates typically observed in the summer and winter.

4.5.3 Lift Stations

Approximately 1,988,000 gallons of stormwater and condensate have been recovered from LS-1 and LS-2 since the LCS began operation in December 1997 (see Table 4 and Drawing 13). This volume currently represents 27 percent of the total volume of liquid removed by the leachate collection system. However, LS-2 has been dry since April 1998.

4.6 ANALYTICAL DATA

Leachate samples are collected quarterly from the leachate holding tank and analyzed for metals, general water quality parameters, and organic toxic pollutants listed in the leachate disposal permits (Permit Nos. 1995-EE-4467, 2000-EE-0837, 2005-EE-3767, and 2010-EE-0095).

According to the permits, leachate samples must be collected and analyzed for partial scan parameters (metals and conventional water quality parameters) on a quarterly basis. In addition, leachate samples must be collected and analyzed for full scan parameters (metals, conventional water quality parameters, and organic toxic pollutants) semi-annually. During the thirteenth year of operation leachate samples were analyzed according to the following schedule:

Date	Analysis	Analytical Parameters
05/19/10	Full Scan	Metals, water quality parameters, and organic toxic pollutants
07/15/10	Partial Scan	Metals, and water quality parameters
11/10/10	Full Scan	Metals, water quality parameters, and organic toxic pollutants
01/12/11	Partial Scan	Metals, and water quality parameters

Metals include: Arsenic, Barium, Boron, Cadmium, Chromium (total), Copper, Iron (total), Lead, Manganese, Mercury, Nickel, Selenium, Silver, and Zinc.

Conventional Water Quality Parameters include: Ammonia (as Nitrate), Biological Oxygen Demand, Chemical Oxygen Demand, Chloride, Cyanide, Oil and Grease, pH, Phenols, Sulfate, Total Dissolved Solids, and Total Suspended Solids.

Organic Toxic Pollutants include: Volatile Organic Compounds, Acid Compounds, Base/Neutrals, and Pesticides as defined in 40 Code of Federal Regulations 122.

The leachate analytical results are summarized in Table 6, with the leachate analytical results during the thirteenth year of LCS operations provided in Appendix B. The data indicate some variation in analyte concentrations between the sampling events. Twelve volatile organic compounds (VOCs) (i.e., acetone, benzene, 2-butanone, chlorobenzene, chloroethane, 1,1-dichloroethane, cis-1,2-dichloroethene, ethylbenzene, 4-methyl-2-pentanone, toluene, vinyl chloride, and xylene) and five semi-volatile organic compounds (SVOCs) (i.e., benzoic acid, 1,4-dichlorobenzene, diethyl phthalate, 3&4 methylphenol, and phenol) were detected in leachate samples collected during Year 13. This represents an increase compared to the number of VOCs detected in Year 12 which had detections of benzene, 2-butanone, chlorobenzene, and xylene. In addition, the number of SVOCs detected in leachate during Year 13 was greater than in Year 12 which had detections of only one SVOC compound, bis(2-ethylhexyl)phthalate.

5.0 LANDFILL GAS O&M

5.1 DESCRIPTION

Historically, LFG venting occurred through thirty LFG vents that were installed in the 1980s on the Blackwell Landfill. In 1997, nine gas extraction wells were installed that conveyed LFG via gas header pipes to a 15-foot high passive vent stack constructed on top of Mount Hoy. In 2000, the LCS and LFG systems were augmented so that 12 of the LFG vents were connected to the main vent stack by new gas header pipes. An additional 13 existing LFG vents were capped as part of the augmentation. Since augmentation was completed, the main vent stack has been the sole outlet for LFG emissions.

5.2 INSPECTION AND MAINTENANCE RECORDS

The LFG inspection and maintenance requirements for the Blackwell Site are outlined in the February 1999 Final O&M Plan, with modifications provided in the First and Second Year Reports.

The inspection and maintenance requirements include the following:

- Routinely verifying integrity and proper operation of system components;
- Recording system performance data;
- Scheduling LFG testing; and
- Performing maintenance and scheduling system repairs or modifications.

The inspection, monitoring and maintenance activities are documented on forms on an as needed basis. Copies of the applicable O&M forms are provided in Appendices A-2, A-3, and A-5.

During the thirteenth year, the components of the LFG extraction system were inspected on weekly, monthly, quarterly, semi-annual, annual, and as-needed bases in accordance with the schedule provided in Table 7. The main vent stack was inspected by the O&M operator on a weekly basis, while components of the LFG extraction wells were inspected on a monthly basis. All components of the main vent stack or LFG extraction wells were found to be functioning properly during each inspection.

5.3 FIELD AND ANALYTICAL DATA

Starting in January 1998, landfill gas was monitored monthly for gas composition, static pressure, velocity, flow rate and temperature. Since March 2001, the LFG has been monitored with field instruments bimonthly at the main vent stack and LFG vents. The data for the thirteenth year are provided in Tables C-1 through C-6 in Appendix C.

The following four sampling events were conducted during the thirteenth year of LFG venting system operation to monitor LFG quality:

Date	Sample Name
05/19/10	BW-LFGSTACK-54A
07/15/10	BW-LFGSTACK-55A
11/10/10	BW-LFGSTACK-56A
01/12/11	BW-LFGSTACK-57A

MWH submitted the *Draft Final Addendum No.9, Quality Assurance Project Plan, Replacement of LFG Primary Analytical Laboratory Provider* (MWH, 2010a) to the U.S. EPA on March 30, 2010. This addendum was prepared for the purpose of changing the primary analytical laboratory from Air Toxics to STAT Analysis Corporation of Chicago, Illinois for the analysis of landfill gas samples at the Blackwell Site. The U.S. EPA approved the addendum in August 2010, and STAT Analysis Corporation began analyzing landfill gas samples in November 2010.

Landfill gas samples were collected from the main vent stack using 6-liter passivated summa canisters and submitted for laboratory analysis. One LFG sample was collected during each sampling event.

The summa canister samples were analyzed for fixed gases including methane, carbon dioxide, oxygen, and nitrogen, and for total non-methane organic compounds (TNMOC). Air Toxics analyzed samples from the May 2010 and July 2010 sampling events and STAT Analysis Corporation analyzed samples from the November 2010 and January 2011 sampling events. Air Toxics analyzed landfill gas samples for fixed gases in accordance with American Society for Testing and Materials Method D1945. In accordance with Addendum No. 9 to the Quality Assurance Project Plan, STAT Analysis analyzes landfill gas samples for fixed gases using U.S. EPA Method 3C. Landfill gas samples are analyzed for TNMOC in accordance with U.S. EPA Modified Method 25C. The analytical results for historic and recent LFG sampling events are summarized in Table 8. The analytical reports for the thirteenth year of LFG operations are provided in Appendix D.

In December 2005, MWH began collecting landfill gas samples in accordance with the July 7, 2005 *Revised Landfill Gas Trigger Level Report* (MWH, 2005e). This included analyzing the samples for VOCs (Method TO15) in addition to the parameters listed above.

5.4 LFG EMISSIONS

Gas emissions from the LFG vents were monitored on a monthly basis between January 1998 and March 2001 and on a bimonthly basis since then. The monitoring consists of using field instruments to measure LFG flow velocities at the main vent stack and to measure static gas pressure at the extraction wells and individual LFG vents. The individual LFG vents are connected to the main vent stack through a series of conveyance piping. The thirteenth year bimonthly static pressure data and velocity for the main vent stack and for the gas vents are summarized in Landfill Gas Vent Monitoring Forms (Appendices A-2 and A-5), and on Tables C-3 and C-4 in Appendix C.

The gas velocity at the main vent stack was converted to flow rate by multiplying the gas velocities by the cross-sectional area of the stack. A summary of the calculated flow rates is provided in Table C-5 in Appendix C. The variation in gas flow rate measured over time is presented in Drawing 17. Landfill gas emissions from the main vent stack increased following augmentation of the LFG system in August 2000 when 12 LFG vents were connected to the main venting system.

The variation in static LFG pressures in the extraction wells and LFG vents are presented in Table C-3 and in Drawings 18 through 20. The static pressures in the extraction wells exhibit low variability over time, with measured static pressures generally less than or equal to 1.0 inch of water. Landfill gas pressures measured greater than 1.0 inch of water during only one of the six O&M events during Year 13. These elevated gas pressures were observed at EW-3 and EW-7 during the March 2011 O&M event.

The LFG vents show greater variation in static gas pressure than the extraction wells. During the thirteenth year monitoring period, static gas pressures in the LFG vents ranged from 0.0 to 3.4 inches of water. This static gas pressure range is similar to the pressure ranges in Year 12 (i.e., 0.0 to 3.2 inches of water), and is within the previous pressure ranges observed in years past (i.e., 0.0 to 8 inches of water).

The variation in methane content is shown in Drawings 21 through 23. In some of the vents, methane content showed little variability (e.g., SV-5 and DV-16). Total methane content at these individual vents was within 10 percent for all measurements conducted during Year 13. In addition, little variation in methane content was observed at extraction wells EW-1, EW-2, EW-3, EW-4, EW-6, and EW-7. Total methane content at these individual extraction wells was within seven percent for all measurements conducted during Year 13. However, other vents (e.g., DV-5 and DV-15) and extraction wells (e.g., EW-1A, EW-5, and EW-8) showed more variability during Year 13 with total methane contents varying by as much as 72 percent. During Year 13, the maximum methane content remained between approximately 55 percent and 75 percent of the total LFG composition in most of the extraction wells, approximately one-third of the vents, and in the main vent stack. However, the remaining two-thirds of the vents had a maximum methane content between one and 32 percent during Year 13.

5.5 LFG TRIGGER LEVELS

At the request of the U.S. EPA, the District conducted a trigger level evaluation and LFG emission modeling to determine whether LFG emissions posed a risk to recreational users of the Blackwell Landfill. The information derived from the evaluation was used to prepare the *Final Landfill Gas Trigger Level Report* (MWH 2006a) which presents trigger levels for possible additional remedial actions should LFG concentrations or flow rates increase in the future at the Blackwell Site.

Four tables (Table 9, Table 10, Table 11, and Table 12) showing the cumulative risk of exposure to Blackwell landfill gas are provided with this report and show that no landfill gas trigger levels were exceeded in May 2010, July 2010, November 2010 or January 2011. The tables were prepared using a U.S. EPA approved method and indicate that the landfill gas is well below the levels for the Hazard Quotient of 1 and carcinogenic risk of 1×10^{-6}.

6.0 EVALUATIONS AND RECOMMENDATIONS FOR THE LEACHATE COLLECTION AND LANDFILL GAS SYSTEMS

6.1 EVALUATION OF LCS

6.1.1 Trendline Analysis

The LCS consists of nine extraction wells, three lift stations, and twenty-five LFG vents that are used to monitor leachate levels. Leachate levels were measured in the wells and vents on a monthly basis between January 1998 and March 2001, and on a bimonthly basis ever since. In addition, leachate levels were measured in several of the LFG vents during the RI.

In order to evaluate the overall effectiveness of the LCS, a trendline analysis was performed over the entire period of data collection. For evaluative purposes, this analysis consisted of fitting a linear trendline to leachate elevation data with a downward trend indicated by a negative slope and an upward trend indicated by a positive slope. The trendline analyses for each well and vent by landfill area are included as Drawings 1 through 15.

Over the past 13 years of LCS operation the leachate elevations in the Blackwell Landfill have generally remained stable. From year to year, there is some variation in leachate levels with some vents and extraction wells showing an increasing trend, while others show a stable or decreasing trend. Cumulative leachate levels through Year 13 show an increasing trend in five of eight extraction wells and 13 of the twenty-five LFG vents. The cumulative increase in leachate levels at these locations throughout the past 13 years may be attributed to landfill settlement. As the landfill settles the pore spaces between soil grains are compressed which in turn causes the leachate levels to rise within the extraction wells. In May 2007, MWH had the extraction wells surveyed to check for settlement. There was significant settlement recorded at all of the extraction wells.

The LCS continues to remove the precipitation that infiltrates the cap and the landfill. A summary of the cumulative trends in leachate elevations is depicted in Figure 5. The LCS operation from the nine extraction wells and two lift stations has removed over 7,375,000 gallons of leachate.

6.1.2 Augmentation Requirements - Record of Decision

The previous year-end Reports on the LCS and LFG systems provided an evaluation of the criteria that would require augmentation of the LCS and LFG systems outlined in the September 30, 1998, ROD. This evaluation has been repeated below using the combined 13 years of data for LCS operations.

The September 30, 1998, ROD for the Blackwell Landfill describes the objectives of the LCS and provides guidelines for system augmentation. The LCS objectives and augmentation requirements are as follows:

- Section VI.C, page 31 of the ROD states that the objective of the LCS is to manage the threat of leachate migration and exposure through active leachate collection and off-site treatment and disposal.

- Section VII, page 37 of the ROD states that if data demonstrate that the leachate system is not effective in managing leachate, the system could be augmented with up to nine additional leachate extraction wells. Ineffective management of leachate was defined as leachate posing a direct exposure threat, or groundwater not being remediated in a reasonable amount of time. The groundwater cleanup goals are U.S. EPA Maximum Contaminant Levels and Illinois Class I Drinking Water Standards.

- Section VII, page 38 of the ROD provides the general criteria to be used to decide whether groundwater was being remediated in a reasonable amount of time. These criteria include existing contaminant levels, trends in contaminant concentrations, potential reduction in restoration time frames to less than 30 years, and potential for the contaminants in groundwater to meet regulatory standards and/or asymptotic levels throughout the plume.

An evaluation of the O&M data indicates that the LCS meets the objectives set out by the September 30, 1998, ROD. In addition, during groundwater monitoring events conducted over the past 13 years, analytical results have been consistent with past monitoring results and show a general trend of decreasing number of VOCs in groundwater outside the landfill. Graphs showing VOC concentrations at monitoring wells over the past 13 years are included in Appendix E. Analytical results presented in standalone groundwater sampling reports also indicate overall decreases in VOC concentrations in the groundwater.

The results of the groundwater monitoring events are summarized in the *Long Term Groundwater Monitoring Program Summary Report* (MWH, 2005a) and the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, Eleventh, Twelfth, and Thirteenth Round Long-Term Groundwater Monitoring Reports (Montgomery Watson 2001b, MWH 2002a, MWH 2002e, MWH 2003b, MWH 2004c, MWH 2005c, MWH 2006b, MWH 2006d, MWH 2007b, MWH 2008a, MWH 2009d, MWH 2010c, and MWH 2011b). In summary, no ROD criteria have been exceeded that would require augmentation of the LCS system.

6.1.3 Augmentation Requirements - O&M Plan

The previous Year-End Reports on the LCS and LFG systems provided evaluations of the modification and augmentation requirements which were outlined in the February 1999 Final O&M Plan for the Blackwell Landfill. This evaluation has been repeated below using the combined 13 years of data for LCS operations.

The February 1999 O&M Plan provided guidelines for modification or augmentation of the LCS that may include: increasing extraction rates in some areas, decreasing extraction rates or shutting down extraction in other areas, converting some of the previously installed LFG vents to extraction wells, or constructing one or more new extraction wells. The specified criteria for system modification or augmentation are provided:

Criteria #1: Extraction wells that generate a small amount of leachate, in comparison to the total volume extracted from the landfill, would be proposed for removal or abandonment.

Two extraction wells (EW-4 and EW-6) have produced only 2.7 percent of the total volume of leachate removed from the landfill. EW-4 and EW-6 are candidates for possible removal. However, the District is voluntarily continuing leachate extraction from these two wells.

Criteria #2: Extraction wells which generate a large volume of leachate, and which demonstrate a decreasing trend in leachate levels in the well and surrounding monitoring wells and vents, would continue to be operated. However, if the drop in leachate levels are small in comparison to theoretical volume of extractable leachate (i.e., large volumes of leachate are extracted from an extraction well without a corresponding decrease in leachate levels in that same well), additional extraction wells may be installed in the general area.

Cumulative leachate levels show an increasing trend in five of the eight extraction wells where leachate is measured through the thirteenth year of operation. This cumulative trend is attributed to settlement of the landfill. In addition, the yearly volume of leachate extracted has increased in eight of the nine extraction wells (Table 4) compared to last year. The increase in leachate extraction during Year 13 as compared to Year 12 may be attributed to increased rainfall during Year 13. During the thirteenth year of operation, the landfill received approximately 38 inches of rainfall compared to Year 12 when the landfill received approximately 29 inches of rainfall. Yearly leachate removal seems to correlate to annual rainfall (i.e. when rainfall increases so does leachate removal) as shown on Drawing 24. The District is proposing to continue monitoring the apparent trend in leachate levels. No additional extraction wells are planned at this time.

Criteria #3: Extraction wells which initially generate a large volume of leachate and show a significant drop in leachate levels in the extraction well, but which are surrounded by monitoring wells and vents which do not show any appreciable drop in their leachate levels, will be considered to be in an area with non-extractable leachate. These extraction wells will be proposed for removal or abandonment.

No extraction wells meet this criterion. The Year Two Report recommended that LS-2 be removed because it did not pump during the second or third year of operations. The pump in LS-2 was subsequently removed during year three. However, during the eighth year of operation, a new pump was installed in LS-2. This pump was installed in case any water is ever collected in LS-2. However, the pump has not run because LS-2 continues to be dry.

In summary, no modifications to the LCS operations are recommended for the upcoming year. It is proposed that the LCS system will continue for a fourteenth year in the current configuration.

6.2 EVALUATION OF LANDFILL GAS

6.2.1 LFG Augmentation

The September 30, 1998 ROD provides for the possible augmentation of the LFG extraction system, with the installation of up to nine dual leachate and LFG extraction wells. The 1999 UAO also requires that the LFG extraction system manage the threat of LFG buildup, and potential LFG migration and exposure.

In August 2000, modifications were made to the LFG extraction system which included connecting selected LFG vents to the main LFG venting system, capping other selected LFG vents, and abandoning the remaining LFG vents. The U.S. EPA approved the work plan and proposed modifications in a March 24, 2000 letter.

No further augmentation of the LFG extraction system is recommended at this time.

6.2.2 Thermal Treatment

The February 1999 Final O&M Plan specifies that a flare would be installed on the main vent stack if the quantity of TNMOC exceeds set limits. The TNMOC limits are eight pounds per hour (lb/hr) (35 Illinois Administrative Code 218.301), and 25 tons per year (5.71 lb/hr) of total VOCs in a severe ozone non-attainment area.

The calculated TNMOC emissions for the thirteenth year of O&M operations are summarized in Table C-6 in Appendix C, and indicate a range of 0.14 to 0.21 pounds of TNMOC per hour. In comparison, the emissions range during previous years of O&M operations are shown in Drawing 25 and summarized in the table below:

O&M Year	Calendar Year	TNMOC (lb/hr)
1	1998	0.29 to 1.21
2	1999	0.37 to 0.89
3	2000	0.22 to 0.64
4	2001	0.20 to 0.36
5	2002	0.25 to 0.42
6	2003	0.25 to 0.32
7	2004	0.27 to 0.38
8	2005	0.23 to 0.38
9	2006	0.28 to 0.52
10	2007	0.23 to 0.37
11	2008	0.05 to 0.20
12	2009	0.06 to 0.15
13	2010	0.14 to 0.21

As shown in the table above, these results indicate that TNMOC emissions are below the limits set forth in the Final O&M Plan. Therefore, modifications to the LFG venting system are not required.

6.2.3 Passive vs. Active Gas Extraction

The February 1999 Final O&M Plan specifies that an active LFG extraction system would be installed if there were evidence of uncontrolled LFG releases through or around the landfill cover. Evidence of uncontrolled LFG releases was defined as odors in areas with no gas vents, stressed vegetation, gas releases from monitoring wells located outside of the landfill perimeter, or gas bubbling through saturated topsoil following a rainfall event.

Landfill gas has been observed bubbling through the landfill cap over the past several years following rainfall events. Ambient air samples were collected at this location in the past and indicate that there is no unacceptable risk from the landfill gas. At this time, the District and MWH do not recommend conversion of the passive LFG venting system to an active system. However, the District is proposing to install a solar activated flare at the main vent stack.

6.3 O&M MONITORING FREQUENCY

The February 1999 Final O&M Plan specified the initial frequency of O&M monitoring for the various remedial actions completed at the landfill with the monitoring frequency varying from weekly, monthly, quarterly, and semi-annually depending upon the remedial component. The First Year and Second Year Reports on the Leachate Collection System and Landfill Gas Extraction System provided minor modifications to the O&M monitoring frequency. No modifications were made in the Third Year Report. After the fourth year of O&M operations, the characteristics of the remedial components at the Blackwell Landfill were reasonably well known.

Over the past 13 years there has been little variability in LFG pressure at the extraction wells. The LFG pressure at most of the extraction wells, with the exception of EW-7, has been in the range of 0.0 to 1.0 inch of water (Drawing 18). In addition, The LFG pressure at the majority of the individual shallow vents has been in the range of 0.0 to 1.0 inch of water with some variability at vent SV-4, SV-8, and SV-9 which have had LFG pressures in the range of 0.0 to 6.0 inches of water (Drawing 19). Similarly, most of the individual deep vents have had LFG pressures in the range of 0.0 to 1.0 inch of water, with the exception of DV-16 and DV-18 which have had LFG pressures in the range of 0.0 to 8.0 inches of water (Drawing 20).

Generally, maximum methane contents have remained between 60 and 80 percent of the total LFG over the past 13 years (Drawings 21-23), and LFG static pressures have been in the range of 0.0 to 8.0 inches of water. There are no discernable trends in either LFG pressure or methane content.

Continued measurement of these parameters at a reduced frequency would still allow the District to determine whether maximum LFG pressures or methane contents were increasing. Therefore, beginning with the fourteenth year of LCS and LFG operations (May 2011) the following two modifications have been implemented:

- The frequency of LFG monitoring at individual wells and vents has been reduced from bimonthly to semi-annually (i.e., twice per year); and

- LFG flowrate at the main vent stack is monitored on a quarterly basis rather than a bimonthly basis to coincide with the quarterly LFG sampling program already in place.

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MWH, 2007a. Phase I Prairie Restoration Controlled Burn Activities Summary Report, June 2007.

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MWH, 2009e. Eleventh Year Report on the Leachate Collection and Landfill Gas Extraction Systems, July 2009.

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MWH, 2010a. Draft Final Addendum No. 9, Quality Assurance Project Plan, Replacement of LFG Primary Analytical Laboratory Provide, March 2010.

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MWH, 2010c. Long-Term Groundwater Monitoring Report, Twelfth Round, July 2010.

MWH, 2010d. Twelfth Year Report on the Leachate Collection and Landfill Gas Extraction Systems, August 2010.

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MWH, 2011b. Long-Term Groundwater Monitoring Report, Thirteenth Round, May 2011.

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TABLES

Table 1
Leachate Levels
Blackwell Landfill NPL Site, DuPage County, Illinois

Date	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	SV-8	SV-9	SV-11	SV-12	DV-1	DV-2	DV-3	DV-4	DV-5	DV-6	DV-7	DV-8	DV-9
6/21/1996	735.02	720.05	728.71	725.71	719.15	736.29	731.14	710.71	710.86	738.03	761.77	NA	752.29	736.05	701.9	695.82	730.83	747.44	723.54	719.12
7/23/1996	735.07	717.9	725.26	722.86	718.71	735.37	730.74	710.06	710.26	737.03	761.07	NA	751.54	736.05	704.91	696.12	730.06	746.84	722.89	720.07
10/21/1996	734.25	719.4	722.5	NM	715.86	732.77	729.84	710.86	711.11	737.63	762.17	NA	747.59	735.27	700.81	696.55	724.76	NM	722.39	715.19
11/19/1997	734.12	719.92	723.16	723.08	717.21	734.17	732.32	710.94	711.25	739.08	762.12	NA	746.79	735	699.56	695.74	746.91	749.79	724.84	719.72
1/15/1998	734.97	719.54	727.71	722.36	719.16	735.97	733.69	711.01	711.21	739.88	762.06	NA	752.09	735.25	701.51	695.87	726.36	746.54	724.34	718.82
2/18/1998	735.27	719.35	729.06	724.36	720.66	737.27	734.19	711.96	711.46	739.18	762.02	NA	753.84	735.05	703.01	695.67	725.86	750.19	725.09	720.97
3/10/1998	735.07	719	728.76	723.41	719.66	736.27	733.48	711.46	710.86	738.63	762.07	NA	753.39	734.65	703.46	696.72	724.21	754.94	723.99	720.17
4/14/1998	735.49	719.13	728.43	723.15	720.77	736.32	734.38	712.08	711.57	739.16	762.05	NA	748.46	735.55	705.3	696.75	724.16	NM	724.74	722.08
5/13/1998	735.62	713.6	727.06	723.61	720.01	735.87	734.24	711.81	711.46	739.16	762.12	NA	745.94	735.7	706.31	696.52	724.01	753.14	724.09	720.22
6/17/1998	734.57	719	725.76	720.66	718.96	735.17	729.04	711.61	711.36	739.03	762.07	NA	743.59	735.3	703.86	695.47	722.11	747.84	723.89	719.52
7/15/1998	734.37	719.14	725.31	720.68	720.11	730.67	734.24	711.76	711.56	739.02	762.12	NA	742.69	735.29	703.16	695.67	722.15	NM	724.17	719.7
8/11/1998	734.07	719	722.96	720.66	718.01	729.72	727.89	711.61	711.56	739.08	762.07	NA	740.74	735.35	702.16	695.52	721.06	746.89	724.09	718.97
9/15/1998	733.92	718.95	721.31	720.81	717.11	729.57	727.39	711.56	711.46	739.18	762.07	NA	741.04	735.15	701.61	695.47	720.66	747.34	723.69	717.87
10/16/1998	733.97	719.1	721.26	720.71	716.51	728.97	727.34	711.66	711.56	739.08	762.1	NA	741.89	735.3	701.01	695.67	721.16	747.24	723.39	717.37
11/17/1998	734.07	719.05	722.31	721.91	716.76	729.97	726.59	711.66	711.41	739.28	762.12	NA	744.74	731.65	702.31	696.92	722.11	747.14	722.49	719.52
12/21/1998	734.26	719.18	723.16	720.84	716.8	730.03	726.19	711.79	711.88	738.42	760.87	NA	741.08	734.28	702.03	695.61	721.81	745.01	722.33	716.97
1/12/1999	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM
2/17/1999	734.51	719.25	726.08	720.92	717.95	731.76	730.99	712.39	711.88	738.68	760.91	NA	747.1	733.98	705.2	696.21	721.96	745.07	724.39	719.52
3/24/1999	734.31	719.18	726.01	720.97	718	731.86	730.59	712.44	711.78	738.52	760.91	NA	750.64	733.73	705.02	695.79	720.7	745.07	722.53	718.37
4/16/1999	734.66	719.3	727.46	720.77	718.55	732.81	730.79	712.94	712.23	739.26	760.93	NA	751.29	733.73	704.24	697.21	720.51	745.12	724.38	719.42
5/17/1999	734.56	719.15	727.48	721.37	718.8	731.71	730.74	713.09	712.13	738.93	760.98	NA	752.29	733.98	706.5	697.01	720.01	745.12	724.63	719.22
6/22/1999	734.41	719.25	725.68	720.97	718.4	731.86	733.39	712.89	712.08	738.53	760.96	NA	750.99	733.98	705.55	696.26	721.01	745.17	721.93	718.07
7/22/1999	734.11	719.35	727.43	720.92	717.38	NM	730.31	712.83	712.17	738.38	760.86	NA	751.14	731.98	705.6	695.73	721.49	747.27	723.56	717.19
8/25/1999	732.16	717.3	721.53	721.02	714.45	729.56	728.44	710.84	710.23	738.81	760.93	NA	743.74	731.78	701.25	693.91	719.51	745.47	720.78	714.37
9/29/1999	732.56	717.3	720.03		713.8	726.26	727.69	712.64	711.93	736.63	759.06	NA	737.64	731.63	699.05	696.63	721.21	745.77	720.55	713.32
10/27/1999	731.91	719		716.62	713.4	726.21	725.09	710.49	709.83	737.13	759.11	NA	737.34	731.38	698.9	694.01	717.56	745.62	719.48	713.12
12/1/1999	731.92	717.2	720.08	720.62	713.05	725.15	728.14	710.44	710.13	736.83	759.08	NA	736.16	731.2	699.5	693.78	718.41	745.75	717.63	712.49
12/29/1999	731.81	717.55	720.08	719.22	713.2	726.51	726.29	710.48	710.33	737.08	759.11	NA	736.14	731.18	699.07	694.15	717.76	745.1	719.18	713.22
1/25/2000	731.61	717.35	720.08	719.22	713.25	726.01	726.54	710.17	709.93	736.78	759.06	NA	736.54	730.98	699.05	694.11	719.26	745.22	718.73	713.02
2/29/2000	731.91	717.25	720.63	725.07	714.8	726.81	730.84	710.46	710.13	736.78	759.11	NA	739.84	731.38		695.16	719.61	745.77	720.33	718.17
3/24/2000	730.91	717.4		725.32	713.35	725.33	726.14	712.39	711.95	735.53	757.84	NA	740.51	729.81		696.26	714.13		719.69	716.97
4/28/2000	733.91	719.2	724.67		717.49	730.21	732.77	712.32	711.71	738.69	759.71	NA		732.72	702.9	697.9	717.31		723.51	719.65

Notes:

1. NM = not measured for particular date
2. NA = not analyzed as a part of O&M activities
3. Blank cells indicate that no leachate was recorded at particular location
4. Beginning in September 2009, new wellhead configuration allows for leachate level measurement at EW-8.

Table 1
Leachate Levels
Blackwell Landfill NPL Site, DuPage County, Illinois

Date	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	SV-8	SV-9	SV-11	SV-12	DV-1	DV-2	DV-3	DV-4	DV-5	DV-6	DV-7	DV-8	DV-9
5/29/2000	734.11	719.2	722.13	720.77	716.7	729.69	727.04	712.49	711.73	738.63	760.91	NA	744.94	732.88	701.65	697.11	717.35	NA	722.98	715.97
6/29/2000	734.26	719.6	722.41	725.88	717.38	731.76	729.59	712.63	711.83	738.68	760.91	NA	742.16	732.85	701.98	695.94	717.41	NA	724.03	717.57
7/27/2000	734.16	719.4	721.68	719.92	716.67	730.13	729.79	712.69	711.93	739.13	761.01	NA	740.09	732.92	701.31	696.29	717.58	NA	722.91	716.17
9/28/2000	NM	719.33	NA	727.31	715.84	727.86	729.28	712.28	711.72	738.36	760.92	NA	NA	732.92	700.38	NA	716.66	740.59	723.45	716.59
10/26/2000	733.99	719.36	NA	725.8	715.79	729.11	729.21	711.58	711.97	738.73	760.97	NA	NA	733.17	700.03	702.02	717.01	NA	722.48	715.38
11/30/2000	734.07	719.74	NA	725.16		727.21	728.89	712.43	711.82	738.78	760.92	NA	NA	733.22	700.55	701.25	716.51	NA	723.68	718.71
12/20/2000	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NA	NA	NM	NM	NM	NM	NM	NM	NM
1/24/2001	NM	716.14	NA	NM	NM	NM	NM	712.73	NM	NM	760.97	NA	NA	733.62	699.73	702.10		NM	NM	717.41
2/20/2001	734.14	717.72	NA	720.46	717.29	729.56	728.21	713.03	712.02	NA	760.97	NA	NA	732.97	704.25	701.55	716.76	NA	726.93	718.86
3/21/2001	734.34	NM	NA	NM	NM	727.56	729.31	713.2	710.07	738.78	760.87	NA	NA	733.37	705.05	702.15	716.76	NA	727.63	722.46
5/31/2001	734.29	719.44	NA	726.16	718.34	728.96	729.11	713.13	713.02	738.68	760.92	NA	NA	732.92	703.4	701.75	716.76	NA	727.18	718.71
7/12/2001	734.34	719.24	NA	721.62	716.15	728.72	729.31	713.58	712.22	739.18	761.14	NA	NA	733.30	702.05	NM	716.98	NA	722.43	716.41
9/20/2001	735.23	719.84	NA	727.36	716.99	728.31	726.91	713.51	714.91	739.00	761.17	NA	NA	732.86	701.72	699.45	716.98	NA	727.12	718.93
11/7/2001	734.39	719.84	NA	727.73	717.5	730.11	727.86	713.83	712.28	739.63	756.2	NA	NA	733.49	703.66	699.1	717.01	NA	722.45	716.81
1/17/2002	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NA	NA	NM	NM	NM	NM	NM	NM	NM
3/28/2002	734.37	720.44	NA	724.46	718.24	729.26	733.43	714.38	712.59	740.13	761.22	NA	NA	733.25	703.55	698.65	717.31	NA	724.74	717.55
5/31/2002	734.24	721.34	NA	723.44	718.57	730.36	733.46	715.03	712.62	740.38	761.23	NA	NA	733.42	704.75	698.65	718.36	NA	726.11	717.56
7/11/2002	734.79	720.64	NA	724.96	717.49	729.96	728.31	714.25	712.37	739.18	761.22	NA	NA	733.41	703.5	NA	717.46	NA	726.38	718.31
9/26/2002	734.19	NM	NA	722.55	715.33	728.86	732.5	714.18	712.74	739.38	761.32	NA	NA	733.42	700.55	NA	717.91	NA	723.13	714.93
11/21/2002	733.86	721.24	NA	722.26	714.24	727.94	730.41	713.88	712.76	739.13	761.27	NA	NA	732.42	699.65	NA	718.06	NA	719.43	713.68
1/30/2003	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NA	NA	NM	NM	NM	718.06	NA	719.43	713.68
4/3/2003	733.64	720.99	NA	726.51	712.84	727.61	730.71	713.25	712.22	740.37	761.37	NA	NA	731.63	700.3	NA	NA	NA	721.23	717.01
6/5/2003	733.79	721.04	NA	724.46	715.39	729.16	730.71	713.53	712.27	741.38	761.32	NA	NA	733.07	703.55	NA	NA	NA	722.3	714.86
8/7/2003	NM	721.44	NA	722.36	714.39	727.26	730.71	714.73	712.17	739.28	761.82	NA	NA	732.62	700.55	NA	742.96	NA	718.93	713.71
9/25/2003	NM	721.39	NA	722.21	713.63	727.56	730.66	713.02	712.07	739.28	761.37	NA	NA	732.37	699.65	NA	742.26	NA	719.05	712.94
11/26/2003	NM	721.69	NA	729.11	714.04	727.51	730.46	713.58	712.12	739.13	761.32	NA	NA	742.62	699.55	NA	742.26	NA	727.43	718.31
1/28/2004	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NA	NA	NM	NM	NM	NM	NM	NM	NM
3/4/2004	NM	722.69	NA	731.26	715.56	728.46	731.61	714.63	712.27	739.18	761.32	NA	NA	732.92	701.25	707.85		NM	727.49	NM
5/6/2004	734.29	720.04	NA	725.86	717.94	728.66	731.21	714.78	712.57	739.58	761.42	NA	NA	733.62	704	708.35		NM	726.43	NM
7/22/2004	734.09		NA	724.95	716.67	727.84	730.25	715.33	NM	739.09	761.42	NA	NA	733.34	703.18	NM		NM	722.82	NM
9/2/2004	733.9	NM	NA	722.84	714.95	726.72		714.49	712.38	738.93	761.42	NA	NA	733.53	701.14			746.44	720.85	714.08
11/10/2004	733.68	NM	NA	722.74	713.96	727.33		716.14	712.55	738.78		NA	NA	732.77	699.53				719.05	712.83

Notes:

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4. Beginning in September 2009, new wellhead configuration allows for leachate level measurement at EW-8.

Table 1
Leachate Levels
Blackwell Landfill NPL Site, DuPage County, Illinois

Date	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	SV-8	SV-9	SV-11	SV-12	DV-1	DV-2	DV-3	DV-4	DV-5	DV-6	DV-7	DV-8	DV-9
1/19/2005	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NA	NA	NM	NM	NM	NM	NM	NM	NM
3/10/2005	734.35	723.44	NA	NM	NM	NM	NM	NM	NM	739.13	761.48	NA	NA	733.95	704.9	NM		NM	NM	NM
5/11/2005	734.28	722.73	NA	724.37	718.15	727.62	729.97	715.83	712.55	739.39	761.49	NA	NA	733.95	703.41	707.76			724.60	NA
7/14/2005	733.98	723.56	NA	722.62	715.59	727.27	731.06	715.70	712.62	739.20	761.46	NA	NA	733.14	700.75				721.03	714.27
9/14/2005	733.85	723.74	NA	722.25	714.12	727.47		714.84	712.58	739.04	761.47	NA	NA	732.80	699.55			746.52	719.26	712.98
11/9/2005	733.56	723.69	NA	722.21	713.33	725.94		713.87	712.44	738.79	761.41	NA	NA	732.13					719.77	712.22
1/11/2006	733.57	723.92	NA	724.58	712.82	725.67		714.29	712.39	738.73	761.39	NA	NA	732.12		707.73			722.02	715.95
3/8/2006	733.55	724.19	NA	729.66	718.11	726.58		715.77	712.73	738.88	761.41	NA	NA	733.21	699.71	707.75			726.73	723.56
5/8/2006	734.24	723.99	NA	733.88	719.61	727.79		716.13	712.45	738.59	761.44	NA	NA	733.68	702.09				726.85	722.88
7/12/2006	734.17	722.02	NA	724.31	718.10			715.81	712.52	738.41	761.41	NA	NA	733.69	701.76				723.83	714.90
9/5/2006	733.94	722.10	NA	723.93	713.32	729.42	729.68	715.47	712.47	738.16	761.42	NA	NA	733.23	700.25		742.94	747.61	721.64	713.38
11/8/2006	734.21		NA	733.06	721.67	728.96	730.07	716.30	712.95	738.81	761.39	NA	NA	733.82	701.45	707.73			727.38	723.06
1/10/2007	734.60		NA	NM	NM	731.94	729.64	717.64	NM	738.17	NM	NA	NA	NM	706.16	NM	742.98	NM	NM	NM
3/12/2007	734.44		NA	NM	723.78	730.56	729.53	717.73	713.13	741.70	761.48	NA	NA	734.15	707.03	708.23	745.41	747.59	726.60	NM
5/9/2007	734.41		NA	733.05	720.66	729.33		717.52	713.38	739.63	761.47	NA	NA	734.52	706.48				727.10	720.96
7/11/2007	733.82		NA	725.11	713.46	730.00		716.92	713.12	739.23	761.42	NA	NA	733.50	702.30				722.99	714.92
9/12/2007	730.68		NA	726.56	713.42	729.08		716.73	712.95	738.68	761.41	NA	NA	733.66	700.86				721.36	714.09
11/14/2007	733.61		NA	724.96	712.58	729.33	730.36	716.35	713.32	739.14	761.48	NA	NA	733.14	699.53	707.58	742.94	747.59	720.15	712.71
1/9/2008	NM		NA	NM	724.15	729.22	730.54	719.17	725.87	738.65	761.46	NA	NA	732.85	NM	717.97	743.02	747.62	727.62	NM
3/10/2008	734.11		NA	NM	NM	730.84	729.67	NM	NM	738.55	761.48	NA	NA	733.52	NM	NM	743.22	747.63	NM	NM
5/14/2008	733.79		NA	NM	724.25	731.84	730.39	718.07	713.93	738.41	761.53	NA	NA	733.81	NM	715.20	742.93	746.62	727.61	NM
7/9/2008	734.16		NA	727.65	718.82	731.17	729.95	717.37	713.78	738.16	761.52	NA	NA	733.10	703.39	707.77	742.95	746.55	724.43	716.23
9/10/2008	734.07		NA	726.36	713.64	730.85		716.68	713.43	737.39	761.39	NA	NA	732.36	700.68				721.89	713.98
11/19/2008	734.27		NA	728.17	722.76	728.86	731.94	717.59	713.82	737.38	761.47	NA	NA	733.09	702.63	707.73		746.42	727.05	723.24
1/21/2009	NM	NM	NA	NM	NM	728.74	731.60	NM	NM	737.67	NM	NA	NA	NM	NM	707.76	NM	746.58	NM	NM
3/9/2009	NM		NA	NM	724.28	730.20	731.43	720.84	715.04	737.93	761.58	NA	NA	733.51	NM	709.05	NM	746.24	727.42	NM
5/13/2009	734.90		NA	NM	724.29	729.14	731.94	719.10	718.72	738.05	761.63	NA	NA	734.68	NM	707.81	748.07		727.72	NM
7/15/2009	734.19		NA	726.89	719.25	726.79	731.12	717.59	714.32	737.62	761.59	NA	NA	733.28	703.45	707.73	742.97	747.72	724.68	716.19
9/23/2009	733.83	741.36	NA	725.86	715.50	726.21		716.78	725.37	737.20	761.52	NA	NA	732.52	701.49	707.71	742.96	746.72	722.64	714.12
11/18/2009	734.30		NA	728.30	721.86	727.97	729.59	717.44	714.46	737.31	761.51	NA	NA	733.27	701.98	707.49			727.08	722.60
1/13/2010	734.22		NA	NM	NM	728.83	NM	NM	NM	739.47	NM	NA	NA	NM	NM	708.21	NM	NM	NM	NM
3/8/2010	736.07		NA	NM	724.24	727.52		719.11	721.80	737.20	761.62	NA	NA	733.27	703.63	709.20		746.59	727.58	NM
5/19/2010	734.12		NA	725.86	720.34	728.20	729.72	718.26	714.98	737.32	761.59	NA	NA	733.41	704.20	707.78	742.98	746.62	727.24	722.41
7/15/2010	734.12		NA	725.66	718.78			717.67	NM	737.27	747.92	NA	NA	733.19	702.66	707.67			725.20	716.08
9/8/2010	734.09		NA	729.24	718.18	726.44		717.90	NM	736.87	761.50	NA	NA	733.38	702.42	707.64	743.00	747.70	724.65	715.40
11/10/2010	733.79		NA	727.06	713.90	726.16		716.46	714.87	736.67	761.50	NA	NA	732.51	700.57		747.71		721.46	713.34
1/12/2011	733.67	NM	NA	NM	714.39	725.67	729.98	NM	NM	736.04	761.57	NA	NA	731.89	700.78	NM		NM	NM	NM
3/16/2011	734.82		NA	NM	NM	726.87	729.80	NM	NM	735.28	761.50	NA	NA	733.35	705.24	714.70	744.07		NM	NM

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Table 1
Leachate Levels
Blackwell Landfill NPL Site, DuPage County, Illinois

Date	DV-10	DV-11	DV-12	DV-13	DV-14	DV-15	DV-16	DV-17	DV-18	EW-1	EW-1A	EW-2	EW-3	EW-4	EW-5	EW-6	EW-7	EW-8
6/21/1996	739.01	750.32	700.67	712.85	NM	NM	NM	NM	NM	714.45	709.73	714.84	724.63	713.48	755.91	712.99	720.01	750.71
7/23/1996	738.71	750.72	704.65	711.7	720.1	700.76	700.84	707.19	NM	714.25	709.73	716.24	727.53	713.28	756.31	714.29	719.21	750.31
10/21/1996	735.97	747.29	700.38	712.63	716.7	698.61	NM	708.16	727.94	719.85	715.18	721.54	731.43	NA	760.71	720.89	725.11	749.21
11/19/1997	734.73	746.75	NA	712.45	717.65	701.11	702.33	713.43	NM	716.55	713.1	720.94	730.21	NA	NA	719.38	723.98	746.23
1/15/1998	738.76	751.42	NA	712.67	717.5	699.06	702.04	706.46	728.54	NM	709.83	719.54	734.06	NA	749.91	719.39	723.81	751.21
2/18/1998	737.26	753.17	NA	713.6	717.75	700.31	702.09	706.59	729.14	715.08	713.78	722.49	733.73	NA	736.76	719.14	723.41	753.21
3/10/1998	735.76	751.77	NA	712.65	717.15	700.61	701.89	706.29	728.84	713.58	713.73	713.59	731.4	NA	738.61	717.69	721.21	NM
4/14/1998	737.04	750.96	NA	713.42	717.46	701.32	702.04	706.87	731.84	714.71	713.8	724.44	732.76	NA	752.84	719.54	722.01	749.82
5/13/1998	737.17	745.47	NA	713.2	717.3	701.91	701.89	706.94	732.89	716.48	711.83	719.44	725.8	NA	740.36	716.99	719.26	744.61
6/17/1998	736.56	748.42	NA	713.15	717.25	700.66	702.29	707.09	NM	714.58	712.73	720.94	726.93	NA	739.96	720.19	724.66	744.81
7/15/1998	738.7	742.57	NA	712.95	717.4	700.8	701.99	707.34	NM	714.68	712.08	720.62	727.28	NA	725.41	720.19	718.16	742.79
8/11/1998	735.41	740.32	NA	713	717.55	699.61	701.94	707.29	729.14	714.73	710.81	716.86	725.8	NA	732.81	719.79	717.71	741.14
9/15/1998	732.66	740.92	NA	712.9	718.05	699.11	701.94	707.14	727.74	714.53	710.78	717.74	725.48	NA	734.51	716.24	716.21	740.76
10/16/1998	733.51	741.87	NA	713.1	718.35	698.86	NM	705.29	728.99	714.58	710.38	716.54	724.38	NA	736.06	718.79	715.21	741.21
11/17/1998	734.86	744.62	NA	713	718.55	699.66	701.84	707.04	728.59	714.48	713.63	717.79	726.53	NA	734.26	719.19	717.21	744.66
12/21/1998	735.03	740.89	NA	713.03	718.76	699.5	702.07	706.96	736.99	714.42	711.68	717.02	726.27	NA	734.25	713.54	715.64	NA
1/12/1999	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NA	NM	NM	NM	NA
2/17/1999	734.88	747.12	NA	713.43	718.48	701.4	702.07	706.96	738.89	714.53	713.68	721.59	732.03	NA	736.86	716.24	717.81	NA
3/24/1999	735.78	749.82	NA	713.76	718.03	701.25	702.07	706.91	739.99	714.52	713.76	723.75	732.03	NA	730.52	715.23	717.41	NA
4/16/1999	739.48	750.5	NA	714.43	718.13	701.45	702.07	707.11	740.09	714.6	713.41	720.99	732.92	NA	736.54	716.84	716.86	NA
5/17/1999	737.03	751.42	NA	713.93	717.78	702.05	702.17	707.51	740.59	NA	711.58	716.34	732.53	NA	734.16	716.49	713.11	NA
6/22/1999	734.03	752.27	NA	713.73	717.63	701.55	702.07	707.51	739.99	714.51	713.68	725.04	731.98	NA	735.81	715.94	714.41	NA
7/22/1999	737.73	752.37	NA	NM	717.88	NM	702.13	707.56	740.78	714.73	NM	715.84	732.33	NA	735.01	716.74	720.11	NA
8/25/1999	729.18	743.27	NA	713.63	718.33	697.1	702.02	705.61	740.44	714.58	710.98	724.24	726.93	NA	731.56	713.87	713.41	NA
9/29/1999	731.98	737.2	NA	711.23	716.48	698.1	701.07	707.51	739.04	715.83	NM	719.7	732.08	NA	726.51	716.09	714.51	NA
10/27/1999	726.48	736.97	NA	711.18	716.68	696.5	702.07	705.61	740.19	714.51	710.48	721.84	733.83	NA	727.41	717.99	709.61	NA
12/1/1999	726.08	736.05	NA	710.68	716.49	696.5	702.07	705.66	741.59	714.36	709.43	717.13	727.82	713.01	716.21	712.28	NM	NA
12/29/1999	728.38	736.15	NA	711.4	716.93	696.58	702.05	705.68	740.89	714.33	710.98	713.89	729.88	NA	710.41	717.11	714.31	NA
1/25/2000	727.78	736.42	NA	710.78	716.63	696.5	702.07	705.21	741.94	714.83	713.03	723.14	731.63	NA	724.61	712.14	714.36	NA
2/29/2000	728.23	739.42	NA	711.28	716.33			705.21	741.24	714.93	713.83	723.04	728.13		726.61	713.19	713.21	NA
3/24/2000	726.41	740.92	NA	710.43	717.98		702.07	707.1	740.24	712.61	708.64	713.55	722.53	NA	720.02	714.44	710.99	NA
4/28/2000	725.26	743.67	NA	713.88		700.2	702.07	706.9	742.84	714.36	711.8	714.22	730.43	NA	722.68	710.31	712.89	NA

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Blackwell Landfill NPL Site, DuPage County, Illinois

Date	DV-10	DV-11	DV-12	DV-13	DV-14	DV-15	DV-16	DV-17	DV-18	EW-1	EW-1A	EW-2	EW-3	EW-4	EW-5	EW-6	EW-7	EW-8
5/29/2000	721.63	743.92	NA	713.63	717.68	699.3	702.07	707.1	742.74	713.86	711.85	717.07	726.93	NA	723.02	711.99	712.69	NA
6/29/2000	721.11	741.56	NA	713.82	717.73	699.28	702.08	707.13	742.84	715.31	711.2	715.87	729.9	NA	730.1	711.19	712.6	NA
7/27/2000	722.73	739.84	NA	714.13	717.98	699	702.17	707.31	742.78	715.19	711.9	716.92	727.05	NA	722.5	712.95	712.63	NA
9/28/2000	723.25	738.25	NA	712.39	714.76	696.37	701.8	706.92	741.33	714.56	713.4	713.78	727.4	NA	717.5	717.09	713.7	NA
10/26/2000	721.4	738.55	NA	713.09	714.27	697.92	702.05	707.22	741.78	714.71	711.2	720.84	728.3	NA	722.72	712.21	712.47	NA
11/30/2000	721.7	740.2	NA	712.69	714.57	698.47	702.05	706.97	741.43	714.76	712.05	717.82	722.38	NA		715.08	712.54	NA
12/20/2000	NM	NM	NA	NM	NM	NM	NM	NM	NM	715.81	713.35	722.82	722.93	NA	NM	713.58	712.39	NA
1/24/2001	NM	NM	NA	713.64	NM	698.22	714.95	706.97	741.53	715.61	713.03	720.62	725.18	NA	725.02	713.68	713.89	NA
2/20/2001	721.55	745.7	NA	713.84	713.72	701.02	719.95	707.07	741.73	714.81	713.35	720.02	NM	NA	723.47	715.58	711.69	NA
3/21/2001	723.75	745	NA	713.79	717.92	701.37	722.55	NM	741.58	NM	NM	720.02	727.33	NA		NM		NA
5/31/2001	723.25	744.5	NA	712.29	715.92	702.47	720.15	709.32	744.83	713.16	713.35	718.17	728.33	NA	723.32	717.28	712.39	NA
7/12/2001	722.90	738.97	NA	715.04	717.54	699.57	712.02	707.87	741.63	760.52	713.26	717.38	728.61	NA	723.32	718.43	712.45	NA
9/20/2001	724.60	737.88	NA	714.39	717.93	698.50	706.07	707.87	742.23	712.71	NA	716.20	723.93	NA	731.32	715.08	712.59	NA
11/7/2001	723.12	744.85	NA	715.72	718.37	700.97	708.15	708.22	742.99	712.56	713.45	717.98	726.92	NA	725.17	720.28	712.44	NA
1/17/2002	NM	NM	NA	NM	NM	NM	NM	NM	NM	714.78	713.2	716.17	724.33	NA	728.26	719.28	712.39	NA
3/28/2002	723.32	749.95	NA	718.52	719.32	700.82	716.16	708.57	743.22	713.26	713.55	717.95	726.23	NA	726.67	719.98	712.29	NA
5/31/2002	724.5	750.8	NA	717.24	718.52	701.53	717.3	708.82	743.38	713.61	713.71	715.97	730.11	NA	726.37	720.41	712.34	NA
7/11/2002	725.65	746.6	NA	715.9	717.87	700.82	712.55	708.62	742.78	715.01	713.82	716.42	728.48	NA	726.77	720.33	712.34	NA
9/26/2002	722.64	739.19	NA	715.99	718.32	698.63	708.13	709.02	742.83	715.91	713.46	716.9	724.38	NA	724.47	NM	712.39	NA
11/21/2002	721.15	748.25	NA	715.24	718.82	697.87	707.05	708.67	739.78	717.36	713.33	717.07	723.38	NA	726.77	721.48	712.37	NA
1/30/2003	721.15	748.25	NA	715.24	718.82	697.87	707.05	708.67	739.78	717.36	713.33	717.07	723.38	NA	726.77	721.48	712.37	NA
4/3/2003	724.6	737.65	NA	714.29	718.55	697.69	724.65	708.07	742.63	721.66	711.82	715.5	718.03	NA	725.93	720.93	712.19	NA
6/5/2003	722.85	748.1	NA	726.29	718.12	701.07	714.65	708.27	742.73	721.31	711.85	722.22	722.83	NA	726.42	724.48	712.79	NA
8/7/2003	721.1	748.1	NA	715.99	717.77	698.87	713.6	708.22	743.13	721.91	711.15	712.72	718.08	NA	728.82	721.88	713.19	NA
9/25/2003	717.3	739.8	NA	715.64	717.68	697.62	709.6	707.92	743.33	722.06	712.45	721.17	718.38	NA	728.47	721.53	712.94	NA
11/26/2003	NM	743.7	NA	714.69	718.45	700.77	723.5	706.3	NM	721.86	713.64	713.12	717.43	NA	728.49	721.98	712.69	NA
1/28/2004	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	718.13	NA	728.19	721.98	712.44	NA
3/4/2004	NM	751.5	NA	714.29	720.72	699.17	718.85	702.57	NM	721.81	713.84	710.32	724.8	NA	728.32	724.38	711.99	NA
5/6/2004	NM	NM	NA	719.39	718.22	701.47	716.65	708.47	NM	714.71	714.05		721.03	NA	727.62	720.68	712.64	NA
7/22/2004	NM	749.1	NA	NM	718.17	NM	716.75	707.17	NM	720.27	713.83	716.49	725.71	NA			712.499	NA
9/2/2004	727.57	746.68	NA	718.59	718.07	699.48	712.52	705.57	744.53	721.56	713.63	715.31	723.03	NA	727.62	719.82	712.67	NA
11/10/2004	720.53	745.63	NA	718.67	718.34	697.67	708.92	708.63	744.88	720.13	712.69	717.04	717.84	NA		721.53	712.59	NA

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1/19/2005	NM	NM	NA	NM	NM	NM	NM	NM	NM	716.35	713.8	716.8	728.32	NA	723.17	722.09	712.73	NA
3/10/2005	NM	NM	NA	NM	NM	NM	NM	NM	NM	715.87	713.87	717.5	730.17	NA	722.82	722.5	712.82	NA
5/11/2005	NA	752.41	NA	719.89	720.17	701.03	712.80	705.85	NA	719.71	713.56	714.28	720.68	NA	721.78	722.02	712.68	NA
7/14/2005	721.14	739.19	NA	719.26	719.11	698.95	707.50	708.69	746.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/14/2005	721.04	738.58	NA	718.27	719.28	697.39	705.30	708.46	745.21	721.87	713.74	721.47	717.59	NA	721.59	NM		NA
11/9/2005	716.42	737.99	NA	719.54	719.29	696.95	703.74	708.06	745.62	721.85	713.14	718.38	717.23	NA	722.97	722.88	712.71	NA
1/11/2006	713.09	738.54	NA	718.90	719.33	696.81	702.59	707.86	745.12	718.06	714.12	717.94	NM	NA	721.40	722.90	712.36	NA
3/8/2006	721.05	744.02	NA	720.25	721.93	698.17	713.86	709.52	744.78	721.91	713.95	715.77	720.54	NA	724.42	723.23	715.80	NA
5/8/2006	721.94	743.60	NA	718.19	719.18	700.37	712.90	713.83	744.24	720.78	713.74	723.26	725.6	NA	724.64	722.48	714.67	NA
7/12/2006	721.43	739.82	NA	717.87	718.52	697.09	707.82	708.59	740.40	720.72	713.76	722.50	719.46	NA	722.70	720.13	716.08	NA
9/5/2006	720.15	739.24	NA	719.38	718.25	698.59	705.79	708.78	738.75	718.70	713.77	730.07	726.98	NA	729.43	720.49	716.66	NA
11/8/2006	730.07	750.13	NA	720.95	719.69	700.51	708.17	712.57	740.89	720.44	714.17	735.56	721.50	NA	723.33	726.90	722.22	NA
1/10/2007	NM	748.80	NA	720.91	720.33	NM	NM	NM	NM	721.58	715.61	731.06	720.95	NA	729.72	729.84	720.63	NA
3/12/2007	726.71	743.94	NA	723.47	719.58	703.34	721.75	712.71	741.46	716.60	713.96	736.61	728.40	NA	723.08	721.74	714.01	NA
5/9/2007	721.42	748.85	NA	719.78	718.95	703.03	711.25	717.62	741.91	721.81	713.71	727.38	729.93	NA	724.02	720.94	716.16	NA
7/11/2007	721.16	738.89	NA	719.13	717.64	700.36	707.59	713.27	741.93	722.17		713.51	728.60	NA		713.62	714.17	NA
9/12/2007	721.45	742.60	NA	718.28	718.10	699.27	708.05	713.77	741.52	NM	712.74	716.47	729.11	NA	722.27	722.43	715.55	NA
11/14/2007	719.09	741.62	NA	719.55	718.70	698.17	706.07	708.53	744.25	722.81	713.86	737.09	729.57	NA	724.63	732.74	716.33	NA
1/9/2008	725.60	NM	NA	723.43	715.87	698.51	713.35	724.65	751.63	722.81	713.88	734.57	729.45	NA	732.61	716.86	715.43	NA
3/10/2008	NM	749.88	NA	721.51	718.61	NM	723.52	NM	NM	722.92	713.93	737.03	735.08	NA	730.95	718.03	716.29	NA
5/14/2008	723.44	752.17	NA	722.21	721.86	702.98	723.12	724.64	742.77	724.39	713.90	734.49	729.60	NA	723.82	722.63	715.82	NA
7/9/2008	722.84	744.08	NA	719.66	720.44	700.00	709.13	NM	742.92	724.75	715.24	737.83	733.02	NA	729.77	723.13	715.19	NA
9/10/2008	721.58	744.91	NA	718.98	720.26	699.05	706.54	NM	742.74	722.18	713.77	726.00	731.75	NA	728.82	723.45	715.07	NA
11/19/2008	723.56	746.45	NA	722.28	722.76	700.54	708.17	715.65	745.16	723.17	713.85	734.02	728.20	NA	731.44	723.93	716.87	NA
1/21/2009	721.45	NM	NA	NM	NM	NM	NM	716.32	NM	NM	713.85	736.88	724.97	NA	731.69	724.35	719.93	NA
3/9/2009	729.95	NM	NA	724.20	727.47	NM	724.17	727.93	749.43	723.36	NM	733.47	729.29	NA	743.08	724.48	718.81	NA
5/13/2009	721.65	750.31	NA	722.44	727.98	703.66	718.35	727.38	753.63	724.19	713.93	737.38	730.07	NA	724.82	724.77	720.33	NA
7/15/2009	721.43	742.55	NA	721.36	723.80	701.04	712.24	723.59	751.43	723.70	712.18	731.63	721.21	NA	729.11	724.79	719.62	NA
9/23/2009	721.42	738.63	NA	721.56	723.02	699.64	708.12	713.97	744.68	723.78	712.43	737.31	725.26	NA	743.04	730.68	721.13	736.06
11/18/2009	721.31	748.22	NA	722.03	727.55	699.72	716.16	726.19		723.40	713.78	730.79	726.95	NA	727.39	730.24	722.15	748.36
1/13/2010	722.14	NM	NA	722.33	NM	NM	717.32	726.65	NM	NM	713.88	737.52	728.86	NA	728.90	725.18	726.48	752.46
3/8/2010	722.14	751.51	NA	721.68	733.55	701.51	720.97	727.34		723.90	713.89	731.38	725.90	NA	741.76	725.18	724.10	750.95
5/19/2010	721.57	751.11	NA	723.25	726.93	701.46	713.11	724.38		726.26	714.10	730.75	724.94	NA	739.88	725.45	724.95	751.30
7/15/2010	721.48	744.25	NA	722.10	724.88	700.08	711.35	718.42		727.26		734.09		NA		725.37	725.29	
9/8/2010	721.36	741.64	NA	721.10	725.27	699.97	713.23	714.91		728.35	713.91	737.14	724.80	NA	734.43	725.42	725.58	740.12
11/10/2010	722.36	739.20	NA	721.33	723.61	698.54	708.81	713.80		722.22	713.89	738.04	721.95	NA	727.58	725.52	723.76	738.39
1/12/2011	NM	NM	NA	721.19	NM	NM	NM	725.51	NM	722.43	713.97	737.40	716.98	NA	742.62	725.35	722.69	741.76
3/16/2011	NM	751.74	NA	724.49	726.87	702.32	NM	722.27		722.90	714.04	734.91	724.65	NA	729.72	725.75	725.50	752.58

Notes:

1. NM = not measured for particular date
2. NA = not analyzed as a part of O&M activities
3. Blank cells indicate that no leachate was recorded at particular location
4. Beginning in September 2009, new wellhead configuration allows for leachate level measurement at EW-8.

Table 2
Average Leachate Elevations per Year of Operation
Blackwell Landfill NPL Site
DuPage County, Illinois

Period	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	SV-8	SV-9	SV-10	SV-11
STARTUP	734.78	719.36	726.07	723.67	718.46	735.31	731.99	710.92	711.03	693.55	738.47
YEAR 1	734.53	718.68	725.07	721.47	718.40	732.23	730.24	711.91	711.58	694.53	738.96
YEAR 2	732.65	718.11	722.77	721.04	715.11	727.78	728.87	711.59	711.05	692.80	737.51
YEAR 3	734.15	718.81	722.07	723.61	716.61	729.11	728.92	712.56	711.64	694.07	738.73
YEAR 4	734.52	719.76	-	725.47	717.44	729.07	729.32	713.69	713.00	-	739.32
YEAR 5	734.14	721.05	-	723.94	715.69	728.95	731.08	714.12	712.54	-	739.69
YEAR 6	733.79	721.65	-	725.88	714.60	727.99	730.83	713.90	712.18	-	739.65
YEAR 7	734.06	721.74	-	724.10	715.88	727.64	730.73	715.19	712.50	-	739.10
YEAR 8	733.80	723.64	-	724.28	715.35	726.76	730.52	715.05	712.55	-	739.01
YEAR 9	734.27	722.70	-	728.80	719.30	729.73	729.73	716.51	712.70	-	738.97
YEAR 10	733.33	-	-	727.42	716.85	729.63	730.19	717.34	715.73	-	738.98
YEAR 11	734.07	-	-	727.39	720.75	730.28	731.06	718.11	714.00	-	737.82
YEAR 12	734.59	741.36	-	727.02	721.03	727.74	730.88	718.00	718.93	-	737.81
YEAR 13	734.10	-	-	726.96	717.12	726.67	729.83	717.57	714.93	-	736.58

Notes:
1. All elevations are in feet above mean sea level.
2. Average elevations were calculated using all measurements collected at particular location during the given time period.

"-" = leachate not recorded at particular location during the given time period.

Table 2
Average Leachate Elevations per Year of Operation
Blackwell Landfill NPL Site
DuPage County, Illinois

Period	SV-12	DV-1	DV-2	DV-3	DV-4	DV-5	DV-6	DV-7	DV-8	DV-9	DV-10
STARTUP	761.87	-	750.69	735.45	701.95	695.96	730.80	748.16	723.85	718.98	737.41
YEAR 1	761.72	-	745.58	734.59	703.51	696.12	722.05	747.71	723.71	719.21	735.91
YEAR 2	759.65	-	742.03	731.83	701.74	695.41	718.94	745.63	720.83	715.73	729.88
YEAR 3	760.94	-	742.40	733.10	701.66	699.80	717.01	740.59	724.26	717.68	722.14
YEAR 4	760.13	-	-	733.16	702.88	699.74	717.01	-	724.78	717.68	723.44
YEAR 5	761.28	-	-	732.86	701.75	698.65	717.97	-	722.62	715.86	723.28
YEAR 6	761.43	-	-	734.72	700.91	707.85	742.49	-	723.04	714.96	720.42
YEAR 7	761.44	-	-	733.44	702.55	708.35	-	746.44	722.29	713.46	724.05
YEAR 8	761.44	-	-	732.89	700.86	707.75	-	746.52	722.24	715.80	718.55
YEAR 9	761.43	-	-	733.71	703.12	707.98	-	747.60	725.26	718.56	724.06
YEAR 10	761.45	-	-	733.53	702.29	712.78	743.06	747.61	723.84	715.67	721.74
YEAR 11	761.50	-	-	733.17	702.23	709.50	742.94	746.48	725.68	717.82	723.80
YEAR 12	761.57	-	-	733.40	702.64	708.03	744.67	747.01	725.94	717.64	721.68
YEAR 13	759.26	-	-	732.96	702.65	709.45	744.44	747.16	724.64	716.81	721.69

Notes:
1. All elevations are in feet above mean sea level.
2. Average elevations were calculated using all measurements collected at particular location during the given time period.

"-" = leachate not recorded at particular location during the given time period.

Table 2
Average Leachate Elevations per Year of Operation
Blackwell Landfill NPL Site
DuPage County, Illinois

Period	DV-11	DV-12	DV-13	DV-14	DV-15	DV-16	DV-17	DV-18	EW-1	EW-1A	EW-2
STARTUP	749.95	701.90	712.65	717.94	699.97	701.83	708.37	728.54	716.04	711.89	719.27
YEAR 1	745.79	-	713.23	717.88	700.47	702.01	706.86	733.09	714.65	712.48	719.33
YEAR 2	742.18	-	712.01	717.19	698.34	701.99	706.42	740.81	714.51	711.44	719.00
YEAR 3	741.63	-	713.45	716.08	698.99	707.74	707.09	741.97	714.96	712.36	718.58
YEAR 4	743.23	-	715.19	717.82	700.47	712.51	708.37	742.98	721.17	713.36	717.31
YEAR 5	745.12	-	715.65	718.48	699.07	712.79	708.65	741.86	716.82	713.25	716.49
YEAR 6	746.24	-	717.38	718.55	699.50	716.04	706.66	743.06	721.79	712.59	715.91
YEAR 7	747.14	-	718.88	718.20	699.54	713.71	707.46	744.71	718.15	713.65	716.63
YEAR 8	741.79	-	719.35	719.85	698.22	707.63	708.07	745.39	720.68	713.70	717.57
YEAR 9	744.26	-	720.13	719.26	699.98	711.29	711.30	741.15	719.80	714.17	729.84
YEAR 10	744.37	-	720.28	717.98	699.87	711.64	715.57	744.25	722.50	713.62	727.68
YEAR 11	746.90	-	721.47	722.56	700.64	714.23	721.14	744.60	723.57	714.12	733.78
YEAR 12	746.24	-	721.90	727.18	701.11	715.53	724.19	749.91	723.79	713.35	734.34
YEAR 13	745.59	-	722.24	725.51	700.47	711.63	719.88	-	724.90	713.98	735.39

Notes:

1. All elevations are in feet above mean sea level.
2. Average elevations were calculated using all measurements collected at particular location during the given time period.

"-" = leachate not recorded at particular location during the given time period.

Table 2
Average Leachate Elevations per Year of Operation
Blackwell Landfill NPL Site
DuPage County, Illinois

Period	EW-3	EW-4	EW-5	EW-6	EW-7	EW-8
STARTUP	730.27	713.38	751.92	717.68	722.59	750.15
YEAR 1	728.43	-	736.38	717.73	718.41	743.73
YEAR 2	730.01	713.01	725.92	714.72	713.72	-
YEAR 3	726.38	-	723.47	713.71	712.73	-
YEAR 4	726.39	-	726.34	718.39	712.43	-
YEAR 5	724.63	-	726.18	720.93	712.33	-
YEAR 6	719.94	-	728.12	722.71	712.67	-
YEAR 7	724.35	-	725.31	721.32	712.66	-
YEAR 8	719.01	-	722.43	722.76	713.39	-
YEAR 9	723.82	-	725.48	723.60	717.38	-
YEAR 10	730.29	-	726.90	720.77	715.66	-
YEAR 11	729.47	-	731.44	723.66	716.95	-
YEAR 12	726.38	-	732.50	726.81	722.30	746.96
YEAR 13	722.66	-	734.85	725.48	724.63	744.83

Notes:

1. All elevations are in feet above mean sea level.
2. Average elevations were calculated using all measurements collected at particular location during the given time period.

"-" = leachate not recorded at particular location during the given time period.

Table 3
Leachate Disposal - Daily Basis
Blackwell Landfill NPL Site, DuPage County, Illinois

Date	EW1 (gallons)	EW1A (gallons)	EW2 (gallons)	EW3 (gallons)	EW4 (gallons)	EW5 (gallons)	EW6 (gallons)	EW7 (gallons)	EW8 (gallons)	LS01 (gallons)	LS02 (gallons)	Extraction Wells (gallons)	Lift Station (gallons)	Cumulative Totals		
														Total EW (gallons)	Total LS (gallons)	Total LCS (gallons)
5/4/2010	310	1,816	1,127	3,689	304	2,755	0	0	0	0	0	10,000	0	4,831,804	1,892,449	6,724,253
5/6/2010	118	553	3,112	3,935	277	2,000	5	0	0	0	0	10,000	0	4,841,804	1,892,449	6,734,253
5/11/2010	45	234	360	591	40	385	1	4	46	8,294	0	1,706	8,294	4,843,511	1,900,743	6,744,253
5/13/2010	61	232	604	896	70	404	1	29	33	7,670	0	2,330	7,670	4,845,841	1,908,413	6,754,253
5/18/2010	37	39	631	1,171	89	574	1	51	42	7,365	0	2,635	7,365	4,848,475	1,915,778	6,764,253
5/20/2010	24	28	229	953	64	352	0	0	0	8,348	0	1,652	8,348	4,850,127	1,924,127	6,774,253
5/25/2010	46	72	808	1,165	41	652	0	0	0	7,216	0	2,784	7,216	4,852,911	1,931,342	6,784,253
5/27/2010	31	35	467	1,371	71	541	3	66	56	7,359	0	2,641	7,359	4,855,552	1,938,701	6,794,253
6/1/2010	27	32	312	705	38	292	0	49	32	7,513	0	1,487	7,513	4,857,039	1,946,214	6,803,253
6/3/2010	16	63	323	624	59	251	1	44	24	1,095	0	1,405	1,095	4,858,444	1,947,310	6,805,753
6/8/2010	23	214	542	987	74	504	0	40	38	7,076	0	2,424	7,076	4,860,867	1,954,386	6,815,253
6/10/2010	96	114	728	791	75	443	0	33	41	7,678	0	2,322	7,678	4,863,189	1,962,064	6,825,253
6/15/2010	87	317	380	1,094	118	875	0	100	74	6,954	0	3,046	6,954	4,866,235	1,969,018	6,835,253
6/17/2010	86	195	588	960	52	746	0	100	27	7,246	0	2,754	7,246	4,868,989	1,976,264	6,845,253
6/22/2010	69	331	565	1,222	114	457	1	96	82	7,062	0	2,938	7,062	4,871,928	1,983,326	6,855,253
6/24/2010	88	621	938	1,927	125	1,293	6	24	4,874	104	0	9,896	104	4,881,824	1,983,429	6,865,253
6/29/2010	57	550	541	1,149	124	813	3	6,744	18	0	0	10,000	0	4,891,824	1,983,429	6,875,253
7/1/2010	3	18	26	124	2	25	0	9,301	0	0	0	9,500	0	4,901,324	1,983,429	6,884,753
7/6/2010	3	19	27	131	2	27	0	9,791	0	0	0	10,000	0	4,911,324	1,983,429	6,894,753
7/8/2010	0	3	8	23	1	7	0	8,058	0	0	0	8,100	0	4,919,424	1,983,429	6,902,853
7/13/2010	118	717	1,736	4,546	259	1,625	2	997	0	0	0	10,000	0	4,929,424	1,983,429	6,912,853
7/15/2010	63	216	992	2,050	150	1,055	6	468	1	0	0	5,000	0	4,934,424	1,983,429	6,917,853
7/20/2010	232	811	1,266	4,708	339	1,475	0	1,169	0	0	0	10,000	0	4,944,424	1,983,429	6,927,853
7/22/2010	185	687	2,255	4,975	234	1,336	0	194	130	3	0	9,997	3	4,954,421	1,983,433	6,937,853
7/27/2010	209	1,101	2,399	3,580	275	1,949	2	243	242	0	0	10,000	0	4,964,421	1,983,433	6,947,853
7/29/2010	89	1,574	2,686	2,978	311	1,814	3	483	63	0	0	10,000	0	4,974,421	1,983,433	6,957,853
8/3/2010	108	1,164	923	5,053	221	1,853	3	598	58	19	0	9,981	19	4,984,402	1,983,452	6,967,853
8/5/2010	0	588	967	2,504	166	1,266	0	9	0	0	0	5,500	0	4,989,902	1,983,452	6,973,353
8/10/2010	88	1,707	1,274	5,114	219	1,576	0	21	2	0	0	10,000	0	4,999,902	1,983,452	6,983,353
8/12/2010	39	383	411	1,707	146	1,132	0	6,140	42	0	0	10,000	0	5,009,902	1,983,452	6,993,353
8/17/2010	50	407	922	3,361	101	509	0	4,105	45	0	0	9,500	0	5,019,402	1,983,452	7,002,853
8/19/2010	1,063	1,567	1,186	4,387	145	0	0	666	985	0	0	10,000	0	5,029,402	1,983,452	7,012,853
8/24/2010	70	554	1,324	1,345	103	1,230	0	5,374	0	0	0	10,000	0	5,039,402	1,983,452	7,022,853
8/26/2010	86	187	560	3,183	134	802	1	4,782	189	78	0	9,922	78	5,049,324	1,983,529	7,032,853
8/31/2010	18	1,267	2,163	4,190	288	1,605	0	250	193	26	0	9,974	26	5,059,298	1,983,555	7,042,853
9/2/2010	91	508	943	1,799	111	1,269	2	143	136	0	0	5,000	0	5,064,298	1,983,555	7,047,853
9/7/2010	45	560	762	1,500	134	223	10	6,746	16	3	0	9,997	3	5,074,296	1,983,558	7,057,853
9/9/2010	64	309	887	1,376	89	140	0	103	31	0	0	3,000	0	5,077,296	1,983,558	7,060,853
9/14/2010	230	1,973	2,312	4,286	373	207	0	215	403	0	0	10,000	0	5,087,296	1,983,558	7,070,853
9/16/2010	13	377	695	1,190	124	81	3	9	8	0	0	2,500	0	5,089,796	1,983,558	7,073,353
9/21/2010	0	8	14	23	2	5	0	4,948	0	0	0	5,000	0	5,094,796	1,983,558	7,078,353
9/23/2010	85	738	1,006	2,090	218	981	7	0	76	0	0	5,200	0	5,099,996	1,983,558	7,083,553
9/28/2010	54	702	737	1,766	192	1,407	2	76	52	11	0	4,989	11	5,104,985	1,983,569	7,088,553
9/30/2010	102	708	876	1,785	212	1,247	3	37	30	0	0	5,000	0	5,109,985	1,983,569	7,093,553
10/5/2010	100	446	1,134	2,412	256	1,365	6	161	119	0	0	6,000	0	5,115,985	1,983,569	7,099,553
10/7/2010	28	238	251	875	132	912	1	0	30	34	0	2,466	34	5,118,451	1,983,602	7,102,053

Table 3
Leachate Disposal - Daily Basis
Blackwell Landfill NPL Site, DuPage County, Illinois

Date	EW1 (gallons)	EW1A (gallons)	EW2 (gallons)	EW3 (gallons)	EW4 (gallons)	EW5 (gallons)	EW6 (gallons)	EW7 (gallons)	EW8 (gallons)	LS01 (gallons)	LS02 (gallons)	Extraction Wells (gallons)	Lift Station (gallons)	Cumulative Totals		
														Total EW (gallons)	Total LS (gallons)	Total LCS (gallons)
10/12/2010	23	169	354	530	207	648	1	2	3,063	4	0	4,996	4	5,123,447	1,983,607	7,107,053
10/19/2010	55	228	553	1,390	124	807	2	2	1,840	0	0	5,000	0	5,128,447	1,983,607	7,112,053
10/26/2010	49	324	668	2,259	119	1,184	0	60	5,338	0	0	10,000	0	5,138,447	1,983,607	7,122,053
10/28/2010	279	340	583	2,424	710	258	12	133	261	0	0	5,000	0	5,143,447	1,983,607	7,127,053
11/2/2010	379	403	2,111	4,914	437	607	10	293	847	0	0	10,000	0	5,153,447	1,983,607	7,137,053
11/3/2010	415	126	207	626	75	198	1	158	194	0	0	2,000	0	5,155,447	1,983,607	7,139,053
11/4/2010	1,141	348	571	1,717	205	544	3	437	535	0	0	5,500	0	5,160,947	1,983,607	7,144,553
11/9/2010	181	264	673	3,392	427	593	0	230	31	8	0	5,792	8	5,166,739	1,983,614	7,150,353
11/16/2010	361	215	1,763	4,914	516	179	0	115	1,936	0	0	10,000	0	5,176,739	1,983,614	7,160,353
11/18/2010	258	87	152	726	297	473	0	2,701	52	56	0	4,744	56	5,181,483	1,983,670	7,165,153
11/23/2010	2	8	159	538	76	324	0	3,392	1	0	0	4,500	0	5,185,983	1,983,670	7,169,653
11/29/2010	268	400	44	308	44	763	0	819	188	467	0	2,833	467	5,188,815	1,984,138	7,172,953
12/9/2010	49	77	538	1,985	327	1,882	0	74	63	7	0	4,993	7	5,193,808	1,984,145	7,177,953
12/16/2010	51	94	383	1,902	281	2,129	0	78	81	0	0	5,000	0	5,198,808	1,984,145	7,182,953
12/24/2010	145	40	412	1,796	309	2,051	0	54	193	0	0	5,000	0	5,203,808	1,984,145	7,187,953
12/30/2010	103	142	676	1,576	301	1,818	0	172	168	43	0	4,957	43	5,208,766	1,984,188	7,192,953
1/6/2011	29	55	342	1,719	314	2,293	1	100	109	39	0	4,961	39	5,213,727	1,984,226	7,197,953
1/13/2011	170	232	415	3,010	422	3,093	0	262	395	0	0	8,000	0	5,221,727	1,984,226	7,205,953
1/20/2011	123	162	1,313	2,949	453	3,000	0	155	144	0	0	8,300	0	5,230,027	1,984,226	7,214,253
1/27/2011	44	44	460	1,468	228	1,631	0	82	44	0	0	4,000	0	5,234,027	1,984,226	7,218,253
2/3/2011	31	23	274	817	102	801	2	118	32	0	0	2,200	0	5,236,227	1,984,226	7,220,453
2/10/2011	10	18	253	732	131	771	0	69	10	7	0	1,993	7	5,238,221	1,984,233	7,222,453
2/17/2011	26	29	198	539	90	570	0	35	3,513	1	0	4,999	1	5,243,220	1,984,233	7,227,453
2/24/2011	303	307	922	4,818	485	2,330	0	262	550	24	0	9,976	24	5,253,196	1,984,257	7,237,453
3/1/2011	204	304	326	6,527	208	1,614	0	496	291	29	0	9,971	29	5,263,167	1,984,286	7,247,453
3/3/2011	217	217	453	2,160	103	864	0	244	1,217	25	0	5,475	25	5,268,642	1,984,311	7,252,953
3/8/2011	113	166	520	7,771	241	860	0	200	121	8	0	9,992	8	5,278,634	1,984,320	7,262,953
3/10/2011	83	174	957	1,614	235	729	0	156	161	891	0	4,109	891	5,282,742	1,985,211	7,267,953
3/15/2011	89	88	670	1,974	92	546	0	150	122	1,268	0	3,732	1,268	5,286,474	1,986,479	7,272,953
3/17/2011	202	176	670	6,035	167	1,032	0	235	161	1,323	0	8,677	1,323	5,295,152	1,987,802	7,282,953
3/22/2011	337	426	1,542	6,208	480	2	0	563	326	117	0	9,883	117	5,305,035	1,987,919	7,292,953
3/24/2011	217	334	1,600	6,662	171	218	0	405	314	79	0	9,921	79	5,314,956	1,987,998	7,302,953
3/29/2011	83	94	592	2,966	172	784	0	119	123	68	0	4,932	68	5,319,888	1,988,066	7,307,953
3/31/2011	80	72	1,195	2,347	144	935	0	103	111	12	0	4,988	12	5,324,875	1,988,078	7,312,953
4/6/2011	339	899	1,613	4,465	366	1,362	0	454	503	0	0	10,000	0	5,334,875	1,988,078	7,322,953
4/12/2011	308	269	1,834	5,061	318	1,544	0	304	314	47	0	9,953	47	5,344,828	1,988,125	7,332,953
4/14/2011	313	824	1696	4704	229	1392	0	459	359	24	0	9,976	24	5,354,804	1,988,150	7,342,953
4/18/2011	129	155	915	2040	205	1189	0	143	174	50	0	4,950	50	5,359,754	1,988,200	7,347,953
4/19/2011	98	134	905	2686	107	691	0	224	155	0	0	5,000	0	5,364,754	1,988,200	7,352,953
4/21/2011	34	26	250	676	32	279	0	33	1261	10	0	2,590	10	5,367,344	1,988,210	7,355,553
4/26/2011	122	46	1069	4438	87	523	0	203	3494	17	0	9,983	17	5,377,327	1,988,226	7,365,553
4/28/2011	96	109	299	3573	200	1364	0	119	4241	0	0	10,000	0	5,387,327	1,988,226	7,375,553

Notes:
EW = Extraction Well
LCS = Leachate Collection System
LS = Lift Station

Table 4
Leachate Disposal - Yearly Basis
Blackwell Landfill NPL Site, DuPage County, Illinois

	Leachate Removal from Individual Extraction Wells (gallons)															
Extraction Well	Startup Dec. 1997 - Feb. 1998	Year 1 March 1998 - April 1999	Year 2 May 1999 - April 2000	Year 3 May 2000 - April 2001	Year 4 May 2001 - April 2002	Year 5 May 2002 - April 2003	Year 6 May 2003 - April 2004	Year 7 May 2004 - April 2005	Year 8 May 2005 - April 2006	Year 9 May 2006 - April 2007	Year 10 May 2007 - April 2008	Year 11 May 2008 - April 2009	Year 12 May 2009 - April 2010	Year 13 May 2010 - April 2011	Cumulative Total	Yearly Average
EW-1	833	46,087	25,471	17,143	45,274	15,792	6,669	5,237	9,439	24,687	3,784	21,681	5,479	12,016	239,590	18,366
EW-1A	547	8,712	4,584	11,029	13,188	4,026	6,016	3,283	19,847	37,715	7,802	6,715	8,682	33,629	165,774	12,710
EW-2	914	33,996	40,400	56,970	52,608	18,724	19,915	24,888	16,718	28,422	33,460	61,992	60,181	74,123	523,311	40,184
EW-3	3,589	96,472	72,175	144,770	72,347	26,795	18,062	15,188	33,827	147,336	21,994	130,131	166,669	215,250	1,164,605	89,309
EW-4	881	3,024	4,526	11,533	2,985	4,014	12,470	11,077	7,475	11,210	8,075	8,973	9,586	16,912	112,742	8,605
EW-5	1,841	32,345	41,765	32,441	22,578	13,805	9,245	10,473	40,402	77,344	53,310	80,697	69,278	85,336	570,859	43,771
EW-6	1,608	34,474	14,266	14,331	5,632	3,161	4,358	695	29	3,695	2,031	1,703	300	107	86,388	6,522
EW-7	2,694	182,798	41,832	31,046	19,308	16,454	11,321	12,159	24,660	87,732	64,204	102,451	18,444	86,881	701,983	53,792
EW-8	2,678	183,340	94,186	147,455	143,203	133,632	220,738	303,163	232,709	208,433	100,815	8,545	1,906	41,270	1,822,074	139,954
EW Subtotal	**15,585**	**621,248**	**339,205**	**466,718**	**377,122**	**236,403**	**308,793**	**386,164**	**385,105**	**626,574**	**295,475**	**422,887**	**340,524**	**565,523**	**5,387,327**	**413,211**
LS-01	10,082	227,965	120,844	174,240	136,778	55,597	64,507	116,536	42,295	79,226	187,300	302,663	337,176	95,777	1,950,987	149,300
LS-02	10,941	26,298	0	0	0	0	0	0	0	0	0	0	0	0	37,239	2,023
LS Subtotal	**21,023**	**254,264**	**120,844**	**174,240**	**136,778**	**55,597**	**64,507**	**116,536**	**42,295**	**79,226**	**187,300**	**302,663**	**337,176**	**95,777**	**1,988,226**	**151,323**
Total	**36,608**	**875,512**	**460,050**	**640,958**	**513,900**	**292,000**	**373,300**	**502,700**	**427,400**	**705,800**	**482,775**	**725,550**	**677,700**	**661,300**	**7,375,553**	**564,534**
Precipitation (in.)[1]	4.71	43.56	22.13	29.56	38.54	26.79	27.30	29.67	21.64	33.44	25.14	44.04	28.77	38.30	413.59	29.54
Total Gallons[2]	5,116,196	47,316,667	24,038,518	32,109,290	41,863,736	29,100,402	29,654,385	32,228,776	23,506,260	36,323,906	27,308,104	47,838,062	31,251,159	41,603,038	449,258,498	32,089,893

Notes:
1 = Total precipitation as recorded at the nearby DuPage County Airport
2 = Total gallons of precipitation calculated for the 40-acre Blackwell Landfill

Table 5
Cumulative Leachate Removal
(Sorted by Extracted Leachate Volume)
Blackwell Landfill NPL Site, DuPage County, Illinois

Extraction Wells/ Lift Stations	Total Volume Removed[1] (gallons)	Average Extraction Rate[2] (gallons/month)	Contribution to Total (%)	Cumulative Volume Extracted (gallons)	Cumulative Contribution to Total (%)
LS-01	1,950,987	12,284	26.5	1,950,987	26.5
EW-8	1,822,074	11,515	24.7	3,773,060	51.2
EW-3	1,164,605	7,348	15.8	4,937,666	66.9
EW-7	701,983	4,426	9.5	5,639,649	76.5
EW-5	570,859	3,601	7.7	6,210,508	84.2
EW-2	523,311	3,306	7.1	6,733,820	91.3
EW-1	239,590	1,511	3.2	6,973,409	94.5
EW-1A	165,774	1,046	2.2	7,139,184	96.8
EW-4	112,742	708	1.5	7,251,926	98.3
EW-6	86,388	537	1.2	7,338,314	99.5
LS-02	37,239	166	0.5	7,375,553	100.0
TOTAL	**7,375,553**	**46,449**	**100.0**	**7,375,553**	**100.0**

Notes:

1. Cumulative leachate volumes are from December 1, 1997 to April 30, 2011.
2. During routine pumping.

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	LLSV8-01	LLDV5-01	Average	BW-LCS-01	BW-LCS-02	BW-LCS-03	BW-LCS-04	BW-LCS-05	BW-LCS-06	BW-LCS-07	BW-LCS-08	BW-LCS-09	BW-LCS-10	BW-LCS-11	BW-LCS-12
		Sep-91	Sep-91	Sep-91	Dec-97	Jan-98	Feb-98	Jun-98	Sep-98	Dec-98	Mar-99	Jul-99	Dec-99	Apr-00	Jul-00	Oct-00
Conventionals																
BOD_5	mg/L	NA	NA	NA	11,000	10,000	1,530	14,200	29,100	5,940	13,700	3,980	10,700	311	871	4,760
COD	mg/L	NA	NA	NA	15,000	13,300	1,990	19,900	22,900	7,920	22,600	4,440	16,000	969	1,450	5,900
Nitrogen Ammonia	mg/L	464	395	429.5	427	339	58.1	770	1,100	210	739	180	590	140	66.8	380
Oil & Grease	mg/L	NA	NA	NA	526	153	<1	486	<1	31	3	2	9	3	<1	226
pH @ 25 °C	units	NA	NA	NA	6.69	6.61	6.44	6.72	6.72	6.42	6.71	7.03	6.85	7.02	6.94	7.53
Phenol	mg/L	NA	NA	NA	0.44	1.76	0.43	3.09	5.7	1.46	3.2	0.7	2.5	0.28	0.18	0.83
Total Dissolved Solids	mg/L	12,700	5,690	9,195	13,200	11,400	2,550	18,260	21,000	6,850	23,300	4,920	16,900	3,290	3,490	6,780
Total Suspended Solids	mg/L	NA	NA	NA	417	476	224	2,040	215	264	1160	200	827	185	48	206
Cyanide	mg/L	ND	0.007	0.0035	NA	0.014	<0.005	<0.025	<0.025	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005
Fluoride	mg/L	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	NA	NA	NA	NA	NA	1330	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite	mg/L	3.18	0.06	1.62	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	mg/L	NA	NA	NA	NA	NA	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	725	41	383	NA	NA	192	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																
Arsenic	mg/L	0.045	0.045	0.045	0.008	<0.002	<0.002	<0.002	<0.004	<0.002	<0.004	NA	<0.04	<0.002	0.004	0.004
Barium	mg/L	0.612	0.32	0.466	0.273	0.304	0.178	2.02	0.918	0.192	0.578	NA	0.625	0.377	0.218	0.073
Boron	mg/L	NA	NA	NA	4.8	3.87	1.24	6.32	7.15	2.26	7.71	NA	6.29	1.65	1.07	3.15
Cadmium	mg/L	0.026	0.007	0.0165	0.082	0.051	0.008	0.18	0.049	0.037	0.062	NA	0.092	0.006	0.002	<0.001
Chromium	mg/L	0.022	0.144	0.083	0.008	0.01	0.871	0.07	0.022	0.005	0.018	NA	0.021	0.007	0.004	0.009
Chromium, Hexavalent	mg/L	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.05
Chromium, Trivalent	mg/L	NA	NA	NA	NA	NA	0.871	NA	NA	NA	NA	NA	NA	NA	NA	<0.05
Copper	mg/L	ND	0.069	0.0345	<0.01	<0.01	0.025	<0.001	<0.002	<0.01	<0.002	NA	0.297	<0.001	<0.001	0.076
Iron	mg/L	2,120	182	1,151	550	542	89.6	792	552	451	1,010	NA	1,300	68.7	3.3	49
Lead	mg/L	0.03	0.396	0.213	0.1	0.066	0.014	0.534	0.138	0.05	0.109	NA	NA	0.027	0.009	0.003
Manganese	mg/L	30.6	2.86	16.73	8.5	8.72	1.82	13.4	8.71	8.7	14.6	NA	13.8	1.45	2.13	2.15
Mercury	mg/L	ND	0.002	0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.001	NA	<0.001	<0.0005	<0.0005	<0.0005
Nickel	mg/L	0.233	0.186	0.2095	0.131	0.109	0.352	0.218	0.167	0.085	0.214	NA	0.167	0.036	0.023	0.062
Selenium	mg/L	NA	NA	NA	<0.02	<0.02	<0.02	<0.002	<0.004	<0.02	<0.004	NA	<0.04	<0.002	<0.002	<0.002
Silver	mg/L	0.03	ND	0.015	<0.001	<0.001	<0.01	<0.001	<0.002	<0.001	<0.002	NA	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	60.5	1.48	30.99	19.9	18.5	2.6	11.2	3.09	16.5	23.8	NA	28.8	2.93	0.5	0.454
Volatile Organic Compounds																
Acetone	ug/L	10,000	49	5,025	2,420	NA	442	NA	12,600	NA	7,710	NA	6,300	NA	NA	NA
Acrolein	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	NA
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	NA
Benzene	ug/L	160	27	93.5	26.1 J	NA	25.5	NA	36.2	NA	32	NA	18.01	8.4	5.3	NA
Bromodichloromethane	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Bromoform	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Bromomethane	ug/L	NA	NA	NA	<100	NA	<10	NA	<10	NA	<10	NA	<10	<10	<10	NA
2-Butanone	ug/L	NA	NA	NA	7,410	NA	854	NA	24,300	NA	17,000	NA	22,100	NA	NA	NA
Carbon disulfide	ug/L	ND	ND	ND	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Carbon tetrachloride	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Chlorobenzene	ug/L	ND	ND	ND	10.6 J	NA	124	NA	20.4	NA	11	NA	<5	25.2	<5	NA
Chlorodibromomethane	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Chloroethane	ug/L	NA	NA	NA	<100	NA	<10	NA	23.4	NA	12	NA	<10	<10	<10	NA
2-Chloroethylvinyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	NA
Chloroform	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Chloromethane	ug/L	NA	NA	NA	<100	NA	<10	NA	<10	NA	<10	NA	<10	<10	<10	NA

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	LLSV8-01	LLDV5-01	Average	BW-LCS-01	BW-LCS-02	BW-LCS-03	BW-LCS-04	BW-LCS-05	BW-LCS-06	BW-LCS-07	BW-LCS-08	BW-LCS-09	BW-LCS-10	BW-LCS-11	BW-LCS-12
		Sep-91	Sep-91	Sep-91	Dec-97	Jan-98	Feb-98	Jun-98	Sep-98	Dec-98	Mar-99	Jul-99	Dec-99	Apr-00	Jul-00	Oct-00
Volatile Organic Compounds (Continued)																
1,1-Dichloroethane	ug/L	180	3	91.5	<50	NA	10.3	NA	9.2	NA	9	NA	<5	<5	<5	NA
1,2-Dichloroethane	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
1,1-Dichlorethene	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
cis-1,2-Dichloroethene	ug/L	NA	NA	NA	116	NA	99.2	NA	43	NA	88	NA	45.2	<5	<5	NA
trans-1,2-Dichloroethene	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
1,2-Dichloroethene (total)	ug/L	280	7	143.5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
1,2-Dichloropropane	ug/L	ND	ND	ND	<50	NA	14.2	NA	<5	NA	<5	NA	<5	<5	<5	NA
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Ethyl Benzene	ug/L	84	130	107	38.4 J	NA	27.6	NA	38.5	NA	48	NA	42.8	7.2	<5	NA
2-Hexanone	ug/L	NA	NA	NA	<100	NA	<10	NA	29.6	NA	24	NA	<10	NA	NA	NA
4-Methyl-2-pentanone	ug/L	1,100	28	564	144	NA	61.4	NA	544	NA	472	NA	353	NA	NA	NA
Methylene chloride	ug/L	NA	NA	NA	<50	NA	41.5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Styrene	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	NA	NA	NA
1,1,2,2-Tetrachloroethane	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Tetrachloroethene	ug/L	ND	ND	ND	<50	NA	<5	NA	<5	NA	5	NA	17.8	<5	<5	NA
Toluene	ug/L	1,800	49	924.5	197	NA	117	NA	119	NA	192	NA	113	30.2	11.7	NA
1,1,1-Trichloroethane	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
1,1,2-Trichloroethane	ug/L	NA	NA	NA	<50	NA	<5	NA	<5	NA	<5	NA	<5	<5	<5	NA
Trichloroethene	ug/L	170	ND	85	23.7 J	NA	11.1	NA	6.2	NA	19	NA	15.4	<5	<5	NA
Vinyl Acetate	ug/L	NA	NA	NA	<100	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA	NA
Vinyl Chloride	ug/L	ND	ND	ND	<100	NA	<10	NA	<10	NA	<10	NA	<10	<10	<10	NA
Xylenes (total)	ug/L	260	400	330	175	NA	95.8	NA	186	NA	<5	NA	228	NA	NA	NA
Semivolatile Organic Compounds																
Acenaphthene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Acenaphthylene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Anthracene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzidine	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzo[a]anthracene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzo[b]fluoranthene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzo[k]fluoranthene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzo[g,h,i]perylene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzo[a]pyrene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Benzoic Acid	ug/L	NA	NA	NA	<250	NA	<50	NA	3,990	NA	15,400	NA	3,130	NA	NA	NA
Benzyl Alcohol	ug/L	NA	NA	NA	<100	NA	<20	NA	<400	NA	<600	NA	<200	NA	NA	NA
bis(2-chloroethoxy)methane	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
bis(2-chloroethyl) ether	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
bis(2-chloroisopropyl) ether	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
bis(2-ethylhexyl) phthalate	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
4-Bromophenyl-phenylether	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Butylbenzylphthalate	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
4-Chloroaniline	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	NA	NA	NA
4-Chloro-3-methylphenol	ug/L	ND	34	17	<100	NA	<20	NA	<400	NA	<600	NA	<200	<20	<20	NA
2-Chloronaphthalene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
2-Chlorophenol	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
4-Chlorophenyl-phenylether	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Chrysene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	LLSV8-01	LLDV5-01	Average	BW-LCS-01	BW-LCS-02	BW-LCS-03	BW-LCS-04	BW-LCS-05	BW-LCS-06	BW-LCS-07	BW-LCS-08	BW-LCS-09	BW-LCS-10	BW-LCS-11	BW-LCS-12
		Sep-91	Sep-91	Sep-91	Dec-97	Jan-98	Feb-98	Jun-98	Sep-98	Dec-98	Mar-99	Jul-99	Dec-99	Apr-00	Jul-00	Oct-00
Semivolatile Organic Compounds (Continued)																
Dibenzofuran	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	NA	NA	NA
1,2-Dichlorobenzene	ug/L	ND	4	2	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
1,3-Dichlorobenzene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
1,4-Dichlorobenzene	ug/L	ND	940	470	<50	NA	<10	NA	<200	NA	<300	NA	<100	27	12	NA
3,3-Dichlorobenzidine	ug/L	NA	NA	NA	<100	NA	<20	NA	<400	NA	<600	NA	<200	<20	<20	NA
2,4-Dichlorophenol	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Diethylphthalate	ug/L	ND	33	16.5	<50	NA	147	NA	<200	NA	<300	NA	<100	<10	12	NA
2,4-Dimethylphenol	ug/L	ND	10	5	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Dimethylphthalate	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Di-n-butylphthalate	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
4,6-Dinitro-2-methylphenol	ug/L	NA	NA	NA	<250	NA	<50	NA	<1,000	NA	<1,500	NA	<500	<50	<50	NA
2,4-Dinitrophenol	ug/L	NA	NA	NA	<250	NA	<50	NA	<1,000	NA	<1,500	NA	<500	<50	<50	NA
2,4-Dinitrotoluene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
2,6-Dinitrotoluene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
1,2-Diphenylhydrazine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<10	NA
Di-n-octylphthalate	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Fluoranthene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Fluorene	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Hexachlorobenzene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Hexachlorobutadiene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Hexachlorocyclopentadiene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Hexachloroethane	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Indeno[1,2,3-cd]pyrene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Isophorone	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
2-Methylnaphthalene	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	NA	NA	NA
2-Methylphenol	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	<50	<50	NA
3&4-Methylphenol	ug/L	17,000	5	8,503	229	NA	275	NA	10,100	NA	7,640	NA	6,870	157	380	NA
Naphthalene	ug/L	ND	960	480	<50	NA	<10	NA	866	NA	<300	NA	<100	15	<10	NA
2-Nitroaniline	ug/L	NA	NA	NA	<250	NA	<50	NA	<1,000	NA	<1,500	NA	<500	NA	NA	NA
3-Nitroaniline	ug/L	NA	NA	NA	<250	NA	<50	NA	<1,000	NA	<1,500	NA	<500	NA	NA	NA
4-Nitroaniline	ug/L	NA	NA	NA	<100	NA	<20	NA	<400	NA	<600	NA	<200	NA	NA	NA
Nitrobenzene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
2-Nitrophenol	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
4-Nitrophenol	ug/L	NA	NA	NA	<250	NA	<50	NA	<1,000	NA	<1,500	NA	<500	<50	<50	NA
N-Nitrosodimethylamine	ug/L	ND	ND	ND	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
N-Nitroso-di-n-propylamine	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
n-Nitrosodiphenylamine	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Pentachlorophenol	ug/L	ND	ND	ND	<250	NA	<50	NA	<1,000	NA	<1,500	NA	<500	<50	<50	NA
Phenanthrene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Phenol	ug/L	ND	ND	ND	124	NA	111	NA	1,620	NA	1,900	NA	1,280	23	32	NA
Pyrene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
Pyridine	ug/L	NA	NA	NA	<250	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA
1,2,4-Trichlorobenzene	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA
2,4,5-Trichlorophenol	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	NA	NA	NA
2,4,6-Trichlorophenol	ug/L	NA	NA	NA	<50	NA	<10	NA	<200	NA	<300	NA	<100	<10	<10	NA

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	LLSV8-01	LLDV5-01	Average	BW-LCS-01	BW-LCS-02	BW-LCS-03	BW-LCS-04	BW-LCS-05	BW-LCS-06	BW-LCS-07	BW-LCS-08	BW-LCS-09	BW-LCS-10	BW-LCS-11	BW-LCS-12
		Sep-91	Sep-91	Sep-91	Dec-97	Jan-98	Feb-98	Jun-98	Sep-98	Dec-98	Mar-99	Jul-99	Dec-99	Apr-00	Jul-00	Oct-00
Pesticides																
Aldrin	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
alpha-BHC	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	NA	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
beta-BHC	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	NA	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
delta-BHC	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	NA	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
Lindane (gamma-BHC)	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
alpha-Chlordane	ug/L	NA	NA	NA	<0.50	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.50	<0.5	<0.5	NA
gamma-Chlordane	ug/L	NA	NA	NA	<0.50	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.50	<0.5	<0.5	NA
4,4'-DDD	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
4,4'-DDE	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
4,4'-DDT	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Dieldrin	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Endosulfan I	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
Endosulfan II	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Endosulfan sulfate	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Endrin	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Endrin aldehyde	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Endrin ketone	ug/L	NA	NA	NA	<0.10	NA	<0.1	NA	<0.1	NA	<1	NA	<0.10	<0.10	<0.10	NA
Heptachlor	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
Heptachlor epoxide	ug/L	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.5	NA	<0.05	<0.05	<0.05	NA
Methoxychlor	ug/L	NA	NA	NA	<0.5	NA	<0.5	NA	<0.5	NA	<5	NA	<0.50	<0.50	<0.50	NA
Toxaphene	ug/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<10	NA	<1.0	<1.0	<1.0	NA

Notes:

[1] The maximum and minimum values do not account for the two samples collected in 1991, prior to augmentation of the leachate collection system.

NA = No analysis.

ND = Not detected.

J = Data flag indicates an estimated value.

P = Data flag indicates chemical preservation pH adjusted in lab.

B = Data flag indicates analyte detected in associated method blank.

W = Data flag indicates reporting limit elevated due to sample matrix.

M- = Data flag indicates MS recovery outside control limits low bias; LCS acceptable.

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-13	BW-LCS-14	BW-LCS-15	BW-LCS-16	BW-LCS-17	BW-LCS-18	BW-LCS-19	BW-LCS-20	BW-LCS-21	BW-LCS-22	BW-LCS-23	BW-LCS-24	BW-LCS-25	BW-LCS-26	BW-LCS-27	BW-LCS-28	BW-LCS-29
		Jan-01	Apr-01	Jul-01	Oct-01	Jan-02	Apr-02	Jul-02	Oct-02	Jan-03	Apr-03	Aug-03	Nov-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Conventionals																		
BOD_5	mg/L	502	448	888	1,460	303	3,040	1,050	595	38	6,880	204	244	270	4,110	354	204	185
COD	mg/L	1,080	730	1,590	1,900	1,060	4,080	3,800	1,030	865	7,360	415	559	2,350	5,500	603	384	776
Nitrogen Ammonia	mg/L	88	61	190	140	480	280	190	260	570	220	89	210	420	210	120	98	360
Oil & Grease	mg/L	6	4	<1	3	<1	20	3	38	<5	125	2	3	11	23	3	<1	8
pH @ 25 °C	units	6.87	7.61	7.72	6.92	7.4	7.01	7.31	7.5	7.95	6.85	7	7.56	7.28	6.65	7.36	7.19	7.42
Phenol	mg/L	0.13	0.13	0.37	0.54	0.18	0.96	1.25	0.35	0.05	1.61	0.18	0.1	0.6	1.04	0.12	0.11	0.32
Total Dissolved Solids	mg/L	2,440	2,460	4,101	3,970	6,130	6,820	6,000	4,770	7,580	7,330	2,410	3,380	6,680	5,440	2,630	2,210	5,700
Total Suspended Solids	mg/L	102	35	145	548	22	843	103	54	16	243	29	46	258	158	39	57	45
Cyanide	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.006	<0.005
Fluoride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																		
Arsenic	mg/L	<0.002	<0.02	<0.002	<0.002	0.003	0.003	0.011	0.006	0.009	0.008	<0.002	<0.002	0.008	<0.002	<0.002	0.005	0.003
Barium	mg/L	0.262	0.069	0.045	0.144	0.161	0.306	0.547	0.265	0.056	0.338	0.396	0.127	0.256	0.104	0.272	0.335	0.219
Boron	mg/L	1.06	0.52	0.06	1.34	2.9	1.4	2.91	2.88	3.86	2.4	1.38	1.53	3.25	0.76	1.09	1.54	3.21
Cadmium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	mg/L	0.004	0.003	0.008	0.006	0.016	0.012	0.015	0.017	0.016	0.008	0.003	0.007	0.016	0.005	0.005	0.005	0.012
Chromium, Hexavalent	mg/L	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.047	0.004	0.004	0.008	0.036
Iron	mg/L	45.5	11.3	4.59	82.4	20.5	121	172	49.2	5.11	290	7.98	9.2	82.5	83.1	16.3	34.6	16.6
Lead	mg/L	0.004	<0.002	0.003	<0.002	0.008	0.008	0.012	0.006	0.006	0.01	0.002	<0.002	0.018	0.003	<0.002	<0.002	0.003
Manganese	mg/L	1.66	0.594	0.062	2.18	0.0131	1.18	3.57	0.371	0.018	6.12	0.441	0.215	0.654	2.54	0.624	0.622	0.17
Mercury	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nickel	mg/L	0.013	0.012	0.004	0.029	0.063	0.03	0.04	0.054	0.088	0.038	0.017	0.034	0.068	0.016	0.022	0.017	0.062
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	<0.001
Zinc	mg/L	0.364	0.19	0.035	0.144	0.248	0.812	1.32	0.65	0.086	1.52	0.048	0.087	0.444	0.458	0.183	0.143	0.196
Volatile Organic Compounds																		
Acetone	ug/L	NA	NA	428	NA	177	NA	903	NA	78	NA	106	NA	870	NA	NA	NA	NA
Acrolein	ug/L	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	<100
Acrylonitrile	ug/L	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	<100
Benzene	ug/L	8.6	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	5.5	NA	<5.0	NA	<5.0
Bromodichloromethane	ug/L	<5	NA	<5	NA	<5	NA	<1	NA	<1	NA	<1.0	NA	<1.0	NA	<5.0	NA	<5.0
Bromoform	ug/L	<5	NA	<5	NA	<5	NA	<1	NA	<1	NA	<1.0	NA	<1.0	NA	<5.0	NA	<5.0
Bromomethane	ug/L	<10	NA	<10	NA	<10	NA	<5	NA	<5	NA	<1.0	NA	<5.0	NA	<10.0	NA	<10.0
2-Butanone	ug/L	NA	NA	815	NA	180	NA	1,910	NA	<10	NA	216	NA	2,020	NA	NA	NA	NA
Carbon disulfide	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Carbon tetrachloride	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Chlorobenzene	ug/L	25.8	NA	<5	NA	9.3	NA	<5	NA	<5	NA	5.7	NA	43.0	NA	16.8	NA	<5.0
Chlorodibromomethane	ug/L	<5	NA	<5	NA	<5	NA	<1	NA	<1	NA	<1.0	NA	<1.0	NA	<5.0	NA	<5.0
Chloroethane	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10.0	NA	13.4	NA	12.1	NA	<10.0
2-Chloroethylvinyl ether	ug/L	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10.0	NA	<10.0
Chloroform	ug/L	<5	NA	<5	NA	<5	NA	<1	NA	<1	NA	<1.0	NA	<1.0	NA	<5.0	NA	<5.0
Chloromethane	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-13	BW-LCS-14	BW-LCS-15	BW-LCS-16	BW-LCS-17	BW-LCS-18	BW-LCS-19	BW-LCS-20	BW-LCS-21	BW-LCS-22	BW-LCS-23	BW-LCS-24	BW-LCS-25	BW-LCS-26	BW-LCS-27	BW-LCS-28	BW-LCS-29
		Jan-01	Apr-01	Jul-01	Oct-01	Jan-02	Apr-02	Jul-02	Oct-02	Jan-03	Apr-03	Aug-03	Nov-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Volatile Organic Compounds (Continued)																		
1,1-Dichloroethane	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
1,2-Dichloroethane	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
1,1-Dichlorethene	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
cis-1,2-Dichloroethene	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
trans-1,2-Dichloroethene	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
1,2-Dichloroethene (total)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
cis-1,3-Dichloropropene	ug/L	<5	NA	<5	NA	<5	NA	<1	NA	<1	NA	<1.0	NA	<1.0	NA	<5.0	NA	<5.0
trans-1,3-Dichloropropene	ug/L	<5	NA	<5	NA	<5	NA	<1	NA	<1	NA	<1.0	NA	<1.0	NA	<5.0	NA	<5.0
Ethyl Benzene	ug/L	7.6	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
2-Hexanone	ug/L	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10.0	NA	<10.0	NA	NA	NA	NA
4-Methyl-2-pentanone	ug/L	NA	NA	26.4	NA	13.5	NA	50	NA	<10	NA	10.0	NA	80.8	NA	NA	NA	NA
Methylene chloride	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Styrene	ug/L	NA	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Tetrachloroethene	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Toluene	ug/L	24.6	NA	<5	NA	<5	NA	8.1	NA	<5	NA	<5.0	NA	16.9	NA	6.3	NA	<5.0
1,1,1-Trichloroethane	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
1,1,2-Trichloroethane	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Trichloroethene	ug/L	<5	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0
Vinyl Acetate	ug/L	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10.0	NA	<10.0	NA	NA	NA	NA
Vinyl Chloride	ug/L	<10	NA	<2	NA	<2	NA	<2	NA	<2	NA	<2.0	NA	<2.0	NA	<10.0	NA	<10.0
Xylenes (total)	ug/L	NA	NA	<5	NA	<5	NA	<5	NA	<5	NA	<5.0	NA	30.4	NA	NA	NA	NA
Semivolatile Organic Compounds																		
Acenaphthene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Acenaphthylene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Anthracene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzidine	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzo[a]anthracene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzo[b]fluoranthene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzo[k]fluoranthene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzo[g,h,i]perylene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzo[a]pyrene	ug/L	<10	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Benzoic Acid	ug/L	NA	NA	<50	NA	346	NA	730	NA	<50	NA	93	NA	1,410	NA	NA	NA	NA
Benzyl Alcohol	ug/L	NA	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	NA	NA	NA
bis(2-chloroethoxy)methane	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
bis(2-chloroethyl) ether	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
bis(2-chloroisopropyl) ether	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
bis(2-ethylhexyl) phthalate	ug/L	<10	NA	<6	NA	<10	NA	<10	NA	<5	NA	<5	NA	<5	NA	<10	NA	<10
4-Bromophenyl-phenylether	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Butylbenzylphthalate	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
4-Chloroaniline	ug/L	NA	NA	<20	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/L	<20	NA	<10	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20
2-Chloronaphthalene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
2-Chlorophenol	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
4-Chlorophenyl-phenylether	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Chrysene	ug/L	<10	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-13	BW-LCS-14	BW-LCS-15	BW-LCS-16	BW-LCS-17	BW-LCS-18	BW-LCS-19	BW-LCS-20	BW-LCS-21	BW-LCS-22	BW-LCS-23	BW-LCS-24	BW-LCS-25	BW-LCS-26	BW-LCS-27	BW-LCS-28	BW-LCS-29
		Jan-01	Apr-01	Jul-01	Oct-01	Jan-02	Apr-02	Jul-02	Oct-02	Jan-03	Apr-03	Aug-03	Nov-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Semivolatile Organic Compounds (Continued)																		
Dibenzofuran	ug/L	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA	NA	NA
1,2-Dichlorobenzene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
1,3-Dichlorobenzene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
1,4-Dichlorobenzene	ug/L	17	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
3,3-Dichlorobenzidine	ug/L	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20
2,4-Dichlorophenol	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Diethylphthalate	ug/L	<10	NA	55	NA	17	NA	<10	NA	<10	NA	<10	NA	31	NA	14	NA	16
2,4-Dimethylphenol	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Dimethylphthalate	ug/L	<10	NA	55	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Di-n-butylphthalate	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
4,6-Dinitro-2-methylphenol	ug/L	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50
2,4-Dinitrophenol	ug/L	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50
2,4-Dinitrotoluene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
2,6-Dinitrotoluene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
1,2-Diphenylhydrazine	ug/L	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	<10
Di-n-octylphthalate	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Fluoranthene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Fluorene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Hexachlorobenzene	ug/L	<10	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Hexachlorobutadiene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Hexachlorocyclopentadiene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Hexachloroethane	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<5	NA	<5	NA	<5	NA	<10	NA	<10
Indeno[1,2,3-cd]pyrene	ug/L	<10	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Isophorone	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
2-Methylnaphthalene	ug/L	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA	NA	NA
2-Methylphenol	ug/L	<50	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<50	NA	<50
3&4-Methylphenol	ug/L	168	NA	101	NA	224	NA	410	NA	<10	NA	89	NA	1,100	NA	226	NA	429
Naphthalene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
2-Nitroaniline	ug/L	NA	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	NA	NA	NA
3-Nitroaniline	ug/L	NA	NA	<50	NA	<50	NA	<50	NA	<50	NA	<51	NA	<50	NA	NA	NA	NA
4-Nitroaniline	ug/L	NA	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	NA	NA	NA
Nitrobenzene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
2-Nitrophenol	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
4-Nitrophenol	ug/L	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50
N-Nitrosodimethylamine	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
N-Nitroso-di-n-propylamine	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
n-Nitrosodiphenylamine	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Pentachlorophenol	ug/L	<50	NA	NA	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50
Phenanthrene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Phenol	ug/L	25	NA	100	NA	23	NA	118	NA	<10	NA	<10	NA	202	NA	33	NA	75
Pyrene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Pyridine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
2,4,5-Trichlorophenol	ug/L	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA	NA	NA
2,4,6-Trichlorophenol	ug/L	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-13	BW-LCS-14	BW-LCS-15	BW-LCS-16	BW-LCS-17	BW-LCS-18	BW-LCS-19	BW-LCS-20	BW-LCS-21	BW-LCS-22	BW-LCS-23	BW-LCS-24	BW-LCS-25	BW-LCS-26	BW-LCS-27	BW-LCS-28	BW-LCS-29
		Jan-01	Apr-01	Jul-01	Oct-01	Jan-02	Apr-02	Jul-02	Oct-02	Jan-03	Apr-03	Aug-03	Nov-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Pesticides																		
Aldrin	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
alpha-BHC	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
beta-BHC	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
delta-BHC	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
Lindane (gamma-BHC)	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
alpha-Chlordane	ug/L	<0.5	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50
gamma-Chlordane	ug/L	<0.5	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50
4,4'-DDD	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<1.10	NA	<0.10	NA	<0.10	NA	<0.10
4,4'-DDE	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<1.10	NA	<0.10	NA	<0.10	NA	<0.10
4,4'-DDT	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<1.10	NA	<0.10	NA	<0.10	NA	<0.10
Dieldrin	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<1.10	NA	<0.10	NA	<0.10	NA	<0.10
Endosulfan I	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
Endosulfan II	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10
Endosulfan sulfate	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10
Endrin	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10
Endrin aldehyde	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10
Endrin ketone	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10
Heptachlor	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
Heptachlor epoxide	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05
Methoxychlor	ug/L	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50
Toxaphene	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0

Notes:

[1]The maximum and minimum values do not account for the two samples collected in 1991, prior to augmentation of the leachate collection system.

NA: No analysis.

ND: Not detected.

J: Data flag indicates an estimated value.

P = Data flag indicates chemical preservation pH adjusted in lab.

B = Data flag indicates analyte detected in associated method blank.

W = Data flag indicates reporting limit elevated due to sample matrix.

M- = Data flag indicates MS recovery outside control limits low bias; LCS acceptable.

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-30	BW-LCS-31	BW-LCS-32	BW-LCS-33	BW-LCS-34	BW-LCS-35	BW-LCS-36	BW-LCS-37	BW-LCS-38	BW-LCS-39	BW-LCS-40	BW-LCS-41	BW-LCS-42
		Mar-05	Jun-05	Sep-05	Dec-05	Mar-06	Jun-06	Aug-06	Nov-06	Feb-07	May-07	Aug-07	Nov-07	Feb-08
Conventionals														
BOD_5	mg/L	274	246	23	89	186	1,860	4,000	5,800	858	4	51	2,220	352
COD	mg/L	485	570	542	910	272	2,990	22,300	8,520	1,480	39	316	1,210	1,020
Nitrogen Ammonia	mg/L	69.2	96.4	160	449	98	140	256	310	240	23	140	250	360
Oil & Grease	mg/L	3	12	<1	3	<1	28	290	125	5	<1	3	3 P	4
pH @ 25 °C	units	7.57	7.25	7.31	8.34	7.37	7.11	7.28	7.28	7.52	6.86	7.98	7.38	7.61
Phenol	mg/L	0.14	0.16	0.06	0.05	<0.05	0.68	<0.5 W	2.01	0.38	0.01	0.05	0.23	0.28
Total Dissolved Solids	mg/L	1,940	2,490	2,670	6,660	2,090	4,180	2,500	8,610	4,320	1,230	1,230	5,510	5,220
Total Suspended Solids	mg/L	21	74	64	171	106	106	14,000	39	74	48	192	133	45
Cyanide	mg/L	<0.005	<0.005	0.013	<0.005	<0.005	<0.005	<0.05 W	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
Fluoride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics														
Arsenic	mg/L	<0.002	0.004	<0.002	0.008	<0.002	0.006	0.020	<0.002	0.006	<0.002	<0.002	0.006	0.012
Barium	mg/L	0.076	0.398	0.288	0.107	0.132	0.318	0.160	0.189	0.202	0.093	0.098	0.198	0.171
Boron	mg/L	0.95	1.11	1.32	3.81	0.74	1.37	0.08	2.23	2.28	0.26	1.6	2.54	2.55
Cadmium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Chromium	mg/L	0.002	0.006	0.003	0.015	<0.001	0.005	0.001	0.005	0.009	<0.001	0.004	0.006	0.013
Chromium, Hexavalent	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	0.007	0.031	0.026	0.089	0.004	0.007	0.018	0.006	0.008	<0.001	<0.001	0.012	0.003
Iron	mg/L	11.1	25.5	18.3	8.0	32.3	42.0	294	25.7	27.3	13.1	4.19	84.6	17.8
Lead	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.028	<0.002	<0.002	<0.002	<0.002	<0.002	0.004
Manganese	mg/L	0.55	0.674	0.248	0.047	0.548	2.20	1.10	4.03	0.873	0.343	0.041	1.940	0.250
Mercury	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005 M-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nickel	mg/L	0.014	0.020	0.018	0.086	0.012	0.020	0.034	0.038	0.045	0.002	0.019	0.040	0.063
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	0.054	0.234	0.109	0.235	0.087	0.451	7.63	0.149	0.162	0.013	0.018	0.228	0.111
Volatile Organic Compounds														
Acetone	ug/L	NA	346	NA	<100	NA	1,100	NA	2,970	NA	<100	NA	1,180	NA
Acrolein	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Bromodichloromethane	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
Bromoform	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
Bromomethane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
2-Butanone	ug/L	NA	586	NA	19.3	NA	2,410	NA	6,390	NA	<10.0	NA	2,540	NA
Carbon disulfide	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Carbon tetrachloride	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Chlorobenzene	ug/L	NA	<5.0	NA	<5.0	NA	9.9	NA	10.5	NA	<5.0	NA	<5.0	NA
Chlorodibromomethane	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
Chloroethane	ug/L	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA
2-Chloroethylvinyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
Chloromethane	ug/L	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA

Table 6
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Blackwell Landfill NPL Site
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Parameter	Units	BW-LCS-30	BW-LCS-31	BW-LCS-32	BW-LCS-33	BW-LCS-34	BW-LCS-35	BW-LCS-36	BW-LCS-37	BW-LCS-38	BW-LCS-39	BW-LCS-40	BW-LCS-41	BW-LCS-42
		Mar-05	Jun-05	Sep-05	Dec-05	Mar-06	Jun-06	Aug-06	Nov-06	Feb-07	May-07	Aug-07	Nov-07	Feb-08
Volatile Organic Compounds (Continued)														
1,1-Dichloroethane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
1,2-Dichloroethane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
1,1-Dichlorethene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
cis-1,2-Dichloroethene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
trans-1,2-Dichloroethene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
1,2-Dichloroethene (total)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
cis-1,3-Dichloropropene	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
trans-1,3-Dichloropropene	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
Ethyl Benzene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
2-Hexanone	ug/L	NA	<10.0	NA	<10.0	NA	<10.0	NA	30.6	NA	<10.0	NA	<10.0	NA
4-Methyl-2-pentanone	ug/L	NA	16.6	NA	<10.0	NA	40.9	NA	111	NA	<10.0	NA	89.1	NA
Methylene chloride	ug/L	NA	<5.0	NA	<5.0	NA	5.6	NA	8.0	NA	<5.0	NA	7.0	NA
Styrene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
1,1,2,2-Tetrachloroethane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Tetrachloroethene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Toluene	ug/L	NA	<5.0	NA	<5.0	NA	5.1	NA	10.1	NA	<5.0	NA	11.0	NA
1,1,1-Trichloroethane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
1,1,2-Trichloroethane	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Trichloroethene	ug/L	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Vinyl Acetate	ug/L	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA
Vinyl Chloride	ug/L	NA	<2.0	NA	<2.0	NA	<2.0	NA	<2.0	NA	<2.0	NA	<2.0	NA
Xylenes (total)	ug/L	NA	<5.0	NA	<5.0	NA	19.9	NA	9.4	NA	<5.0	NA	8.4	NA
Semivolatile Organic Compounds														
Acenaphthene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Acenaphthylene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Anthracene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzidine	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzo[a]anthracene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzo[b]fluoranthene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzo[k]fluoranthene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzo[g,h,i]perylene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzo[a]pyrene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Benzoic Acid	ug/L	NA	221	NA	<50	NA	1,580	NA	3,580	NA	<50	NA	<50	NA
Benzyl Alcohol	ug/L	NA	<20	NA	<20	NA	<20	NA	<40	NA	<20	NA	<20	NA
bis(2-chloroethoxy)methane	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
bis(2-chloroethyl) ether	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
bis(2-chloroisopropyl) ether	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
bis(2-ethylhexyl) phthalate	ug/L	NA	<5	NA	<5	NA	<5	NA	<10	NA	<5	NA	59 B	NA
4-Bromophenyl-phenylether	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Butylbenzylphthalate	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
4-Chloroaniline	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
4-Chloro-3-methylphenol	ug/L	NA	<20	NA	<20	NA	<20	NA	<40	NA	<20	NA	<20	NA
2-Chloronaphthalene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2-Chlorophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
4-Chlorophenyl-phenylether	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Chrysene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA

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		Mar-05	Jun-05	Sep-05	Dec-05	Mar-06	Jun-06	Aug-06	Nov-06	Feb-07	May-07	Aug-07	Nov-07	Feb-08
Semivolatile Organic Compounds (Continued)														
Dibenzofuran	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
1,2-Dichlorobenzene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
1,3-Dichlorobenzene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
1,4-Dichlorobenzene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
3,3-Dichlorobenzidine	ug/L	NA	<20	NA	<20	NA	<20	NA	<40	NA	<20	NA	<20	NA
2,4-Dichlorophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Diethylphthalate	ug/L	NA	15	NA	<10	NA	37	NA	79	NA	<10	NA	28	NA
2,4-Dimethylphenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Dimethylphthalate	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Di-n-butylphthalate	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
4,6-Dinitro-2-methylphenol	ug/L	NA	<50	NA	<50	NA	<50	NA	<100	NA	<50	NA	<50	NA
2,4-Dinitrophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2,4-Dinitrotoluene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2,6-Dinitrotoluene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
1,2-Diphenylhydrazine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Fluoranthene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Fluorene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Hexachlorobenzene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Hexachlorobutadiene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Hexachlorocyclopentadiene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Hexachloroethane	ug/L	NA	<5	NA	<5	NA	<5	NA	<10	NA	<5	NA	<5	NA
Indeno[1,2,3-cd]pyrene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Isophorone	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2-Methylnaphthalene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2-Methylphenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	13	NA
3&4-Methylphenol	ug/L	NA	86	NA	<10	NA	1,250	NA	1,780	NA	<10	NA	1,070	NA
Naphthalene	ug/L	NA	<10	NA	<10	NA	<10	NA	226	NA	<10	NA	<10	NA
2-Nitroaniline	ug/L	NA	<50	NA	<50	NA	<50	NA	<100	NA	<50	NA	<50	NA
3-Nitroaniline	ug/L	NA	<50	NA	<50	NA	<50	NA	<100	NA	<50	NA	<50	NA
4-Nitroaniline	ug/L	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA
Nitrobenzene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2-Nitrophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
4-Nitrophenol	ug/L	NA	<50	NA	<50	NA	<50	NA	<100	NA	<50	NA	<50	NA
N-Nitrosodimethylamine	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
N-Nitroso-di-n-propylamine	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
n-Nitrosodiphenylamine	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Pentachlorophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Phenanthrene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Phenol	ug/L	NA	26	NA	<10	NA	160	NA	305	NA	<10	NA	172	NA
Pyrene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
Pyridine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2,4,5-Trichlorophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA
2,4,6-Trichlorophenol	ug/L	NA	<10	NA	<10	NA	<10	NA	<20	NA	<10	NA	<10	NA

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DuPage County, Illinois

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		Mar-05	Jun-05	Sep-05	Dec-05	Mar-06	Jun-06	Aug-06	Nov-06	Feb-07	May-07	Aug-07	Nov-07	Feb-08
Pesticides														
Aldrin	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
alpha-BHC	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
beta-BHC	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
delta-BHC	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
Lindane (gamma-BHC)	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
alpha-Chlordane	ug/L	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA
gamma-Chlordane	ug/L	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA
4,4'-DDD	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
4,4'-DDE	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
4,4'-DDT	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Dieldrin	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Endosulfan I	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
Endosulfan II	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Endosulfan sulfate	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Endrin	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Endrin aldehyde	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Endrin ketone	ug/L	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA
Heptachlor	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
Heptachlor epoxide	ug/L	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA
Methoxychlor	ug/L	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA
Toxaphene	ug/L	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA

Notes:

[1]The maximum and minimum values do not account for the two samples collected in 1991, prior to augmentation of the leachate collection system.

NA: No analysis.

ND: Not detected.

J: Data flag indicates an estimated value.

P = Data flag indicates chemical preservation pH adjusted in lab.

B = Data flag indicates analyte detected in associated method blank.

W = Data flag indicates reporting limit elevated due to sample matrix.

M- = Data flag indicates MS recovery outside control limits low bias; LCS acceptable.

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-43 May-08	BW-LCS-44 Aug-08	BW-LCS-45 Nov-08	BW-LCS-46 Jan-09	BW-LCS-47 May-09	BW-LCS-48 Jul-09	BW-LCS-49 Nov-09	BW-LCS-50 Jan-10	BW-LCS-51 May-10	BW-LCS-52 Jul-10	BW-LCS-53 Nov-10	BW-LCS-54 Jan-11	Minimum[1]	Maximum[1]
Conventionals															
BOD_5	mg/L	29	70	708	1,960	16	412	5	90	101	5	8,080	2,180	4	29,100
COD	mg/L	110	744	1,180	2,320	69	571	49	71	43	65	5,750	8,020	39	22,900
Nitrogen Ammonia	mg/L	510	334	117	211	15.7	34	16.4	41.2	21	27.1	566	585	15.7	1100
Oil & Grease	mg/L	14	6 P	3	9 P	<1	5	<1	<1	<1	<1	42	26	<1 P	526
pH @ 25 °C	units	7.04	7.34	7.10	7.10	6.92	7.01	6.53	6.92	7.17	7.18	7.14	7.28	6.42	8.34
Phenol	mg/L	0.07	0.09	0.23	2.21	0.014	0.11	<0.05	<0.010	<0.05	<0.05	1.29	1.6	<0.01	5.7
Total Dissolved Solids	mg/L	1,210	5,020	3,150	4,950	1,320	1,780	1,180	1,400	1,160	1,420	10,700	10,100	1,160	23,300
Total Suspended Solids	mg/L	87	30	99	158	79	18	22	50	21	31	152	2,230	16	14,000
Cyanide	mg/L	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	0.005	<0.005	0.008	<0.005	0.014
Fluoride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1330	1330
Nitrate+Nitrite	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.08
Sulfate	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	115	154	<75	142	<75	192
Chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	100	140	2,840	2,290	100	2,840
Inorganics															
Arsenic	mg/L	0.006	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.011	0.009	0.041	<0.002	0.041
Barium	mg/L	0.228	0.401	0.545	0.357	0.271	0.360	0.212	0.274	0.294	0.649	0.446	1.02	0.045	2.02
Boron	mg/L	0.44	2.31	1.45	2.12	0.54	0.61	0.43	0.53	0.40	0.53	2.97	4.01	0.06	7.71
Cadmium	mg/L	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.18
Chromium	mg/L	0.001	0.011	0.004	0.008	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.010	0.004	<0.001	0.871
Chromium, Hexavalent	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.871	0.871
Copper	mg/L	0.002	0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.004	0.003	0.001	<0.001	<0.001	<0.001	0.297
Iron	mg/L	19.1	6.89	71.1	93.6	19.0	28.0	2.88	19.9	12.4	79.2	119	710	2.88	1300
Lead	mg/L	0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	0.005	0.010	0.052	<0.002	0.534
Manganese	mg/L	0.301	0.185	1.04	1.52	0.373	0.833	0.504	0.271	0.290	0.312	1.53	4.39	0.0131	14.6
Mercury	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Nickel	mg/L	0.006	0.052	0.019	0.038	0.004	0.005	0.003	0.008	0.003	0.004	0.087	0.097	0.002	0.352
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
Zinc	mg/L	0.516	0.127	0.186	0.662	0.022	0.126	0.021	0.017	0.036	0.306	0.344	11.1	0.013	28.8
Volatile Organic Compounds															
Acetone	ug/L	<100	NA	590	NA	<100	NA	<100	NA	<100	NA	1,610	NA	78	12,600
Acrolein	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	ug/L	<5.0	NA	8.5	NA	8.1	NA	<5.0	NA	<5.0	NA	23.3	NA	<5.0	36.2
Bromodichloromethane	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<50
Bromoform	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<50
Bromomethane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<1.0	<100
2-Butanone	ug/L	<10.0	NA	936	NA	10.8	NA	<10.0	NA	<10.0	NA	3,770	NA	<10.0	24,300
Carbon disulfide	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
Carbon tetrachloride	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
Chlorobenzene	ug/L	8.4	NA	21.2	NA	44.4	NA	<5.0	NA	24.7	NA	45.2	NA	<5.0	124
Chlorodibromomethane	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<50
Chloroethane	ug/L	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	33.2	NA	<10	33.2
2-Chloroethylvinyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10
Chloroform	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<50
Chloromethane	ug/L	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10	<100

C2H: CHCl

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-43 May-08	BW-LCS-44 Aug-08	BW-LCS-45 Nov-08	BW-LCS-46 Jan-09	BW-LCS-47 May-09	BW-LCS-48 Jul-09	BW-LCS-49 Nov-09	BW-LCS-50 Jan-10	BW-LCS-51 May-10	BW-LCS-52 Jul-10	BW-LCS-53 Nov-10	BW-LCS-54 Jan-11	Minimum[1]	Maximum[1]
Volatile Organic Compounds (Continued)															
1,1-Dichloroethane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	5.7	NA	<5.0	10.3
1,2-Dichloroethane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
1,1-Dichlorethene	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
cis-1,2-Dichloroethene	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	20.3	NA	<5.0	116
trans-1,2-Dichloroethene	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
1,2-Dichloroethene (total)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.0
1,2-Dichloropropane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	14.2
cis-1,3-Dichloropropene	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<50
trans-1,3-Dichloropropene	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<50
Ethyl Benzene	ug/L	<5.0	NA	6.8	NA	<5.0	NA	<5.0	NA	<5.0	NA	36.9	NA	<5.0	48
2-Hexanone	ug/L	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10	30.6
4-Methyl-2-pentanone	ug/L	<10.0	NA	29.6	NA	<10.0	NA	<10.0	NA	<10.0	NA	82.4	NA	<10	544
Methylene chloride	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	41.5
Styrene	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
1,1,2,2-Tetrachloroethane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
Tetrachloroethene	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	17.8
Toluene	ug/L	<5.0	NA	9.8	NA	<5.0	NA	<5.0	NA	<5.0	NA	68.7	NA	<5.0	197
1,1,1-Trichloroethane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
1,1,2-Trichloroethane	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	<50
Trichloroethene	ug/L	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	19
Vinyl Acetate	ug/L	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10.0	NA	<10	<100
Vinyl Chloride	ug/L	<2.0	NA	<2.0	NA	<2.0	NA	<2.0	NA	<2.0	NA	4.4	NA	<2.0	4.4
Xylenes (total)	ug/L	8.1	NA	21.1	NA	8.6	NA	<5.0	NA	<5.0	NA	146	NA	<5.0	228
Semivolatile Organic Compounds															
Acenaphthene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Acenaphthylene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Anthracene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzidine	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzo[a]anthracene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzo[b]fluoranthene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzo[k]fluoranthene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzo[g,h,i]perylene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzo[a]pyrene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Benzoic Acid	ug/L	<50	NA	266	NA	<50	NA	<50	NA	<50	NA	978	NA	<50	15,400
Benzyl Alcohol	ug/L	<20	NA	<200	NA	<20	NA	<20	NA	<20	NA	<100	NA	<20	<600
bis(2-chloroethoxy)methane	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
bis(2-chloroethyl) ether	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
bis(2-chloroisopropyl) ether	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
bis(2-ethylhexyl) phthalate	ug/L	<5	NA	<50	NA	<5	NA	7	NA	<5	NA	<25	NA	<5.0	7
4-Bromophenyl-phenylether	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Butylbenzylphthalate	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
4-Chloroaniline	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
4-Chloro-3-methylphenol	ug/L	<20	NA	<200	NA	<20	NA	<20	NA	<20	NA	<100	NA	<10	<600
2-Chloronaphthalene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2-Chlorophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
4-Chlorophenyl-phenylether	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Chrysene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300

ClC

H3

C2H3Cl

VCM

Vinyl chloride

PB - 13.4 C

Methylene chloride

-63, 17 c°

FP

.5 solubility in H2O

1M H2O

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

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		May-08	Aug-08	Nov-08	Jan-09	May-09	Jul-09	Nov-09	Jan-10	May-10	Jul-10	Nov-10	Jan-11		
Semivolatile Organic Compounds (Continued)															
Dibenzofuran	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
1,2-Dichlorobenzene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
1,3-Dichlorobenzene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
1,4-Dichlorobenzene	ug/L	<10	NA	115	NA	<10	NA	<10	NA	<10	NA	98	NA	<10	115
3,3-Dichlorobenzidine	ug/L	<20	NA	<200	NA	<20	NA	<20	NA	<20	NA	<100	NA	<20	<600
2,4-Dichlorophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Diethylphthalate	ug/L	<10	NA	238	NA	<10	NA	<10	NA	<10	NA	97	NA	<10	238
2,4-Dimethylphenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Dimethylphthalate	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	55
Di-n-butylphthalate	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
4,6-Dinitro-2-methylphenol	ug/L	<50	NA	<500	NA	<50	NA	<50	NA	<50	NA	<520	NA	<50	<1500
2,4-Dinitrophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<50	<1500
2,4-Dinitrotoluene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2,6-Dinitrotoluene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
1,2-Diphenylhydrazine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10
Di-n-octylphthalate	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Fluoranthene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Fluorene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Hexachlorobenzene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Hexachlorobutadiene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Hexachlorocyclopentadiene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Hexachloroethane	ug/L	<5	NA	<50	NA	<5	NA	<5	NA	<5	NA	<25	NA	<5	<300
Indeno[1,2,3-cd]pyrene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Isophorone	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2-Methylnaphthalene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2-Methylphenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	13
3&4-Methylphenol	ug/L	<10	NA	386	NA	<10	NA	<10	NA	<10	NA	898	NA	<10	10,100
Naphthalene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	866
2-Nitroaniline	ug/L	<50	NA	<500	NA	<50	NA	<50	NA	<50	NA	<250	NA	<50	<1500
3-Nitroaniline	ug/L	<50	NA	<500	NA	<50	NA	<50	NA	<50	NA	<250	NA	<50	<1500
4-Nitroaniline	ug/L	<20	NA	<200	NA	<20	NA	<20	NA	<20	NA	<100	NA	<20	<600
Nitrobenzene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2-Nitrophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
4-Nitrophenol	ug/L	<50	NA	<500	NA	<50	NA	<50	NA	<50	NA	<50	NA	<50	<1500
N-Nitrosodimethylamine	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
N-Nitroso-di-n-propylamine	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
n-Nitrosodiphenylamine	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Pentachlorophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<50	<1500
Phenanthrene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Phenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	316	NA	<10	1,900
Pyrene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
Pyridine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<250
1,2,4-Trichlorobenzene	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2,4,5-Trichlorophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300
2,4,6-Trichlorophenol	ug/L	<10	NA	<100	NA	<10	NA	<10	NA	<10	NA	<50	NA	<10	<300

Table 6
Leachate Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Parameter	Units	BW-LCS-43 May-08	BW-LCS-44 Aug-08	BW-LCS-45 Nov-08	BW-LCS-46 Jan-09	BW-LCS-47 May-09	BW-LCS-48 Jul-09	BW-LCS-49 Nov-09	BW-LCS-50 Jan-10	BW-LCS-51 May-10	BW-LCS-52 Jul-10	BW-LCS-53 Nov-10	BW-LCS-54 Jan-11	Minimum[1]	Maximum[1]
Pesticides															
Aldrin	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
alpha-BHC	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
beta-BHC	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
delta-BHC	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
Lindane (gamma-BHC)	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
alpha-Chlordane	ug/L	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	<0.5
gamma-Chlordane	ug/L	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	<0.5
4,4'-DDD	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1.10
4,4'-DDE	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1.10
4,4'-DDT	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1.10
Dieldrin	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1.10
Endosulfan I	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
Endosulfan II	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1
Endosulfan sulfate	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1
Endrin	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1
Endrin aldehyde	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1
Endrin ketone	ug/L	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<1
Heptachlor	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
Heptachlor epoxide	ug/L	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	<0.5
Methoxychlor	ug/L	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	NA	<0.50	<5
Toxaphene	ug/L	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<10

Notes:

[1]The maximum and minimum values do not account for the two samples collected in 1991, prior to augmentation of the leachate collection system.

NA: No analysis.

ND: Not detected.

J: Data flag indicates an estimated value.

P = Data flag indicates chemical preservation pH adjusted in lab.

B = Data flag indicates analyte detected in associated method blank.

W = Data flag indicates reporting limit elevated due to sample matrix.

M- = Data flag indicates MS recovery outside control limits low bias; LCS acceptable.

Table 7
Inspection, Monitoring, and Maintenance Schedule
Blackwell Landfill Site

The frequencies will be modified as experience with the systems dictate. The following forms are available for use during inspection, monitoring, and maintenance activities:

- Site Visit Operating Log
- Leachate Disposal Log
- Leachate and LFG Monitoring Form
- Maintenance and Repair Record Form
- Inspection Reporting Form
- Gas Vent Monitoring Form
- Replacement Equipment and Parts Log

AS-NEEDED BASIS

• Landfill Cover (following 10 yr., 24 hr rainfall event)	– Inspect for erosion, cracks – Inspect for water ponding – Inspect for siltation of drainage ways – Inspect for gas bubbling through landfill topsoil
• Control Building (following disposal of leachate)	– Record pump counter readings – Record depth of leachate in holding tank (before and after disposal)
• Site Conditions	– Document date and time – Document weather conditions – Conduct general inspection (fence, locks, sign, etc.)
• Main Vent Stack	– Inspect valve settings – Conduct general inspection (fence, locks, signs, etc.)

WEEKLY BASIS

• Control Building	– Visually check building exterior alarm lights – Visually check panel indicator lights – Check heater thermostat setting and status – Visually check building vents and fans – Inspect compressor and dryer operation – Drain water traps on compressor and dryer
• Leachate Holding Tank	– Inspect valve settings – Check volume in tank – General inspection – Visually check tank, leak detection, and dripleg riser condition

Table 7
Inspection, Monitoring, and Maintenance Schedule
Blackwell Landfill Site

BI-MONTHLY

• Leachate Extraction Wells (wellheads)	– Measure leachate level during period of high atmospheric pressure – Document pump cycle counts – Conduct general inspection – Adjust needle valve if the extraction rate is to be modified. Check air supply pressure – Check air pump pressure – Check level sensor air pressure – Inspect flow meter operation – Check air supply and pump discharge valve settings
• Leachate Lift Stations	– Document pump cycle counts – Conduct general inspection – Verify pump operation – Check position of manual isolation valve
• LFG Vents	– Measure leachate level during period of high atmospheric pressure – Conduct general inspection
• Main Vent Stack	– Conduct general inspection – Check manual valve position

SEMI-ANNUALLY

• Leachate Extraction Wells (wellheads)	– Measure percent methane (CH_4) – Measure percent oxygen (O_2) – Measure percent carbon dioxide (CO_2) – Measure static pressure
• Leachate Lift Stations	– Measure percent methane (CH_4) – Measure percent oxygen (O_2) – Measure percent carbon dioxide (CO_2) – Measure static pressure
• LFG Vents	– Measure percent methane (CH_4) – Measure percent oxygen (O_2) – Measure percent carbon dioxide (CO_2) – Measure static pressure – Measure gas flow rate – Measure gas temperature
• Main Vent Stack	– Measure percent methane (CH_4) – Measure percent oxygen (O_2) – Measure percent carbon dioxide (CO_2) – Measure gas flow rate – Measure gas temperature

Table 7
Inspection, Monitoring, and Maintenance Schedule
Blackwell Landfill Site

Monitoring Location	Bi-Monthly O&M Activities		Semi-Annual O&M Activities	Connected to LCS and LFG extraction system[1]
	Abandoned[1]	Monitor Leachate Levels[1]	Monitor LFG[1, 2]	
SV-1		X		
SV-2		X		
SV-3	X			
SV-4		X	X	X
SV-5		X	X	X
SV-6		X		
SV-7		X		
SV-8		X	X	X
SV-9		X	X	X
SV-10	X			
SV-11		X		
SV-12		X		
DV-1	X			
DV-2	X			
DV-3		X		
DV-4		X		
DV-5[3]		X	X	X
DV-6		X		
DV-7		X		
DV-8		X	X	X
DV-9		X	X	X
DV-10		X	X	X
DV-11		X		
DV-12	X			
DV-13		X		
DV-14		X		
DV-15[3]		X	X	X
DV-16[3]		X	X	X
DV-17		X	X	X
DV-18		X	X	X
EW-1[4]		X	X	X
EW-1A[4]		X	X	X
EW-2[4]		X	X	X
EW-3[4]		X	X	X
EW-4[4,5]			X	X
EW-5[4]		X	X	X
EW-6[4]		X	X	X
EW-7[4]		X	X	X
EW-8[4]		X	X	X
LS01[4]			X	X
LS02[6]				X
Main Vent[7]			X	X

Table 7
Inspection, Monitoring, and Maintenance Schedule
Blackwell Landfill Site

Notes:

1. "X" indicates data collection or action taken.
2. LFG monitoring includes static pressure, flow velocity, temperature, and composition (i.e., % CH4, CO2, and O2).
3. Leachate level not measured. LFG vents DV-5, DV-15 and DV-16 measure groundwater levels.
4. LFG flow velocity and temperature are not measured at extraction wells or lift stations. Pump cycle counts documented.
5. Due to the configuration of EW-4, leachate levels are difficult or impossible to collect.
6. The pneumatic pump from LS02 was removed. No O&M data collected.
7. Static pressure is not measured at the main vent stack. The main vent stack is open to the atmosphere.

QUARTERLY

• Compressor/Dryer Systems	– Inspect and clean filters. Lubricate, if necessary
• Leachate Holding Tank	– Conduct required analytical testing
• Control Station	– Remove water from condensate trap on supply air line
• Site Inspection	– Inspect fenced areas (main vent stack, tank and compressor station) – Inspect posted signs and notices – Inspect access, including roads, to LCS and LFG system components – Inspect flush-mount vaults – Inspect for excessive or improper vegetation in, or around, LCS or LFG system components
• Landfill Gas Sampling (at main vent stack)	– Conduct required LFG analytical testing – Measure gas flow rate
• Landfill Cover	– Inspect for erosion, cracks – Inspect for water ponding – Inspect for siltation of drainage ways – Inspect for stressed or dead vegetation

SEMI-ANNUALLY

• Leachate Holding Tank	– Conduct required analytical testing
• Driplegs DL01 and DL02	– Check liquid levels in "u" traps if an active LFG extraction system is installed.

Table 7
Inspection, Monitoring, and Maintenance Schedule
Blackwell Landfill Site

ANNUALLY

• Compressor/Dryer Systems	– Perform annual maintenance as necessary
• All Valves	– Confirm valve operation by operating throughout entire range of motion several times
• Leachate Holding Tank	– Inspect liquid level floats, interlocked controls and warning lights operation – Inspect moisture probes (leak detection riser and tank interstice)
• Padlocks, Gates, Doors, etc.	– Lubricate with grease and verify working condition
• Lift Station LS01 (if system is made inoperable by shutting off air supply valve)	– Bleed out condensate in air supply line

Table 8
Landfill Gas Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Sample Identification	Sample Collection Date	Atmospheric Pressure (in. Hg)	ASTM D1945/EPA 3C			U.S. EPA Modified Method 25C	
			% of CO_2 (%-v/v)	% of O_2 (%-v/v)	% of N_2 (%-v/v)	Methane ppm-c	Total Non-Methane Organic Compounds, as Methane ppm-c
FPD-LFGSTACK-01	September 15, 1998	29.97	33	0.51	1.90	550,000	1,400
BW-LFGSTACK-02	September 23, 1998	30.23	36	0.51	2.00	570,000	400
BW-LFGSTACK-03	October 27, 1998	30.14	35	0.53	2.00	570,000	900
BW-LFGSTACK-04	October 28, 1998	29.99	35	0.53	2.00	570,000	710
BW-LFGSTACK-05	November 24, 1998	30.14	39	0.47	2.30	570,000	39
BW-LFGSTACK-06	November 25, 1998	29.76	38	0.96	3.40	560,000	22
BW-LFGSTACK-07	March 24, 1999	30.20	34	0.93	5.00	580,000	1,200
BW-LFGSTACK-08	March 31, 1999	29.43	34	1.10	4.60	580,000	1,200
BW-LFGSTACK-09A	August 13, 1999	29.70	34	0.98	2.70	650,000	1,100
BW-LFGSTACK-10A	August 18, 1999	30.08	33	0.76	2.30	650,000	1,200
BW-LFGSTACK-11A	January 4, 2000	29.92	37	0.71	ND	690,000	1,700
BW-LFGSTACK-12A	January 14, 2000	30.72	35	2.80	8.30	630,000	1,500
BW-LFGSTACK-13A	June 19, 2000	30.11	34	0.20	8.30	640,000	1,900
BW-LFGSTACK-14A	June 28, 2000	30.02	31	0.60	12.00	590,000	830
BW-LFGSTACK-15A	October 16, 2000	30.18	34	0.73	7.20	640,000	1,900
BW-LFGSTACK-16A	January 4, 2001	29.97	33	0.60	7.20	600,000	1,300
BW-LFGSTACK-17A	April 2, 2001	30.17	33	0.21	8.10	590,000	1,300
BW-LFGSTACK-18A	June 29, 2001	30.06	32	0.19	5.90	620,000	1,000
BW-LFGSTACK-19A	October 4, 2001	30.02	34	0.22	3.80	620,000	1,700
BW-LFGSTACK-20A	December 12, 2001	30.02	33	0.35	6.20	600,000	1,700
BW-LFGSTACK-21A	April 3, 2002	30.29	32	ND	12.00	570,000	1,400
BW-LFGSTACK-22A	June 27, 2002	29.83	33	0.18	12.00	590,000	1,500
BW-LFGSTACK-23A	September 26, 2002	29.86	30	ND	9.00	570,000	1,400
BW-LFGSTACK-24A	January 7, 2003	29.98	30	1.80	18.00	510,000	960
BW-LFGSTACK-25A	April 11, 2003	29.95	31	2.50	13.00	520,000	1,000
BW-LFGSTACK-26A	June 26, 2003	29.88	30	1.50	12.00	550,000	960
BW-LFGSTACK-27A	September 26, 2003	29.74	24	5.70	26.00	510,000	1,200
BW-LFGSTACK-28A	December 29, 2003	29.90	29	14.00	2.50	520,000	990
BW-LFGSTACK-29A	March 5, 2004	29.40	29	2.00	10.00	570,000	1,100
BW-LFGSTACK-30A	June 23, 2004	29.94	28	3.30	14.00	530,000	1,200
BW-LFGSTACK-31A	September 1, 2004	30.22	31	1.00	8.40	600,000	2,100
BW-LFGSTACK-32A	December 10, 2004	29.59	28	3.30	17.00	510,000	1,600
BW-LFGSTACK-33A	March 9, 2005	30.04	20	8.00	33.00	390,000	790
BW-LFGSTACK-34A	June 30, 2005	29.82	27	3.50	20.00	500,000	1,000
BW-LFGSTACK-35A	September 14, 2005	29.92	23	6.80	25.00	450,000	670
BW-LFGSTACK-36A	December 15, 2005	29.75	28	3.70	21.00	540,000	1,100
BW-LFGSTACK-37A	March 8, 2006	29.56	33	0.92	12.00	570,000	1,200
BW-LFGSTACK-38A	June 29, 2006	30.13	0.046	22.00	78.00	2.1	< 1.0
BW-LFGSTACK-39A	August 18, 2006	29.89	1.2	21.00	74.00	22,000	< 1.0
BW-LFGSTACK-940A	November 8, 2006	29.70	33	0.74	8.20	580,000	244
BW-LFGSTACK-41A	February 22, 2007	30.11	0.76	22.00	77.00	14,000	< 1.0

Table 8
Landfill Gas Analytical Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Sample Identification	Sample Collection Date	Atmospheric Pressure (in. Hg)	ASTM D1945/EPA 3C			U.S. EPA Modified Method 25C	
			% of CO_2 (%-v/v)	% of O_2 (%-v/v)	% of N_2 (%-v/v)	Methane ppm-c	Total Non-Methane Organic Compounds, as Methane ppm-c
BW-LFGSTACK-42A	May 30, 2007	30.06	31	1.00	11.00	570,000	16.3
BW-LFGSTACK-43A	August 14, 2007	30.02	32	0.30	11.00	570,000	235.1
BW-LFGSTACK-44A	November 14, 2007	29.75	34	0.42	8.60	570,000	392.2
BW-LFGSTACK-45A	February 13, 2008	30.01	33	0.32	6.70	600,000	229.6
BW-LFGSTACK-46A	May 14, 2008	29.84	1.6	20.00	75.00	31,000	60.0
BW-LFGSTACK-47A	September 10, 2008	30.23	30	1.50	12.00	560,000	666.9
BW-LFGSTACK-48A	November 19, 2008	30.05	32	0.71	10.00	570,000	236.9
BW-LFGSTACK-49A	January 21, 2009	29.99	30	1.60	12.00	560,000	793.9
BW-LFGSTACK-50A	May 13, 2009	29.77	29	1.50	15.00	540,000	694.3
BW-LFGSTACK-51A	July 15, 2009	29.94	30	1.80	12.00	560,000	690.1
BW-LFGSTACK-52A	November 18, 2009	30.03	29	3.50	16.00	510,000	467.3
BW-LFGSTACK-53A	January 13, 2010	30.14	28	2.90	18.00	510,000	242.5
BW-LFGSTACK-54A	May 19, 2010	30.02	28	3.90	19.00	490,000	334.1
BW-LFGSTACK-55A	July 15, 2010	29.91	28	3.50	14.00	540,000	274.6
BW-LFGSTACK-56A	November 10, 2010	30.07	32	0.73	7.90	554,000	< 1700
BW-LFGSTACK-57A	January 12, 2011	30.38	23.6	4.71	23.40	402,000	920
Averages	-	**29.97**	**29**	**3.39**	**15.52**	**523,211**	**937**

Notes:
in. Hg: Inches mercury.
%-v/v: Percent by volume.
ppm-c: Parts per million - carbon
ND: Not detected

Table 9
Cumulative Risk of Exposure to Landfill Gas - May 2010
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Acetone	210	210	5.37E-07	2.21E-05	18.414	0.00041	NA	NA	6.6E-10	1.5E-09			
Benzene	940	940	3.23E-06	1.33E-04	18.414	0.00246	2.73E-02	8.57E-03	4.0E-09	9.2E-09	1.1E-10	1.1E-06	I, I
Benzyl Chloride[4]	<16	8	4.46E-08	1.84E-06	18.414	0.00003	NA	NA	5.5E-11	1.3E-10			
Bromodichloromethane	<16	8	5.77E-08	2.38E-06	18.414	0.00004	NA	NA	7.1E-11	1.6E-10			
Bromoform	<16	8	8.90E-08	3.67E-06	18.414	0.00007	3.85E-03	NA	1.1E-10	2.5E-10	4.2E-13		I
Bromomethane	<16	8	3.34E-08	1.38E-06	18.414	0.00003	NA	1.43E-03	4.1E-11	9.6E-11		6.7E-08	I
2-Butanone (MEK)	390	390	1.24E-06	5.11E-05	18.414	0.00094	NA	1.43E+00	1.5E-09	3.5E-09		2.5E-09	I
Carbon Disulfide	3.8	3.8	1.27E-08	5.25E-07	18.414	0.00001	NA	2.00E-01	1.6E-11	3.6E-11		1.8E-10	I
Carbon Tetrachloride	<16	8	5.42E-08	2.23E-06	18.414	0.00004	5.25E-02	NA	6.6E-11	1.5E-10	3.5E-12		I
Chlorobenzene	290	290	1.44E-06	5.93E-05	18.414	0.00109	NA	5.71E-03	1.8E-09	4.1E-09		7.2E-07	H
Chloroethane	310	310	8.81E-07	3.63E-05	18.414	0.00067	NA	2.86E+00	1.1E-09	2.5E-09		8.8E-10	I
Chloroform	<16	8	4.21E-08	1.73E-06	18.414	0.00003	8.05E-02	NA	5.1E-11	1.2E-10	4.1E-12		I
Chloromethane	<62	31	6.89E-08	2.84E-06	18.414	0.00005	6.30E-03	2.57E-02	8.4E-11	2.0E-10	5.3E-13	7.7E-09	H, I
Dibromochloromethane	<16	8	7.34E-08	3.03E-06	18.414	0.00006	NA	NA	9.0E-11	2.1E-10			
1,2-Dichlorobenzene	22	22	1.42E-07	5.87E-06	18.414	0.00011	NA	5.71E-02	1.7E-10	4.1E-10		7.1E-09	H
1,3-Dichlorobenzene	<16	8	5.18E-08	2.14E-06	18.414	0.00004	NA	NA	6.3E-11	1.5E-10			
1,4-Dichlorobenzene	480	480	3.11E-06	1.28E-04	18.414	0.00236	NA	2.29E-01	3.8E-09	8.9E-09		3.9E-08	I
1,1-Dichloroethane	61	61	2.66E-07	1.10E-05	18.414	0.00020	NA	1.43E-01	3.3E-10	7.6E-10		5.3E-09	H
1,2-Dichloroethane	<16	8	3.49E-08	1.44E-06	18.414	0.00003	9.10E-02	NA	4.3E-11	1.0E-10	3.9E-12		I
1,1-Dichloroethene	<16	8	3.41E-08	1.41E-06	18.414	0.00003	NA	5.71E-02	4.2E-11	9.8E-11		1.7E-09	I
cis-1,2-Dichloroethene	1,800	1,800	7.68E-06	3.17E-04	18.414	0.00583	NA	NA	9.4E-09	2.2E-08			
trans-1,2-Dichloroethene	140	140	5.98E-07	2.46E-05	18.414	0.00045	NA	NA	7.3E-10	1.7E-09			
1,2-Dichloropropane	82	82	4.08E-07	1.68E-05	18.414	0.00031	NA	1.14E-03	5.0E-10	1.2E-09		1.0E-06	I
cis-1,3-Dichloropropene	<16	8	3.91E-08	1.61E-06	18.414	0.00003	1.40E-02	5.71E-03	4.8E-11	1.1E-10	6.7E-13	2.0E-08	I, I
trans-1,3-Dichloropropene	<16	8	3.91E-08	1.61E-06	18.414	0.00003	1.40E-02	5.71E-03	4.8E-11	1.1E-10	6.7E-13	2.0E-08	I, I
Ethyl Benzene	3,600	3,600	1.68E-05	6.94E-04	18.414	0.01278	NA	2.86E-01	2.1E-08	4.8E-08		1.7E-07	I
Ethylene Dibromide[5]	<16	8.0	6.62E-08	2.73E-06	18.414	0.00005	2.10E+00	2.60E-03	8.1E-11	1.9E-10	1.7E-10	7.3E-08	I, I
4-Ethyltoluene	1,900	1,900	1.01E-05	4.15E-04	18.414	0.00764	NA	NA	1.2E-08	2.9E-08			
Freon 11 (C13FMe)	69	69	4.17E-07	1.72E-05	18.414	0.00032	NA	2.00E-01	5.1E-10	1.2E-09		6.0E-09	H
Freon 113	5.4	5.4	4.46E-08	1.84E-06	18.414	0.00003	NA	8.57E+00	5.45E-11	1.27E-10		1.48E-11	H
Freon 114 (C12F4Et)	340	340	2.56E-06	1.06E-04	18.414	0.00194	NA	NA	3.1E-09	7.3E-09			
Freon 12 (C12F2Me)	2,600	2,600	1.38E-05	5.71E-04	18.414	0.01051	NA	5.71E-02	1.7E-08	4.0E-08		6.9E-07	H
Hexachlorobutadiene	<62	31	3.56E-07	1.47E-05	18.414	0.00027	7.70E-02	NA	4.4E-10	1.0E-09	3.4E-11		I
2-Hexanone	<62	31	1.37E-07	5.64E-06	18.414	0.00010	NA	NA	1.7E-10	3.9E-10			

Table 9
Cumulative Risk of Exposure to Landfill Gas - May 2010
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Methane[6]	490,000,000	490,000,000	3.46E-01	1.43E+01	18.414	263	NA	NA	4.2E-04	9.9E-04			
4-Methyl-2-pentanone	<16	8	3.53E-08	1.45E-06	18.414	0.00003	NA	8.57E-01	4.3E-11	1.0E-10		1.2E-10	I
Methylene chloride	150	150	5.61E-07	2.31E-05	18.414	0.00043	NA	2.60E-02	6.9E-10	1.6E-09		6.2E-08	
Styrene	<16	8	3.67E-08	1.51E-06	18.414	0.00003	NA	2.86E-01	4.5E-11	1.0E-10		3.7E-10	I
1,1,2,2-Tetrachloroethane	<16	8	5.91E-08	2.44E-06	18.414	0.00004	2.03E-01	NA	7.2E-11	1.7E-10	1.5E-11		I
Tetrachloroethene	290	290	2.12E-06	8.73E-05	18.414	0.00161	2.03E-03	1.71E-01	2.6E-09	6.0E-09	5.3E-12	3.5E-08	prov, prov
TNMOC[7]	334,100	334,100	1.77E-04	7.29E-03	18.414	0.13417	NA	NA	2.2E-07	5.0E-07			prov
Toluene	14,000	14,000	5.68E-05	2.34E-03	18.414	0.04313	NA	1.14E-01	7.0E-08	1.6E-07		1.4E-06	I
1,2,4-Trichlorobenzene	<62	31	2.48E-07	1.02E-05	18.414	0.00019	NA	1.14E-03	3.0E-10	7.1E-10		6.2E-07	prov
1,1,1-Trichloroethane	<16	8	4.70E-08	1.94E-06	18.414	0.00004	NA	6.29E-01	5.8E-11	1.3E-10		2.1E-10	prov
1,1,2-Trichloroethane	<16	8	4.70E-08	1.94E-06	18.414	0.00004	5.60E-02	NA	5.8E-11	1.3E-10	3.2E-12		I
Trichloroethene	580	580	3.37E-06	1.39E-04	18.414	0.00256	4.00E-01	1.14E-02	4.1E-09	9.6E-09	1.6E-09	8.4E-07	prov, prov
1,2,4-Trimethylbenzene	2,100	2,100	1.11E-05	4.58E-04	18.414	0.00844	NA	1.71E-03	1.4E-08	3.2E-08		1.9E-05	prov
1,3,5-Trimethylbenzene	710	710	3.76E-06	1.55E-04	18.414	0.00285	NA	1.71E-03	4.6E-09	1.1E-08		6.3E-06	prov
Vinyl chloride	3,200	3,200	8.81E-06	3.63E-04	18.414	0.00669	3.08E-02	2.86E-02	1.1E-08	2.5E-08	3.3E-10	8.8E-07	I, I
m,p-Xylene	7,800	7,800	3.65E-05	1.50E-03	18.414	0.02769	NA	2.86E-02	4.5E-08	1.0E-07		3.6E-06	I
o-Xylene	1,900	1,900	8.88E-06	3.66E-04	18.414	0.00674	NA	2.86E-02	1.1E-08	2.5E-08		8.9E-07	I
									Cumulative Risk -->		**2.3E-09**	**3.7E-05**	

Notes:

(1) = Maximum concentration of BW-LFGSTACK-54A
(2) = Sample calculations are provided in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation
(3) = Maximum modeled concentration on the Blackwell Landfill
(4) = Benzyl Chloride is reported as alpha-Chlorotoluene in the Modified TO-14 Method
(5) = Ethylene Dibromide is reported as 1,2-Dibromoethane in the Modified TO-14 Method
(6) = Methane is reported by percent in the Modified ASTM D-1945 Method (1% = 10,000,000 ppbv)
(7) = Expressed on a carbon basis
(A) = Adult
(L) = Lifetime
\- = No listed screening value
H = HEAST Databasse (EPA's Health Effects Summary Table)
I = IRIS (EPA's Inategrated Risk Information System)
ppbv = Parts per billion by volume
prov = provisional value
$C_{ppb,i}$, M, C_{poll}, CF, E_i, and R_i are defined in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation.

Table 10
Cumulative Risk of Exposure to Landfill Gas - July 2010
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Acetone	300	300	7.67E-07	3.16E-05	18.414	0.00058	NA	NA	9.4E-10	2.2E-09			
Benzene	960	960	3.30E-06	1.36E-04	18.414	0.00251	2.73E-02	8.57E-03	4.0E-09	9.4E-09	1.1E-10	1.1E-06	I, I
Benzyl Chloride[4]	<17	8.5	4.74E-08	1.95E-06	18.414	0.00004	NA	NA	5.8E-11	1.4E-10			
Bromodichloromethane	<17	8.5	6.13E-08	2.53E-06	18.414	0.00005	NA	NA	7.5E-11	1.8E-10			
Bromoform	<17	8.5	9.46E-08	3.90E-06	18.414	0.00007	3.85E-03	NA	1.2E-10	2.7E-10	4.5E-13		I
Bromomethane	<17	8.5	3.55E-08	1.47E-06	18.414	0.00003	NA	1.43E-03	4.3E-11	1.0E-10		7.1E-08	I
2-Butanone (MEK)	540	540	1.71E-06	7.07E-05	18.414	0.00130	NA	1.43E+00	2.1E-09	4.9E-09		3.4E-09	I
Carbon Disulfide	3.2	3.2	1.07E-08	4.42E-07	18.414	0.00001	NA	2.00E-01	1.3E-11	3.1E-11		1.5E-10	I
Carbon Tetrachloride	<17	8.5	5.76E-08	2.37E-06	18.414	0.00004	5.25E-02	NA	7.0E-11	1.6E-10	3.7E-12		I
Chlorobenzene	280	280	1.39E-06	5.72E-05	18.414	0.00105	NA	5.71E-03	1.7E-09	4.0E-09		6.9E-07	H
Chloroethane	290	290	8.24E-07	3.40E-05	18.414	0.00063	NA	2.86E+00	1.0E-09	2.4E-09		8.2E-10	I
Chloroform	<17	8.5	4.47E-08	1.84E-06	18.414	0.00003	8.05E-02	NA	5.5E-11	1.3E-10	4.4E-12		I
Chloromethane	<68	34	7.56E-08	3.12E-06	18.414	0.00006	6.30E-03	2.57E-02	9.3E-11	2.2E-10	5.8E-13	8.4E-09	H, I
Dibromochloromethane	<17	8.5	7.80E-08	3.21E-06	18.414	0.00006	NA	NA	9.5E-11	2.2E-10			
1,2-Dichlorobenzene	25	25	1.62E-07	6.67E-06	18.414	0.00012	NA	5.71E-02	2.0E-10	4.6E-10		8.1E-09	H
1,3-Dichlorobenzene	<17	8.5	5.50E-08	2.27E-06	18.414	0.00004	NA	NA	6.7E-11	1.6E-10			
1,4-Dichlorobenzene	420	420	2.72E-06	1.12E-04	18.414	0.00206	NA	2.29E-01	3.3E-09	7.8E-09		3.4E-08	I
1,1-Dichloroethane	66	66	2.88E-07	1.19E-05	18.414	0.00022	NA	1.43E-01	3.5E-10	8.2E-10		5.7E-09	H
1,2-Dichloroethane	13	13	5.66E-08	2.34E-06	18.414	0.00004	9.10E-02	NA	6.9E-11	1.6E-10	6.3E-12		I
1,1-Dichloroethene	14	14	5.98E-08	2.46E-06	18.414	0.00005	NA	5.71E-02	7.3E-11	1.7E-10		3.0E-09	I
cis-1,2-Dichloroethene	2,000	2,000	8.54E-06	3.52E-04	18.414	0.00648	NA	NA	1.0E-08	2.4E-08			
trans-1,2-Dichloroethene	150	150	6.40E-07	2.64E-05	18.414	0.00049	NA	NA	7.8E-10	1.8E-09			
1,2-Dichloropropane	90	90	4.48E-07	1.85E-05	18.414	0.00034	NA	1.14E-03	5.5E-10	1.3E-09		1.1E-06	I
cis-1,3-Dichloropropene	<17	8.5	4.15E-08	1.71E-06	18.414	0.00003	1.40E-02	5.71E-03	5.1E-11	1.2E-10	7.1E-13	2.1E-08	I, I
trans-1,3-Dichloropropene	<17	8.5	4.15E-08	1.71E-06	18.414	0.00003	1.40E-02	5.71E-03	5.1E-11	1.2E-10	7.1E-13	2.1E-08	I, I
Ethyl Benzene	3,400	3,400	1.59E-05	6.55E-04	18.414	0.01207	NA	2.86E-01	1.9E-08	4.5E-08		1.6E-07	I
Ethylene Dibromide[5]	<17	8.5	7.03E-08	2.90E-06	18.414	0.00005	2.10E+00	2.60E-03	8.6E-11	2.0E-10	1.8E-10	7.7E-08	I, I
4-Ethyltoluene	1,700	1,700	9.00E-06	3.71E-04	18.414	0.00683	NA	NA	1.1E-08	2.6E-08			
Freon 11 (C13FMe)	35	35	2.12E-07	8.73E-06	18.414	0.00016	NA	2.00E-01	2.6E-10	6.0E-10		3.0E-09	H
Freon 113	6.7	6.7	5.53E-08	2.28E-06	18.414	0.00004	NA	8.57E+00	6.77E-11	1.58E-10		1.84E-11	H
Freon 114 (C12F4Et)	390	390	2.94E-06	1.21E-04	18.414	0.00223	NA	NA	3.6E-09	8.4E-09			
Freon 12 (C12F2Me)	2,000	2,000	1.06E-05	4.39E-04	18.414	0.00809	NA	5.71E-02	1.3E-08	3.0E-08		5.3E-07	H
Hexachlorobutadiene	<68	34	3.90E-07	1.61E-05	18.414	0.00030	7.70E-02	NA	4.8E-10	1.1E-09	3.7E-11		I
2-Hexanone	<68	34	1.50E-07	6.18E-06	18.414	0.00011	NA	NA	1.8E-10	4.3E-10			

Table 10
Cumulative Risk of Exposure to Landfill Gas - July 2010
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Methane[6]	540,000,000	540,000,000	3.81E-01	1.57E+01	18.414	290	NA	NA	4.7E-04	1.1E-03			
4-Methyl-2-pentanone	180	180	7.94E-07	3.27E-05	18.414	0.00060	NA	8.57E-01	9.7E-10	2.3E-09		2.6E-09	I
Methylene chloride	160	160	5.98E-07	2.47E-05	18.414	0.00045	NA	2.60E-02	7.3E-10	1.7E-09		6.6E-08	
Styrene	160	160	7.34E-07	3.03E-05	18.414	0.00056	NA	2.86E-01	9.0E-10	2.1E-09		7.3E-09	I
1,1,2,2-Tetrachloroethane	<17	8.5	6.28E-08	2.59E-06	18.414	0.00005	2.03E-01	NA	7.7E-11	1.8E-10	1.6E-11		I
Tetrachloroethene	340	340	2.48E-06	1.02E-04	18.414	0.00189	2.03E-03	1.71E-01	3.0E-09	7.1E-09	6.2E-12	4.1E-08	prov, prov
TNMOC[7]	274,600	274,600	1.45E-04	5.99E-03	18.414	0.11027	NA	NA	1.8E-07	4.1E-07			prov
Toluene	13,000	13,000	5.27E-05	2.18E-03	18.414	0.04005	NA	1.14E-01	6.5E-08	1.5E-07		1.3E-06	I
1,2,4-Trichlorobenzene	<68	34	2.72E-07	1.12E-05	18.414	0.00021	NA	1.14E-03	3.3E-10	7.8E-10		6.8E-07	prov
1,1,1-Trichloroethane	2.5	2.5	1.47E-08	6.06E-07	18.414	0.00001	NA	6.29E-01	1.8E-11	4.2E-11		6.7E-11	prov
1,1,2-Trichloroethane	<17	8.5	4.99E-08	2.06E-06	18.414	0.00004	5.60E-02	NA	6.1E-11	1.4E-10	3.4E-12		I
Trichloroethene	660	660	3.83E-06	1.58E-04	18.414	0.00291	4.00E-01	1.14E-02	4.7E-09	1.1E-08	1.9E-09	9.6E-07	prov, prov
1,2,4-Trimethylbenzene	2,000	2,000	1.06E-05	4.36E-04	18.414	0.00804	NA	1.71E-03	1.3E-08	3.0E-08		1.8E-05	prov
1,3,5-Trimethylbenzene	690	690	3.65E-06	1.51E-04	18.414	0.00277	NA	1.71E-03	4.5E-09	1.0E-08		6.1E-06	prov
Vinyl chloride	3,000	3,000	8.26E-06	3.40E-04	18.414	0.00627	3.08E-02	2.86E-02	1.0E-08	2.4E-08	3.1E-10	8.2E-07	I, I
m,p-Xylene	7,200	7,200	3.37E-05	1.39E-03	18.414	0.02556	NA	2.86E-02	4.1E-08	9.6E-08		3.4E-06	I
o-Xylene	1,900	1,900	8.88E-06	3.66E-04	18.414	0.00674	NA	2.86E-02	1.1E-08	2.5E-08		8.9E-07	I
									Cumulative Risk -->		**2.6E-09**	**3.6E-05**	

Notes:

(1) = Maximum concentration of BW-LFGSTACK-55A
(2) = Sample calculations are provided in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation
(3) = Maximum modeled concentration on the Blackwell Landfill
(4) = Benzyl Chloride is reported as alpha-Chlorotoluene in the Modified TO-14 Method
(5) = Ethylene Dibromide is reported as 1,2-Dibromoethane in the Modified TO-14 Method
(6) = Methane is reported by percent in the Modified ASTM D-1945 Method (1% = 10,000,000 ppbv)
(7) = Expressed on a carbon basis
(A) = Adult
(L) = Lifetime
\- = No listed screening value
H = HEAST Databasse (EPA's Health Effects Summary Table)
I = IRIS (EPA's Inategrated Risk Information System)
ppbv = Parts per billion by volume
prov = provisional value
$C_{ppb,i}$, M, C_{poll}, CF, E_i, and R_i are defined in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation.

Table 11
Cumulative Risk of Exposure to Landfill Gas - November 2010
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Acetone	380	380	9.72E-07	4.01E-05	18.414	0.00074	NA	NA	1.2E-09	2.8E-09			
Benzene	1,200	1,200	4.13E-06	1.70E-04	18.414	0.00313	2.73E-02	8.57E-03	5.1E-09	1.2E-08	1.4E-10	1.4E-06	I, I
Benzyl Chloride	<170	85	4.74E-07	1.95E-05	18.414	0.00036	NA	NA	5.8E-10	1.4E-09			
Bromodichloromethane	<34	17	1.23E-07	5.06E-06	18.414	0.00009	NA	NA	1.5E-10	3.5E-10			
Bromoform	<170	85	9.46E-07	3.90E-05	18.414	0.00072	3.85E-03	NA	1.2E-09	2.7E-09	4.5E-12		I
Bromomethane	<170	85	3.55E-07	1.47E-05	18.414	0.00027	NA	1.43E-03	4.3E-10	1.0E-09		7.1E-07	I
2-Butanone (MEK)	200	200	6.35E-07	2.62E-05	18.414	0.00048	NA	1.43E+00	7.8E-10	1.8E-09		1.3E-09	I
Carbon Disulfide	<170	85	2.85E-07	1.18E-05	18.414	0.00022	NA	2.00E-01	3.5E-10	8.1E-10		4.1E-09	I
Carbon Tetrachloride	<34	17	1.15E-07	4.75E-06	18.414	0.00009	5.25E-02	NA	1.4E-10	3.3E-10	7.4E-12		I
Chlorobenzene	590	590	2.92E-06	1.21E-04	18.414	0.00222	NA	5.71E-03	3.6E-09	8.4E-09		1.5E-06	H
Chloroethane	480	480	1.36E-06	5.62E-05	18.414	0.00104	NA	2.86E+00	1.7E-09	3.9E-09		1.4E-09	I
Chloroform	<34	17	8.94E-08	3.69E-06	18.414	0.00007	8.05E-02	NA	1.1E-10	2.6E-10	8.8E-12		I
Chloromethane	<170	85	1.89E-07	7.79E-06	18.414	0.00014	6.30E-03	2.57E-02	2.3E-10	5.4E-10	1.5E-12	2.1E-08	H, I
Dibromochloromethane	<34	17	1.56E-07	6.43E-06	18.414	0.00012	NA	NA	1.9E-10	4.5E-10			
1,2-Dichlorobenzene	<34	17	1.10E-07	4.54E-06	18.414	0.00008	NA	5.71E-02	1.3E-10	3.1E-10		5.5E-09	H
1,3-Dichlorobenzene	<34	17	1.10E-07	4.54E-06	18.414	0.00008	NA	NA	1.3E-10	3.1E-10			
1,4-Dichlorobenzene	610	610	3.95E-06	1.63E-04	18.414	0.00300	NA	2.29E-01	4.8E-09	1.1E-08		4.9E-08	I
1,1-Dichloroethane	110	110	4.79E-07	1.98E-05	18.414	0.00036	NA	1.43E-01	5.9E-10	1.4E-09		9.6E-09	H
1,2-Dichloroethane	<34	17	7.41E-08	3.05E-06	18.414	0.00006	9.10E-02	NA	9.1E-11	2.1E-10	8.3E-12		I
1,1-Dichloroethene	<34	17	7.26E-08	2.99E-06	18.414	0.00006	NA	5.71E-02	8.9E-11	2.1E-10		3.6E-09	I
cis-1,2-Dichloroethene	2,300	2,300	9.82E-06	4.05E-04	18.414	0.00746	NA	NA	1.2E-08	2.8E-08			
trans-1,2-Dichloroethene	170	170	7.26E-07	2.99E-05	18.414	0.00055	NA	NA	8.9E-10	2.1E-09			
1,2-Dichloropropane	100	100	4.98E-07	2.05E-05	18.414	0.00038	NA	1.14E-03	6.1E-10	1.4E-09		1.2E-06	I
cis-1,3-Dichloropropene	<34	17	8.31E-08	3.43E-06	18.414	0.00006	1.40E-02	5.71E-03	1.0E-10	2.4E-10	1.4E-12	4.2E-08	I, I
trans-1,3-Dichloropropene	<85	42.5	2.08E-07	8.56E-06	18.414	0.00016	1.40E-02	5.71E-03	2.5E-10	5.9E-10	3.6E-12	1.0E-07	I, I
Ethyl Benzene	4,000	4,000	1.87E-05	7.71E-04	18.414	0.01420	NA	2.86E-01	2.3E-08	5.3E-08		1.9E-07	I
Ethylene Dibromide[4]	<34	17	1.41E-07	5.80E-06	18.414	0.00011	2.10E+00	2.60E-03	1.7E-10	4.0E-10	3.6E-10	1.5E-07	I, I
4-Ethyltoluene	460	460	2.43E-06	1.00E-04	18.414	0.00185	NA	NA	3.0E-09	7.0E-09			
Freon 11 (C13FMe)[5]	<34	17	1.03E-07	4.24E-06	18.414	0.00008	NA	2.00E-01	1.3E-10	2.9E-10		1.5E-09	H
Freon 113	<34	17	1.40E-07	5.78E-06	18.414	0.00011	NA	8.57E+00	1.72E-10	4.01E-10		4.67E-11	H
Freon 114 (C12F4Et)	430	430	3.24E-06	1.33E-04	18.414	0.00246	NA	NA	4.0E-09	9.2E-09			
Freon 12 (C12F2Me)[6]	2,900	2,900	1.54E-05	6.37E-04	18.414	0.01172	NA	5.71E-02	1.9E-08	4.4E-08		7.7E-07	H
Hexachlorobutadiene	<34	17	1.95E-07	8.05E-06	18.414	0.00015	7.70E-02	NA	2.4E-10	5.6E-10	1.8E-11		I
2-Hexanone	<340	170	7.50E-07	3.09E-05	18.414	0.00057	NA	NA	9.2E-10	2.1E-09			

Table 11
Cumulative Risk of Exposure to Landfill Gas - November 2010
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Methane[7]	554,000,000	554,000,000	3.91E-01	1.61E+01	18.414	297	NA	NA	4.8E-04	1.1E-03			
4-Methyl-2-pentanone	<170	85	3.75E-07	1.55E-05	18.414	0.00028	NA	8.57E-01	4.6E-10	1.1E-09		1.2E-09	I
Methylene chloride	<340	170	6.36E-07	2.62E-05	18.414	0.00048	NA	2.60E-02	7.8E-10	1.8E-09		7.0E-08	
Styrene	76	76	3.49E-07	1.44E-05	18.414	0.00026	NA	2.86E-01	4.3E-10	1.0E-09		3.5E-09	I
1,1,2,2-Tetrachloroethane	<34	17	1.26E-07	5.18E-06	18.414	0.00010	2.03E-01	NA	1.5E-10	3.6E-10	3.1E-11		I
Tetrachloroethene	480	480	3.50E-06	1.45E-04	18.414	0.00266	2.03E-03	1.71E-01	4.3E-09	1.0E-08	8.7E-12	5.9E-08	prov, prov
TNMOC[8]	<1700	850	4.49E-07	1.85E-05	18.414	0.00034	NA	NA	5.5E-10	1.3E-09			prov
Toluene	25,000	25,000	1.01E-04	4.18E-03	18.414	0.07702	NA	1.14E-01	1.2E-07	2.9E-07		2.5E-06	I
1,2,4-Trichlorobenzene	<85	42.5	3.40E-07	1.40E-05	18.414	0.00026	NA	1.14E-03	4.2E-10	9.7E-10		8.5E-07	prov
1,1,1-Trichloroethane	<34	17	9.99E-08	4.12E-06	18.414	0.00008	NA	6.29E-01	1.2E-10	2.9E-10		4.5E-10	prov
1,1,2-Trichloroethane	<34	17	9.99E-08	4.12E-06	18.414	0.00008	5.60E-02	NA	1.2E-10	2.9E-10	6.8E-12		I
Trichloroethene	760	760	4.41E-06	1.82E-04	18.414	0.00335	4.00E-01	1.14E-02	5.4E-09	1.3E-08	2.2E-09	1.1E-06	prov, prov
1,2,4-Trimethylbenzene	1,500	1,500	7.94E-06	3.27E-04	18.414	0.00603	NA	1.71E-03	9.7E-09	2.3E-08		1.3E-05	prov
1,3,5-Trimethylbenzene	650	650	3.44E-06	1.42E-04	18.414	0.00261	NA	1.71E-03	4.2E-09	9.8E-09		5.7E-06	prov
Vinyl chloride	3,200	3,200	8.81E-06	3.63E-04	18.414	0.00669	3.08E-02	2.86E-02	1.1E-08	2.5E-08	3.3E-10	8.8E-07	I, I
m,p-Xylene	7,600	7,600	3.55E-05	1.47E-03	18.414	0.02698	NA	2.86E-02	4.3E-08	1.0E-07		3.5E-06	I
o-Xylene	2,100	2,100	9.82E-06	4.05E-04	18.414	0.00745	NA	2.86E-02	1.2E-08	2.8E-08		9.8E-07	I
									Cumulative Risk -->		**3.1E-09**	**3.5E-05**	

Notes:

(1) = Maximum concentration of BW-LFGSTACK-56A
(2) = Sample calculations are provided in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation
(3) = Maximum modeled concentration on the Blackwell Landfill
(4) = Ethylene Dibromide is reported as 1,2-Dibromoethane in the TO-15 Method
(5) = Freon 11 is reported as Trichlorofluoromethane in the TO-15 Method
(6) = Freon 12 is reported as Dichlorodifluoromethane in the TO-15 Method
(7) = Methane is reported by percent in the Modified ASTM D-1945 Method (1% = 10,000,000 ppbv)
(8) = Expressed on a carbon basis
(A) = Adult
(L) = Lifetime
\- = No listed screening value
H = HEAST Databasse (EPA's Health Effects Summary Table)
I = IRIS (EPA's Inategrated Risk Information System)
ppbv = Parts per billion by volume
prov = provisional value
$C_{ppb,i}$, M, C_{poll}, CF, E_i, and R_i are defined in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation.

Table 12
Cumulative Risk of Exposure to Landfill Gas - January 2011
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration[1] $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration[2] g/L	Emission Rate[2] E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell[3] R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Acetone	690	690	1.76E-06	7.28E-05	18.414	0.00134	NA	NA	2.2E-09	5.0E-09			
Benzene	1,500	1,500	5.16E-06	2.13E-04	18.414	0.00392	2.73E-02	8.57E-03	6.3E-09	1.5E-08	1.7E-10	1.7E-06	I, I
Benzyl Chloride	<39	19.5	1.09E-07	4.48E-06	18.414	0.00008	NA	NA	1.3E-10	3.1E-10			
Bromodichloromethane	<7.7	3.85	2.78E-08	1.15E-06	18.414	0.00002	NA	NA	3.4E-11	7.9E-11			
Bromoform	<39	19.5	2.17E-07	8.95E-06	18.414	0.00016	3.85E-03	NA	2.7E-10	6.2E-10	1.0E-12		I
Bromomethane	<39	19.5	8.15E-08	3.36E-06	18.414	0.00006	NA	1.43E-03	1.0E-10	2.3E-10		1.6E-07	I
2-Butanone (MEK)	670	670	2.13E-06	8.77E-05	18.414	0.00162	NA	1.43E+00	2.6E-09	6.1E-09		4.2E-09	I
Carbon Disulfide	<39	19.5	6.54E-08	2.70E-06	18.414	0.00005	NA	2.00E-01	8.0E-11	1.9E-10		9.3E-10	I
Carbon Tetrachloride	<7.7	3.85	2.61E-08	1.08E-06	18.414	0.00002	5.25E-02	NA	3.2E-11	7.4E-11	1.7E-12		I
Chlorobenzene	780	780	3.87E-06	1.59E-04	18.414	0.00294	NA	5.71E-03	4.7E-09	1.1E-08		1.9E-06	H
Chloroethane	510	510	1.45E-06	5.97E-05	18.414	0.00110	NA	2.86E+00	1.8E-09	4.1E-09		1.4E-09	I
Chloroform	<7.7	3.85	2.02E-08	8.35E-07	18.414	0.00002	8.05E-02	NA	2.5E-11	5.8E-11	2.0E-12		I
Chloromethane	<39	19.5	4.34E-08	1.79E-06	18.414	0.00003	6.30E-03	2.57E-02	5.3E-11	1.2E-10	3.3E-13	4.8E-09	H, I
Dibromochloromethane	<7.7	3.85	3.53E-08	1.46E-06	18.414	0.00003	NA	NA	4.3E-11	1.0E-10			
1,2-Dichlorobenzene	<7.7	3.85	2.49E-08	1.03E-06	18.414	0.00002	NA	5.71E-02	3.1E-11	7.1E-11		1.2E-09	H
1,3-Dichlorobenzene	<7.7	3.85	2.49E-08	1.03E-06	18.414	0.00002	NA	NA	3.1E-11	7.1E-11			
1,4-Dichlorobenzene	810	810	5.24E-06	2.16E-04	18.414	0.00398	NA	2.29E-01	6.4E-09	1.5E-08		6.5E-08	I
1,1-Dichloroethane	140	140	6.10E-07	2.52E-05	18.414	0.00046	NA	1.43E-01	7.5E-10	1.7E-09		1.2E-08	H
1,2-Dichloroethane	18	18	7.84E-08	3.23E-06	18.414	0.00006	9.10E-02	NA	9.6E-11	2.2E-10	8.7E-12		I
1,1-Dichloroethene	17	17	7.26E-08	2.99E-06	18.414	0.00006	NA	5.71E-02	8.9E-11	2.1E-10		3.6E-09	I
cis-1,2-Dichloroethene	1,900	1,900	8.11E-06	3.34E-04	18.414	0.00616	NA	NA	9.9E-09	2.3E-08			
trans-1,2-Dichloroethene	210	210	8.96E-07	3.70E-05	18.414	0.00068	NA	NA	1.1E-09	2.6E-09			
1,2-Dichloropropane	120	120	5.97E-07	2.46E-05	18.414	0.00045	NA	1.14E-03	7.3E-10	1.7E-09		1.5E-06	I
cis-1,3-Dichloropropene	<7.7	3.85	1.88E-08	7.76E-07	18.414	0.00001	1.40E-02	5.71E-03	2.3E-11	5.4E-11	3.2E-13	9.4E-09	I, I
trans-1,3-Dichloropropene	<19	9.5	4.64E-08	1.91E-06	18.414	0.00004	1.40E-02	5.71E-03	5.7E-11	1.3E-10	8.0E-13	2.3E-08	I, I
Ethyl Benzene	4,300	4,300	2.01E-05	8.29E-04	18.414	0.01526	NA	2.86E-01	2.5E-08	5.7E-08		2.0E-07	I
Ethylene Dibromide[4]	<7.7	3.85	3.19E-08	1.31E-06	18.414	0.00002	2.10E+00	2.60E-03	3.9E-11	9.1E-11	8.2E-11	3.5E-08	I, I
4-Ethyltoluene	720	720	3.81E-06	1.57E-04	18.414	0.00289	NA	NA	4.7E-09	1.1E-08			
Freon 11 (C13FMe)[5]	22	22	1.33E-07	5.49E-06	18.414	0.00010	NA	2.00E-01	1.6E-10	3.8E-10		1.9E-09	H
Freon 113	<7.7	3.85	3.18E-08	1.31E-06	18.414	0.00002	NA	8.57E+00	3.89E-11	9.07E-11		1.06E-11	H
Freon 114 (C12F4Et)	520	520	3.91E-06	1.61E-04	18.414	0.00297	NA	NA	4.8E-09	1.1E-08			
Freon 12 (C12F2Me)[6]	2,700	2,700	1.44E-05	5.93E-04	18.414	0.01092	NA	5.71E-02	1.8E-08	4.1E-08		7.2E-07	H
Hexachlorobutadiene	<7.7	3.85	4.42E-08	1.82E-06	18.414	0.00003	7.70E-02	NA	5.4E-11	1.3E-10	4.2E-12		I
2-Hexanone	<77	38.5	1.70E-07	7.00E-06	18.414	0.00013	NA	NA	2.1E-10	4.8E-10			

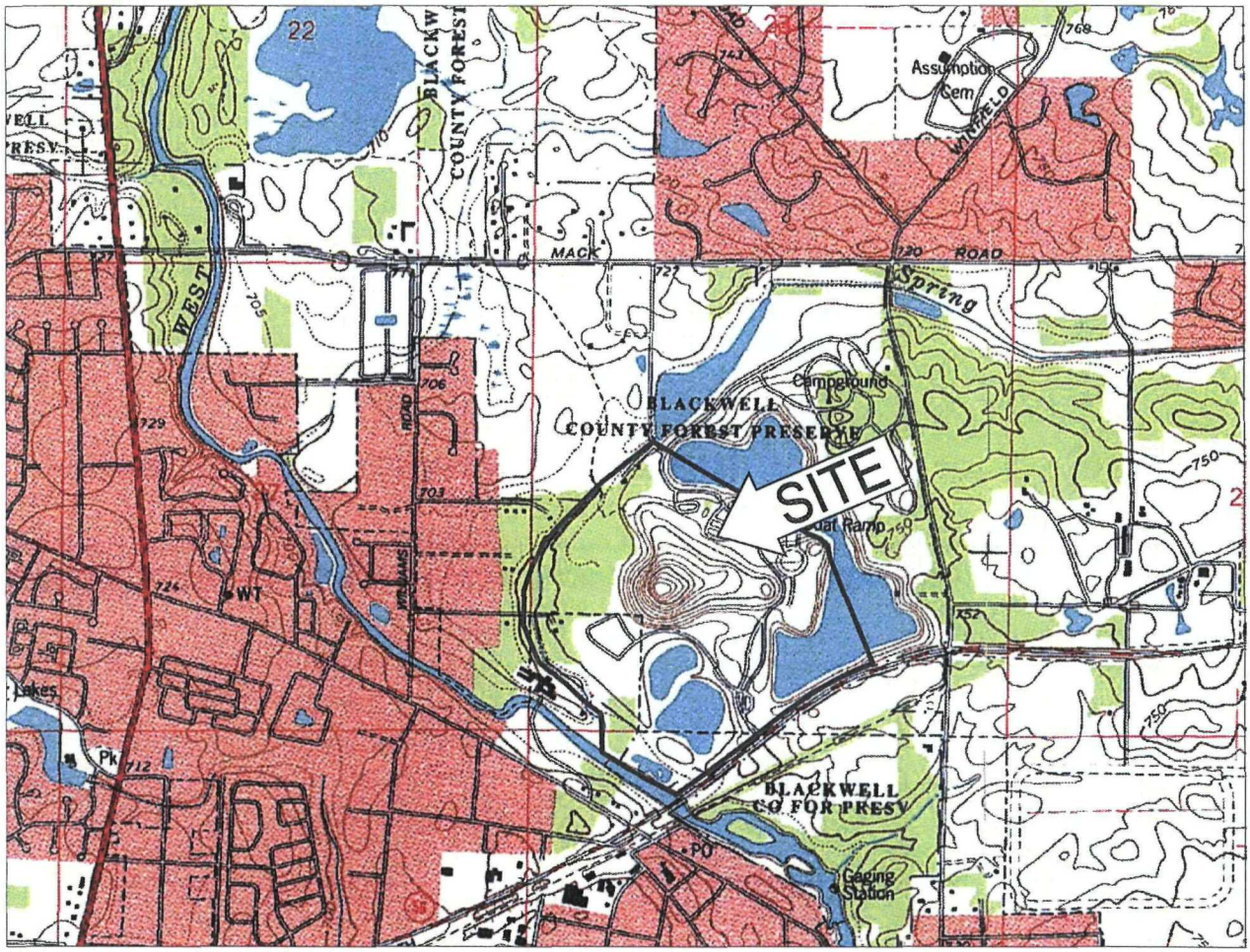
Table 12
Cumulative Risk of Exposure to Landfill Gas - January 2011
Recreational Portions of Landfill
Blackwell Landfill NPL Site, DuPage County, Illinois

Potential Chemical of Concern	Maximum Concentration(1) $C_{ppb,i}$ (ppbv)	Maximum Concentration (ppbv)	Maximum Concentration(2) g/L	Emission Rate(2) E_i (g/s)	Maximum Unit Concentration (ug/m3)	Maximum Concentration on Blackwell(3) R_i (ug/m3)	Slope Factor (mg/kg-day)-1	RfDi (mg/kg-day)	Cancer Dose (mg/kg-day)	Noncancer Dose (mg/kg-day)	Cancer Risk	Hazard Quotient	References
Methane(7)	402,000,000	402,000,000	2.84E-01	1.17E+01	18.414	216	NA	NA	3.5E-04	8.1E-04			
4-Methyl-2-pentanone	390	390	1.72E-06	7.09E-05	18.414	0.00131	NA	8.57E-01	2.1E-09	4.9E-09		5.7E-09	I
Methylene chloride	180	180	6.73E-07	2.78E-05	18.414	0.00051	NA	2.60E-02	8.2E-10	1.9E-09		7.4E-08	
Styrene	130	130	5.96E-07	2.46E-05	18.414	0.00045	NA	2.86E-01	7.3E-10	1.7E-09		6.0E-09	I
1,1,2,2-Tetrachloroethane	<7.7	3.85	2.85E-08	1.17E-06	18.414	0.00002	2.03E-01	NA	3.5E-11	8.1E-11	7.1E-12		I
Tetrachloroethene	460	460	3.36E-06	1.39E-04	18.414	0.00255	2.03E-03	1.71E-01	4.1E-09	9.6E-09	8.3E-12	5.6E-08	prov, prov
TNMOC(8)	920,000	920,000	4.87E-04	2.01E-02	18.414	0.36945	NA	NA	6.0E-07	1.4E-06			prov
Toluene	14,000	14,000	5.68E-05	2.34E-03	18.414	0.04313	NA	1.14E-01	7.0E-08	1.6E-07		1.4E-06	I
1,2,4-Trichlorobenzene	<19	9.5	7.59E-08	3.13E-06	18.414	0.00006	NA	1.14E-03	9.3E-11	2.2E-10		1.9E-07	prov
1,1,1-Trichloroethane	9.6	9.6	5.64E-08	2.33E-06	18.414	0.00004	NA	6.29E-01	6.9E-11	1.6E-10		2.6E-10	prov
1,1,2-Trichloroethane	<7.7	3.85	2.26E-08	9.33E-07	18.414	0.00002	5.60E-02	NA	2.8E-11	6.5E-11	1.6E-12		I
Trichloroethene	740	740	4.30E-06	1.77E-04	18.414	0.00326	4.00E-01	1.14E-02	5.3E-09	1.2E-08	2.1E-09	1.1E-06	prov, prov
1,2,4-Trimethylbenzene	2,200	2,200	1.16E-05	4.80E-04	18.414	0.00884	NA	1.71E-03	1.4E-08	3.3E-08		1.9E-05	prov
1,3,5-Trimethylbenzene	990	990	5.24E-06	2.16E-04	18.414	0.00398	NA	1.71E-03	6.4E-09	1.5E-08		8.8E-06	prov
Vinyl chloride	3,200	3,200	8.81E-06	3.63E-04	18.414	0.00669	3.08E-02	2.86E-02	1.1E-08	2.5E-08	3.3E-10	8.8E-07	I, I
m,p-Xylene	8,600	8,600	4.02E-05	1.66E-03	18.414	0.03053	NA	2.86E-02	4.9E-08	1.1E-07		4.0E-06	I
o-Xylene	2,300	2,300	1.08E-05	4.43E-04	18.414	0.00816	NA	2.86E-02	1.3E-08	3.1E-08		1.1E-06	I
									Cumulative Risk -->		**2.7E-09**	**4.3E-05**	

Notes:

(1) = Maximum concentration of BW-LFGSTACK-57A
(2) = Sample calculations are provided in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation
(3) = Maximum modeled concentration on the Blackwell Landfill
(4) = Ethylene Dibromide is reported as 1,2-Dibromoethane in the TO-15 Method
(5) = Freon 11 is reported as Trichlorofluoromethane in the TO-15 Method
(6) = Freon 12 is reported as Dichlorodifluoromethane in the TO-15 Method
(7) = Methane is reported by percent in the Modified ASTM D-1945 Method (1% = 10,000,000 ppbv)
(8) = Expressed on a carbon basis
(A) = Adult
(L) = Lifetime
\- = No listed screening value
H = HEAST Databasse (EPA's Health Effects Summary Table)
I = IRIS (EPA's Inategrated Risk Information System)
ppbv = Parts per billion by volume
prov = provisional value
$C_{ppb,i}$, M, C_{poll}, CF, E_i, and R_i are defined in Appendix C of the August 2001 Landfill Gas Recreational Use Evaluation.

FIGURES



BASE MAP DEVELOPED FROM THE
NAPERVILLE, ILLINOIS 7.5 MINUTE
U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
DATED: 1993

N

2000

SCALE IN FEET

MWH	BLACKWELL LANDFILL NPL SITE DUPAGE COUNTY, ILLINOIS	SITE LOCATION MAP	FIGURE 1

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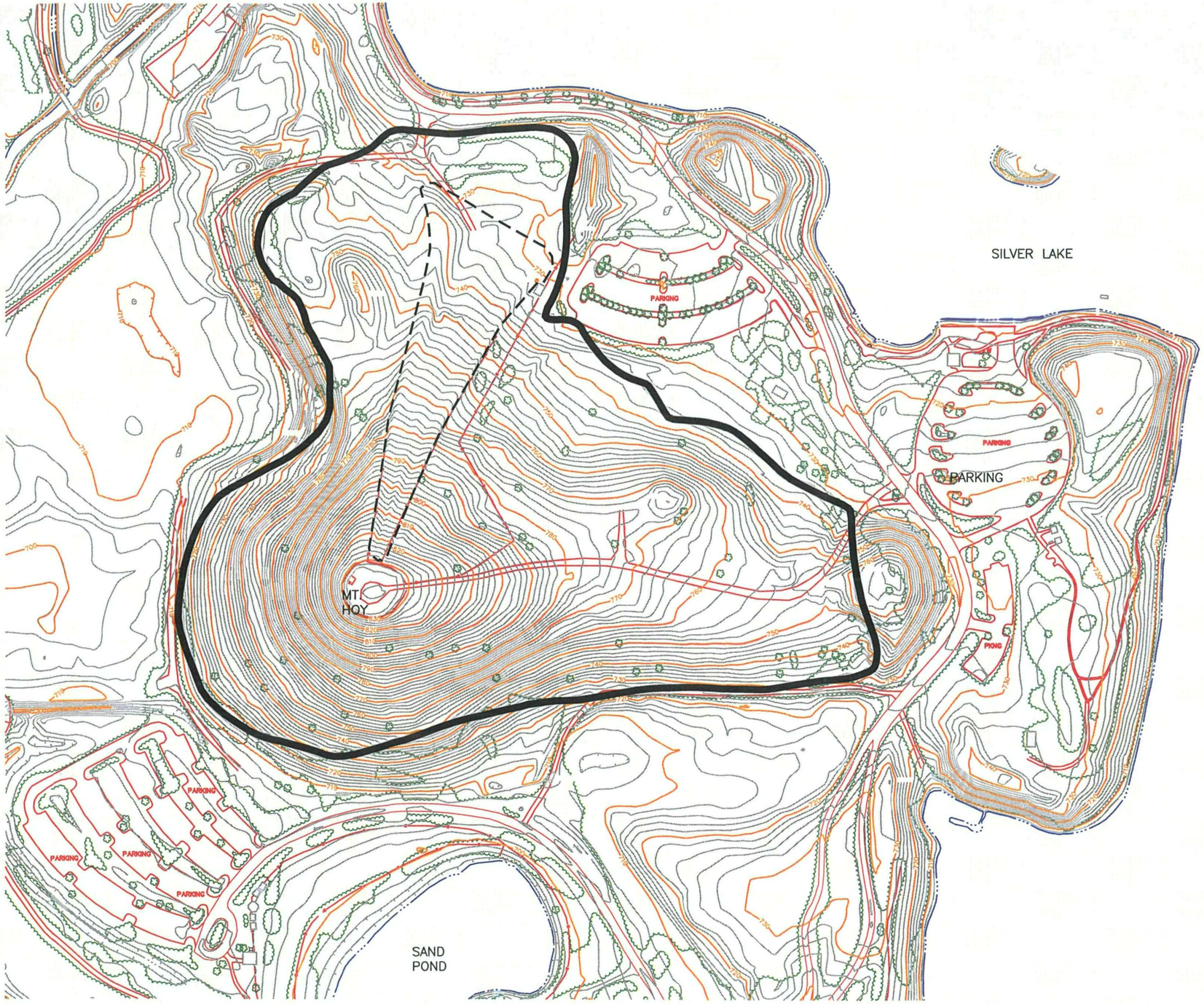
MWH	BLACKWELL LANDFILL NPL SITE DU PAGE COUNTY, ILLINOIS	SITE FEATURES MAP	FIGURE 2

J:\jobs\100\7333 Blackwell\4.0 Execution (Project Deliverables)\4.1 Drawings\Master Drawings\Site Features Map.dwg Jun 01, 2011 – 12:56pm



0 250
SCALE IN FEET

LEGEND

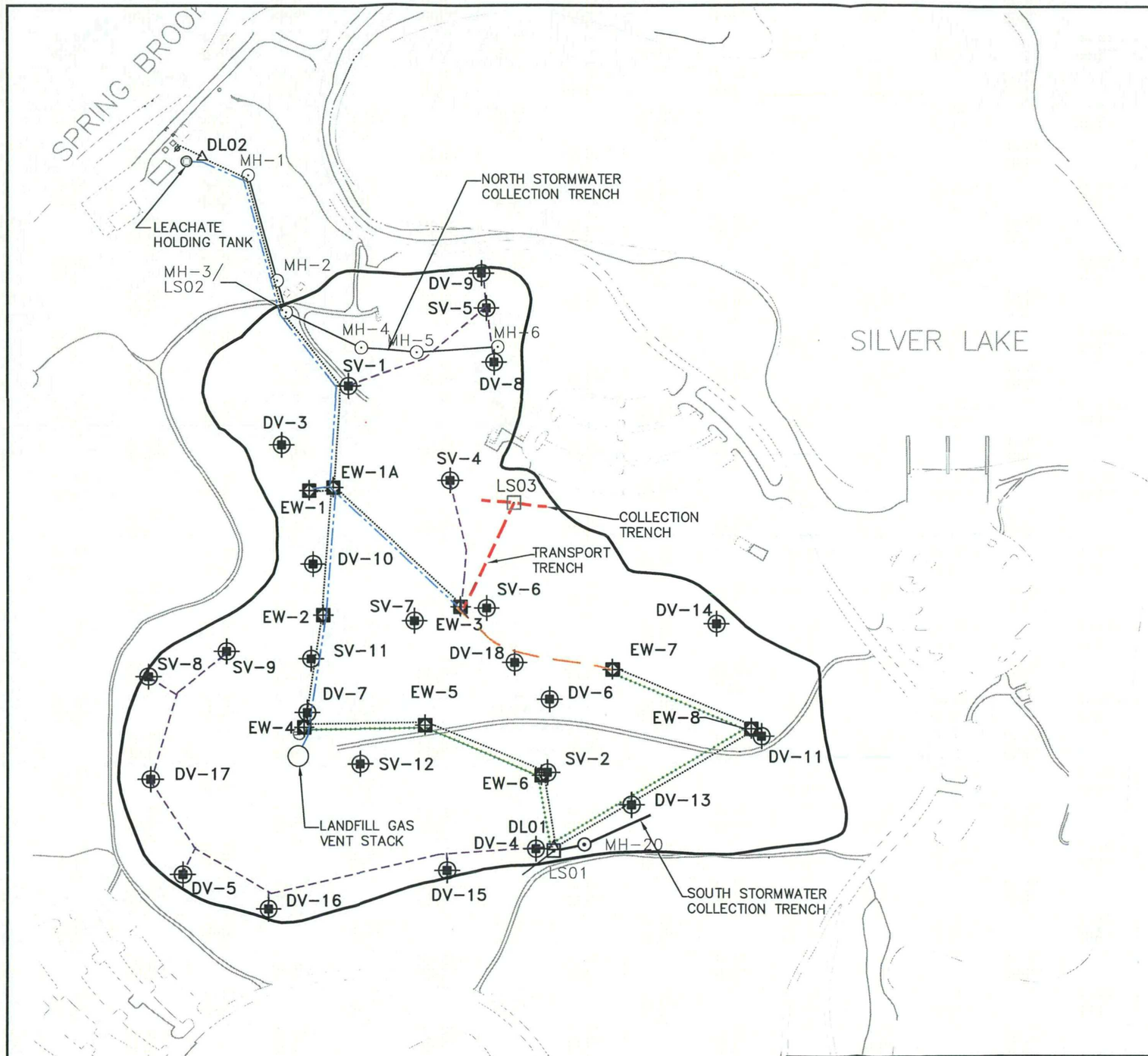
- BUILDING
- PAVED ROAD
- TREE
- BRUSHLINE
- WATER OUTLINE
- FENCE
- INDEX CONTOUR
- LIMITS OF REFUSE
- APPROXIMATE AREA OF REGRADED TUBE RUN (COMPLETED FALL 2002)

NOTES:

1. TOPOGRAPHIC CONTOURS AND LIMITS OF TREES GENERATED BY AERO-METRIC, INC. SHEBOYGAN, WISCONSIN, BASED ON MAY 2004 PHOTOGRAPHY.

MWH	BLACKWELL LANDFILL NPL SITE DUPAGE COUNTY, ILLINOIS	TOPOGRAPHIC MAP	FIGURE 3

J:\jobs\100\7333 Blackwell\4.0 Execution (Project Deliverables)\4.1 Drawings\13th Year O&M Report\13th Year_Fig 3_Topographic Map 04.dwg Jun 01, 2011 – 12:42pm



LEGEND

- DV-9 — VENT PIPE LOCATION AND NUMBER
- MH-20 — MANHOLE LOCATION AND NUMBER WITH LIQUID CUTOFF TRENCH AND PIPE
- EW-6 — LEACHATE EXTRACTION WELL/GAS VENT LOCATION AND NUMBER
- LIMITS OF REFUSE BASED ON GEOPHYSICAL TESTING AND SOIL BORINGS
- LS01 — LIFT STATION LOCATION AND NUMBER
- LEACHATE PRESSURE CONVEYANCE PIPE AND CONTROL WIRE
- LEACHATE GRAVITY CONVEYANCE PIPE
- GAS HEADER PIPE
- DL01 — DRIPLEG LOCATION AND NUMBER
- COLLECTION TRENCH COMPONENTS
- SHUNT LINE
- LANDFILL GAS CONVEYANCE PIPE

N

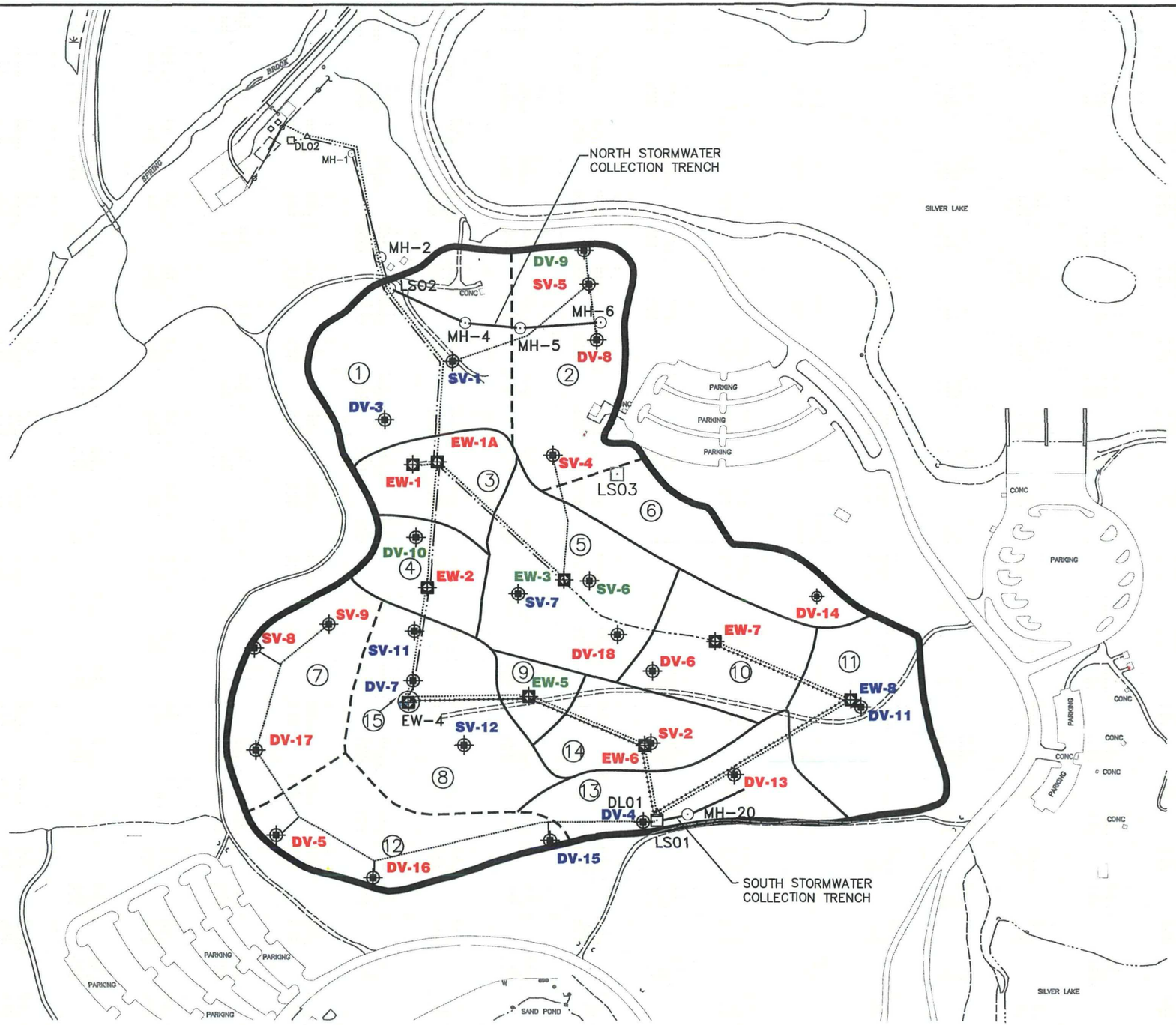
0 250
SCALE IN FEET

NOTES

1. APPROXIMATE LIMITS OF REFUSE HAVE BEEN ESTIMATED BASED ON INFORMATION PRESENTED IN THE PREDESIGN REPORT, APRIL 1997.

MWH	BLACKWELL LANDFILL NPL SITE DUPAGE COUNTY, ILLINOIS	LCS AND LFG SYSTEM LAYOUT	FIGURE 4

J:\jobs\100\7333 Blackwell\4.0 Execution (Project Deliverables)\4.1 Drawings\13th Year O&M Report\13th Year_Fig 4_LCS LFG Systems.dwg Apr 04, 2011 – 10:05am



LEGEND

- DV-8 — MONITORING WELL LOCATION AND NUMBER / VENT PIPE LOCATION AND NUMBER
- MH-6 — MANHOLE LOCATION AND NUMBER WITH LIQUID CUTOFF TRENCH AND PIPE
- EW-1 — LEACHATE EXTRACTION WELL/GAS VENT LOCATION AND NUMBER
- LS01 — LIFT STATION LOCATION AND NUMBER
- LIMITS OF REFUSE TESTING AND SOIL BORINGS
- LEACHATE PRESSURE CONVEYANCE PIPE
- LEACHATE GRAVITY CONVEYANCE PIPE
- APPROXIMATE GAS HEADER PIPE
- DV-13 — EXTRACTION WELL OR VENT WITH INCREASING LEACHATE LEVEL TREND
- SV-1 — EXTRACTION WELL OR VENT WITH FLAT LEACHATE LEVEL TREND
- EW-3 — EXTRACTION WELL OR VENT WITH DECREASING LEACHATE LEVEL TREND
- EW-4 — EXTRACTION WELL OR VENT WHERE LEACHATE LEVELS ARE NO LONGER MEASURED
- (1) — LANDFILL AREA NUMBER

NOTES

1. BASE MAP DEVELOPED FROM AERIAL SURVEY TOPOGRAPHIC MAP BY AERO-METRIC ENGINEERING PROJECT NO. 109222, APRIL 3 AND 5, 1992.
2. FLAT LEACHATE LEVEL TRENDS ARE DEFINED AS HAVING LEACHATE LEVEL TRENDLINE SLOPES = -0.1 FT/YR $\leq X \leq 0.1$ FT/YR.

N

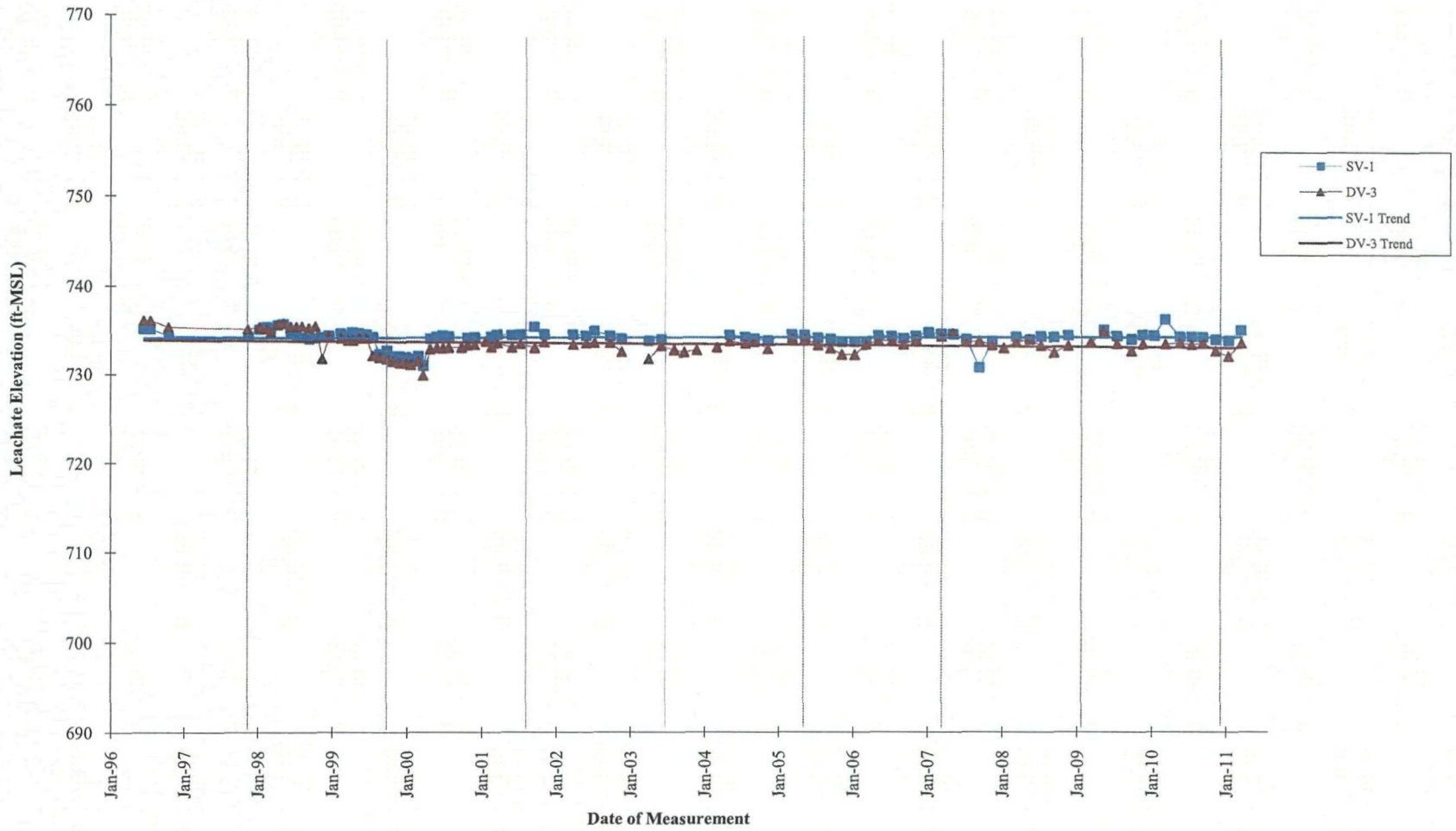
0 250
SCALE IN FEET

SCALE				FIGURE
1" = 250'	MWH	BLACKWELL LANDFILL NPL SITE DUPAGE COUNTY, ILLINOIS	CUMULATIVE LEACHATE LEVEL TRENDS THROUGH THE THIRTEENTH YEAR OF LCS OPERATIONS	5

J:\jobs\100\7333 Blackwell\4.0 Execution (Project Deliverables)\4.1 Drawings\13th Year O&M Report\13th Year_Fig5.dwg Apr 04, 2011 - 10:07am

DRAWINGS

Drawing 1
Leachate Elevations in Landfill Area 1
Blackwell Landfill NPL Site



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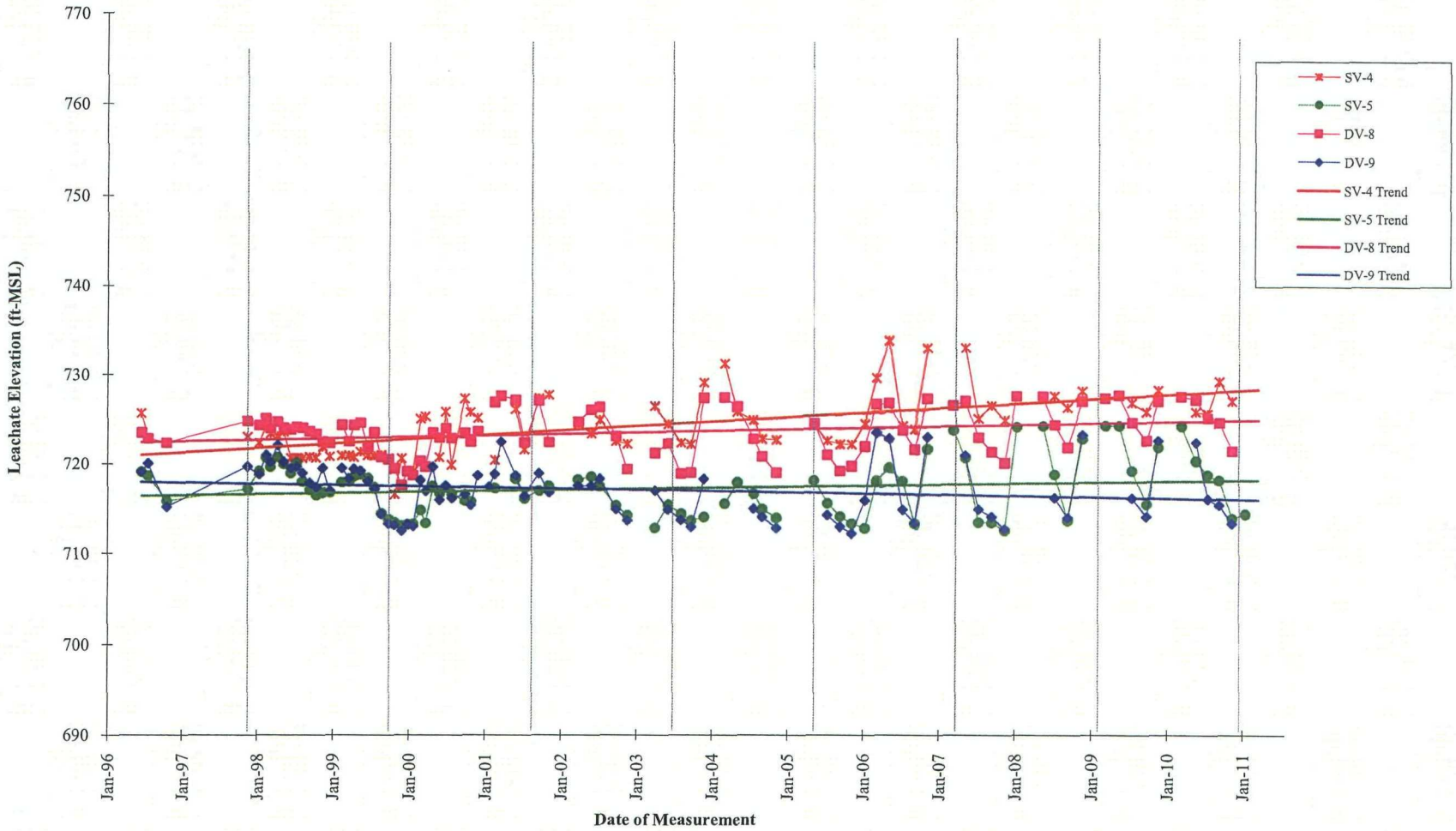
Drawing 2
Leachate Elevations in Landfill Area 2
Blackwell Landfill NPL Site



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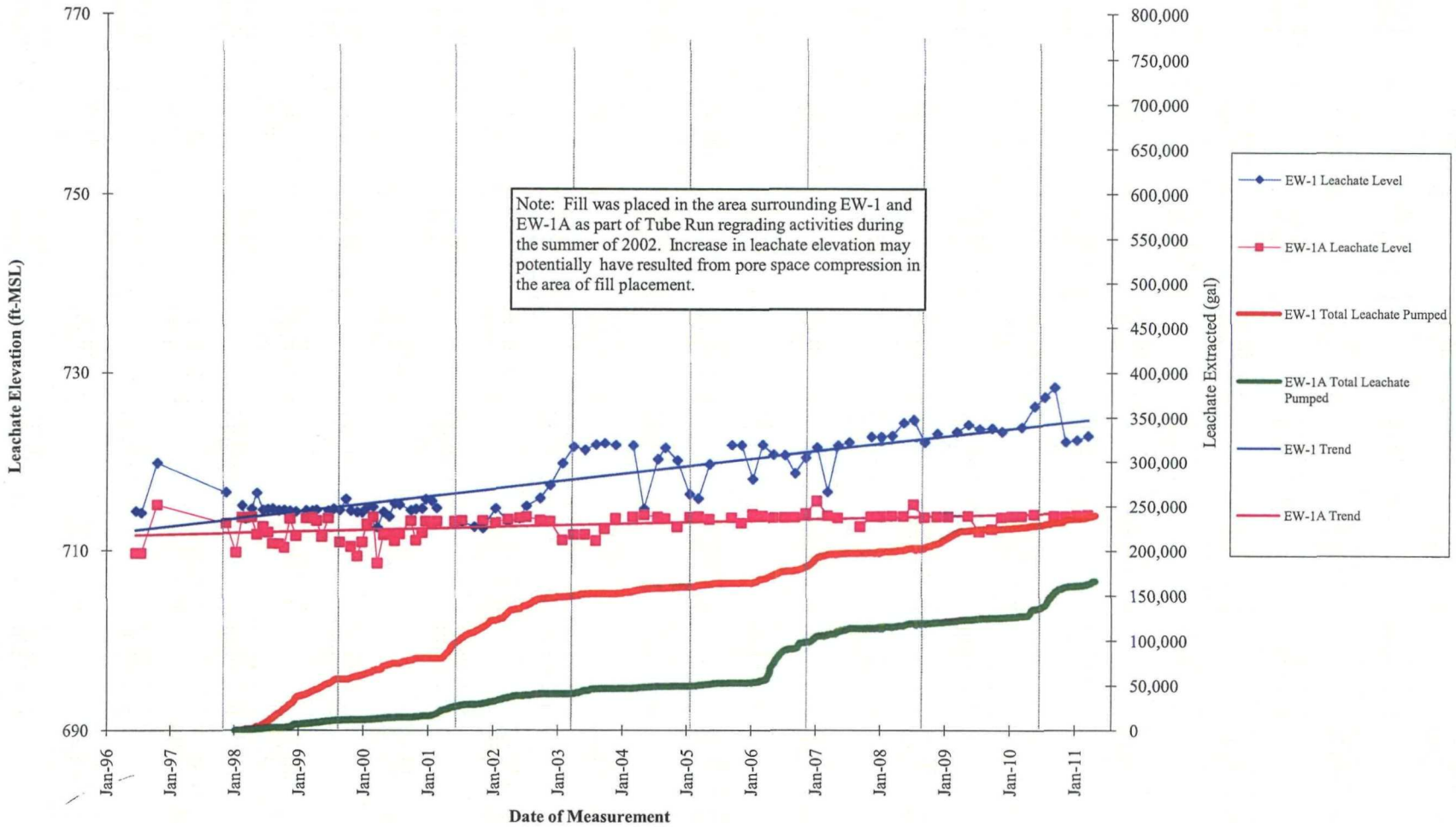
Drawing 3
Leachate Elevations in Landfill Area 3
Blackwell Landfill NPL Site



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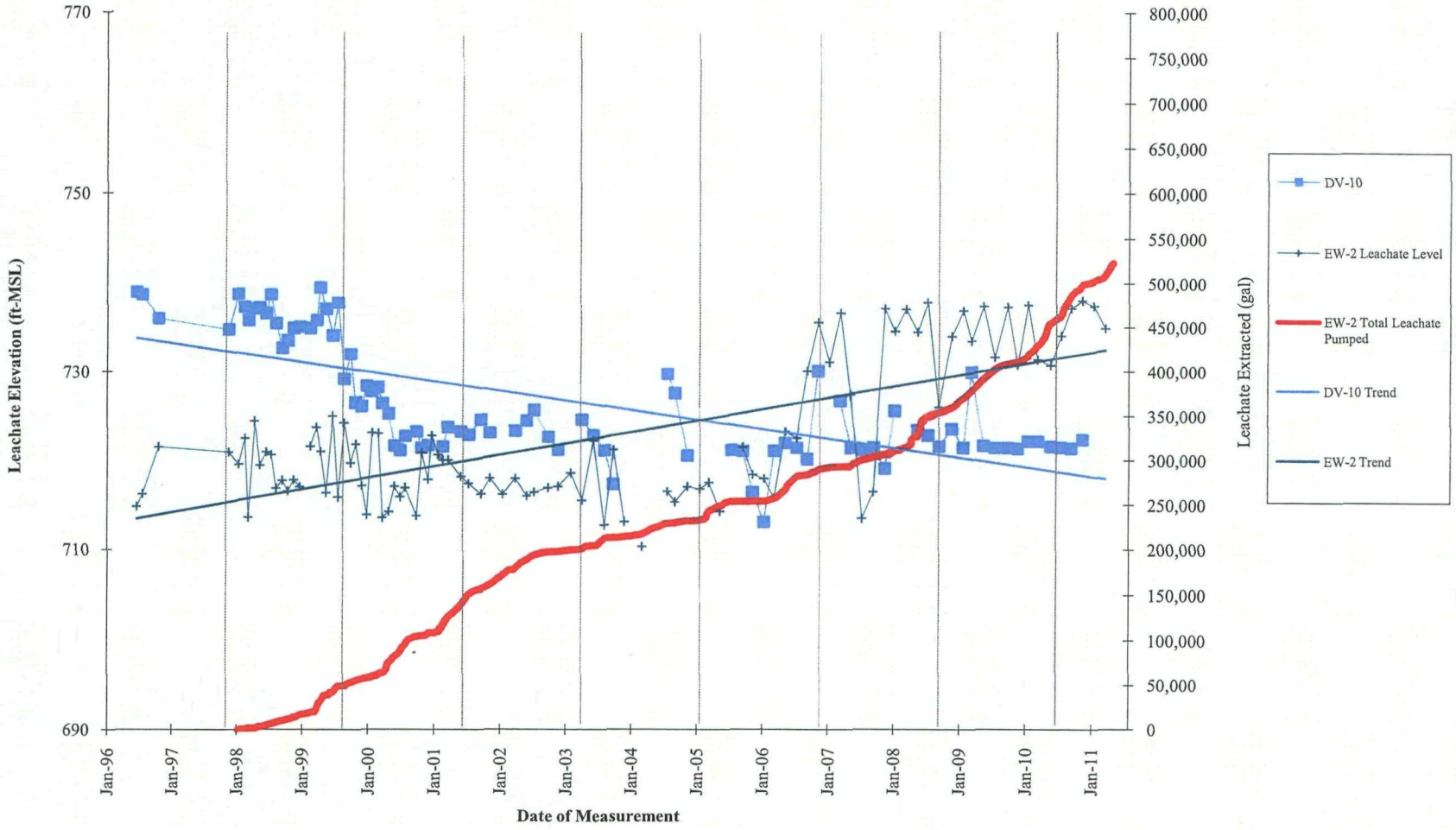
Drawings 1-23.xls\Drawing 3

Drawing 4
Leachate Elevations in Landfill Area 4
Blackwell Landfill NPL Site



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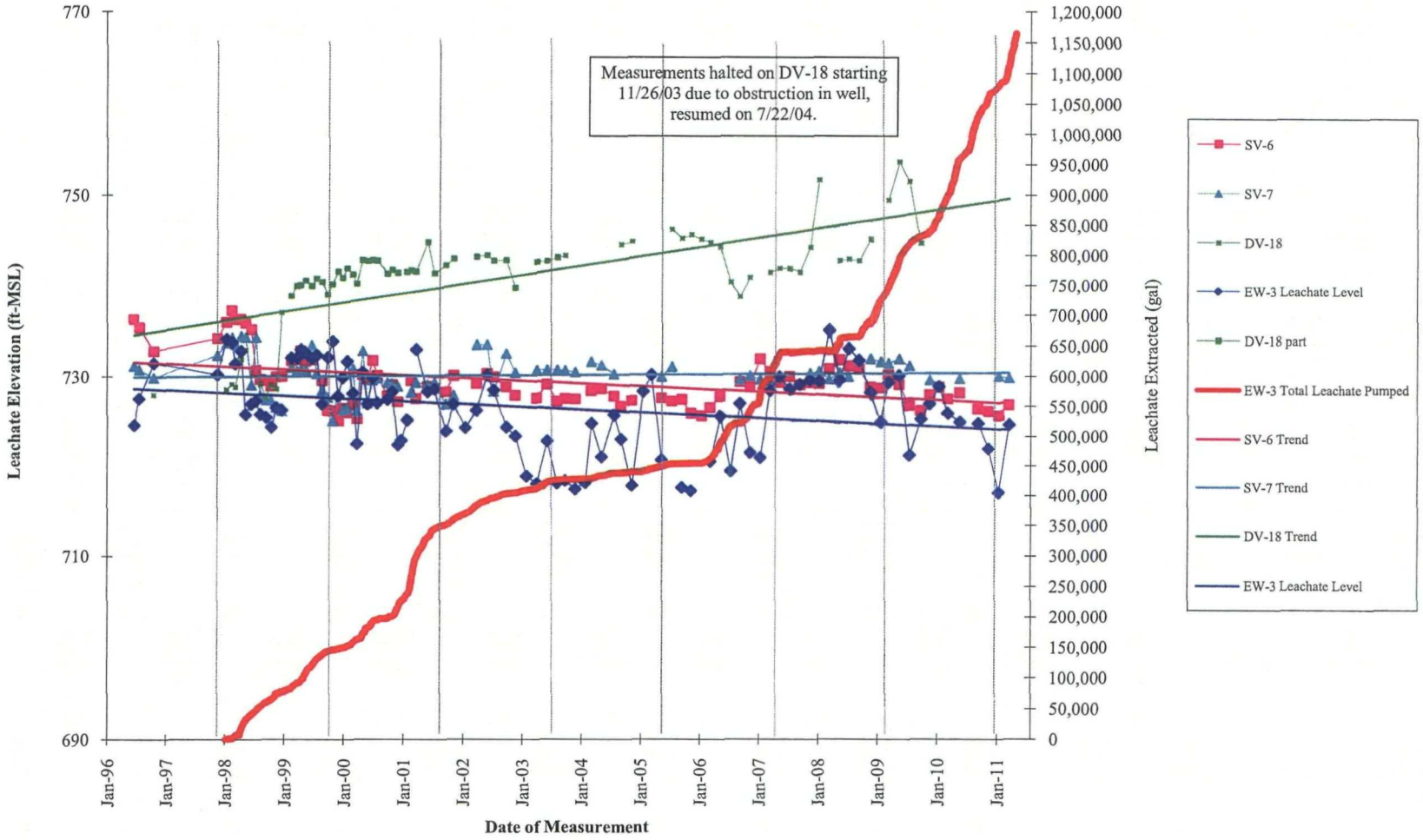
Drawings 1-23.xls\Drawing 4

Drawing 5
Leachate Elevations in Landfill Area 5
Blackwell Landfill NPL Site



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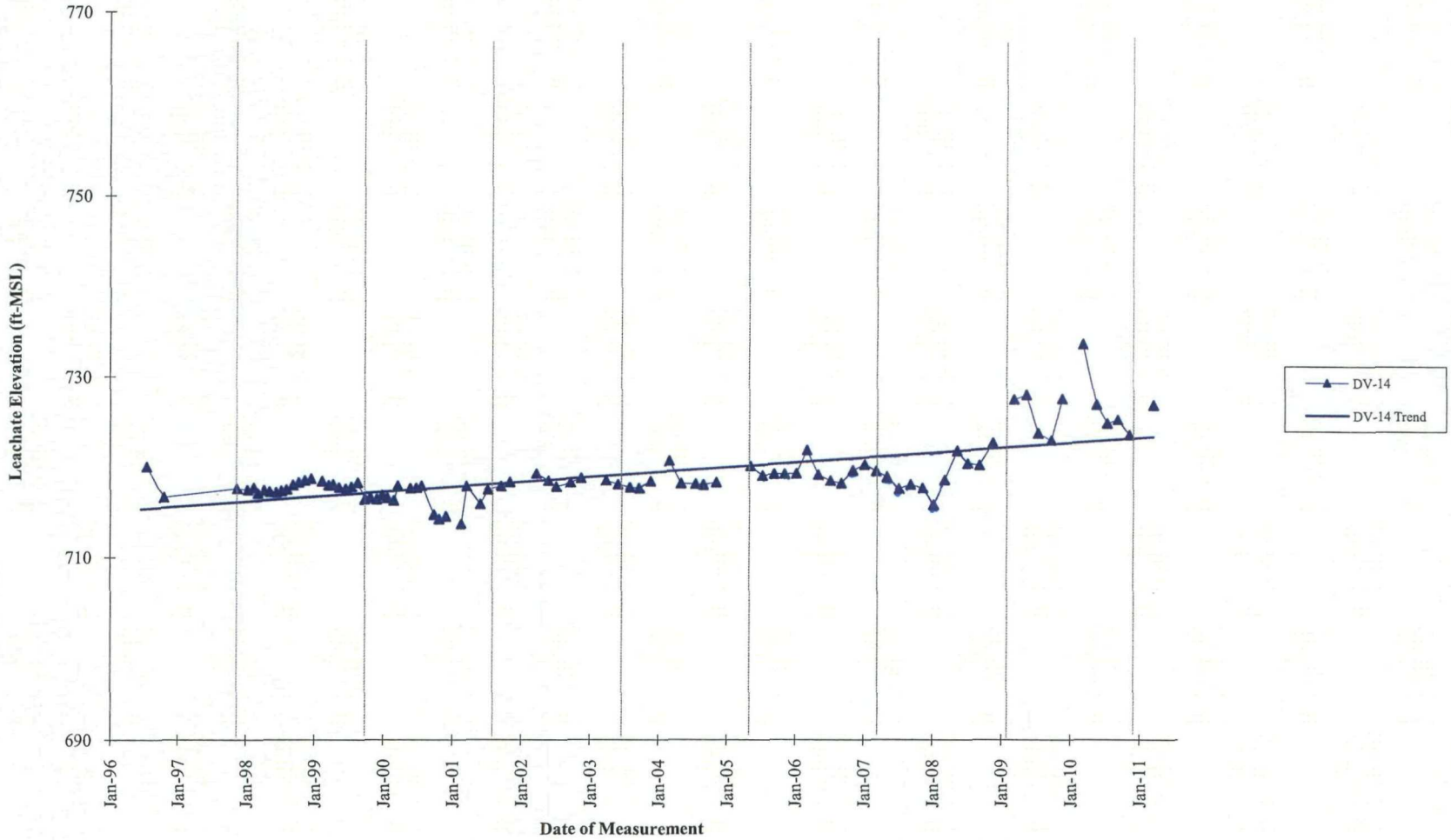
Drawing 6
Leachate Elevations in Landfill Area 6
Blackwell Landfill NPL Site



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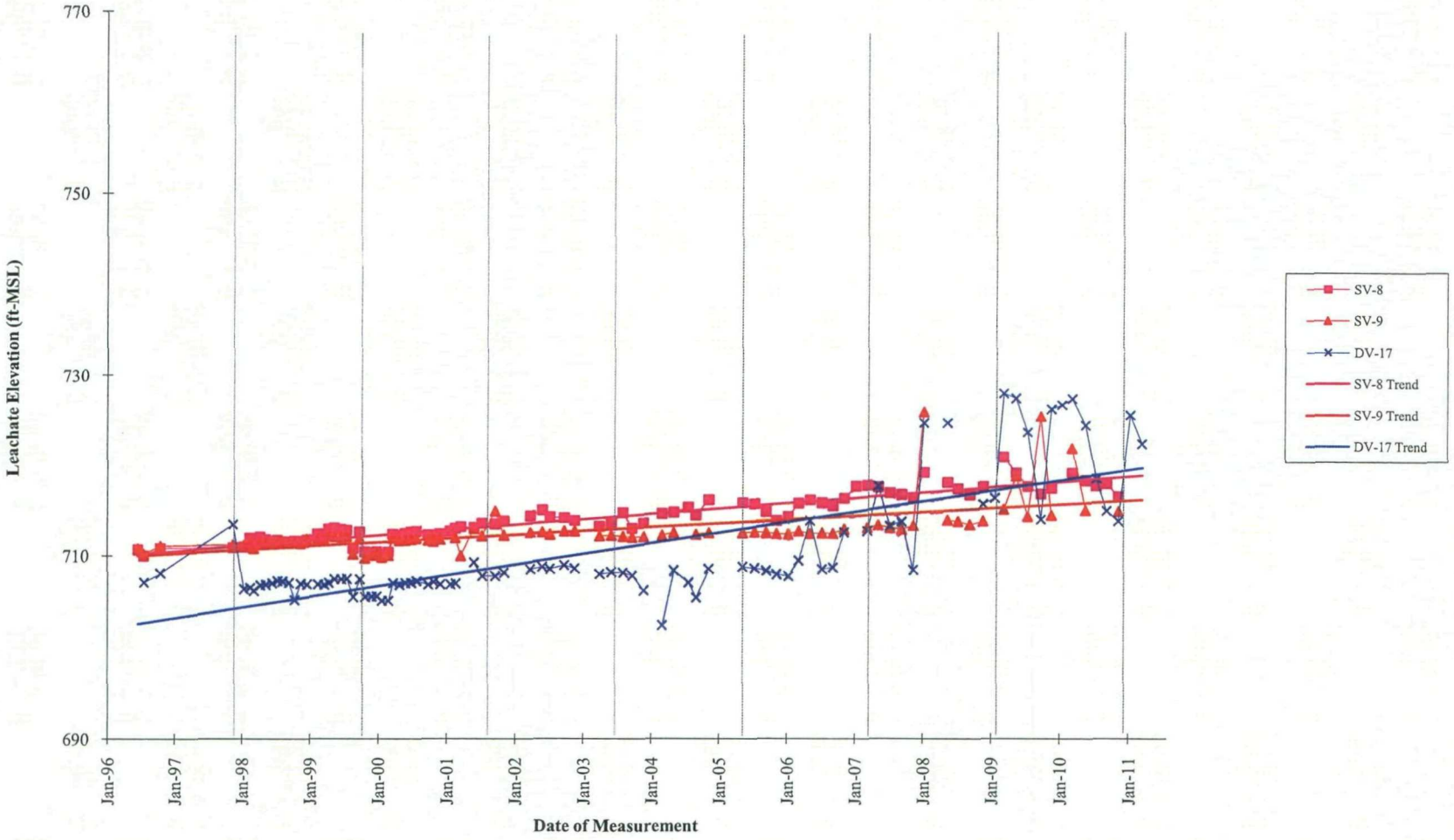
Drawing 7
Leachate Elevations in Landfill Area 7
Blackwell Landfill NPL Site



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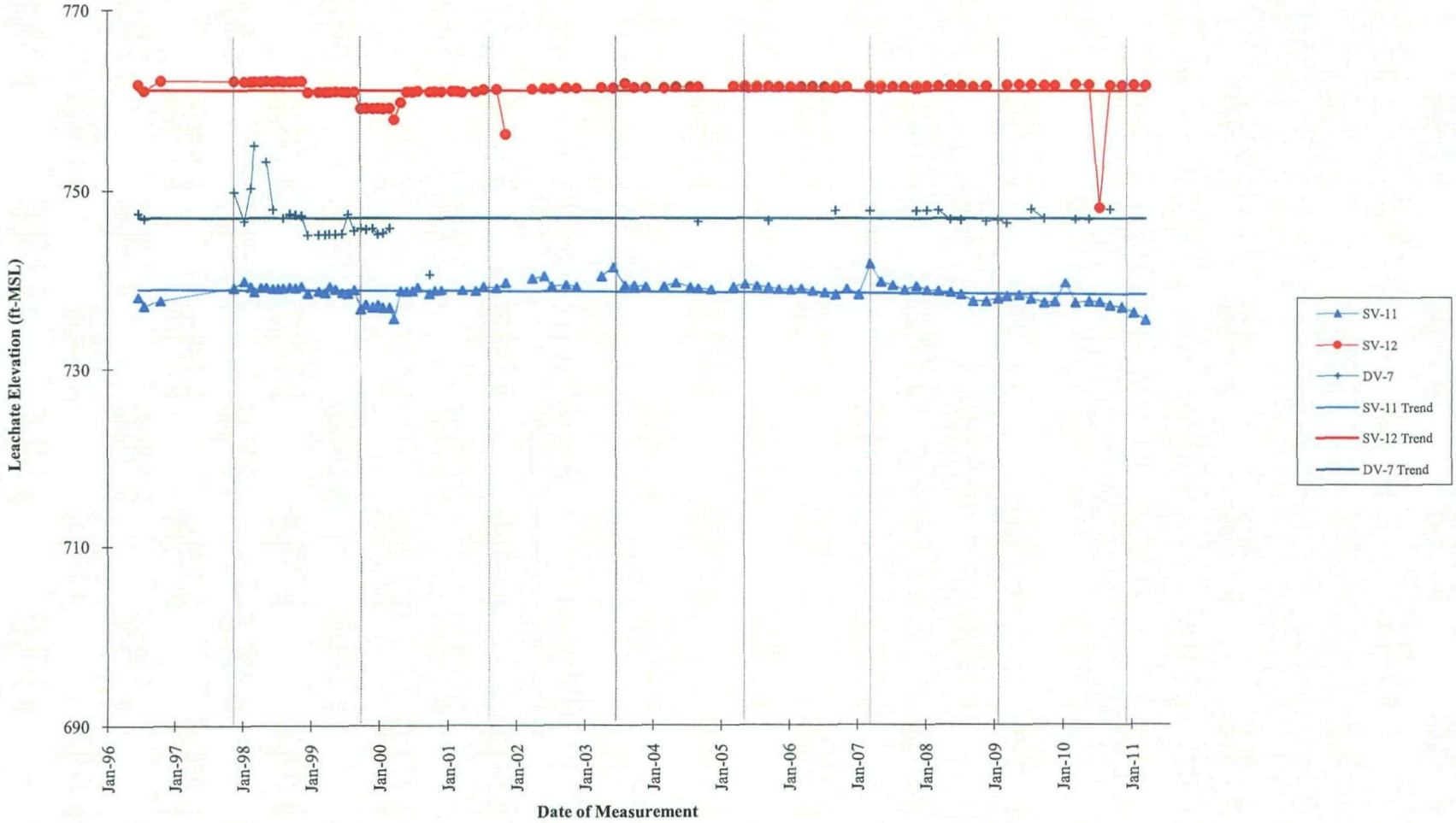
Drawing 8
Leachate Elevations in Landfill Area 8
Blackwell Landfill NPL Site



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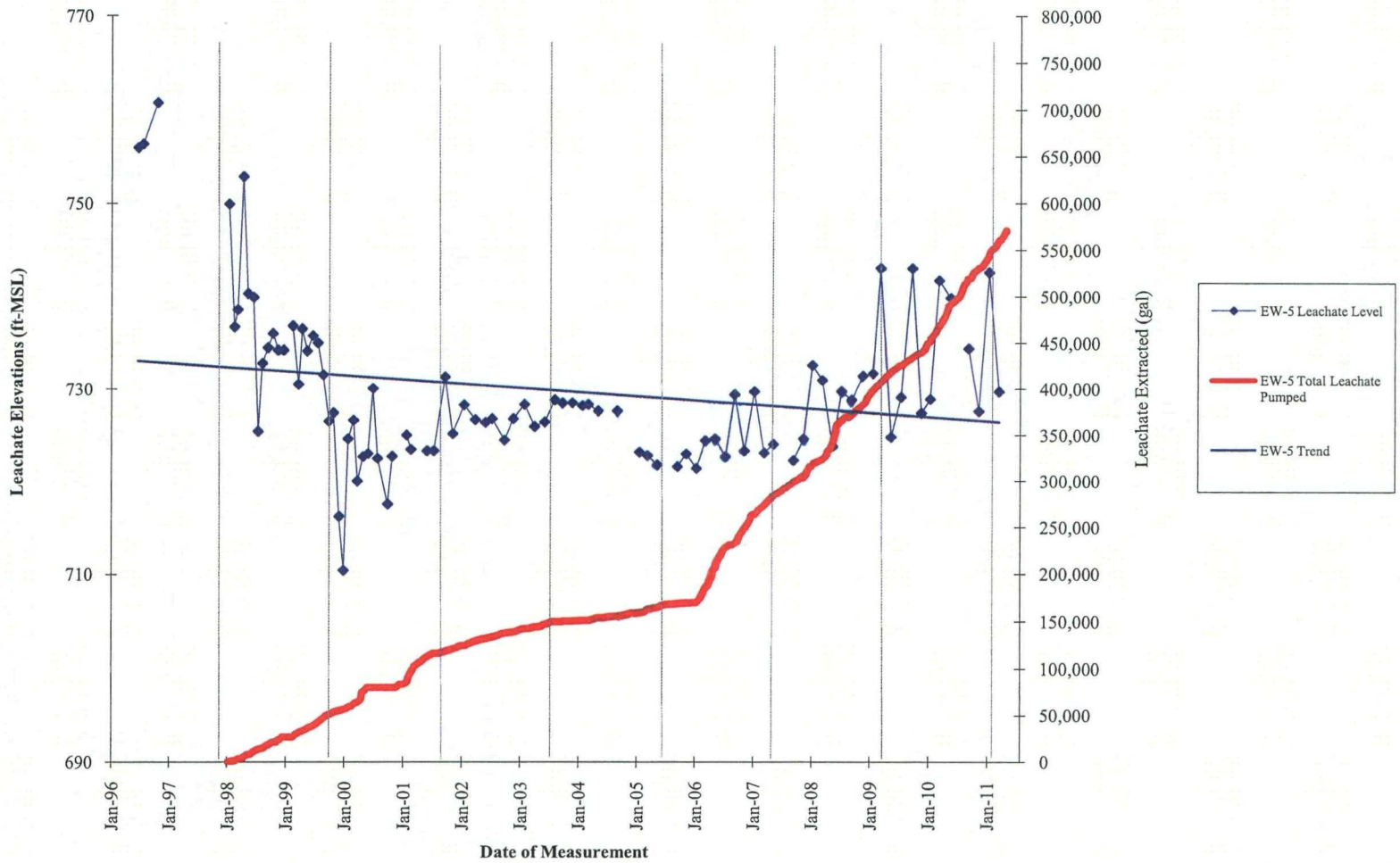
Drawing 9
Leachate Elevations in Landfill Area 9
Blackwell Landfill NPL Site



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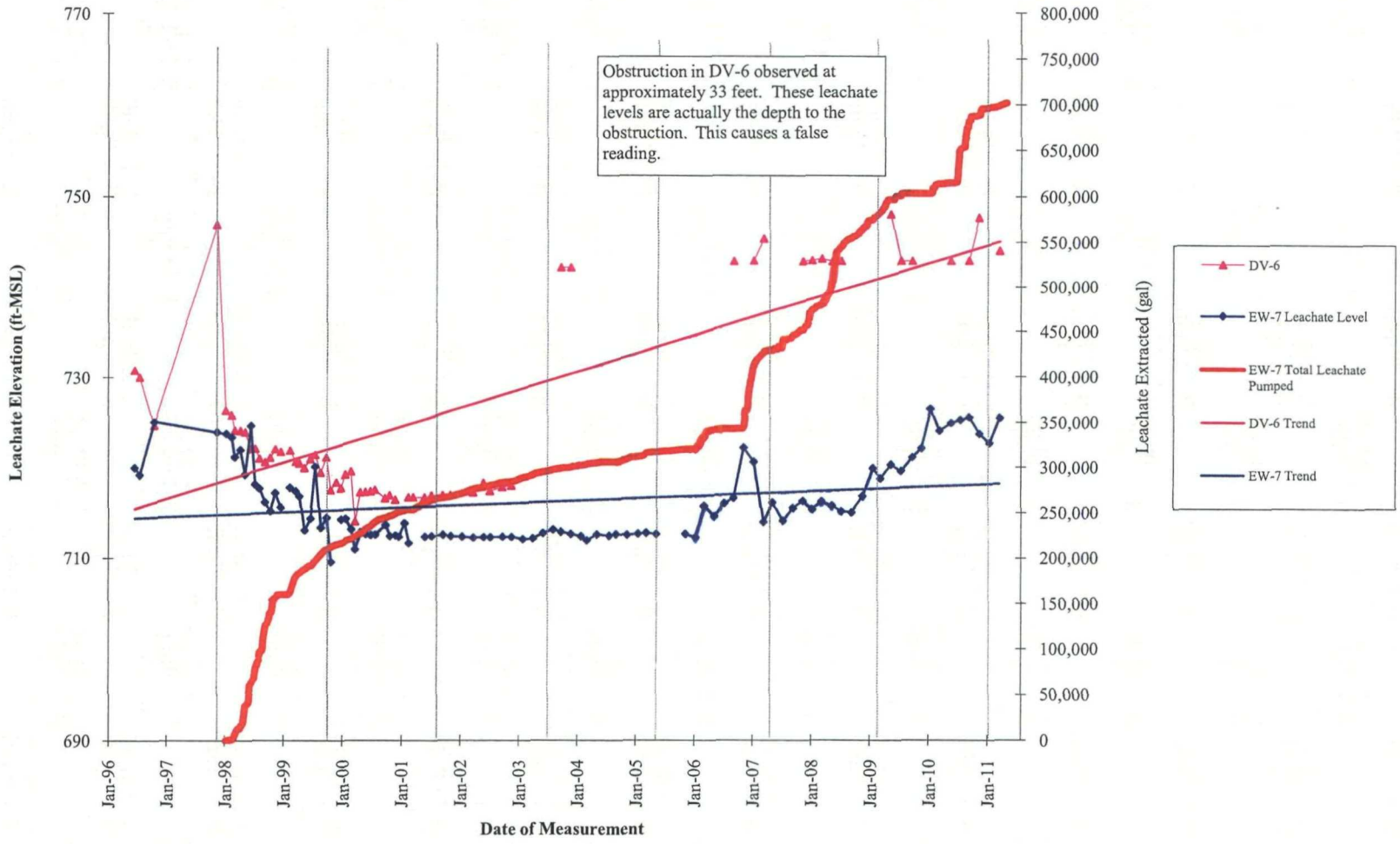
Drawings 1-23.xls\Drawing 9

Drawing 10
Leachate Elevations in Landfill Area 10
Blackwell Landfill NPL Site



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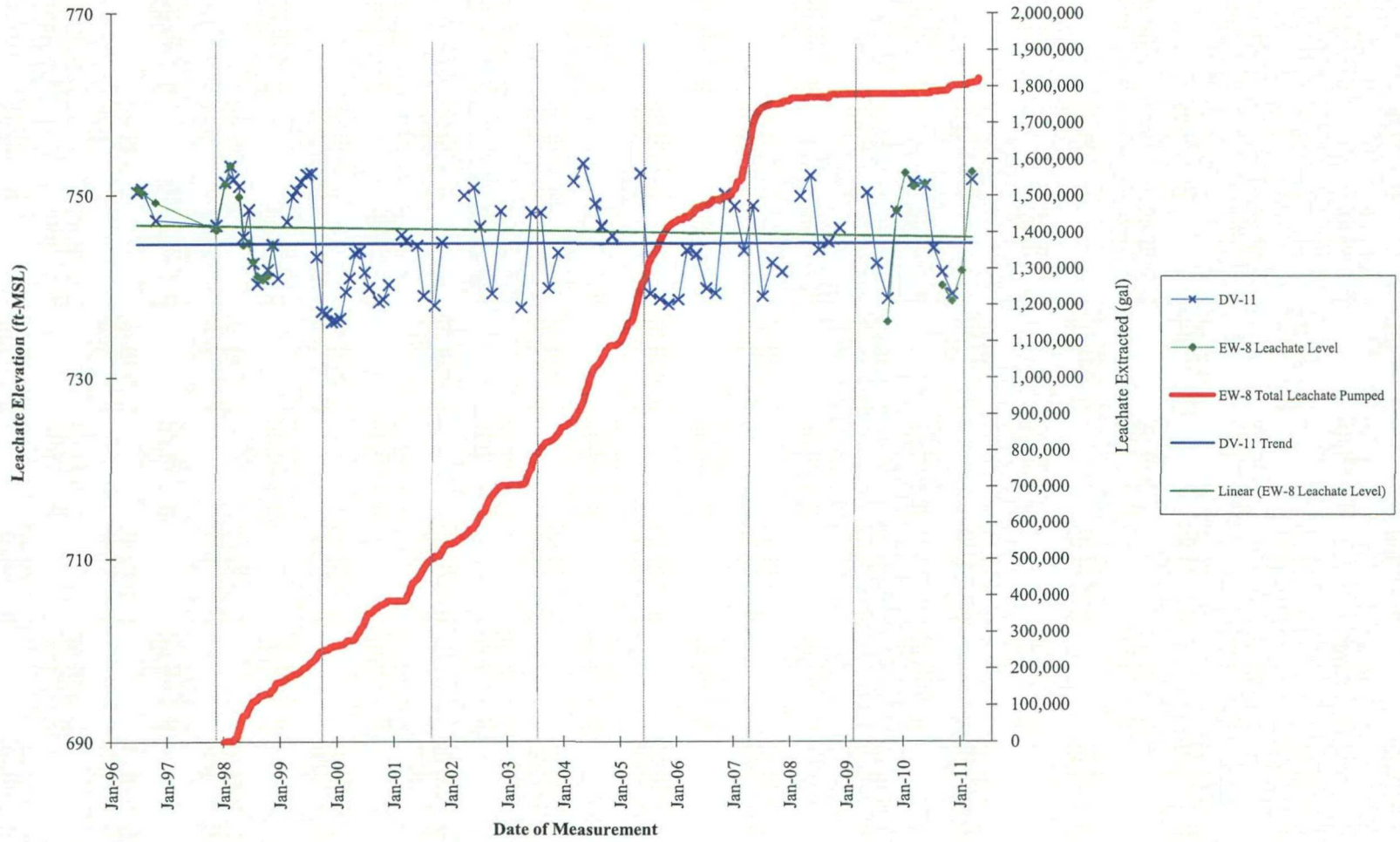
Drawing 11
Leachate Elevations in Landfill Area 11
Blackwell Landfill NPL Site



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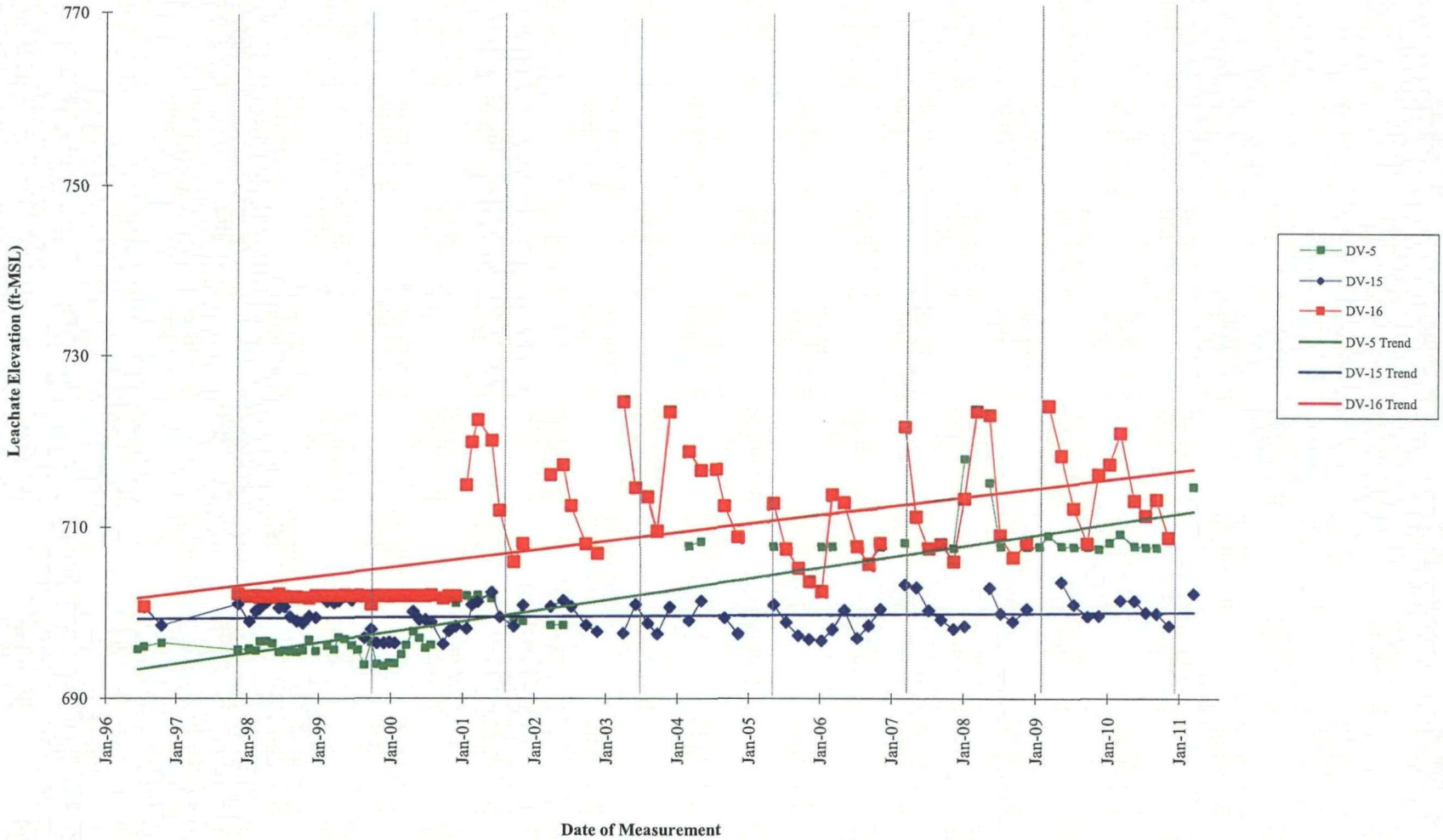
Drawing 12
Leachate Elevations in Landfill Area 12
Blackwell Landfill NPL Site



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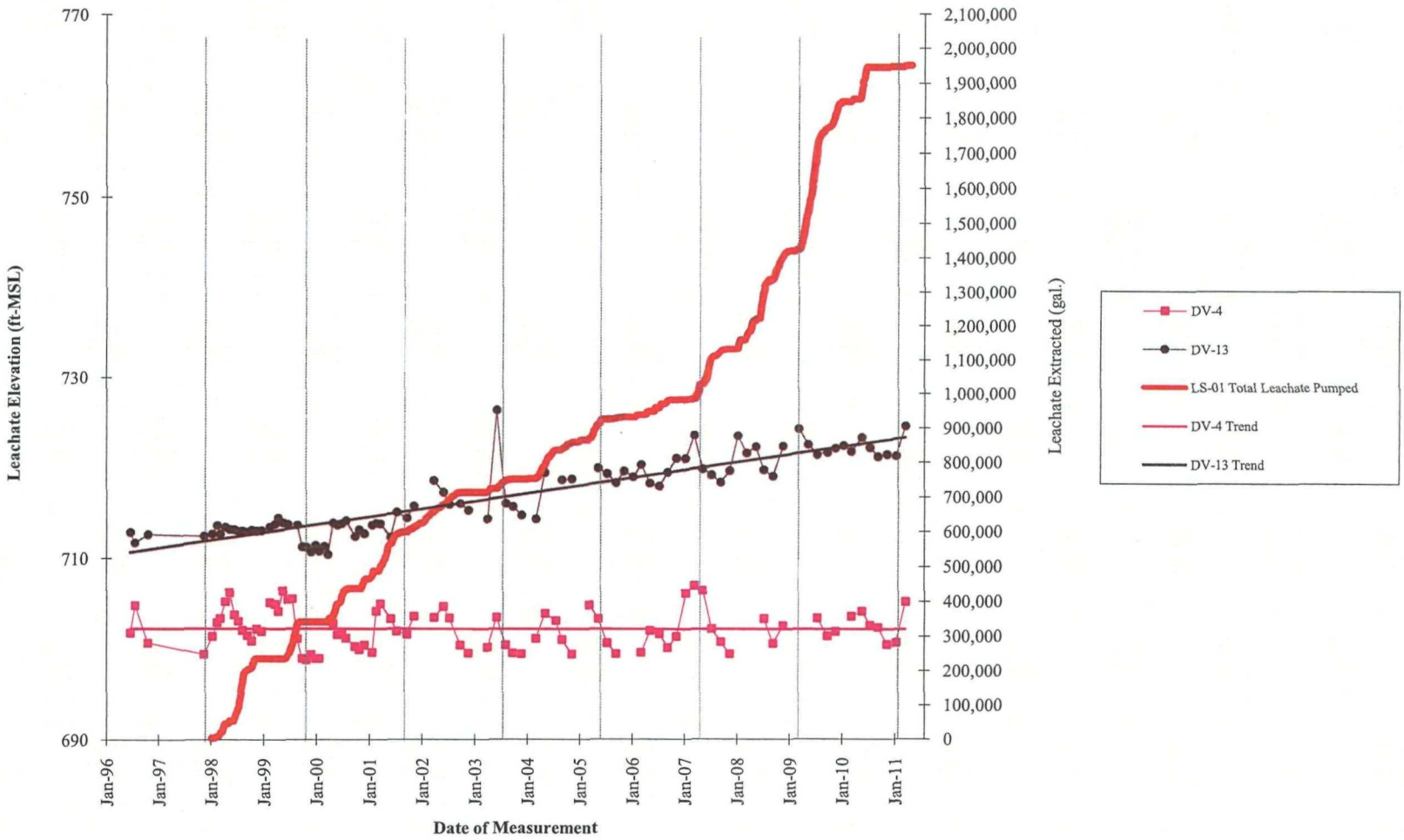
Drawings 1-23.xls\Drawing 12

Drawing 13
Leachate Elevations in Landfill Area 13
Blackwell Landfill NPL Site



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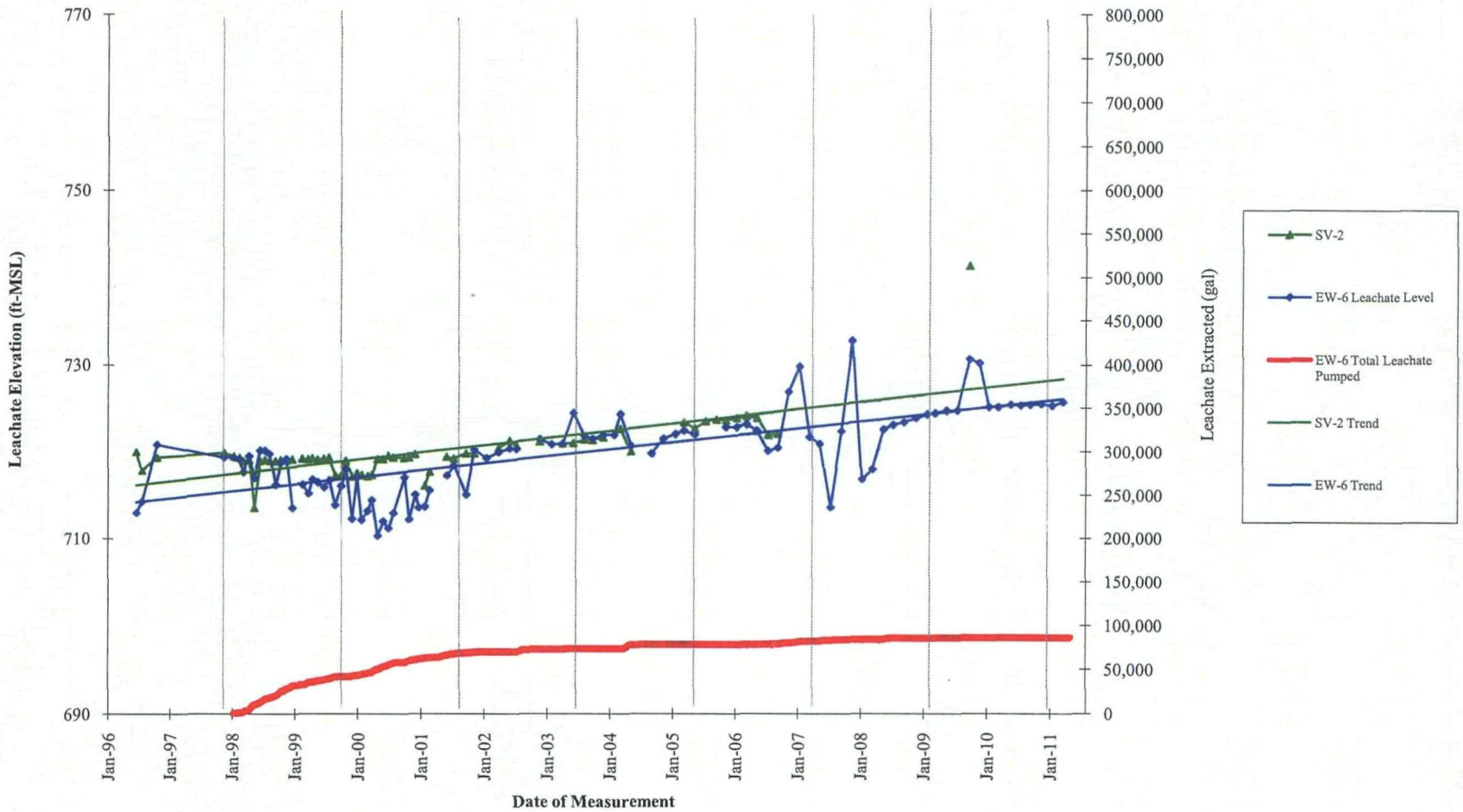
Drawings 1-23.xls\Drawing 13

Drawing 14
Leachate Elevations in Landfill Area 14
Blackwell Landfill NPL Site



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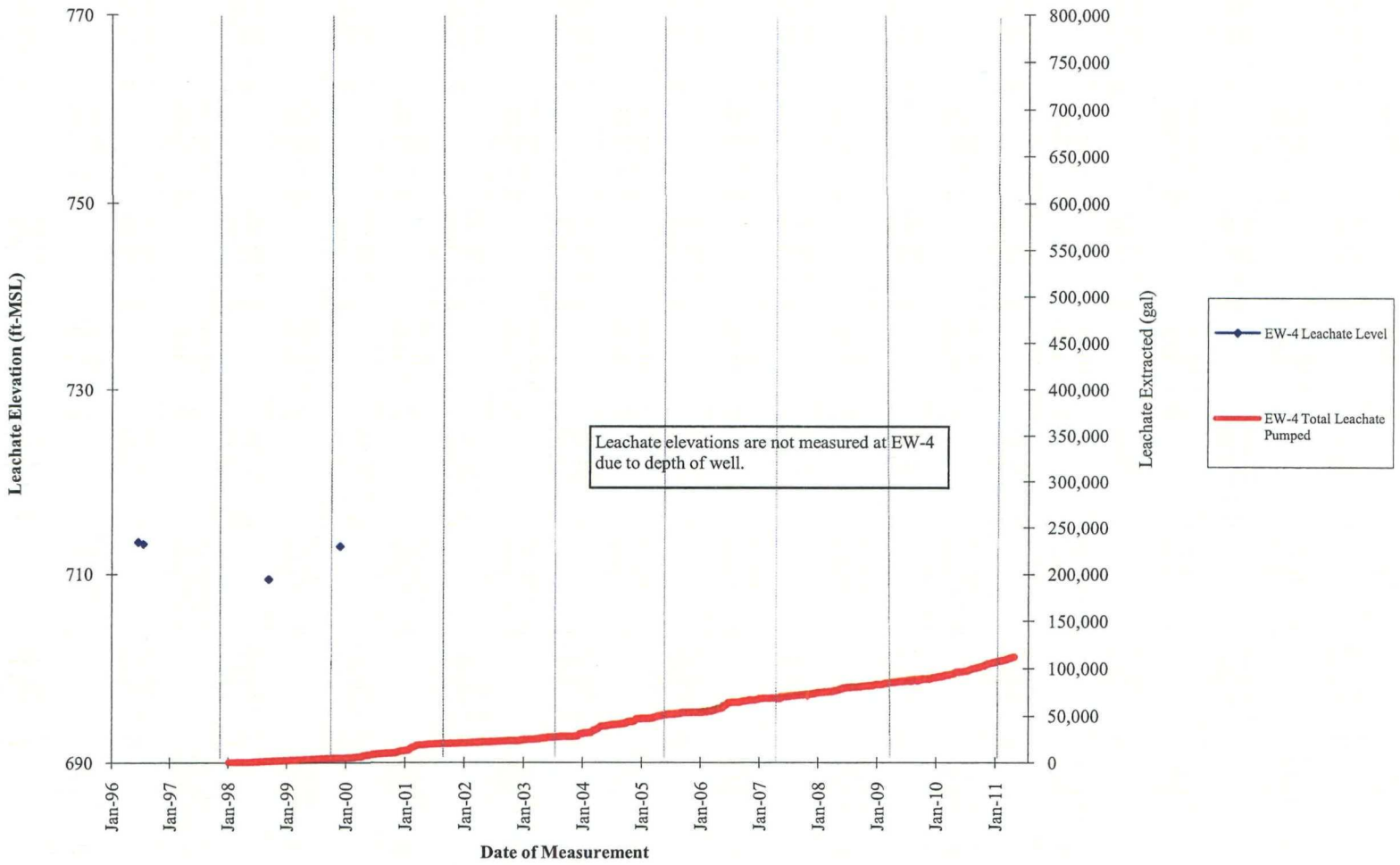
Drawings 1-23.xls\Drawing 14

Drawing 15
Leachate Elevations in Landfill Area 15
Blackwell Landfill NPL Site



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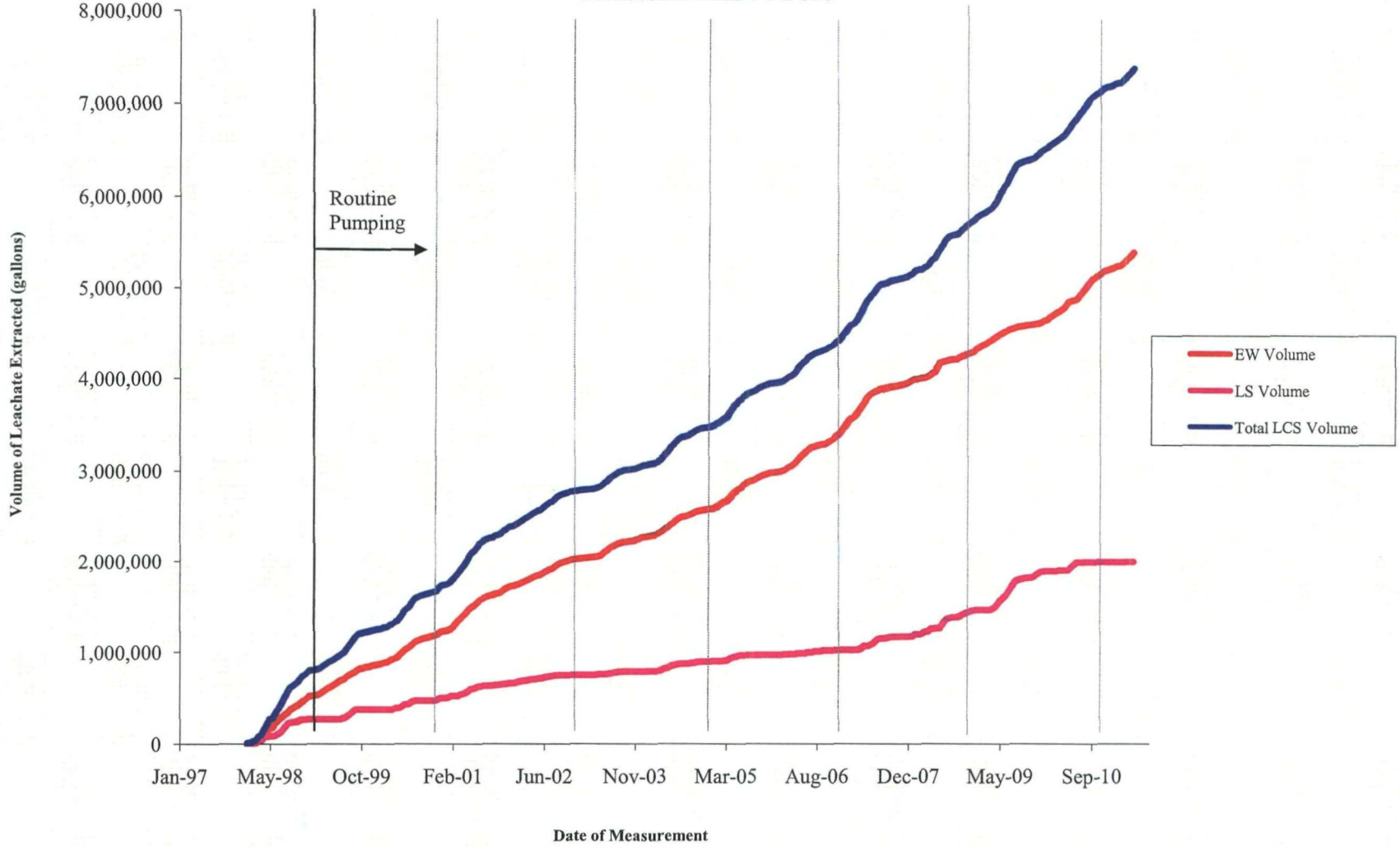
Drawings 1-23.xls\Drawing 15

Drawing 16
Cumulative Leachate Pumping Volume
Blackwell Landfill NPL Site



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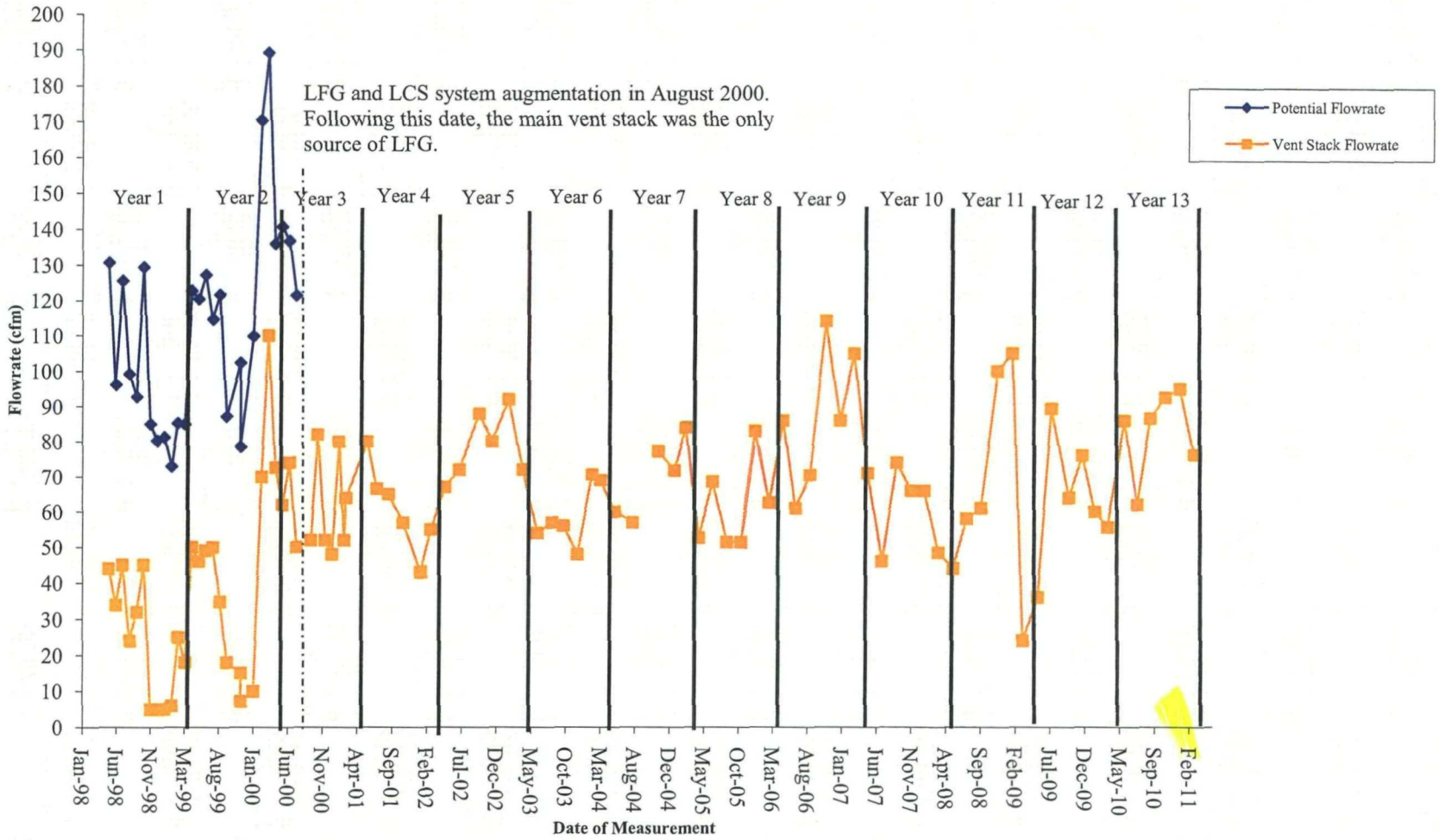
Drawings 1-23.xls\Drawing 16

Drawing 17
LFG Flowrate
Blackwell Landfill NPL Site



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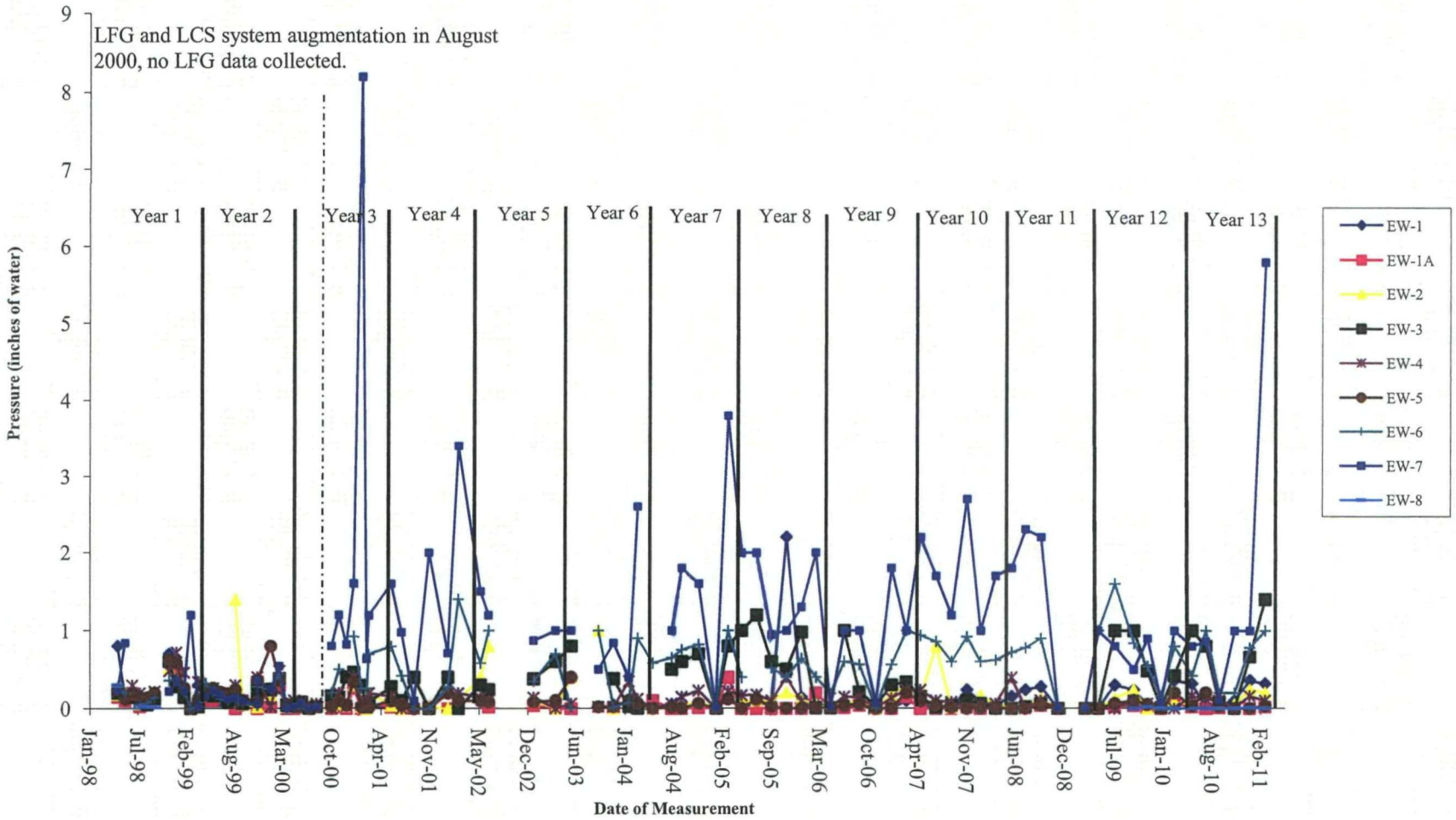
Drawings 1-23.xls\Drawing 17

Drawing 18
Static LFG Pressure - Extraction Wells
Blackwell Landfill NPL Site



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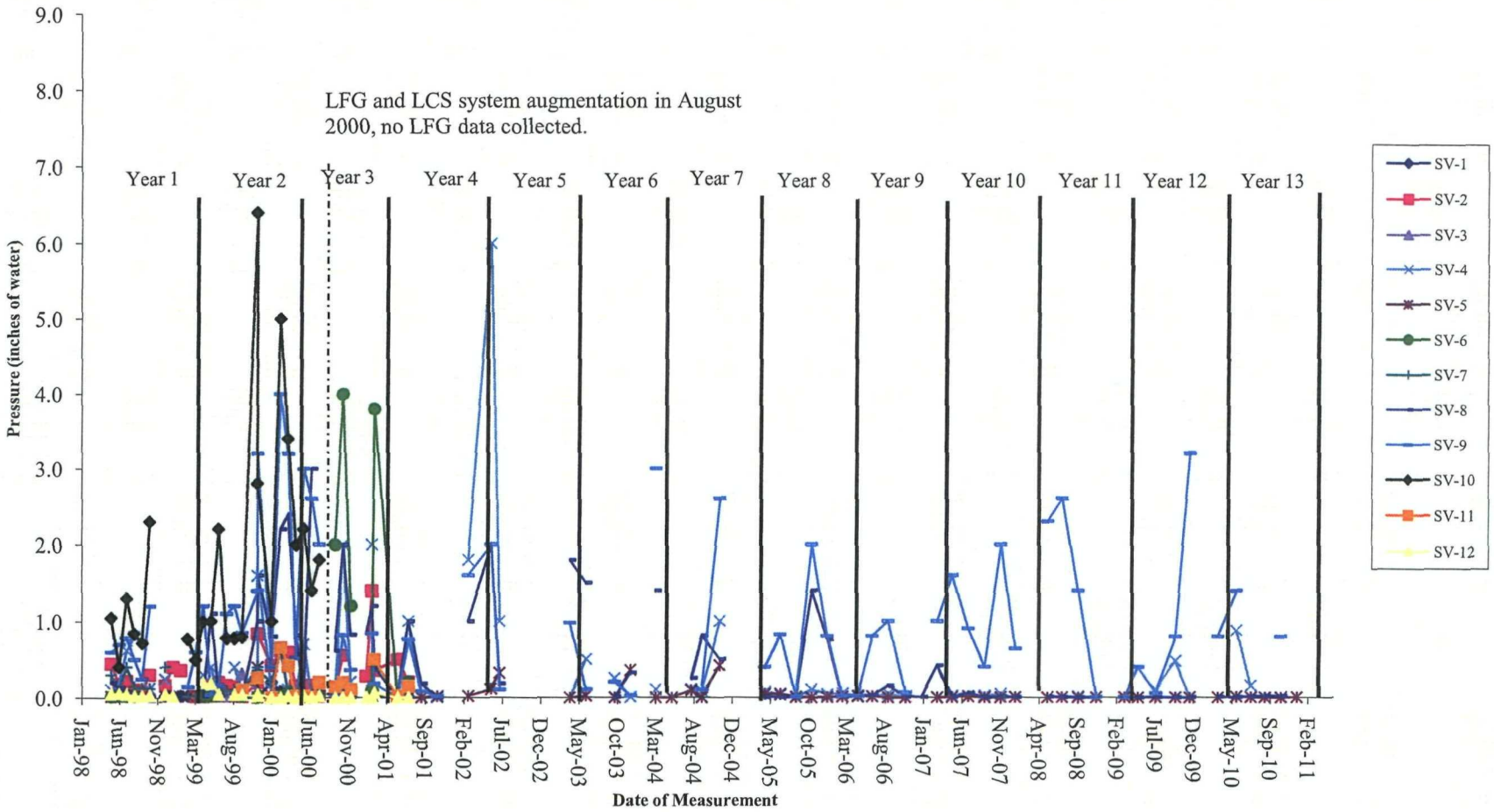
Drawings 1-23.xls\Drawing 18

Drawing 19
Static LFG Pressures - Shallow Gas Vents
Blackwell Landfill NPL Site



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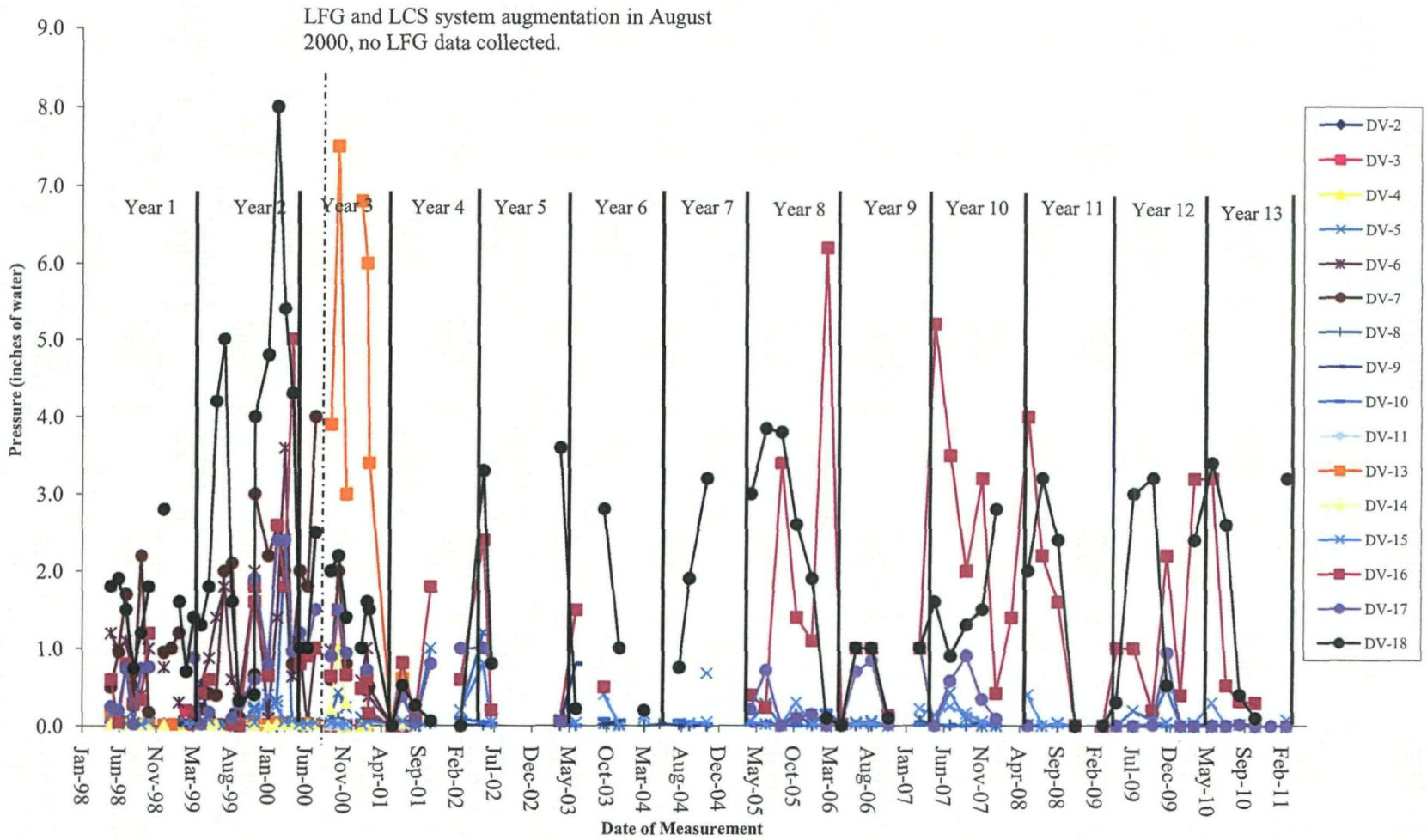
Drawings 1-23.xls\Drawing 19

Drawing 20
Static LFG Pressures - Deep Gas Vents
Blackwell Landfill NPL Site



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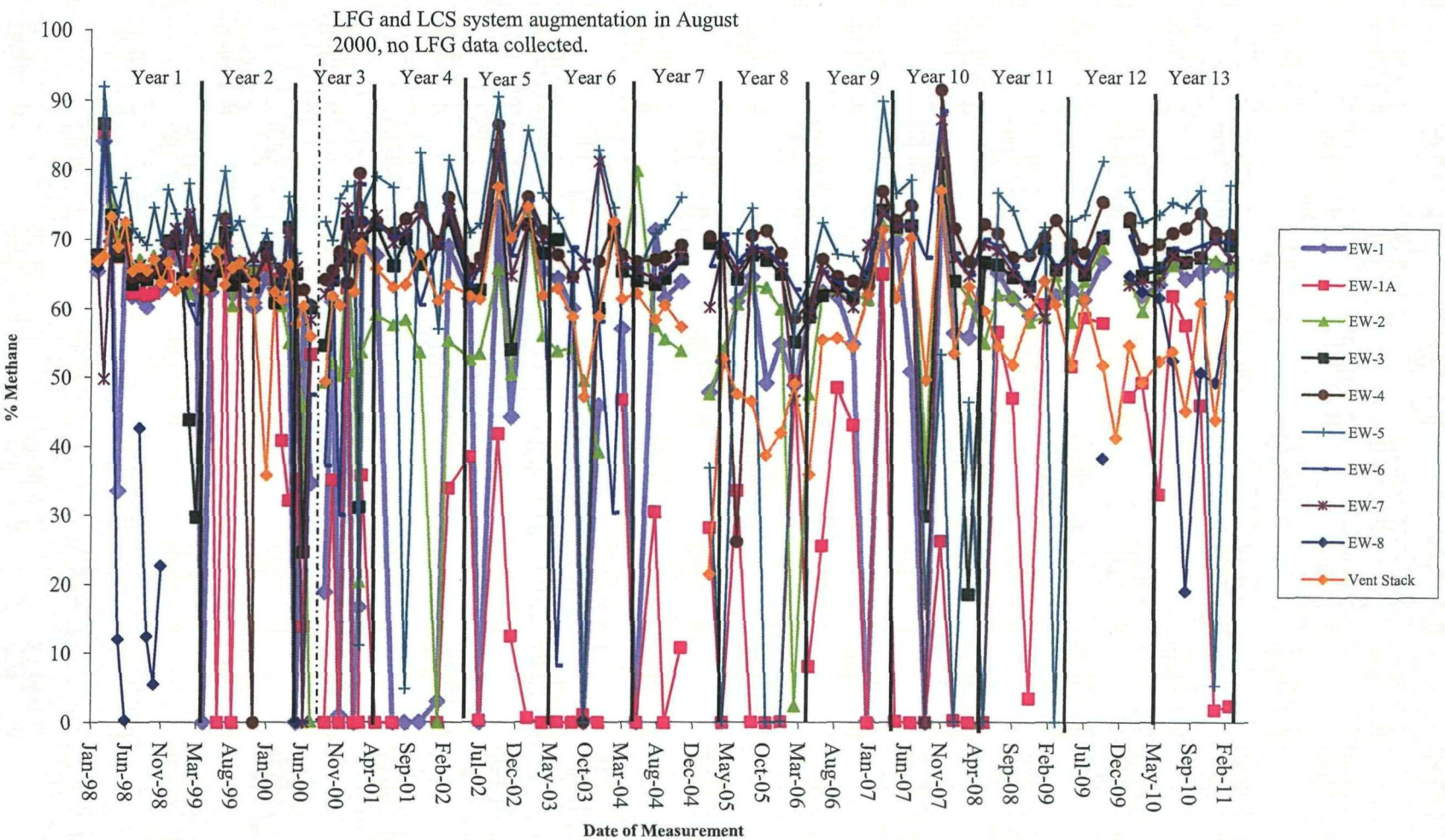
Drawings 1-23.xls\Drawing 20

Drawing 21
Methane Content - Extraction Wells
Blackwell Landfill NPL Site



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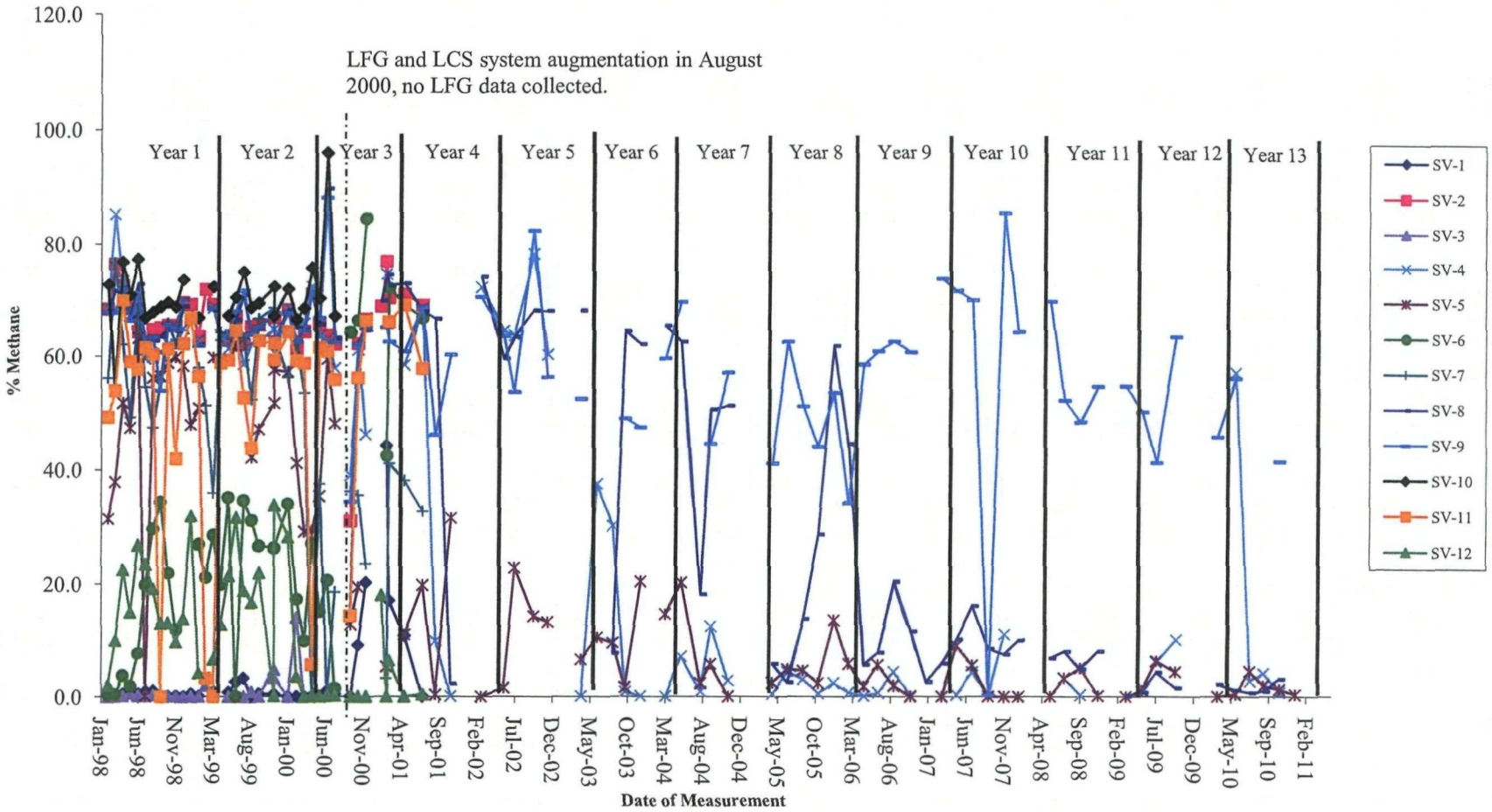
Drawings 1-23.xls\Drawing 21

Drawing 22
Methane Content - Shallow Gas Vents
Blackwell Landfill NPL Site



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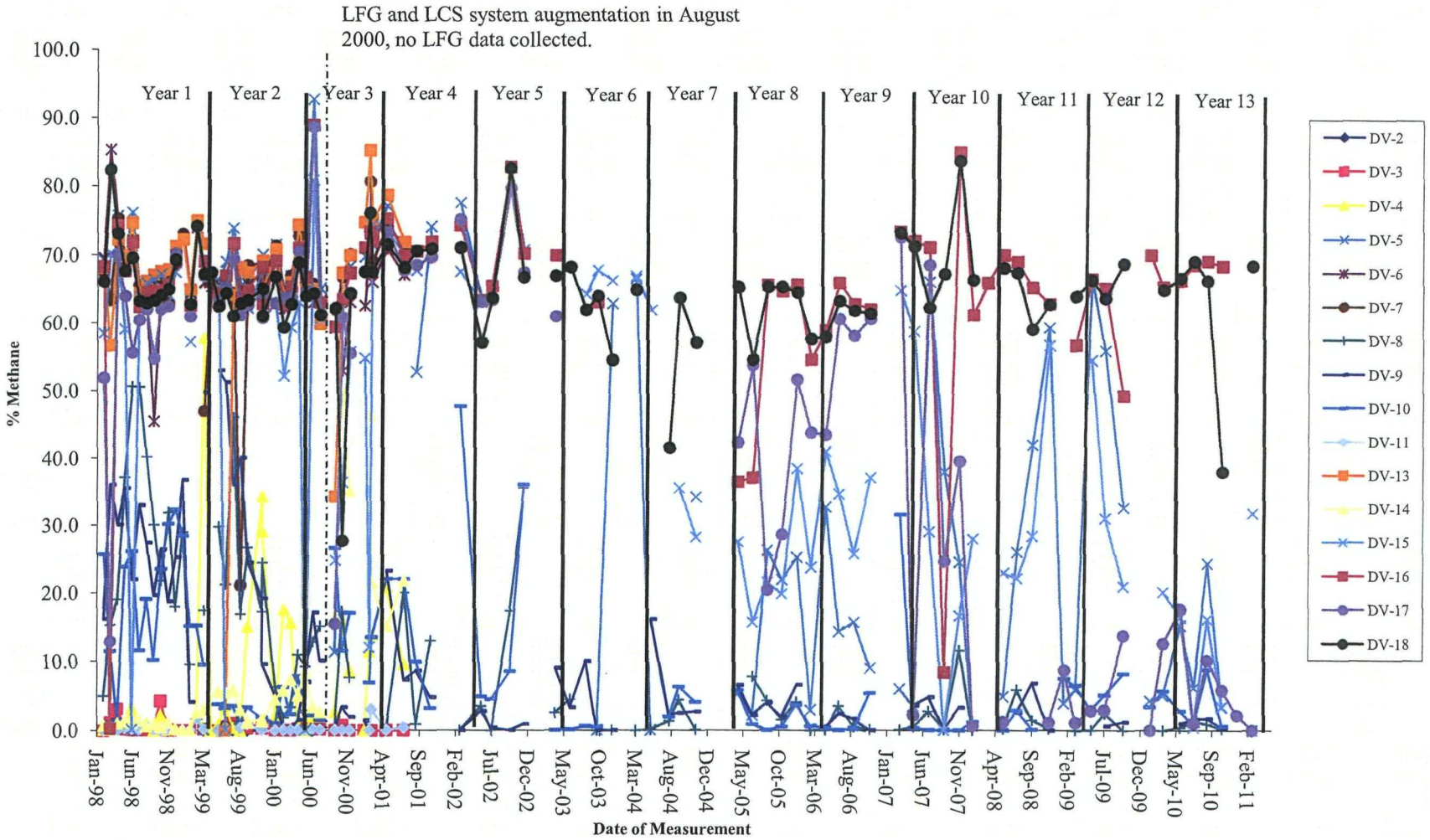
Drawings 1-23.xls\Drawing 22

Drawing 23
Methane Content - Deep Gas Vents
Blackwell Landfill NPL Site



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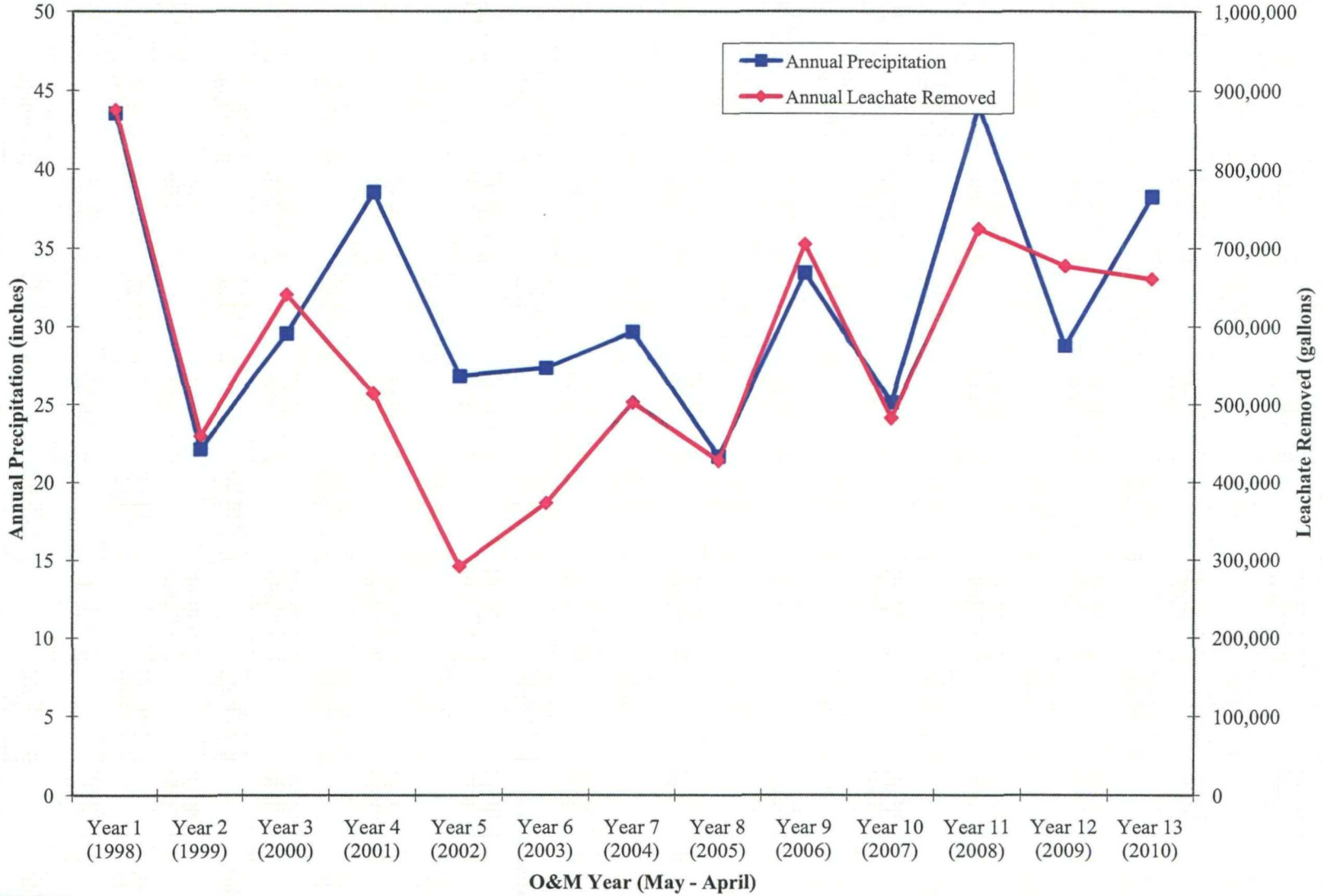
Drawings 1-23.xls\Drawing 23

Drawing 24
Annual Precipitation vs. Leachate Removed
Blackwell Landfill NPL Site



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Drawing 24.xlsx\Drawing 24
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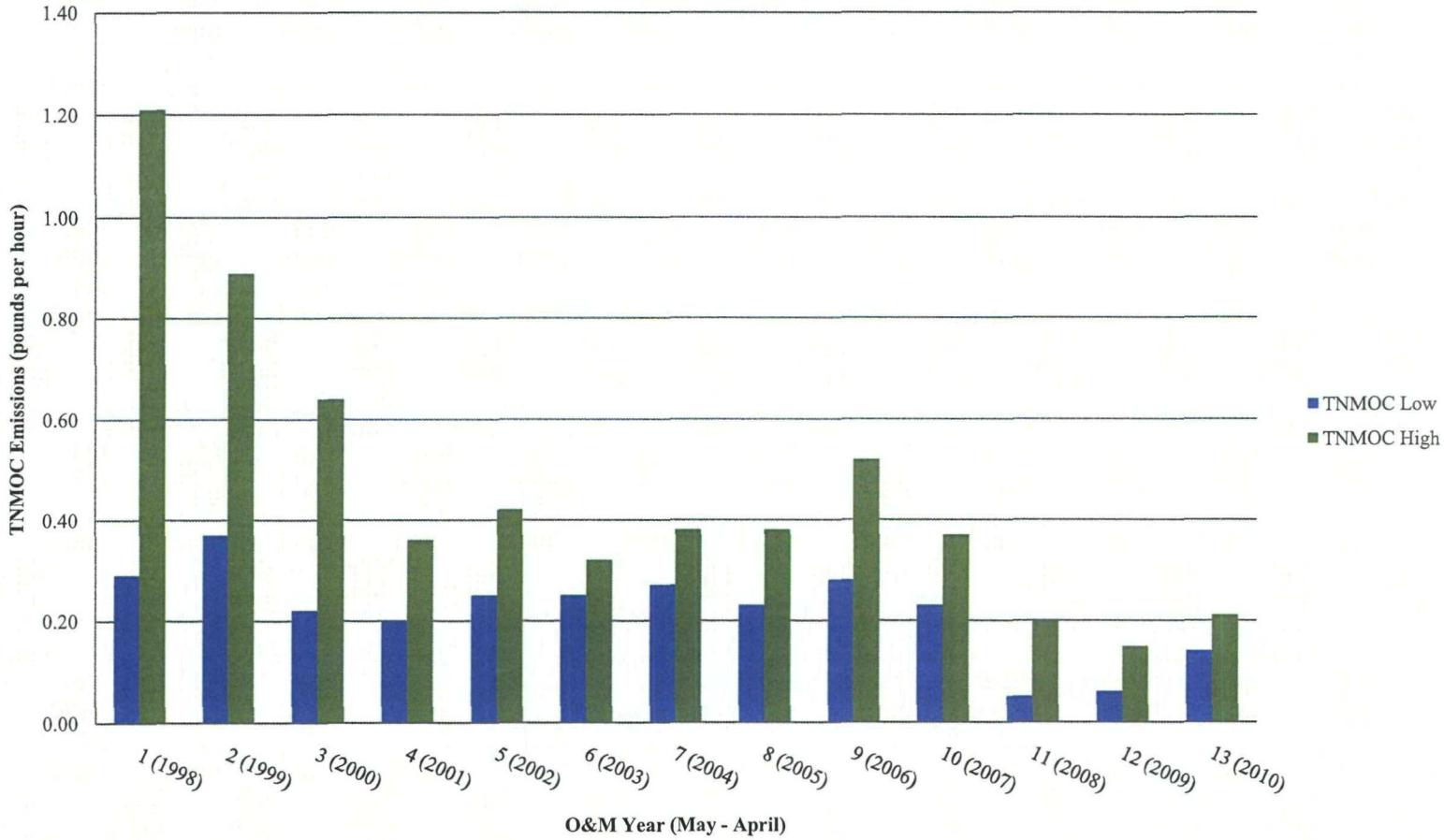
Drawing 25
Range of TNMOC Emissions per Year of Operation
Blackwell Landfill NPL Site



APPENDICES

APPENDIX A

INSPECTION, MAINTENANCE, MONITORING AND DISPOSAL LOGS

A-1: Site Visit Operating Logs
A-2: Inspection Report Forms
A-3: Maintenance and Repair Record Forms
A-4: Leachate Disposal Logs
A-5: Landfill Gas Vent Monitoring Forms

APPENDIX A-1

Site Visit Operating Logs

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/4/10

Time	LCS System	Remarks (Reason for System on or off)
830	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	
EW01	135857				125
EW01A	521492				588
EW02	2440297				3309
EW03	3749747				4184
EW04	766245				295
EW05	1719655				2127
EW06	340433				8
EW07	1875990				0
EW08	34380878				0
LS01	8782595				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 74 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off N/A

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/6/10

Time	LCS System	Remarks (Reason for System on or off)
930	(On) or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values
EW01	135982			
EW01A	522080			
EW02	2443606			
EW03	3753931			
EW04	766540			
EW05	1721782			
EW06	340438			
EW07	1875990			
EW08	94380878			
LS01	8782595			
LS02				

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: DREW BERLENTHAL Date: 5/11/10

Time	LCS System	Remarks (Reason for System on or off)
7:00 am	(On) or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	136135				218
EW01A	522878				826
EW02	2444836				2151
EW03	3755950				3194
EW04	766677				249
EW05	17230946				1440
EW06	340443				5
EW07	1876004				102
EW08	34381036				117
LS01	8810923				27329
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 74° Heater Thermostat Setting (°F): 50°

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: 49°

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/13/10

Time	LCS System	Remarks (Reason for System on or off)
930	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	136353				118
EW01A	523704				125
EW02	2446987				2004
EW03	3759144				3717
EW04	766926				284
EW05	1724536				1823
EW06	340448				2
EW07	1876106				161
EW08	34381153				132
LS01	8838252				23389
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 79 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/18/10

Time	LCS System	Remarks (Reason for System on or off)
900	(On) or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	136471				111
EW01A	523829				128
EW02	2448991				1038
EW03	3762861				4326
EW04	767210				291
EW05	1726359				1597
EW06	340450				1
EW07	1876267				2
EW08	34381285				6
LS01	8861641				37881
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/20/10

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	136582				110
EW01A	523957				171
EW02	2450029				1923
EW03	3767187				2780
EW04	767501				97
EW05	1727956				1552
EW06	340451				0
EW07	1876269				1
EW08	34381285				0
LS01	8899522				17179
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 86 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/25/10

Time	LCS System	Remarks (Reason for System on or off)
10:05	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	136692				123
EW01A	524128				139
EW02	2451952				1875
EW03	3769967				5505
EW04	767598				285
EW05	1729508				2175
EW06	346451				14
EW07	1876270				265
EW08	34381285				227
LS01	8916701				29575
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 79 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 5/27/10

Time	LCS System	Remarks (Reason for System on or off)
10:15	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	136815				148
EW01A	524267				175
EW02	2453827				1705
EW03	3775472				3847
EW04	767883				209
EW05	1731683				1596
EW06	340465				0
EW07	1876535				266
EW08	34381512				172
LS01	8946276				41002
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 77 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off N/A

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/1/10

Time	LCS System	Remarks (Reason for System on or off)
10:00	On or Off	SHIPPED 9000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values
EW01	136963			
EW01A	524442			
EW02	2455532			
EW03	3779319			
EW04	768091			
EW05	1733279			
EW06	340465			
EW07	1876801			
EW08	34381684			
LS01	8987278			
LS02				

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 78 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/3/10

Time	LCS System	Remarks (Reason for System on or off)
11:00	On or Off	Shipped 2800
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137016				124
EW01A	524651				1151
EW02	2456598				2911
EW03	3781381				5296
EW04	768286				398
EW05	1734108				2704
EW06	340469				0
EW07	1876946				216
EW08	34381762				206
LS01	8290897				37976
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 79 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/8/10

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	SHIPPED 9500
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137140				161
EW01A	525802				191
EW02	2459509				1219
EW03	3786677				1324
EW04	768684				125
EW05	1736812				742
EW06	340469				0
EW07	1877162				55
EW08	34381968				69
LS01	9028873				12850
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 78 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off (None)

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/10/10

Time	LCS System	Remarks (Reason for System on or off)
830	(On) or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137301				153
EW01A	525993				555
EW02	2460728				665
EW03	3788001				1915
EW04	768809				207
EW05	1737554				1531
EW06	340469				0
EW07	1877217				175
EW08	34882037				130
LS01	9041723				1203
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/15/10

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137454				203
EW01A	526548				462
EW02	2461393				1392
EW03	3789916				2274
EW04	769016				124
EW05	1739085				1768
EW06	340469				0
EW07	1877392				237
EW08	34382167				64
LS01	9053896				17161
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 80 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/17/10

Time	LCS System	Remarks (Reason for System on or off)
810	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137657				169
EW01A	527010				806
EW02	2462785				1377
EW03	3792190				2978
EW04	769140				278
EW05	1740853				1114
EW06	340469				3
EW07	1877629				235
EW08	34382231				200
LS01	9071057				17208
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/22/10

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137826				121
EW01A	527816				858
EW02	2464162				1295
EW03	3795168				2661
EW04	269418				173
EW05	1741967				1786
EW06	340472				8
EW07	1877864				33
EW08	34382431				6730
LS01	9088265				143
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/24/10

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	137947				96
EW01A	528674				1098
EW02	2465757				889
EW03	3797829				2086
EW04	769591				281
EW05	1743753				1915
EW06	340480				6
EW07	1877897				4882
EW08	3438961				60
LS01	9088408				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ *Heater Thermostat Setting (°F):* _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 6/29/10

Time	LCS System	Remarks (Reason for System on or off)
9:15	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138134				91
EW01A	530479				707
EW02	2467231				885
EW03	3801598				1683
EW04	769999				127
EW05	1746421				749
EW06	340491				5
EW07	1900021				17242
EW08	34389221				0
LS01	9088408				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 78 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/1/10

Time	LCS System	Remarks (Reason for System on or off)
930	On or Off	Shipped 9500
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138134				131
EW01A	530479				873
EW02	2467231				1262
EW03	3801598				6010
EW04	769999				102
EW05	1746421				1221
EW06	340491				7
EW07	1900021				X449584
EW08	34389221				0
LS01	9088408				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 83 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: DLZ Date: 07/06/10

Time	LCS System	Remarks (Reason for System on or off)
10:10	(On) or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138265				Ø
EW01A	531352				668
EW02	2468493				1675
EW03	3807608				4970
EW04	270101				278
EW05	1747642				1553
EW06	3404998				Ø
EW07	* 2349605			*	1,761,186
EW08	34389221				Ø
LS01	9088408				Ø
LS02					

* MALFUNCTION

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: DLZ Date: 07/08/10

Time	LCS System	Remarks (Reason for System on or off)
1:35	On or Off	SHIPPED 8100 - ALL TANKER
	On or Off	WOULD PULL
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138265				122
EW01A	532020				741
EW02	2470168				1294
EW03	3812578				4627
EW04	770379				268
EW05	1749195				1679
EW06	340498				2
EW07	4110791				1030
EW08	34389221				0
LS01	9088408				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/13/10

Time	LCS System	Remarks (Reason for System on or off)
10:15	(On) or Off	Shipper 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138387				56
EW01A	532761				193
EW02	2471962				888
EW03	3817275				1834
EW04	770647				134
EW05	1750874				944
EW06	340500				5
EW07	4111821				419
EW08	34389221				1
LS01	9088408				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 79 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, ~~etc.~~): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/15/10

Time	LCS System	Remarks (Reason for System on or off)
10:00	(On) or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138443				151
EW01A	532954				528
EW02	2472850				824
EW03	3819109				3065
EW04	770781				221
EW05	1751818				960
EW06	340505				0
EW07	4112240				761
EW08	34389222				0
LS01	9088408				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 82 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off AUTO

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/20/10

Time	LCS System	Remarks (Reason for System on or off)
10:00	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138594				166
EW01A	533482				615
EW02	2473674				2018
EW03	3822174				4453
EW04	771002				209
EW05	1752778				1196
EW06	340505				0
EW07	4113001				174
EW08	34389222				116
LS01	9088408				3
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 81 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off AUTO

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/22/10

Time	LCS System	Remarks (Reason for System on or off)
10:15	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138760				182
EW01A	534097				957
EW02	2475692				2085
EW03	3826627				312
EW04	771211				239
EW05	1753924				1624
EW06	340505				2
EW07	4113175				211
EW08	34389338				210
LS01	9088411				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): 80 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/27/10

Time	LCS System	Remarks (Reason for System on or off)
10:40	On or Off	Sniffer 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	138942				62
EW01A	535054				1098
EW02	2477777				1874
EW03	3829739				2078
EW04	771450				277
EW05	1755668				1266
EW06	340507				2
EW07	4113386				337
EW08	34389548				44
LS01	9088411				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Building Inside Temperature (°F): 80 Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off Auto

General Notes/Comments (building, tank risers, fence, etc.): _____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 7/29/10

Time	LCS System	Remarks (Reason for System on or off)
10:40	On or Off	tank full SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values
EW01	139004			
EW01A	536152			
EW02	2479651			
EW03	3831817			
EW04	771667			
EW05	1756934			
EW06	346509			
EW07	4113723			
EW08	34389592			
LS01	9088411			
LS02				

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: DREW BERLENTHAL Date: 8/3/10

Time	LCS System	Remarks (Reason for System on or off)
8:00 am	On or Off	TANK FULL SHIPPED 6,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values
EW01	139112			
EW01A	537321			
EW02	2480578			
EW03	3836890			
EW04	771889			
EW05	1758794			
EW06	340512			
EW07	4114323			
EW08	34389650			
LS01	9088430			
LS02				

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: DREW BERLIENTHAL Date: 8/5/10

Time	LCS System	Remarks (Reason for System on or off)
7:30 am	On or Off	SHIPPED 5,500 GALLONS
	On or Off	POSSIBLE POWER OUTAGE
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139112				588
EW01A	~~2482014~~	538194			1130
EW02	2482014				843
EW03	3840609				3388
EW04	772136				145
EW05	176674				1043
EW06	340512				0
EW07	4114336				16
EW08	34389650				1
LS01	9088430				0
LS02					

LCS Holding Tank:

Time:	7:30 am	Depth of Fluid:	68"	Volume of Liquid:	7719 GALLONS
Time:		Depth of Fluid:		Volume of Liquid:	
Time:		Depth of Fluid:		Volume of Liquid:	
Time:		Depth of Fluid:		Volume of Liquid:	
Time:		Depth of Fluid:		Volume of Liquid:	

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 8/10/10

Time	LCS System	Remarks (Reason for System on or off)
9:30	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139170				66
EW01A	539324				648
EW02	2482857				694
EW03	3834994				11885
EW04	772281				247
EW05	176717				1914
EW06	340512				0
EW07	4114350				10377
EW08	34389651				71
LS01	908843				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 8/12/10

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139236				205
EW01A	539972				1676
EW02	2483551				3797
EW03	3846879				13845
EW04	772528				416
EW05	1763631				2097
EW06	340512				0
EW07	4124727				16940
EW08	34389722				184
LS01	9088430				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAG Date: 8/12/10

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139441				190
EW01A	541648				280
EW02	2487348				212
EW03	3860724				794
EW04	772944				26
EW05	1765728				0
EW06	3405112				0
EW07	4141637				119
EW08	34389906				176
LS01	9088430				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 8/19/10

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139631				135
EW01A	541928				1070
EW02	2487560				2560
EW03	3861508				2600
EW04	772970				199
EW05	1765728				2377
EW06	340512				0
EW07	4141756				10388
EW08	34390082				0
LS01	9088430				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 8/24/10

Time	LCS System	Remarks (Reason for System on or off)
840	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139766				168
EW01A	542998				363
EW02	2490120				1089
EW03	3864108				6195
EW04	773169				261
EW05	1768105				1560
EW06	340512				1
EW07	4152144				9308
EW08	34390082				367
LS01	9088430				157
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 8/26/10

Time	LCS System	Remarks (Reason for System on or off)
930	On or Off	Emptied 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139934				17
EW01A	543361				1221
EW02	2491209				2084
EW03	3870303				4037
EW04	773430				277
EW05	1769665				1546
EW06	340513				0
EW07	4161452				241
EW08	34390449				186
LS01	9088581				25
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 8/31/10

Time	LCS System	Remarks (Reason for System on or off)
930	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	139951				191
EW01A	544582				666
EW02	2493293				1236
EW03	3874340				2359
EW04	773707				145
EW05	1771211				1664
EW06	340513				2
EW07	4161693				187
EW08	34390635				178
LS01	9088606				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/2/10

Time	LCS System	Remarks (Reason for System on or off)
700	On or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140070				135
EW01A	545248				1667
EW02	2494529				2269
EW03	3876699				4465
EW04	773852				398
EW05	1772875				664
EW06	340515				30
EW07	4161880				20081
EW08	34390813				49
LS01	9088606				8
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/7/10

Time	LCS System	Remarks (Reason for System on or off)
11:50	On or Off	SHIPPED 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140205				49
EW01A	546915				236
EW02	2496798				677
EW03	3881164				1051
EW04	774250				68
EW05	1773539				107
EW06	340545				0
EW07	4181961				79
EW08	34390862				24
LS01	9088614				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/9/10

Time	LCS System	Remarks (Reason for System on or off)
730	On or Off	Shipped 3000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140254				143
EW01A	547151				1228
EW02	2497475				1439
EW03	3882215				2667
EW04	774318				232
EW05	1773646				129
EW06	340545				0
EW07	4182040				134
EW08	3439088				251
LS01	9088614				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/14/10

Time	LCS System	Remarks (Reason for System on or off)
7:10	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140397				24
EW01A	548379				718
EW02	2498914				1321
EW03	3884882				2264
EW04	774550				236
EW05	1773775				154
EW06	340545				6
EW07	4182174				17
EW08	34391137				15
LS01	9088614				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/16/10

Time	LCS System	Remarks (Reason for System on or off)
8.10	On or Off	Shipped 2500
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140421				63
EW01A	549097				1089
EW02	2500235				1951
EW03	3887146				3336
EW04	774786				323
EW05	1773929				711
EW06	340551				4
EW07	4182191				706163
EW08	34391152				13
LS01	9088614				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/21/10

Time	LCS System	Remarks (Reason for System on or off)
730	On or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140484				5
EW01A	550186				515
EW02	2502186				701
EW03	3890482				1459
EW04	775109				152
EW05	1774640				685
EW06	340555				5
EW07	4888354				0
EW08	3439165				53
LS01	908614				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Building Inside Temperature (°F): _____ Heater Thermostat Setting (°F): _____

Status of Intake Fan (circle one): On Off

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

If leachate load-out and disposal scheduled today, document with Leachate Disposal Log.

II: Landfill Gas (LFG) Venting System

Manual vent isolation valve position at stack (circle one): Opened Closed

General Notes/Comments (building, tank risers, fence, etc.): _____

_____

_____

_____

To obtain climatic weather information call (815) 834-1435 between the hours of noon and 4:00 P.M.

Temperature (°F) and Time: _____

Average Wind Speed (mph) and Direction toward: _____

Barometric Pressure (in. Hg): _____ Trend: F S R (circle one)

Rainfall: Track daily totals per DuPage Co. Airport (attached data when available).

Document LFG monitoring with the LFG Monitoring Form.

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/23/10

Time	LCS System	Remarks (Reason for System on or off)
730	On or Off	Shipped 5200
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140543				94
EW01A	550701				1213
EW02	2502888				1274
EW03	3891941				3052
EW04	7752661				331
EW05	1775325				2431
EW06	340560				4
EW07	4888854				132
EW08	34391218				89
LS01	888614				19
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 9/28/10

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	SHPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140637				69
EW01A	551914				483
EW02	2504162				591
EW03	3894993				1205
EW04	775592				143
EW05	1777756				942
EW06	340564				2
EW07	4888486				25
EW08	3439 1307				20
LS01	9088633				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: [illegible] Date: 9/30/10

Time	LCS System	Remarks (Reason for System on or off)
710	(On) or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	1407060				109
EW01A	552392				482
EW02	2504753				1,239
EW03	3896198				2635
EW04	775735				280
EW05	1774598				1,491
EW06	3405660				7
EW07	4884511				176
EW08	3439327				130
LS01	9048633				~~0~~
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: Frank Date: 10/5/10

Time	LCS System	Remarks (Reason for System on or off)
0705	On or Off	Shipped 6K USGal
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140815				33
EW01A	552879				283
EW02	2505992				222
EW03	3898833				1641
EW04	776015				157
EW05	1780089				1085
EW06	340573				1
EW07	4888687				0
EW08	34391457				36
LS01	9088633				40
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 10/7/10

Time	LCS System	Remarks (Reason for System on or off)
8:15	On or Off	Shipped 2500
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	Time: _____ Pump Stroke Counter Values	
EW01	140848				77
EW01A	553162				565
EW02	2506291				1186
EW03	3899874				1776
EW04	776172				693
EW05	1781174				2171
EW06	3405574				3
EW07	4888687				6
EW08	34391493				10268
LS01	9088673				14
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 10/12/10

Time	LCS System	Remarks (Reason for System on or off)
7:30	On or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140925				59
EW01A	553727				245
EW02	2507477				595
EW03	3901652				1495
EW04	776865				133
EW05	1783345				868
EW06	340577				2
EW07	4888693				2
EW08	34401761				1979
LS01	9088687				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 10/19/10

Time	LCS System	Remarks (Reason for System on or off)
700	On or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	140984				13
EW01A	553972				865
EW02	2508072				1779
EW03	3903147				6016
EW04	776998				316
EW05	1784213				3153
EW06	340579				1
EW07	4888695				159
EW08	3440370				14216
LS01	9088687				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RMY Date: 10/26/10

Time	LCS System	Remarks (Reason for System on or off)
750	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	141115				92
EW01A	554835				112
EW02	2509851				192
EW03	3909163				799
EW04	777314				234
EW05	1787366				85
EW06	340580				4
EW07	4888854				44
EW08	34417956				86
LS01	9088687				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 10/28/10

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	141207				158
EW01A	554947				168
EW02	2510043				880
EW03	3909962				2048
EW04	777548				182
EW05	1787451				253
EW06	340584				4
EW07	4888398				122
EW08	34418042				353
LS01	9088687				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 11/2/10

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	141365				767
EW01A	555115				233
EW02	2510923				383
EW03	3912010				1,156
EW04	777730				138
EW05	1787704				366
EW06	340588				2
EW07	4889020				293
EW08	34418395				359
LS01	9088687				~~0~~
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: Frank Date: 11/4/10

Time	LCS System	Remarks (Reason for System on or off)
7:30am	On or Off	Shipped 5,500 USGal
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142132				70
EW01A	555348				102
EW02	2511306				260
EW03	3913166				1310
EW04	777868				165
EW05	1788870				229
EW06	340590				0
EW07	4889313				89
EW08	34418754				12
LS01	9089687				3
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 11/9/10

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	SHUTTED 5800 (OFF FOR O+M) MWH
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142202				262
EW01A	555450				156
EW02	2511566				1278
EW03	3914476				3562
EW04	778033				374
EW05	1788299				130
EW06	3405.90				0
EW07	4889402				83
EW08	3441876				1403
LS01	9088690				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 11/16/10

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	1424.64				199
EW01A	555606				67
EW02	2512844				117
EW03	3918038				560
EW04	778407				229
EW05	1788429				365
EW06	340590				0
EW07	4889485				2085
EW08	34420169				40
LS01	9088690				43
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 11/18/10

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	Shipped 4800
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142663				20
EW01A	555673				66
EW02	2512961				1389
EW03	3918598				4691
EW04	778636				666
EW05	1788794				2829
EW06	340590				0
EW07	4891570				29597
EW08	34420209				5
LS01	9088733				4
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 11/24/10

Time	LCS System	Remarks (Reason for System on or off)
900	(On) or Off	Shipped 4500
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142683				[redacted] 1
EW01A	5555739				[redacted] 100
EW02	2514350				[redacted] 11
EW03	3923289				[redacted] 27
EW04	779302				11
EW05	1791623				191
EW06	340590				0
EW07	4921167				205
EW08	34420214				47
LS01	9088737				117
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 11/29/10

Time	LCS System	Remarks (Reason for System on or off)
11:00	On or Off	SHIPPED 3300
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142750				82
EW01A	555829				130
EW02	2514361				910
EW03	3923366				3355
EW04	779313				552
EW05	1791814				3181
EW06	340590				0
EW07	4921372				125
EW08	34120261				106
LS01	9088854				12
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 12/9/10

Time	LCS System	Remarks (Reason for System on or off)
8:30	(On) or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142832				74
EW01A	555969				138
EW02	2515271				557
EW03	3926721				2764
EW04	778965				1309
EW05	1794995				3093
EW06	340590				0
EW07	4921497				114
EW08	34420307				118
LS01	9088866				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 12/16/10

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	142906				141
EW01A	556105				39
EW02	2515828				402
EW03	3929485				1750
EW04	280274				301
EW05	1798088				1999
EW06	340590				0
EW07	4921611				53
EW08	34420485				188
LS01	9088866				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 12/23/10

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	1430047				119
EW01A	556144				164
EW02	2516230				779
EW03	3931235				1815
EW04	780575				347
EW05	1800087				2094
EW06	340590				0
EW07	4921664				198
EW08	34420673				194
LS01	9088866				49
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: FRANK Date: 12/30/10

Time	LCS System	Remarks (Reason for System on or off)
930	(On) or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	1438166				416
EW01A	5563308				86
EW02	2517009				539
EW03	39330050				2710
EW04	7809922				495
EW05	18022181				3615
EW06	3405590				2
EW07	4921862				156
EW08	34420867				172
LS01	9088915				61
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 1/6/11

Time	LCS System	Remarks (Reason for System on or off)
300	On or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	143212				162
EW01A	556394				221
EW02	2517548				395
EW03	3935760				2864
EW04	781417				402
EW05	1805796				2743
EW06	340592				0
EW07	4922020				249
EW08	3442039				316
LS01	908976				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: KHY Date: 1/13/11

Time	LCS System	Remarks (Reason for System on or off)
330	On or Off	SHIPPED 8000
	On or Off	
	On or Off	
	On or Off	

I. **Leachate Collection System (LCS)**

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	143374				130
EW01A	556615				171
EW02	2517943				1388
EW03	3938624				3116
EW04	2818 19				479
EW05	1808739				3170
EW06	340592				0
EW07	4922269				164
EW08	34421415				152
LS01	9088976				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 1/20/11

Time	LCS System	Remarks (Reason for System on or off)
11:00	On or Off	SHIPPED 8300
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	145504				69
EW01A	556786				68
EW02	2519330				719
EW03	3941740				2295
EW04	782298				356
EW05	1811909				2549
EW06	340592				0
EW07	4922433				128
EW08	34421567				68
LS01	9088976				0
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 1/27/11

Time	LCS System	Remarks (Reason for System on or off)
830	On or Off	Shipped 4000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	143573				109
EW01A	5568554				81
EW02	2520049				948
EW03	3944035				2831
EW04	782654				353
EW05	1814458				2776
EW06	340592				7
EW07	4922561				410
EW08	34921635				110
LS01	9088976				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 2/3/11

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	2200 SHIPPED
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values
EW01	143682			39
EW01A	556135			70
EW02	2520997			965
EW03	3946866			2795
EW04	783007			499
EW05	1817234			2946
EW06	340599			0
EW07	4922971			262
EW08	34421745			39
LS01	9088976			25
LS02				

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 2/10/11

Time	LCS System	Remarks (Reason for System on or off)
830	On or Off	Shipped 2000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	1437221				139
EW01A	5570005				155
EW02	2521962				1067
EW03	3949661				2901
EW04	783506				487
EW05	1820180				3071
EW06	340599				0
EW07	4923233				188
EW08	34421784				19112
LS01	9089001				3
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 2/17/11

Time	LCS System	Remarks (Reason for System on or off)
900	On or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. **Leachate Collection System (LCS)**

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	143860				242
EW01A	557160				245
EW02	2523029				736
EW03	3952562				3846
EW04	783993				387
EW05	1823251				1860
EW06	340599				0
EW07	4923421				209
EW08	3440708				439
LS01	9089004				19
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 2/24/11

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	144102				169
EW01A	557405				252
EW02	2523765				270
EW03	3956408				5406
EW04	784380				172
EW05	1825111				1337
EW06	340599				6
EW07	4923630				411
EW08	3444147				241
LS01	9089023				24
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY/FRANK Date: 3/1/11

Time	LCS System	Remarks (Reason for System on or off)
647 AM	On or (Off)	Tank full (RAY)
730 AM	(On) or Off	Shipped 17 CO,000
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	144271				137
EW01A	557657				137
EW02	2524035				286
EW03	3961814				1365
EW04	784552				65
EW05	1826448				546
EW06	340599				0
EW07	4924041				154
EW08	3444 1388				769
LS01	9089047				16
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/3/11

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	Shipped 5500
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	144408				231
EW01A	557794				340
EW02	2524321				1062
EW03	3963179				11281
EW04	784617				493
EW05	1826994				1758
EW06	340599				0
EW07	4924195				408
EW08	3444215				247
LS01	9089063				17
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/8/11

Time	LCS System	Remarks (Reason for System on or off)
625	On or Off	Skipper 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	144639				60
EW01A	558134				125
EW02	2525383				688
EW03	3979060				1161
EW04	785110				169
EW05	1828752				524
EW06	340599				0
EW07	4924603				112
EW08	34442404				116
LS01	9089080				641
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/10/11

Time	LCS System	Remarks (Reason for System on or off)
945	On or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	144699				114
EW01A	558259				113
EW02	2526071				858
EW03	3980221				2527
EW04	785279				118
EW05	1829276				699
EW06	340599				0
EW07	4924715				192
EW08	3444 2520				156
LS01	2089721				1623
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/15/11

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	144813				326
EW01A	558372				283
EW02	2526929				1080
EW03	3982748				9727
EW04	785397				269
EW05	1829975				1663
EW06	340599				0
EW07	4924907				379
EW08	3444276				259
LS01	9091344				2132
LS02					

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/17/11

Time	LCS System	Remarks (Reason for System on or off)
700A	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	145139				216
EW01A	558655				273
EW02	2528009				989
EW03	3992475				3981
EW04	785666				308
EW05	1831638				1
EW06	340599				0
EW07	4925286				358
EW08	34442935				209
LS01	9093476				75
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/22/11

Time	LCS System	Remarks (Reason for System on or off)
6:10	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values
EW01	145355			
EW01A	558928			
EW02	2528998			
EW03	3996456			
EW04	785974			
EW05	1831639			
EW06	340599			
EW07	4925647			
EW08	34443144			
LS01	9093557			
LS02				

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/24/11

Time	LCS System	Remarks (Reason for System on or off)
630	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. **Leachate Collection System (LCS)**

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	145610				106
EW01A	559321				120
EW02	2530881				758
EW03	4004299				3798
EW04	786175				220
EW05	1831896				1004
EW06	340599				0
EW07	4926124				152
EW08	34443514				158
LS01	9093644				87
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/29/11

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values
EW01	145716			135
EW01A	559441			121
EW02	2531639			2014
EW03	4008097			3955
EW04	786395			243
EW05	1832900			1575
EW06	340599			0
EW07	4926276			174
EW08	3443672			187
LS01	9093731			21
LS02				

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 3/31/11

Time	LCS System	Remarks (Reason for System on or off)
700	(On) or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values
EW01	1458851			272
EW01A	5595562			722
EW02	2533653			1296
EW03	4012052			3588
EW04	786638			294
EW05	1834475			1094
EW06	3405599			0
EW07	4926450			385
EW08	34443859			404
LS01	9093752			0
LS02				

LCS Holding Tank:

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

Time: ____ Depth of Fluid: ____ Volume of Liquid: ____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/6/11

Time	LCS System	Remarks (Reason for System on or off)
8004	(On) or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. **Leachate Collection System (LCS)**

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	146123				332
EW01A	560284				290
EW02	2534949				1974
EW03	4015640				5447
EW04	78932				342
EW05	1835569				1662
EW06	3405599				0
EW07	4926815				327
EW08	3444263				338
LS01	2093752				51
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/12/11

Time	LCS System	Remarks (Reason for System on or off)
900A	On or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	146455				257
EW01A	560574				677
EW02	2536923				1393
EW03	4021087				3864
EW04	287274				188
EW05	1837231				1143
EW06	3405599				0
EW07	4927142				377
EW08	34444601				295
LS01	9093803				20
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/14/11

Time	LCS System	Remarks (Reason for System on or off)
800A	On or Off	Shipper 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	146712				121
EW01A	561251				146
EW02	2538316				859
EW03	4024951				1916
EW04	787462				193
EW05	1838374				1117
EW06	3405594				0
EW07	4927519				134
EW08	3444896				163
LS01	9093823				47
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/18/11

Time	LCS System	Remarks (Reason for System on or off)
800	On or Off	Shipped 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	1468338				111
EW01A	561397				152
EW02	2539175				1025
EW03	4026867				3042
EW04	787655				121
EW05	1839491				783
EW06	3405599				0
EW07	4927653				254
EW08	3445059				175
LS01	9093870				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/19/11

Time	LCS System	Remarks (Reason for System on or off)
900 A	(On) or Off	SHIPPED 5000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	146944				12c
EW01A	561549				95
EW02	2540200				905
EW03	4029909				2444
EW04	787776				115
EW05	1840274				1009
EW06	3405599				0
EW07	4927907				119
EW08	3445234				4562
LS01	9093870				35
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/21/11

Time	LCS System	Remarks (Reason for System on or off)
900A	(On) or Off	2600 Shipped
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	147066				190
EW01A	561644				72
EW02	2541105				1667
EW03	4032353				6918
EW04	787891				136
EW05	1841283				816
EW06	340599				0
EW07	4928026				316
EW08	3449796				5447
LS01	9093905				46
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/26/11

Time	LCS System	Remarks (Reason for System on or off)
800	(On) or Off	10000 Shopper
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	147256				~~14~~ 111
EW01A	561716				~~22~~ 23
EW02	2542772				655
EW03	4039271				7832
EW04	788027				438
EW05	1842099				2990
EW06	340599				0
EW07	4928342				261
EW08	3445243				9296
LS01	9093931				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

MONTGOMERY WATSON

SITE VISIT OPERATING LOG
BLACKWELL LANDFILL SITE

(Complete this form for every site visit to document operation of the leachate collection and LFG venting systems at the Blackwell Landfill Site.)

Monitored By: RAY Date: 4/28/11

Time	LCS System	Remarks (Reason for System on or off)
730	(On) or Off	Shipped 10,000
	On or Off	
	On or Off	
	On or Off	

I. Leachate Collection System (LCS)

Pump	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	Time: ____ Pump Stroke Counter Values	
EW01	147467				33
EW01A	561954				976
EW02	2543427				3775
EW03	4047103				10896
EW04	288465				270
EW05	1845089				1290
EW06	340599				0
EW07	4928603				262
EW08	34464539				276
LS01	9093931				0
LS02					

LCS Holding Tank:

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

Time: _____ Depth of Fluid: _____ Volume of Liquid: _____

APPENDIX A-2

Inspection Report Forms

MWH
MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 5/19/10 Time (start): 0815 Time (end): 1345

Monitored By: JUSTIN FINKER / TIM CARROLL

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from): North/South/East/West		
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %:_____		
Barometric Pressure	Low	Moderate	High	In. Hg: 30.02 or hPA: _____		

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	O&M MONITORING
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	136471	18,424	161887	27.72
EW01A	523829	70,717	032807	38.12
EW02	2449869	330,733	106389	61.49
EW03	3765053	508,283	360940	43.42
EW04	767340	103,591	336324	NM
EW05	1727242	233,178	422441	69.04
EW06	340450	45,961	921676	39.28
EW07	1876269	253,297	653002	47.88
EW08	34381285	4,641,474	1292--	4.86
LS01	8876625	1,198,345	105492	—
LS023	367470	49,609	—	—

Building Inside Temperature (°F): 66 Heater Thermostat Setting (°F): OFF

Status of Intake Fan (circle one): On Off (AUTO @ 90°F)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Gas Composition Readings (with Portable Instrument)

Location	Static Pressure (in. wc)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	0.32	63.6	41.0	0.4	GOOD
EW01A	0.02	33.0	19.5	10.3	GOOD
EW02	0.05	65.0	43.1	0.6	GOOD
EW03	1.00	66.0	39.5	0.1	GOOD
EW04	0.16	69.4	33.9	0.0	GOOD
EW05	0.03	73.6	27.4	0.0	GOOD
EW06	0.42	66.1	39.0	0.0	GOOD
EW07	0.80	63.9	40.4	0.2	GOOD
EW08	0.00	61.6	39.4	0.8	GOOD

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	430	86.08	52.3	30.0	2.4	66.9

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		VAULTS HAVE SETTLED AT DV-17 AND DV-3 PREVENTING LIDS FROM CLOSING

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		
Vegetative Cover	✓		
General Drainage	✓		NO STANDING WATER OBSERVED ON LANDFILL

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions	✓		RUTS AND STANDING WATER ON ACCESS ROAD NEAR LS01
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments: LEACHATE MEASUREMENTS WERE NOT COLLECTED AT SV-2, DV-18, OR EW-4 BECAUSE THESE LOCATIONS WERE DRY / HAD BLOCKAGES.

LDF AND V3 WERE ON SITE PERFORMING HERBICIDE APPLICATIONS AND ASSESSING CONDITION OF ACCESS ROADS NEAR LSU1 FOR REPAIRS.

Signature: [signature]

Title: GEOLOGIST / PROJECT SCIENTIST

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MWH
MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 7/15/10 Time (start): 0650 Time (end): 1140

Monitored By: JUSTIN FINGER / TIM CARROLL

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from): North/South/East/West		
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %: 74		
Barometric Pressure	Low	Moderate	High	In. Hg: 29.91 or hPA:		

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	OHM MEASUREMENTS
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	138443	18,690	161902	26.72
EW01A	532954	71,949	044387	DRY
EW02	2472850	333,835	129347	58.15
EW03	3819109	515,580	409880	DRY
EW04	770781	104,056	341159	—
EW05	1751818	236,496	444752	DRY
EW06	340505	45,969	921676	39.36
EW07	4112240	555,153	653002	47.54
EW08	34389222	4,642,545	1292 --	DRY
LS01	9088408	1,226,936	521998	—
LS023	367479	49,610	—	—

Building Inside Temperature (°F): 76 Heater Thermostat Setting (°F): OFF

Status of Intake Fan (circle one): On Off (AUTO @ 90°F)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Gas Composition Readings (with Portable Instrument)

Location	Static Pressure (in. wc)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	0.01	67.1	45.3	0.2	GOOD
EW01A	0.00	61.9	30.6	0.0	GOOD
EW02	0.20	66.4	44.3	0.6	GOOD
EW03	0.80	68.1	40.9	0.0	GOOD
EW04	0.12	71.0	34.9	0.1	GOOD
EW05	0.20	75.4	29.7	0.0	GOOD
EW06	1.00	68.9	40.2	0.0	GOOD
EW07	0.86	67.8	42.6	0.0	GOOD
EW08	0.00	52.4	35.3	2.4	GOOD

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	310	62.06	53.7	31.3	3.3	82.0

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		VAULT COVERS HAVE SUNK AT SV-12, DV-3, DV-11, AND DV-17

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		
Vegetative Cover	✓		VEGETATION IS ABUNDANT, NEEDS TO BE TRIMMED AROUND LFG VAULTS
General Drainage	✓		

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions	✓		RUTS ON ACCESS ROAD NEAR LSO1
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments: LEACHATE LEVELS WERE NOT MEASURED AT SV-2, SV-6, SV-7, DV-6, DV-7, DV-18, EW01A, EW03, EW05, AND EW08 BECAUSE THESE LOCATIONS WERE DRY.

MEASUREMENTS WERE NOT COLLECTED AT SV-9 BECAUSE THIS WELL COULD NOT BE LOCATED DUE TO EXCESSIVE VEGETATION.

Signature: [signature] Title: GEOLOGIST / PROJECT SCIENTIST

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MWH
MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 7/27/10 Time (start): 1:00 Time (end): 2:10
Monitored By: RAY BABOWICE

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from):	North/South/East/West	
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %: _____		
Barometric Pressure	Low	Moderate	High	In. Hg: _____	or hPA: _____	

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
1:05	On or Off	
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	_____
Leak Detection Riser	Satisfactory	Unsatisfactory	_____
Tank High Level (75%)	Satisfactory	Unsatisfactory	_____
Tank High Level (90%)	Satisfactory	Unsatisfactory	_____

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	_____
High Level	Satisfactory	Unsatisfactory	_____
Air Dryer	Satisfactory	Unsatisfactory	_____
Compressor	Satisfactory	Unsatisfactory	_____

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	138942			
EW01A	535530			
EW02	2479066			
EW03	3832374			
EW04	771642			
EW05	1756887			
EW06	340507			
EW07	4113457			
EW08	3438 9604			
LS01	9088411			
LS02				

Building Inside Temperature (°F): 85 Heater Thermostat Setting (°F): 90

Status of Intake Fan (circle one): On Off (Auto)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Location	Static Pressure (in. wc)	Gas Composition Readings (with Portable Instrument) Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	_____	_____	_____	_____	_____
EW01A	_____	_____	_____	_____	_____
EW02	_____	_____	_____	_____	_____
EW03	_____	_____	_____	_____	_____
EW04	_____	_____	_____	_____	_____
EW05	_____	_____	_____	_____	_____
EW06	_____	_____	_____	_____	_____
EW07	_____	_____	_____	_____	_____
EW08	_____	_____	_____	_____	_____

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	_____	_____	_____	_____	_____	_____

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		
Vegetative Cover	✓		
General Drainage	✓		

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions		✓	Erosion on Road to top of Hill
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments:

Signature: Ray Bohm

Title: Construction Coordinator

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MWH
MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 9/8/10 Time (start): 0655 Time (end): 1125

Monitored By: JUSTIN FINCER / CHRIS SWAN

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from): North/South/East/West		
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %: 68		
Barometric Pressure	Low	Moderate	High	In. Hg: 30.10 or hPA:		

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	SYSTEM OFF DURING O&M MONITORING
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	140070	18,910	161929	25.63
EW01A	546801	73,819	058148	38.31
EW02	2496509	337,029	153079	55.10
EW03	3880447	523,861	464911	43.56
EW04	774143	104,510	345594	—
EW05	1773490	239,422	465750	74.49
EW06	340542	45,974	921676	39.31
EW07	4181961	564,565	653002	47.25
EW08	34390850	4,642,765	1292--	16.04
LS01	9088606	1,226,962	600506	—
LS0~~2~~3	367507	49,614	—	—

Building Inside Temperature (°F): 70 Heater Thermostat Setting (°F): OFF

Status of Intake Fan (circle one): On Off (AUTO)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Gas Composition Readings (with Portable Instrument)

Location	Static Pressure (in. wc)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	0.04	64.4	34.9	8.5	GOOD
EW01A	0.01	57.5	25.5	0.1	GOOD
EW02	NM	67.1	32.3	0.4	GOOD
EW03	0.08	66.8	32.8	0.5	GOOD
EW04	0.10	71.7	27.8	0.1	GOOD
EW05	0.02	74.6	25.2	0.0	GOOD
EW06	0.20	68.4	31.0	0.6	GOOD
EW07	0.10	66.8	32.9	0.1	GOOD
EW08	0.00	19.0	12.4	14.0	GOOD

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	433	86.68	45.1	24.7	5.6	64.5

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		
Vegetative Cover	✓		VEGETATION IS ABUNDANT AND HAS COVERED SOME LFG VENTS
General Drainage	✓		

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions	✓		ACCESS ROADS HAVE BEEN RE-GRADED
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments: MEASUREMENTS WERE NOT COLLECTED AT SV-9 BECAUSE THIS VENT COULD NOT BE LOCATED DUE TO EXCESSIVE VEGETATION.

LEACHATE LEVELS WERE NOT MEASURED AT SV-2, SV-7, AND DV-18 BECAUSE THESE VENTS WERE DRY.

PRESSURE MEASUREMENTS WERE NOT COLLECTED AT EW-02 AND SV-4 BECAUSE INSTRUMENT MALFUNCTIONED.

Signature: [signature]

Title: PROJECT SCIENTIST/GEOLOGIST

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MWH
MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 11/10/10 Time (start): 0745 Time (end): 1335

Monitored By: JUSTIN FINGER / CHRIS SWAN

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from): North South East West		
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %: 57		
Barometric Pressure	Low	Moderate	High	In. Hg: 30.07 or hPA:		

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	OFF FOR O+M MONITORING
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	142226	19,201	163314	31.76
EW01A	555450	74,986	071511	38.33
EW02	2511566	339,062	186301	54.20
EW03	3914476	528,455	498915	46.41
EW04	778033	105,035	349942	—
EW05	1788299	241,421	487471	81.34
EW06	340590	45,980	921676	39.21
EW07	4889402	660,070	701097	49.07
EW08	34418766	4,646,534	1292 --	17.77
LS01	9088690	1,226,974	615795	—
LS023	367554	49,620	—	—

Building Inside Temperature (°F): 70 Heater Thermostat Setting (°F): OFF

Status of Intake Fan (circle one): On Off (AUTO @ 90°F)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Gas Composition Readings (with Portable Instrument)

Location	Static Pressure (in. wc)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	0.10	65.4	40.0	0.5	GOOD
EW01A	0.00	45.9	24.0	0.7	GOOD
EW02	0.05	67.6	37.6	0.5	GOOD
EW03	0.00	67.5	37.0	0.5	GOOD
EW04	0.00	73.8	30.5	0.5	GOOD
EW05	0.00	77.1	24.7	0.2	GOOD
EW06	0.20	69.2	35.6	0.1	GOOD
EW07	1.00	67.6	36.7	0.2	GOOD
EW08	0.00	50.6	29.7	4.1	GOOD

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	463	92.69	60.8	32.8	1.2	53.9

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		
Vegetative Cover	✓		
General Drainage	✓		

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions	✓		
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments: LEACHATE LEVELS WERE NOT COLLECTED AT SV-2, SV-7, DV-5, DV-7, AND DV-18 BECAUSE THESE VENTS WERE DRY.

MWH COLLECTED GPS COORDINATES OF VENTS, EXTRACTION WELLS, MAIN STACK, AND LIFT STATION 01.

Signature: [signature] Title: PROJECT SCIENTIST/GEOLOGIST

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MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 1/12/14 Time (start): 0730 Time (end): 1400

Monitored By: Justin Finger / David Novak

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from): North/South/East/West		
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %: 75		
Barometric Pressure	Low	Moderate	High	In. Hg: 30.38 or hPA:		

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	SYSTEM OFF FOR CWM MONITORING
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	143212	19,334	176092	31.55
EW01A	556394	75,114	074593	38.28
EW02	2517556	339,871	174294	54.84
EW03	3937900	~~53,162~~ 531,617	522401	51.38
EW04	781721	105,533	354709	—
EW05	1808181	244,105	508543	66.30
EW06	340592	45,980	921676	39.38
EW07	4922020	664,473	794861	50.14
EW08	34421039	4,646,841	1292--	14.40
LS01	9038976	1,227,012	615796	—
LS0~~1~~3	367570	49,622	—	—

Building Inside Temperature (°F): 72 Heater Thermostat Setting (°F): OFF

Status of Intake Fan (circle one): On Off (AUTO @ 70°F)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Gas Composition Readings (with Portable Instrument)

Location	Static Pressure (in. wc)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	0.36	66.5	38.3	0.3	Good
EW01A	0.00	1.8	0.3	19.1	Good
EW02	0.24	67.0	36.7	1.2	Good
EW03	0.66	70.3	36.7	0.0	Good
EW04	0.16	71.1	30.8	0.0	Good
EW05	0.00	5.3	2.0	18.5	Good
EW06	0.78	70.1	36.1	0.1	Good
EW07	1.00	70.1	37.8	0.0	Good
EW08	0.01	49.2	28.6	4.8	Good

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	475	95.09	43.8	25.6	5.1	35.6

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		CAP COULD NOT BE OBSERVED DUE TO SNOW COVER
Vegetative Cover	✓		
General Drainage	✓		

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions	✓		
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments: MEASUREMENTS NOT COLLECTED AT SV-2, SV-4, SV-8, SV-9, DV-5, DV-7, DV-8, DV-9, DV-10, DV-11, DV-14, DV-15, DV-16 AND DV-18 BECAUSE VAULTS WERE FROZEN SHUT.

LEACHATE LEVEL MEASUREMENT NOT COLLECTED AT DV-6 BECAUSE THIS VENT WAS DRY.

Signature: [signature] Title: GEOLOGIST / PROJECT SCIENTIST

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MONTGOMERY WATSON HARZA

INSPECTION REPORTING FORM
BLACKWELL LANDFILL SITE

Date: 3/16/11 Time (start): 0710 Time (end): 1145

Monitored By: JUSTIN FINGER / TIM CARROLL

Conditions	Bright Sun	Clear	Partly Cloudy	Overcast	Heavy Clouds	
Temperature	<32	32-50	50-70	70-85	>85	
Wind	Still	Moderate	High	Direction (from): North South East West		
Precipitation	None	Light	Moderate	Heavy	Rain	Snow
Humidity	Dry	Moderate	Humid	Relative %: 65		
Barometric Pressure	Low	Moderate	High	In. Hg: 30.07	or hPA:	

To obtain climatic weather information logon to http://www.wunderground.com.

I. Leachate Collection System (LCS): General

Time	LCS System	Remarks (Reason for System on or off)
	On or Off	SYSTEM OFF FOR O+M MONITORING
	On or Off	
	On or Off	
	On or Off	

Alarm Panel Alarms	Status (Circle One)		If Unsatisfactory, Explain
Tank Annular Space	Satisfactory	Unsatisfactory	
Leak Detection Riser	Satisfactory	Unsatisfactory	
Tank High Level (75%)	Satisfactory	Unsatisfactory	
Tank High Level (90%)	Satisfactory	Unsatisfactory	

Interlock Alarms	Status (Circle One)		If Unsatisfactory, Explain
Leak Detection	Satisfactory	Unsatisfactory	
High Level	Satisfactory	Unsatisfactory	
Air Dryer	Satisfactory	Unsatisfactory	
Compressor	Satisfactory	Unsatisfactory	

Pump	Control Building Pump Stroke Counter Values	Cumulative Pumped Volume in Gallons (Multiply by 0.135)	Extraction Vault Pump Stroke Counter Values	Depth to Leachate (ft)
EW01	144699	19,535	182399	31.08
EW01A	558259	75,365	074593	38.18
EW02	2527268	341,182	183989	57.33
EW03	3988960	538,510	573489	43.71
EW04	785548	106,049	359406	—
EW05	1831637	247,271	530778	79.20
EW06	340594	45,981	921676	38.98
EW07	4924715	664,837	814556	47.33
EW08	34442520	4,649,741	1292 --	3.58
LS01	9093476	1,227,620	630122	—
LS0~~1~~3	367575	49,623	—	—

Building Inside Temperature (°F): 76 Heater Thermostat Setting (°F): 50

Status of Intake Fan (circle one): On Off (AUTO @ 90° F)

General Notes/Comments (building, tank risers, fence, etc.):

II. Landfill Gas (LFG) Venting System

Gas Composition Readings (with Portable Instrument)

Location	Static Pressure (in. wc)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Status of Wellhead Components and Vault Structures*
EW01	0.32	65.8	36.5	1.0	GOOD
EW01A	0.02	2.4	2.2	19.4	GOOD
EW02	0.20	66.5	35.7	0.2	GOOD
EW03	1.40	69.3	34.2	0.2	GOOD
EW04	0.10	70.8	29.4	0.2	GOOD
EW05	0.03	77.9	24.6	0.2	GOOD
EW06	1.00	69.7	34.2	0.2	GOOD
EW07	5.80	67.3	35.7	0.2	GOOD
EW08	0.00	61.9	33.2	1.5	GOOD

Location	LFG Velocity (fpm)	LFG Flow (cfm)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temperature (°F)
Vent Stack	381	76.27	61.9	31.3	1.2	58.4

To calculate LFG flow (cfm) multiply LFG velocity (fpm) by the inside cross-sectional area of the vent stack pipe.

III. System Integrity Status:

Leachate Collection System

Component	Satisfactory	Unsatisfactory	Remarks
Leachate Holding Tank	✓		
Leak Detection Riser	✓		
Leachate Loadout and Disposal	✓		
System Control and Telemetry	✓		
Wells/Pumps	✓		
Lift Station/Pumps	✓		
Compressor System	✓		
Air Dryer	✓		

Landfill Gas System

Component	Satisfactory	Unsatisfactory	Remarks
Vent Stack	✓		
Driplegs	✓		
Wells	✓		RISER PIPE HAS RISEN ABOVE VAULT LID AT DV-3, SV-12, AND DV-17

Landfill Cap Repair Areas

Component	Satisfactory	Unsatisfactory	Remarks
Landfill Cap Soils	✓		
Vegetative Cover	✓		
General Drainage	✓		PONDING OBSERVED AT NORTH END OF LANDFILL

Site Security

Component	Satisfactory	Unsatisfactory	Remarks
Access Roads Conditions	✓		
Site Fencing, Gates	✓		
Posted Sign and Notices	✓		

Additional Comments: MEASUREMENTS NOT COLLECTED AT SV-4, SV-5, SV-8, SV-9, DV-8, DV-9, AND DV-16 BECAUSE VAULTS WERE FROZEN SHUT.

LEACHATE LEVEL MEASUREMENTS WERE NOT COLLECTED AT SV-2, DV-7, AND DV-18 BECAUSE THESE VENTS WERE DRY.

Signature: [signature] Title: GEOLOGIST / PROJECT SCIENTIST

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APPENDIX A-3

Maintenance and Repair Record Forms

BLACKWELL LANDFILL SITE
MAINTENANCE and REPAIR RECORD FORM

Inspector's Name: Ray Babowice
Date of the Record: 10/27/10
Date Problem was Observed: 10/27/10

BRIEF DESCRIPTION OF PROBLEM

Pump cycle counter in EW-1A not working

Person or Contractor Completing Maintenance or Repair: Ray.

Completion Date: 10/27/10

MAINTENANCE or REPAIR PERFORMED

Adjusted cycle counter

VERIFICATION OF COMPLETION

Inspector's Name: Ray Babowice
Verification of Completion Date: 10/27/10

Inspector's Signature:_____

BLACKWELL LANDFILL SITE
MAINTENANCE and REPAIR RECORD FORM

Inspector's Name: Ray Babowice
Date of the Record: 10/28/10
Date Problem was Observed: 10/28/10

BRIEF DESCRIPTION OF PROBLEM

Pump in EW-7 cleaning

Person or Contractor Completing Maintenance or Repair: Ray.

Completion Date: 10/28/10

MAINTENANCE or REPAIR PERFORMED

Installed a clean rebuilt pump in EW-7

VERIFICATION OF COMPLETION

Inspector's Name: Ray Babowice
Verification of Completion Date: 10/28/10

Inspector's Signature:_____

BLACKWELL LANDFILL SITE
MAINTENANCE and REPAIR RECORD FORM

Inspector's Name: Ray Babowice
Date of the Record: 10/28/10
Date Problem was Observed: 10/28/10

BRIEF DESCRIPTION OF PROBLEM

Boot on EW-8 needs repair boot is become weathered

Person or Contractor Completing Maintenance or Repair: Ray.

Completion Date: 10/28/10

MAINTENANCE or REPAIR PERFORMED

Installed a boot on EW-8

VERIFICATION OF COMPLETION

Inspector's Name: Ray Babowice
Verification of Completion Date: 10/28/10

Inspector's Signature:_____

BLACKWELL LANDFILL SITE
MAINTENANCE and REPAIR RECORD FORM

Inspector's Name: Ray Babowice
Date of the Record: November 3, 2010
Date Problem was Observed: October 28, 2010

BRIEF DESCRIPTION OF PROBLEM

Pump in EW01 malfunctioned. Pump was pulled with difficulty due to several feet of silt that had accumulated in the well. Due to settlement of the silt, the pump could not be placed at the proper depth in EW01.

Person or Contractor Completing Maintenance or Repair: Advanced Waste, Ray Babowice

Completion Date: November 3, 2010

MAINTENANCE or REPAIR PERFORMED

Advanced Waste jetted EW01 and EW01A with ambient temperature water at a pressure of 300 psi to loosen silt. Both extraction wells were vacuumed out using 4-inch HDPE pipe and rubber hose attached to a vacuum truck. Ray Babowice replaced the pump in EW01 with a cleaned and rebuilt pump. The pump from EW01A was in good condition and did not need replacement.

VERIFICATION OF COMPLETION

Inspector's Name: Ray Babowice – Forest Preserve District
Justin Finger – MWH

Verification of Completion Date: November 3, 2010

Inspector's Signature:_____

BLACKWELL LANDFILL SITE
MAINTENANCE and REPAIR RECORD FORM

Inspector's Name: Ray Babowice
Date of the Record: 2/17/11
Date Problem was Observed: 2/17/11

BRIEF DESCRIPTION OF PROBLEM

Pump in LS2 not working

Person or Contractor Completing Maintenance or Repair: Ray.

Completion Date: 2/17/11

MAINTENANCE or REPAIR PERFORMED

Pump float fixed

VERIFICATION OF COMPLETION

Inspector's Name: Ray Babowice
Verification of Completion Date: 2/17/11

Inspector's Signature:_____

APPENDIX A-4

Leachate Disposal Logs

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	4/15/10	5807273,74	9000	Advanced	RAY	
	Comments					
2	4/20/10	5807275,76	10,000	Advanced	RAY	
	Comments					
3	04/23/10 4/23/10	7001551 7001552	10,000	ADVANCED	DREW BERGENTHAL	DLB
	Comments					
4	4/29/10	7501548 7501547	10,000	Advanced	RAY	
	Comments					
5	5/4/10	7001893 7001894	10,000	Advanced	RAY	
	Comments					
6	5/6/10	5807277 5807278	10,000	Advanced	RAY	
	Comments					
7	5/11/10	7501717 7501718	10,000	ADVANCED	DREW BERGENTHAL	
	Comments					
8	5/13/10	5807279 5807280	10,000	Advanced	RAY	
	Comments					
9						
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	5/20/10	7506020 21	10,000	ADVanced	RAY	
	Comments					
2	5/25/10	5807283 5807284	10,000	ADVanced	RAY	
	Comments					
3	5/27/10	5807285 5807286	10,000	ADVanced	RAY	
	Comments					
4	6/1/10	5807287 5807288	9000	ADVanced	RAY	
	Comments					
5	6/3/10	5807289	2500	ADVanced	RAY	
	Comments					
6	6/8/10	7506334 7506935	9500	ADVanced	RAY	
	Comments					
7	6/10/10	5807290 5807291	10,000	ADVanced	RAY	
	Comments					
8	6/15/10	5807292 5807293	10,000	ADVanced	RAY	
	Comments					
9	6/17/10	5807294 7295	10,000	ADVanced	RAY	
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	6/22/10	5807296 5807297	10,000	ADVanced	RAY	
	Comments					
2	6/24/10	580298 580299	10,000	ADVanced	RAY	
	Comments					
3	6/29/10	580300 580301	10,000	ADVanced	RAY	
	Comments					
4	7/1/10	580302 580303	9500	ADVanced	RAY	
	Comments					
5	07/06/10	005807304 005807305	10,000	ADVANCED	DAN Z.	
	Comments					
6	07/08/10	005807306 005807307	8,100	ADVANCED	DAN Z.	
	Comments					
7	7/13/10	005807308 005807309	10,000	ADVanced	RAY	
	Comments					
8	7/15/10	005807310	5000	ADVanced	RAY	
	Comments					
9	7/20/10	5807311,312	10,000	ADVanced	RAY	
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	7/22/10	7499727 7499728	10,000	ADVANCED	RAY	
	Comments					
2	7/27/10	6991313 6992712	10,000	ADVANCED	RAY	
	Comments					
3	7/29/10	7499862 7499863	10,000	ADVANCED	RAY	
	Comments					
4	8/3/10	007506106 007506107	10,000	ADVANCED	DREW BERLENTHAL	
	Comments					
5	8/5/10	007002931	5,500	ADVANCED	DREW BERLENTHAL	
	Comments					
6	8/10/10	007506164 007506165	10,000	ADVANCED	RAY	
	Comments					
7	8/12/10	007647533 007647534	10,000	ADVANCED	RAY	
	Comments					
8	8/17/10	007647574 007647575	9500	ADVANCED	RAY	
	Comments					
9	8/19/10	007647653 007647654	10,000	ADVANCED	RAY	
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	8/24/10	007647776 007647777	10,000	ADVanced	RAY	
	Comments					
2	8/26/10	007647812 007647813	10,000	ADVanced	RAY	
	Comments					
3	8/31/10	007647835 007647836	10,000	ADVanced	RAY	
	Comments					
4	9/2/10	007647909	5000	ADVanced	RAY	
	Comments					
5	9/7/10	007647836 007647910	10,000	ADVanced	RAY	
	Comments					
6	9/9/10	007647937	3000	ADVanced	RAY	
	Comments					
7	9/14/10	7002929 7266085	10,000	ADVanced	RAY	
	Comments					
8	9/16/10	7266084	2500	ADVanced	RAY	
	Comments					
9	9/21/10	007814058 ~~[illegible]~~	5000	ADVanced	RAY	
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	9/23/10	007814084	5200	ADVanced	RAY	
	Comments					
2	9/28/10	007506442	5000	ADVanced	RAY	
	Comments					
3	9/30/10	007814059	5000	ADVanced	Frank	
	Comments					
4	10/5/10	007506443	6K USGal	ADVanced	Frank	
	Comments					
5	10/7/10	007506413	2500	ADVanced	RAY/Frank	
	Comments					
6	10/12/10	007814269	5000	ADVanced	RAY	
	Comments					
7	10/19/10	007814270	5000	ADVanced	RAY	
	Comments					
8	10/26/10	007648503 007648504	10,000	ADVanced	RAY	
	Comments					
9	10/28/10	007499827	5000	ADVanced	RAY	
	Comments					

5447

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	11/2/10	007648531 007648532	10,000	Advanced	RAY	
	Comments					
2	11/3/10	007646603	2000	Advanced	RAY	
	Comments					
3	11/4/10	007648602	5,500	Advanced Waste	Frank	
	Comments	Left 2,000 usgal in tank for use of next week (11/9/10)				
4	11/9/10	007648622	5800	Advanced	RAY	
	Comments					
5	11/16/10	007648822 007648823	10,000	Advanced	RAY	
	Comments					
6	11/18/10	007648958	4800	Advanced	RAY	
	Comments					
7	11/23/10	007648940	4500	Advanced	RAY	
	Comments					
8	11/29/10	007648953	3300	Advanced	RAY	
	Comments					
9	12/9/10	007648760	5000	Advanced	RAY	
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	12/16/10	008218150	5000	Advanced	RAY	
	Comments					
2	12/24/10	008218212	5000	ADVanced	RAY	
	Comments					
3	12/30/10	00821213	5000	Advanced	FRank	
	Comments					
4						
	Comments					
5						
	Comments					
6						
	Comments					
7						
	Comments					
8						
	Comments					
9						
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	1/6/11	008218333	5000	ADVanced	RAY	
	Comments					
2	1/13/11	008218410 008218411	8000	ADVanced	RAY	
	Comments					
3	1/20/11	007646526 007646527	8300	ADVanced	RAY	
	Comments					
4	1/27/11	007646618	4000	ADVanced	RAY	
	Comments					
5	2/3/11	007646619	2200	ADVanced	RAY	
	Comments					
6	2/10/11	008218334	2000	ADVanced	RAY	
	Comments					
7	2/17/11	008218274	5000	ADVanced	RAY	
	Comments					
8	2/24/11	006991171 006991172	10,000	ADVanced	RAY	
	Comments					
9	3/1/11	008218280 008218149	10,000	ADVanced	RAY	
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	3/3/11	007648852	5500	ADVanced	RAY	Ray Baker
	Comments					
2	3/8/11	007648859 007648941	10,000	ADVanced	RAY	Ray Baker
	Comments					
3	3/10/11	007648623	5000	ADVanced	RAY	Ray Baker
	Comments					
4	3/15/11	007648824	5000	ADVanced	RAY	Ray Baker
	Comments					
5	3/17/11	008477058 008477089	10,000	ADVanced	RAY	Ray Baker
	Comments					
6	3/22/11	007001918 007648825	10,000	ADVanced	RAY	Ray Baker
	Comments					
7	3/24/11	007648844 007648643	10,000	ADVanced	RAY	Ray Baker
	Comments					
8	3/29/11	007506392	5000	ADVanced	RAY	Ray Baker
	Comments					
9	4/6/11	008477409 008477410	10,000	ADVanced	RAY	Ray Baker
	Comments					

LEACHATE DISPOSAL LOG
BLACKWELL LANDFILL SITE

Item No.	Date	Waste Manifest Number	Total Quantity (gal)	Transporter Company Name	Generator Representative's Name	Generator Representative's Signature
1	4/12/11	007814198 007814199	10,000	ADVanced	RAY	Ray Bel
	Comments					
2	4/14/11	007501958 007501959	10,000	ADVanced	RAY	Ray Bel
	Comments					
3	4/18/11	008477084	5000	ADVanced	RAY	Ray Bel
	Comments					
4	4/19/11	008217213	5000	ADVanced	RAY	Ray Bel
	Comments					
5	4/21/11	008217214	2600	ADVanced	RAY	Ray Bel
	Comments					
6	4/26/11	008475127 008475128	10,000	ADVanced	RAY	Ray Bel
	Comments					
7	4/28/11	008475161 008475162	10,000	ADVanced	RAY	Ray Bel
	Comments					
8	5/3/11	008475129 008475130	10,000	ADVanced	RAY	Ray Bel
	Comments					
9	5/5/11	007499650 007499651	10,000	ADVanced	RAY	Ray Bel
	Comments					

APPENDIX A-5

Landfill Gas Vent Monitoring Forms

Gas Vent Monitoring Form
Blackwell Landfill NPL Site, DuPage County, Illinois

Date: 5/19/2010
Time: 0815 - 1345
Monitored By: JEF/TPC

Temperature(° F): 75
Humidity (%): 51%
Barometric Pressure (in. Hg): 30.02

Vent Number	TOC Elevation	Measured Well Depth (feet)	Depth to Liquid (feet)	Liquid Elevation (feet)	Gas Readings			Vent Readings						NOTES
					%CH_4	%CO_2	%O_2	I.D. (ft)	Velocity (fpm)	Volume (ft^3/min)	% of Total	Static Pressure (in. H_2O)	Temperature (°F)	
SV-1	739.39	16.00	5.27	734.12	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-2	766.04	53.25	24.72	741.32	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-4	741.36	27.15	15.50	725.86	57.0	35.1	2.5	0.172	26	0.606	0.595	0.88	85.6	
SV-5	725.74	27.00	5.40	720.34	0.4	0.0	21.6	0.172	0	0.000	0.000	0.01	78.7	
SV-6	760.46	45.70	32.26	728.20	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-7	781.01	64.70	51.29	729.72	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-8	723.03	25.20	4.77	718.26	1.1	0.4	20.2	0.172	3	0.070	0.069	0.00	71.5	
SV-9	748.77	50.00	33.79	714.98	56.0	35.8	1.6	0.172	28	0.652	0.641	1.40	70.2	
SV-11	807.38	91.40	70.06	737.32	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
SV-12	823.82	83.80	62.23	761.59	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-3	749.29	36.75	15.88	733.41	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-4	723.25	27.10	19.05	704.20	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-5	720.35	29.00	12.57	707.78	15.2	7.4	15.6	0.172	0	0.000	0.000	0.00	67.3	
DV-6	775.56	68.25	32.58	742.98	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-7	829.62	86.90	83.00	746.62	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-8	728.73	27.60	1.49	727.24	0.4	0.0	20.7	0.336	1	0.088	0.087	0.02	82.2	
DV-9	723.56	22.40	1.15	722.41	1.0	0.3	21.2	0.336	1	0.088	0.087	0.02	77.9	
DV-10	765.05	67.40	43.48	721.57	2.8	1.4	21.0	0.336	0	0.000	0.000	0.02	84.1	
DV-11	753.50	34.75	2.39	751.11	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-13	746.29	53.60	23.04	723.25	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-14	738.22	33.10	11.29	726.93	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-15	736.17	43.00	34.71	701.46	16.4	8.0	15.2	0.336	31	2.739	2.690	0.30	73.4	
DV-16	733.85	34.00	20.74	713.11	66.2	38.8	0.5	0.336	98	8.659	8.505	3.20	60.7	
DV-17	729.07	37.20	4.69	724.38	17.6	6.6	15.2	0.336	1	0.088	0.087	0.00	69.3	
DV-18	775.13	54.20	NM	NM	66.6	38.1	0.1	0.336	31	2.739	2.690	3.40	74.6	Blockage at 16.9 feet
EW-1	753.98	43.85	27.72	726.26	63.6	41.0	0.4	NA	NA	NA	NA	0.32	79.4	Vault counter 161887
EW-1A	752.22	42.50	38.12	714.10	33.0	19.5	10.3	NA	NA	NA	NA	0.02	68.5	Vault counter 032807
EW-2	792.24	81.50	61.49	730.75	65.0	43.1	0.6	NA	NA	NA	NA	0.05	75.4	Vault counter 106389
EW-3	768.36	62.40	43.42	724.94	66.0	39.5	0.1	NA	NA	NA	NA	1.00	74.8	Vault counter 360940
EW-4	835.30	NA	NM	NM	69.4	33.9	0.0	NA	NA	NA	NA	0.16	72.1	Vault counter 336324 Blockage at 92 feet
EW-5	808.92	89.90	69.04	739.88	73.6	27.4	0.0	NA	NA	NA	NA	0.03	75.8	Vault counter 422441
EW-6	764.73	64.60	39.28	725.45	66.1	39.0	0.0	NA	NA	NA	NA	0.42	66.0	Vault counter 921676
EW-7	772.83	63.10	47.88	724.95	63.9	40.4	0.2	NA	NA	NA	NA	0.80	74.0	Vault counter 653002
EW-8	756.16	43.70	4.86	751.30	61.6	39.4	0.8	NA	NA	NA	NA	0.00	79.9	Vault counter 1292__ Last 2 digits not readable
Main Vent					52.3	30.0	2.4	0.505	430	86.08	84.550	NA	66.9	No static pressure because vent stack is open to the atmosphere No velocity in lift stations or extraction wells due pipe size constrictions

TOTAL VOLUME (ft^3/min)= 101.81

**I.D. based on 2" Schedule 40 and 4" Schedule 40 PVC pipe
LFG is 6" Schedule 40 galvanized steel pipe based on As-Built drawing

	depth	% CH_4	% CO_2	% O_2	
LS01	NA	0.4	0.1	21.1	counter = 105492 p = 0.00

Notes:
1) TOC - Top of Casing (EW as of 05/09/07)
2) O_2 - Oxygen Percentage
3) CH_4 - Methane Percentage
4) CO_2 - Carbon Dioxide Percentage
5) NA - Not analyzed as part of O&M
6) NM - Not measured for specific date

Gas Vent Monitoring Form
Blackwell Landfill NPL Site, DuPage County, Illinois

Date: 7/15/2010
Time: 0650 - 1140
Monitored By: JEF/TPC

Temperature(° F): 88
Humidity (%): 74%
Barometric Pressure (in. Hg): 29.91

Vent Number	TOC Elevation	Measured Well Depth (feet)	Depth to Liquid (feet)	Liquid Elevation (feet)	Gas Readings			Vent Readings						NOTES
					$\%CH_4$	$\%CO_2$	$\%O_2$	I.D. (ft)	Velocity (fpm)	Volume (ft^3/min)	% of Total	Static Pressure (in. H_2O)	Temperature (°F)	
SV-1	739.39	16.00	5.27	734.12	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-2	766.04	53.25	24.50	741.54	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-4	741.36	27.15	15.70	725.66	2.7	1.4	20.6	0.172	1	0.023	0.030	0.15	89.8	
SV-5	725.74	27.00	6.96	718.78	4.4	3.1	19.3	0.172	2	0.047	0.060	0.00	93.2	
SV-6	760.46	45.70	37.31	723.15	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-7	781.01	64.70	51.50	729.51	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-8	723.03	25.20	5.36	717.67	0.7	0.3	21.3	0.172	0	0.000	0.000	0.01	83.5	
SV-9	748.77	50.00	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Could not locate vent due to excessive vegetation
SV-11	807.38	91.40	70.11	737.27	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
SV-12	823.82	83.80	75.90	747.92	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-3	749.29	36.75	16.10	733.19	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-4	723.25	27.10	20.59	702.66	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-5	720.35	29.00	12.68	707.67	6.1	3.1	19.1	0.172	5	0.116	0.149	0.00	83.5	
DV-6	775.56	68.25	32.39	743.17	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
DV-7	829.62	86.90	82.05	747.57	NA	NA	NA	0.336	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
DV-8	728.73	27.60	3.53	725.20	1.3	0.7	21.0	0.336	3	0.265	0.340	0.00	94.0	
DV-9	723.56	22.40	7.48	716.08	1.6	1.0	20.8	0.336	2	0.177	0.227	0.00	94.0	
DV-10	765.05	67.40	43.57	721.48	0.7	0.2	20.6	0.336	1	0.088	0.113	0.00	96.8	
DV-11	753.50	34.75	9.25	744.25	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-13	746.29	53.60	24.19	722.10	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-14	738.22	33.10	13.34	724.88	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-15	736.17	43.00	36.09	700.08	0.4	0.1	21.2	0.336	2	0.177	0.227	0.00	82.2	
DV-16	733.85	34.00	22.50	711.35	68.5	40.0	0.0	0.336	130	11.487	14.731	0.52	77.9	
DV-17	729.07	37.20	10.65	718.42	1.0	0.5	21.3	0.336	0	0.000	0.000	0.00	83.4	
DV-18	775.13	54.20	16.65	758.48	69.0	40.4	0.0	0.336	40	3.534	4.533	2.60	85.1	Dry - elevation represents bottom of well
EW-1	753.98	43.85	26.72	727.26	67.1	45.3	0.2	NA	NA	NA	NA	0.01	92.4	Vault counter 161902
EW-1A	752.22	42.50	38.05	714.17	61.9	30.6	0.0	NA	NA	NA	NA	0.00	82.0	Vault counter 044387 Dry - elevation represents bottom of well
EW-2	792.24	81.50	58.15	734.09	66.4	44.3	0.6	NA	NA	NA	NA	0.20	92.1	Vault counter 129347
EW-3	768.36	62.40	61.89	706.47	68.1	40.9	0.0	NA	NA	NA	NA	0.80	86.1	Vault counter 409880 Dry - elevation represents bottom of well
EW-4	835.30	NA	NM	NM	71.0	34.9	0.1	NA	NA	NA	NA	0.12	75.4	Vault counter 341159
EW-5	808.92	89.90	81.36	727.56	75.4	29.7	0.0	NA	NA	NA	NA	0.20	82.7	Vault counter 444752 Dry - elevation represents bottom of well
EW-6	764.73	64.60	39.36	725.37	68.9	40.2	0.0	NA	NA	NA	NA	1.00	64.3	Vault counter 921676
EW-7	772.83	63.10	47.54	725.29	67.8	42.6	0.0	NA	NA	NA	NA	0.86	79.5	Vault counter 653002
EW-8	756.16	43.70	18.35	737.81	52.4	35.3	2.4	NA	NA	NA	NA	0.00	89.7	Vault counter 1292__ Last 2 digits not readable, Dry
Main Vent					53.7	31.3	3.3	0.505	310	62.06	79.590	NA	82.0	No static pressure because vent stack is open to the atmosphere No velocity in lift stations or extraction wells due pipe size constrictions

TOTAL VOLUME (ft^3/min)= 77.97

**I.D. based on 2" Schedule 40 and 4" Schedule 40 PVC pipe
LFG is 6" Schedule 40 galvanized steel pipe based on As-Built drawing

	depth	$\%CH_4$	$\%CO_2$	$\%O_2$	
LS01	NA	0.0	1.2	20.9	counter = 521998 p = 0.01

Notes:
1) TOC - Top of Casing (EW as of 05/09/07)
2) O_2 - Oxygen Percentage
3) CH_4 - Methane Percentage
4) CO_2 - Carbon Dioxide Percentage
5) NA - Not analyzed as part of O&M
6) NM - Not measured for specific date

Gas Vent Monitoring Form
Blackwell Landfill NPL Site, DuPage County, Illinois

Date: 9/8/2010
Time: 0655 - 1125
Monitored By: JEF/CRS

Temperature(° F): 72
Humidity (%): 68%
Barometric Pressure (in. Hg): 30.10

Vent Number	TOC Elevation	Measured Well Depth (feet)	Depth to Liquid (feet)	Liquid Elevation (feet)	Gas Readings			Vent Readings						NOTES
					$\%CH_4$	$\%CO_2$	$\%O_2$	I.D. (ft)	Velocity (fpm)	Volume (ft^3/min)	% of Total	Static Pressure (in. H_2O)	Temperature (°F)	
SV-1	739.39	16.00	5.30	734.09	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-2	766.04	53.25	27.70	738.34	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-4	741.36	27.15	12.12	729.24	4.0	2.9	18.6	0.172	1	0.023	0.024	NM	76.9	Pressure not measured due to instrument malfunction
SV-5	725.74	27.00	7.56	718.18	1.8	2.4	20.1	0.172	0	0.000	0.000	0.00	70.3	
SV-6	760.46	45.70	34.02	726.44	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-7	781.01	64.70	51.57	729.44	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-8	723.03	25.20	5.13	717.90	0.9	1.2	20.6	0.172	1	0.023	0.024	0.02	54.6	
SV-9	748.77	50.00	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Could not locate vent due to excessive vegetation
SV-11	807.38	91.40	70.51	736.87	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
SV-12	823.82	83.80	62.32	761.50	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-3	749.29	36.75	15.91	733.38	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-4	723.25	27.10	20.83	702.42	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-5	720.35	29.00	12.71	707.64	24.3	14.0	13.0	0.172	6	0.140	0.145	0.02	58.8	
DV-6	775.56	68.25	32.56	743.00	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-7	829.62	86.90	81.92	747.70	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-8	728.73	27.60	4.08	724.65	0.9	1.4	20.3	0.336	0	0.000	0.000	0.01	68.4	
DV-9	723.56	22.40	8.16	715.40	1.7	2.9	19.1	0.336	4	0.353	0.367	0.01	73.3	
DV-10	765.05	67.40	43.69	721.36	8.8	6.1	17.8	0.336	6	0.530	0.550	0.02	73.5	
DV-11	753.50	34.75	11.86	741.64	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-13	746.29	53.60	25.19	721.10	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-14	738.22	33.10	12.95	725.27	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-15	736.17	43.00	36.20	699.97	16.1	8.9	16.2	0.336	3	0.265	0.275	0.02	58.8	
DV-16	733.85	34.00	20.62	713.23	69.1	31.1	0.0	0.336	65	5.743	5.963	0.32	59.1	
DV-17	729.07	37.20	14.16	714.91	10.1	7.4	17.4	0.336	1	0.088	0.092	0.02	56.8	
DV-18	775.13	54.20	17.14	757.99	66.2	33.4	0.2	0.336	28	2.474	2.568	0.40	68.7	Dry - elevation represents bottom of well
EW-1	753.98	43.85	25.63	728.35	64.4	34.9	8.5	NA	NA	NA	NA	0.04	70.3	Vault counter 161929
EW-1A	752.22	42.50	38.31	713.91	57.5	25.5	0.1	NA	NA	NA	NA	0.01	72.7	Vault counter 058148
EW-2	792.24	81.50	55.10	737.14	67.1	32.3	0.4	NA	NA	NA	NA	NM	74.9	Vault counter 153079 Pressure instrument malfunction
EW-3	768.36	62.40	43.56	724.80	66.8	32.8	0.5	NA	NA	NA	NA	0.08	66.8	Vault counter 464911
EW-4	835.30	NA	NM	NM	71.7	27.8	0.1	NA	NA	NA	NA	0.10	62.9	Vault counter 345594
EW-5	808.92	89.90	74.49	734.43	74.6	25.2	0.0	NA	NA	NA	NA	0.02	61.6	Vault counter 465750
EW-6	764.73	64.60	39.31	725.42	68.4	31.0	0.6	NA	NA	NA	NA	0.20	63.7	Vault counter 921676
EW-7	772.83	63.10	47.25	725.58	66.8	32.9	0.1	NA	NA	NA	NA	0.10	68.3	Vault counter 653002
EW-8	756.16	43.70	16.04	740.12	19.0	12.4	14.0	NA	NA	NA	NA	0.00	68.6	Vault counter 1292__ Last 2 digits not readable
Main Vent					45.1	24.7	5.6	0.505	433	86.68	89.991	NA	64.5	No static pressure because vent stack is open to the atmosphere No velocity in lift stations or extraction wells due pipe size constrictions

TOTAL VOLUME (ft^3/min)= 96.33

**I.D. based on 2" Schedule 40 and 4" Schedule 40 PVC pipe
LFG is 6" Schedule 40 galvanized steel pipe based on As-Built drawing

	depth	% CH_4	% CO_2	% O_2
LS01	NA	0.0	1.0	20.7

counter = 600506
p = 0.01

Notes:
1) TOC - Top of Casing (EW as of 05/09/07)
2) O_2 - Oxygen Percentage
3) CH_4 - Methane Percentage
4) CO_2 - Carbon Dioxide Percentage
5) NA - Not analyzed as part of O&M
6) NM - Not measured for specific date

Gas Vent Monitoring Form
Blackwell Landfill NPL Site, DuPage County, Illinois

Date: 11/10/2010
Time: 0745 - 1335
Monitored By: JEF/CRS

Temperature(° F): 69
Humidity (%): 57%
Barometric Pressure (in. Hg): 30.07

Vent Number	TOC Elevation	Measured Well Depth (feet)	Depth to Liquid (feet)	Liquid Elevation (feet)	Gas Readings			Vent Readings						NOTES
					%CH_4	%CO_2	%O_2	I.D. (ft)	Velocity (fpm)	Volume (ft^3/min)	% of Total	Static Pressure (in. H_2O)	Temperature (°F)	
SV-1	739.39	16.00	5.60	733.79	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-2	766.04	53.25	24.72	741.32	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-4	741.36	27.15	14.30	727.06	0.7	0.3	20.6	0.172	1	0.023	0.022	0.00	68.2	
SV-5	725.74	27.00	11.84	713.90	1.2	0.9	20.4	0.172	1	0.023	0.022	0.00	72.4	
SV-6	760.46	45.70	34.30	726.16	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-7	781.01	64.70	51.51	729.50	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-8	723.03	25.20	6.57	716.46	3.0	2.2	19.8	0.172	4	0.093	0.090	0.00	57.4	
SV-9	748.77	50.00	33.90	714.87	41.4	27.0	6.3	0.172	26	0.606	0.584	0.80	72.7	
SV-11	807.38	91.40	70.71	736.67	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
SV-12	823.82	83.80	62.32	761.50	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-3	749.29	36.75	16.78	732.51	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-4	723.25	27.10	22.68	700.57	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-5	720.35	29.00	12.85	707.50	3.4	2.1	19.8	0.172	24	0.559	0.539	0.00	56.7	Dry - elevation represents bottom of well
DV-6	775.56	68.25	27.85	747.71	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-7	829.62	86.90	81.80	747.82	NA	NA	NA	0.336	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
DV-8	728.73	27.60	7.27	721.46	0.2	0.0	20.8	0.336	1	0.088	0.085	0.00	70.2	
DV-9	723.56	22.40	10.22	713.34	0.4	0.1	20.8	0.336	2	0.177	0.171	0.00	74.0	
DV-10	765.05	67.40	42.69	722.36	0.6	0.2	20.7	0.336	3	0.265	0.256	0.02	71.0	
DV-11	753.50	34.75	14.30	739.20	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-13	746.29	53.60	24.96	721.33	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-14	738.22	33.10	14.61	723.61	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-15	736.17	43.00	37.63	698.54	3.3	2.6	19.7	0.336	2	0.177	0.171	0.00	58.3	
DV-16	733.85	34.00	25.04	708.81	68.4	37.1	0.2	0.336	61	5.390	5.201	0.30	54.6	
DV-17	729.07	37.20	15.27	713.80	5.8	4.7	18.7	0.336	1	0.088	0.085	0.00	57.2	
DV-18	775.13	54.20	16.80	758.33	37.9	22.4	8.1	0.336	39	3.446	3.325	0.10	67.7	Dry - elevation represents bottom of well
EW-1	753.98	43.85	31.76	722.22	65.4	40.0	0.5	NA	NA	NA	NA	0.10	74.0	Vault counter 163314
EW-1A	752.22	42.50	38.33	713.89	45.9	24.0	0.7	NA	NA	NA	NA	0.00	72.7	Vault counter 071511
EW-2	792.24	81.50	54.20	738.04	67.6	37.6	0.5	NA	NA	NA	NA	0.05	71.8	Vault counter 186301
EW-3	768.36	62.40	46.41	721.95	67.5	37.0	0.5	NA	NA	NA	NA	0.00	70.1	Vault counter 498915
EW-4	835.30	NA	NM	NM	73.8	30.5	0.5	NA	NA	NA	NA	0.00	58.9	Vault counter 349942
EW-5	808.92	89.90	81.34	727.58	77.1	24.7	0.2	NA	NA	NA	NA	0.00	60.0	Vault counter 487471
EW-6	764.73	64.60	39.21	725.52	69.2	35.6	0.1	NA	NA	NA	NA	0.20	61.3	Vault counter 921676
EW-7	772.83	63.10	49.07	723.76	67.6	36.7	0.2	NA	NA	NA	NA	1.00	59.4	Vault counter 701097
EW-8	756.16	43.70	17.77	738.39	50.6	29.7	4.1	NA	NA	NA	NA	0.00	70.2	Vault counter 1292__ Last 2 digits not readable
Main Vent					60.8	32.8	1.2	0.505	463	92.69	89.447	NA	53.9	No static pressure because vent stack is open to the atmosphere No velocity in lift stations or extraction wells due pipe size constrictions

TOTAL VOLUME (ft^3/min)= 103.63

**I.D. based on 2" Schedule 40 and 4" Schedule 40 PVC pipe
LFG is 6" Schedule 40 galvanized steel pipe based on As-Built drawing

	depth	% CH_4	% CO_2	% O_2	
LS01	NA	0.4	6.1	19.3	counter = 615795 p = 0.00

Notes:
1) TOC - Top of Casing (EW as of 05/09/07)
2) O_2 - Oxygen Percentage
3) CH_4 - Methane Percentage
4) CO_2 - Carbon Dioxide Percentage
5) NA - Not analyzed as part of O&M
6) NM - Not measured for specific date

Gas Vent Monitoring Form
Blackwell Landfill NPL Site, DuPage County, Illinois

Date: 1/12/2011
Time: 0730 - 1400
Monitored By: JEF/DEN

Temperature(° F): 27
Humidity (%): 75%
Barometric Pressure (in. Hg): 30.38

Vent Number	TOC Elevation	Measured Well Depth (feet)	Depth to Liquid (feet)	Liquid Elevation (feet)	Gas Readings			Vent Readings						NOTES
					$\%CH_4$	$\%CO_2$	$\%O_2$	I.D. (ft)	Velocity (fpm)	Volume (ft^3/min)	% of Total	Static Pressure (in. H_2O)	Temperature (°F)	
SV-1	739.39	16.00	5.72	733.67	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-2	766.04	53.25	NM	NM	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Not measured due to frozen vault
SV-4	741.36	27.15	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-5	725.74	27.00	11.35	714.39	0.3	0.3	20.8	0.172	0	0.000	0.000	0.00	37.8	
SV-6	760.46	45.70	34.79	725.67	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-7	781.01	64.70	51.03	729.98	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-8	723.03	25.20	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-9	748.77	50.00	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-11	807.38	91.40	71.34	736.04	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
SV-12	823.82	83.80	62.25	761.57	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-3	749.29	36.75	17.40	731.89	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-4	723.25	27.10	22.47	700.78	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-5	720.35	29.00	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-6	775.56	68.25	32.50	743.06	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
DV-7	829.62	86.90	NM	NM	NA	NA	NA	0.336	NA	NA	NA	NA	NA	Not measured due to frozen vault
DV-8	728.73	27.60	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-9	723.56	22.40	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-10	765.05	67.40	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-11	753.50	34.75	NM	NM	NA	NA	NA	0.336	NA	NA	NA	NA	NA	Not measured due to frozen vault
DV-13	746.29	53.60	25.10	721.19	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-14	738.22	33.10	NM	NM	NA	NA	NA	0.336	NA	NA	NA	NA	NA	Not measured due to frozen vault
DV-15	736.17	43.00	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-16	733.85	34.00	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-17	729.07	37.20	3.56	725.51	2.2	1.2	19.7	0.336	0	0.000	0.000	0.00	31.0	
DV-18	775.13	54.20	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
EW-1	753.98	43.85	31.55	722.43	66.5	38.3	0.3	NA	NA	NA	NA	0.36	41.2	Vault counter 176092
EW-1A	752.22	42.50	38.25	713.97	1.8	0.3	19.1	NA	NA	NA	NA	0.00	32.8	Vault counter 074593
EW-2	792.24	81.50	54.84	737.40	67.0	36.7	1.2	NA	NA	NA	NA	0.24	34.4	Vault counter 174294
EW-3	768.36	62.40	51.38	716.98	70.3	36.7	0.0	NA	NA	NA	NA	0.66	40.6	Vault counter 522401
EW-4	835.30	NA	NM	NM	71.1	30.8	0.0	NA	NA	NA	NA	0.16	38.8	Vault counter 354709
EW-5	808.92	89.90	66.30	742.62	5.3	2.0	18.5	NA	NA	NA	NA	0.00	29.4	Vault counter 508543
EW-6	764.73	64.60	39.38	725.35	70.1	36.1	0.1	NA	NA	NA	NA	0.78	52.6	Vault counter 921676
EW-7	772.83	63.10	50.14	722.69	70.1	37.8	0.0	NA	NA	NA	NA	1.00	41.3	Vault counter 794861
EW-8	756.16	43.70	14.40	741.76	49.2	28.6	4.8	NA	NA	NA	NA	0.01	29.2	Vault counter 1292__ Last 2 digits not readable
Main Vent		43.8	25.6	5.1	0.505	475	95.09	100.000	NA	35.6				No static pressure because vent stack is open to the atmosphere No velocity in lift stations or extraction wells due pipe size constrictions

TOTAL VOLUME (ft^3/min)= 95.09

**I.D. based on 2" Schedule 40 and 4" Schedule 40 PVC pipe
LFG is 6" Schedule 40 galvanized steel pipe based on As-Built drawing

	depth	% CH_4	% CO_2	% O_2	
LS01	NA	0.0	0.7	20.5	counter = 615796 p = 0.00

Notes:
1) TOC - Top of Casing (EW as of 05/09/07)
2) O_2 - Oxygen Percentage
3) CH_4 - Methane Percentage
4) CO_2 - Carbon Dioxide Percentage
5) NA - Not analyzed as part of O&M
6) NM - Not measured for specific date

Gas Vent Monitoring Form
Blackwell Landfill NPL Site, DuPage County, Illinois

Date: 3/16/2011
Time: 0710 - 1145
Monitored By: JEF/TPC

Temperature(° F): 46
Humidity (%): 65%
Barometric Pressure (in. Hg): 30.07

Vent Number	TOC Elevation	Measured Well Depth (feet)	Depth to Liquid (feet)	Liquid Elevation (feet)	Gas Readings			Vent Readings						NOTES
					$\%CH_4$	$\%CO_2$	$\%O_2$	I.D. (ft)	Velocity (fpm)	Volume (ft^3/min)	% of Total	Static Pressure (in. H_2O)	Temperature (°F)	
SV-1	739.39	16.00	4.57	734.82	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-2	766.04	53.25	24.70	741.34	NA	NA	NA	0.172	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
SV-4	741.36	27.15	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-5	725.74	27.00	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-6	760.46	45.70	33.59	726.87	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-7	781.01	64.70	51.21	729.80	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
SV-8	723.03	25.20	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-9	748.77	50.00	NM	NM	NM	NM	NM	0.172	NM	NM	NM	NM	NM	Not measured due to frozen vault
SV-11	807.38	91.40	72.10	735.28	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
SV-12	823.82	83.80	62.32	761.50	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-3	749.29	36.75	15.94	733.35	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-4	723.25	27.10	18.01	705.24	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-5	720.35	29.00	5.65	714.70	0.0	0.2	20.1	0.172	3	0.070	0.081	0.00	43.3	
DV-6	775.56	68.25	31.49	744.07	NA	NA	NA	0.172	NA	NA	NA	NA	NA	
DV-7	829.62	86.90	82.10	747.52	NA	NA	NA	0.336	NA	NA	NA	NA	NA	Dry - elevation represents bottom of well
DV-8	728.73	27.60	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-9	723.56	22.40	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-10	765.05	67.40	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-11	753.50	34.75	1.76	751.74	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-13	746.29	53.60	21.80	724.49	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-14	738.22	33.10	11.35	726.87	NA	NA	NA	0.336	NA	NA	NA	NA	NA	
DV-15	736.17	43.00	33.85	702.32	31.8	17.5	10.8	0.336	37	3.269	3.795	0.08	60.4	
DV-16	733.85	34.00	NM	NM	NM	NM	NM	0.336	NM	NM	NM	NM	NM	Not measured due to frozen vault
DV-17	729.07	37.20	6.80	722.27	0.0	0.2	21.3	0.336	5	0.442	0.513	0.00	45.8	
DV-18	775.13	54.20	16.80	758.33	68.4	34.1	0.2	0.336	69	6.097	7.077	3.20	72.5	Dry - elevation represents bottom of well
EW-1	753.98	43.85	31.08	722.90	65.8	36.5	1.0	NA	NA	NA	NA	0.32	40.1	Vault counter 182399
EW-1A	752.22	42.50	38.18	714.04	2.4	2.2	19.4	NA	NA	NA	NA	0.02	39.6	Vault counter 074593
EW-2	792.24	81.50	57.33	734.91	66.5	35.7	0.2	NA	NA	NA	NA	0.20	39.4	Vault counter 183989
EW-3	768.36	62.40	43.71	724.65	69.3	34.2	0.2	NA	NA	NA	NA	1.40	54.5	Vault counter 573489
EW-4	835.30	NA	NA	NA	70.8	29.4	0.2	NA	NA	NA	NA	0.10	61.6	Vault counter 359406
EW-5	808.92	89.90	79.20	729.72	77.9	24.6	0.2	NA	NA	NA	NA	0.03	63.9	Vault counter 530778
EW-6	764.73	64.60	38.98	725.75	69.7	34.2	0.2	NA	NA	NA	NA	1.00	66.7	Vault counter 921676
EW-7	772.83	63.10	47.33	725.50	67.3	35.7	0.2	NA	NA	NA	NA	5.80	61.7	Vault counter 814556
EW-8	756.16	43.70	3.58	752.58	61.9	33.2	1.5	NA	NA	NA	NA	0.00	64.0	Vault counter 1292__ Last 2 digits not readable
Main Vent					61.9	31.3	1.2	0.505	381	76.27	88.534	NA	58.4	No static pressure because vent stack is open to the atmosphere No velocity in lift stations or extraction wells due pipe size constrictions

TOTAL VOLUME (ft^3/min)= 86.15

**I.D. based on 2" Schedule 40 and 4" Schedule 40 PVC pipe
LFG is 6" Schedule 40 galvanized steel pipe based on As-Built drawing

	depth	% CH_4	% CO_2	% O_2	
LS01	NA	0.0	0.8	21.2	counter = 630122 p = 0.00

Notes:
1) TOC - Top of Casing (EW as of 05/09/07)
2) O_2 - Oxygen Percentage
3) CH_4 - Methane Percentage
4) CO_2 - Carbon Dioxide Percentage
5) NA - Not analyzed as part of O&M
6) NM - Not measured for specific date

APPENDIX B

LEACHATE ANALYTICAL RESULTS AND WASTE DISPOSAL PERMIT

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 0095-10 **PERMIT NO.:** 2010-EE-0095

FINAL PLANS, SPECIFICATIONS, APPLICATION AND SUPPORTING DOCUMENTS **DATE ISSUED:** April 2, 2010
PREPARED BY: Forest Preserve District of DuPage County

SUBJECT: FOREST PRESERVE DISTRICT OF DUPAGE COUNTY - Blackwell Landfill -- Leachate Disposal -- Tributary to Wheaton Sanitary District STP

PERMITTEE TO OWN AND OPERATE

Forest Preserve District of DuPage County
3 South 580 Naperville Road
Wheaton, IL 60187-8761

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows:

Hauling via tanker truck of 10,000 gallons per day DMF (306 BOD_5 P.E.) of landfill leachate from Blackwell Forest Preserve Landfill for discharge into the headworks of Wheaton Sanitary District STP for treatment.

This operating permit expires on March 31, 2015.

This permit renews and replaces Permit Number 2005-EE-3767 which was previously issued for the herein permitted facilities.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: All sludges generated on-site shall be transported for disposal at an Illinois Environmental Protection Agency permitted facility using the Agency's Supplemental Permit and manifest system in accordance with the Environmental Protection Act. If the sludge is a hazardous waste, the generator must comply with all applicable requirements of 35 Ill. Adm. Code Parts 702, 703, 705 and 720 to 725.

SPECIAL CONDITION 2:

a. Liquids, solids, or gases which by reason of their nature or quantity may cause fire or explosion; or be injurious in any other way to sewers, treatment works, or cause a safety hazard to the personnel operating the treatment works, or cause the effluent from the treatment works to violate applicable effluent standards are prohibited;

b. Solid or viscous wastes which cause obstruction to the flow in sewers or other interference with the proper operation of any sewer or treatment works are prohibited.

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:MEL:009510.wpd

DIVISION OF WATER POLLUTION CONTROL

Alan Keller

Alan Keller, P.E.
Manager, Permit Section

cc: EPA - Des Plaines FOS
Wheaton Sanitary District
Records - Industrial
Binds

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 0095-10 **PERMIT NO.:** 2010-EE-0095

FINAL PLANS, SPECIFICATIONS, APPLICATION AND SUPPORTING DOCUMENTS **DATE ISSUED:** April 2, 2010
PREPARED BY: Forest Preserve District of DuPage County

SUBJECT: FOREST PRESERVE DISTRICT OF DUPAGE COUNTY - Blackwell Landfill -- Leachate Disposal -- Tributary to Wheaton Sanitary District STP

SPECIAL CONDITION 3: The issuance of this permit does not relieve the permittee of the responsibility of complying with 35 Ill. Adm. Code, Part 307 and/or the General Pretreatment Regulations (40 CFR 403) and any guidelines developed pursuant to Section 301, 306, or 307 of the Federal Clean Water Act of 1977.

SPECIAL CONDITION 4: The issuance of this permit does not relieve the permittee of the responsibility of complying with any limitations and provisions imposed by the Wheaton Sanitary District.

SPECIAL CONDITION 5: MONITORING AND REPORTING REQUIREMENTS

a. A representative truck load of leachate shall be sampled and analyzed prior to discharge into the Wheaton Sanitary District Sewage Treatment Plant for the following parameters on a quarterly basis (once every three months):

Arsenic	Nickel
Barium	pH
Boron	Phenols
Cadmium	Selenium
Chloride	Silver
Chromium (hexavalent)	Sulfate
Chromium (trivalent)	Zinc
Copper	BOD5
Cyanide	COD
Iron (total)	Oil and Grease
Lead	Ammonia (as N)
Manganese	Total Dissolved Solids
Mercury	Total Suspended Solids

The discharge shall also be sampled semiannually for organic toxic pollutants (Volatiles, Acid Compounds, Base/Neutrals, and Pesticides, as defined in 40 CFR 122).

b. Grab samples shall be utilized. Quarterly sampling shall be performed within the first two months of each quarter. Semiannual sampling shall be performed within the first five months of each six-month period. Test methods as described in 40 CFR 136 shall be utilized when analyzing wastewater.

c. Sampling results shall be submitted in the third month of each quarter to the Agency at the following addresses (semiannual sampling results shall be submitted upon your receipt):

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 East North Grand Avenue
P.O. Box 19276
Springfield, IL 62794-9276

Illinois Environmental Protection Agency
DWPC - Des Plaines Region
9511 West Harrison
Des Plaines, IL 60016

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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June 01, 2010

Mr. David Powers
MONTGOMERY WATSON HARZA
175 West Jackson Boulevard,
Suite 1900
Chicago, IL 60604

Project ID: Blackwell P.O. # 1007333.04811001
First Environmental File ID: 10-1960
Date Received: May 19, 2010

Dear Mr. David Powers:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002468: effective 02/23/10 through 02/28/11.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

William Mottashed
Project Manager

First Environmental Laboratories, Inc.

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Case Narrative

MONTGOMERY WATSON HARZA

Project ID: **Blackwell P.O. # 1007333.04811001**

First Environmental File ID: **10-1960**

Date Received: **May 19, 2010**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	05/19/10
Project ID:	Blackwell P.O. # 1007333.04811001	**Time Collected:**	7:45
Sample ID:	BW-LCS-51	**Date Received:**	05/19/10
Sample No:	10-1960-001	**Date Reported:**	06/01/10

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Phenols	< 0.05	0.05	mg/L	05/25/10	420.1	
Total Suspended Solids	21	1	mg/L	05/20/10	2540D	
Total Dissolved Solids	1,160	10	mg/L	05/25/10	2540C	
pH @ 25°C	7.17		Units	05/20/10 15:40	4500H+,B	
COD	43	10	mg/L	05/20/10	5220D	
BOD, 5 Day	101	1	mg/L	05/20/10 14:45	5210B	
Oil & Grease	< 1	1	mg/L	05/20/10	1664A	
Ammonia (as N)	21.0	0.10	mg/L	05/24/10	350.1R2.0	
Cyanide, Total	< 0.005	0.005	mg/L	05/25/10	4500CN,C,E	
Chloride	100	5	mg/L	05/26/10	4500Cl, C	
Sulfate	115	15	mg/L	05/26/10	375.2R2.0	

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Analytical Report

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Project ID:	Blackwell P.O. # 1007333.04811001	**Time Collected:**	7:45
Sample ID:	BW-LCS-51	**Date Received:**	05/19/10
Sample No:	10-1960-001	**Date Reported:**	06/01/10

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 05/24/10				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	24.7	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0[i]	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	05/19/10
Project ID:	Blackwell P.O. # 1007333.04811001	**Time Collected:**	7:45
Sample ID:	BW-LCS-51	**Date Received:**	05/19/10
Sample No:	10-1960-001	**Date Reported:**	06/01/10

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 05/20/10		Preparation Date: 05/20/10		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 10	10	ug/L	
Benzidine	< 10	10	ug/L	
Benzo(a)anthracene	< 10	10	ug/L	
Benzo(a)pyrene	< 10	10	ug/L	
Benzo(b)fluoranthene	< 10	10	ug/L	
Benzo(ghi)perylene	< 10	10	ug/L	
Benzo(k)fluoranthene	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Chrysene	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Dibenzo(a,h)anthracene	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	

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Analytical Report

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Sample ID:	BW-LCS-51	**Date Received:**	05/19/10
Sample No:	10-1960-001	**Date Reported:**	06/01/10

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 05/20/10		Preparation Date: 05/20/10		
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Fluoranthene	< 10	10	ug/L	
Fluorene	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Indeno(1,2,3-cd)pyrene	< 10	10	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
Naphthalene	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenanthrene	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
Pyrene	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Pesticides **Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 05/26/10		Preparation Date: 05/21/10		
Aldrin	< 0.05	0.05	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	05/19/10
Project ID:	Blackwell P.O. # 1007333.04811001	**Time Collected:**	7:45
Sample ID:	BW-LCS-51	**Date Received:**	05/19/10
Sample No:	10-1960-001	**Date Reported:**	06/01/10

Analyte	Result	R.L.	Units	Flags
Pesticides **Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 05/26/10		Preparation Date: 05/21/10		
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Total Metals **Method: 7470A**				
Analysis Date: 05/25/10				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals **Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 05/26/10		Preparation Date: 05/19/10		
Arsenic	< 0.002	0.002	mg/L	
Barium	0.294	0.001	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Lead	< 0.002	0.002	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Boron	0.40	0.01	mg/L	
Copper	0.003	0.001	mg/L	
Iron	12.4	0.01	mg/L	
Manganese	0.290	0.001	mg/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	05/19/10
Project ID:	Blackwell P.O. # 1007333.04811001	**Time Collected:**	7:45
Sample ID:	BW-LCS-51	**Date Received:**	05/19/10
Sample No:	10-1960-001	**Date Reported:**	06/01/10

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 05/26/10			Preparation Date: 05/19/10		
Nickel		0.003	0.001	mg/L	
Zinc		0.036	0.005	mg/L	

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	05/19/10
Project ID:	Blackwell P.O. # 1007333.04811001	**Time Collected:**	7:30
Sample ID:	Trip Blank	**Date Received:**	05/19/10
Sample No:	10-1960-002	**Date Reported:**	06/01/10

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 05/24/10				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

CHAIN OF CUSTODY RECORD

Page 1 pgs

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
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E-mail: firstinfo@firstenv.com
IEPA Certification #100292

Company Name: MWM
Street Address: 175 W. JACKSON BLVD, SUITE 1900
City: CHICAGO State: IL Zip: 60604
Phone: (312) 831-3000 Fax: (312) 831-3021 e-mail: JUSTIN.E.FINGER@MWHGLOBAL.COM
Send Report To: JUSTIN FINGER Via: Fax ☐ e-mail ☒
Sampled By: JUSTIN FINGER

Project I.D.: BLACKWELL
P.O. #.: 1007333.04811001

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Arsenic, Barium, Boron,	Cadmium, Chloride	Chromium (total), Copper,	Cyanide, Iron (total), Lead	Manganese, Mercury,	Nickel, pH, Phenols, Selenium	Silver, Sulfate, Zinc,	BOD, COD, Oil and Grease	Ammonia (as N), Total	Dissolved Solids,	Total Suspended Solids,	Acid Compounds	Base Neutrals,	Pesticides	VOCs	Comments	Lab I.D.
5/19/10 0745	BW-LCS-51	W	X	X	X	X	X	X	X	X							X		10-1960-001
5/19/10 0730	TRIP BLANK	W															X		002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6ºC Yes ✓ No.__ _____ºC
Received within 6 hrs. of collection:_____
Ice Present: Yes__ No ✓

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____ºC
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____ºC

Containers Received Preserved: ☐ Yes ☐ No ✓
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: CHLORIDE AND SULFATE HAVE BEEN ADDED TO THE PREVIOUS LIST OF ANALYTES

Relinquished By: [signature] Date/Time 5/19/10 1255 Received By: [signature] Date/Time 5/19/10 1255
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

July 22, 2010

Mr. Justin Finger
MONTGOMERY WATSON HARZA
175 West Jackson Boulevard,
Suite 1900
Chicago, IL 60604

Project ID: Blackwell P.O. # 1007333.04811101
First Environmental File ID: 10-2809
Date Received: July 15, 2010

Dear Mr. Justin Finger:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002468: effective 02/23/10 through 02/28/11.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

William Mottashed
Project Manager

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

MONTGOMERY WATSON HARZA

Project ID: **Blackwell P.O. # 1007333.04811101**

First Environmental File ID: **10-2809**

Date Received: **July 15, 2010**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	07/15/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	6:40
Sample ID:	BW-LCS-5Z	**Date Received:**	07/15/10
Sample No:	10-2809-001	**Date Reported:**	07/22/10

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Phenols	< 0.05	0.05	mg/L	07/20/10	420.1	
Total Suspended Solids	31	1	mg/L	07/15/10	2540D	
Total Dissolved Solids	1,420	10	mg/L	07/21/10	2540C	
pH @ 25°C	7.18		Units	07/15/10 15:20	4500H+,B	
COD	65	10	mg/L	07/16/10	5220D	
BOD, 5 Day	5	1	mg/L	07/16/10 14:30	5210B	
Oil & Grease	< 1	1	mg/L	07/19/10	1664A	
Ammonia (as N)	27.1	0.10	mg/L	07/19/10	350.1R2.0	
Cyanide, Total	0.005	0.005	mg/L	07/19/10	4500CN,C,E	
Chloride	140	5	mg/L	07/20/10	4500Cl, E	
Sulfate	154	15	mg/L	07/21/10	375.2R2.0	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	07/15/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	6:40
Sample ID:	BW-LCS-5Z	**Date Received:**	07/15/10
Sample No:	10-2809-001	**Date Reported:**	07/22/10

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 7470A**				
Analysis Date: 07/20/10					
Mercury		< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 07/20/10			Preparation Date: 07/16/10		
Arsenic		0.011	0.002	mg/L	
Barium		0.649	0.001	mg/L	
Cadmium		< 0.001	0.001	mg/L	
Chromium		< 0.001	0.001	mg/L	
Lead		0.005	0.002	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
Boron		0.53	0.01	mg/L	
Copper		0.001	0.001	mg/L	
Iron		79.2	0.01	mg/L	
Manganese		0.312	0.001	mg/L	
Nickel		0.004	0.001	mg/L	
Zinc		0.306	0.005	mg/L	

CHAIN OF CUSTODY RECORD

First Environmental Laboratories, Inc.

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Company Name: MWH
Street Address: 175 W. JACKSON BLVD, SUITE 1900
City: CHICAGO State: IL Zip: 60604
Phone: (312)831-3000 Fax: (312) 831-3021 e-mail: JUSTIN.E.FINGER@MWHGLOBAL.COM
Send Report To: JUSTIN FINGER Via: Fax ☐ e-mail ☒
Sampled By: JUSTIN FINGER, TIM CARROLL

Project I.D.: BLACKWELL
P.O. #.: 1007333.0481101

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	ARSENIC, BARIUM, BORON,	CADMIUM, CHLORIDE	CHROMIUM (TOTAL), COPPER,	CYANIDE, IRON (TOTAL)	LEAD, MANGANESE,	MERCURY, NICKEL, pH	PHENOLS, SELENIUM,	SILVER, SULFATE, ZINC	BOD, COD, OIL & GREASE,	AMMONIA (AS N)	TOTAL DISSOLVED SOLIDS (TDS)	TOTAL SUSPENDED SOLIDS (TSS)		Comments	Lab I.D.
7/15/10 0640	BW-LCS-52	W	X	X	X	X	X	X	X								10-2809-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6ºC Yes ✓ No__ _____ºC
Received within 6 hrs. of collection: ✓
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature: _____ºC
5035 Vials Frozen: Yes__ No__
Freezer Temperature: _____ºC

Containers Received Preserved: ☐ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: CHLORIDE AND SULFATE HAVE BEEN ADDED TO THE PREVIOUS LIST OF ANALYTES

Relinquished By: [signature] Date/Time 7/15/10 1200 Received By: [signature] Date/Time 7/15/10 1200
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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November 22, 2010

Mr. Justin Finger
MONTGOMERY WATSON HARZA
175 West Jackson Boulevard,
Suite 1900
Chicago, IL 60604

Project ID: Blackwell P.O. # 1007333.04811101
First Environmental File ID: 10-4976
Date Received: November 10, 2010

Dear Mr. Justin Finger:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002468: effective 02/23/2010 through 02/28/2011.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

William Mottashed
Project Manager

First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

MONTGOMERY WATSON HARZA

Project ID: **Blackwell P.O. # 1007333.04811101**

First Environmental File ID: **10-4976**

Date Received: **November 10, 2010**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
10-4976-001	BW-LCS-53	*COD* Chemical preservation pH adjusted in lab.
10-4976-001	BW-LCS-53	*Sulfate* The reporting limits are elevated due to matrix interference.
10-4976-001	BW-LCS-53	*Semi-Volatile Compounds* The reporting limits are elevated due to matrix interference.

First Environmental Laboratories, Inc.

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	11/10/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	7:15
Sample ID:	BW-LCS-53	**Date Received:**	11/10/10
Sample No:	10-4976-001	**Date Reported:**	11/22/10

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Phenols	1.29	0.010	mg/L	11/18/10	420.4R1.0	
Total Suspended Solids	152	1	mg/L	11/11/10	2540D	
Total Dissolved Solids	10,700	10	mg/L	11/11/10	2540C	
pH @ 25°C	7.14		Units	11/10/10 14:30	4500H+,B	
COD	5,750	10	mg/L	11/16/10	5220D	
BOD, 5 Day	8,080	1	mg/L	11/10/10 15:30	5210B	
Oil & Grease	42	1	mg/L	11/12/10	1664A	
Ammonia (as N)	566	0.10	mg/L	11/18/10	350.1R2.0	
Cyanide, Total	< 0.005	0.005	mg/L	11/15/10	4500CN,C,E	
Chloride	2,840	5	mg/L	11/19/10	4500Cl, E	
Sulfate	< 75	15	mg/L	11/18/10	4500S04,E	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	11/10/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	7:15
Sample ID:	BW-LCS-53	**Date Received:**	11/10/10
Sample No:	10-4976-001	**Date Reported:**	11/22/10

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 11/16/10				
Acetone	1,610	100	ug/L	
Benzene	23.3	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	3,770	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	45.2	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	33.2	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	5.7	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	20.3	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	36.9	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	82.4	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	68.7	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	4.4	2.0	ug/L	
Xylene, Total	146	5.0	ug/L	

First Environmental Laboratories, Inc.
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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	11/10/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	7:15
Sample ID:	BW-LCS-53	**Date Received:**	11/10/10
Sample No:	10-4976-001	**Date Reported:**	11/22/10

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 11/12/10		Preparation Date: 11/12/10		
Acenaphthene	< 50	10	ug/L	
Acenaphthylene	< 50	10	ug/L	
Anthracene	< 50	10	ug/L	
Benzidine	< 50	10	ug/L	
Benzo(a)anthracene	< 50	10	ug/L	
Benzo(a)pyrene	< 50	10	ug/L	
Benzo(b)fluoranthene	< 50	10	ug/L	
Benzo(ghi)perylene	< 50	10	ug/L	
Benzo(k)fluoranthene	< 50	10	ug/L	
Benzoic acid	978	50	ug/L	
Benzyl alcohol	< 100	20	ug/L	
bis(2-Chloroethoxy)methane	< 50	10	ug/L	
bis(2-Chloroethyl)ether	< 50	10	ug/L	
bis(2-Chloroisopropyl)ether	< 50	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 25	5	ug/L	
4-Bromophenyl phenyl ether	< 50	10	ug/L	
Butyl benzyl phthalate	< 50	10	ug/L	
Carbazole	< 50	10	ug/L	
4-Chloroaniline	< 50	10	ug/L	
4-Chloro-3-methylphenol	< 100	20	ug/L	
2-Chloronaphthalene	< 50	10	ug/L	
2-Chlorophenol	< 50	10	ug/L	
4-Chlorophenyl phenyl ether	< 50	10	ug/L	
Chrysene	< 50	10	ug/L	
Di-n-butyl phthalate	< 50	10	ug/L	
Di-n-octylphthalate	< 50	10	ug/L	
Dibenzo(a,h)anthracene	< 50	10	ug/L	
Dibenzofuran	< 50	10	ug/L	
1,2-Dichlorobenzene	< 50	10	ug/L	
1,3-Dichlorobenzene	< 50	10	ug/L	
1,4-Dichlorobenzene	98	10	ug/L	
3,3'-Dichlorobenzidine	< 100	20	ug/L	
2,4-Dichlorophenol	< 50	10	ug/L	
Diethyl phthalate	97	10	ug/L	
2,4-Dimethylphenol	< 50	10	ug/L	
Dimethyl phthalate	< 50	10	ug/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	11/10/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	7:15
Sample ID:	BW-LCS-53	**Date Received:**	11/10/10
Sample No:	10-4976-001	**Date Reported:**	11/22/10

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds	**Method: 8270C**	**Preparation Method 3510C**		
Analysis Date: 11/12/10		Preparation Date: 11/12/10		
4,6-Dinitro-2-methylphenol	< 520	50	ug/L	
2,4-Dinitrophenol	< 50	10	ug/L	
2,4-Dinitrotoluene	< 50	10	ug/L	
2,6-Dinitrotoluene	< 50	10	ug/L	
Fluoranthene	< 50	10	ug/L	
Fluorene	< 50	10	ug/L	
Hexachlorobenzene	< 50	10	ug/L	
Hexachlorobutadiene	< 50	10	ug/L	
Hexachlorocyclopentadiene	< 50	10	ug/L	
Hexachloroethane	< 25	5	ug/L	
Indeno(1,2,3-cd)pyrene	< 50	10	ug/L	
Isophorone	< 50	10	ug/L	
2-Methylnaphthalene	< 50	10	ug/L	
2-Methylphenol	< 50	10	ug/L	
3 & 4-Methylphenol	898	10	ug/L	
Naphthalene	< 50	10	ug/L	
2-Nitroaniline	< 250	50	ug/L	
3-Nitroaniline	< 250	50	ug/L	
4-Nitroaniline	< 100	20	ug/L	
Nitrobenzene	< 50	10	ug/L	
2-Nitrophenol	< 50	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 50	10	ug/L	
n-Nitrosodi-n-propylamine	< 50	10	ug/L	
n-Nitrosodiphenylamine	< 50	10	ug/L	
Pentachlorophenol	< 50	10	ug/L	
Phenanthrene	< 50	10	ug/L	
Phenol	316	10	ug/L	
Pyrene	< 50	10	ug/L	
1,2,4-Trichlorobenzene	< 50	10	ug/L	
2,4,5-Trichlorophenol	< 50	10	ug/L	
2,4,6-Trichlorophenol	< 50	10	ug/L	
Pesticides	**Method: 8081A**	**Preparation Method 3510C**		
Analysis Date: 11/12/10		Preparation Date: 11/12/10		
Aldrin	< 0.05	0.05	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	11/10/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	7:15
Sample ID:	BW-LCS-53	**Date Received:**	11/10/10
Sample No:	10-4976-001	**Date Reported:**	11/22/10

Analyte		Result	R.L.	Units	Flags
Pesticides	**Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 11/12/10			Preparation Date: 11/12/10		
beta-BHC		< 0.05	0.05	ug/L	
delta-BHC		< 0.05	0.05	ug/L	
gamma-BHC (Lindane)		< 0.05	0.05	ug/L	
alpha-Chlordane		< 0.50	0.50	ug/L	
gamma-Chlordane		< 0.50	0.50	ug/L	
4,4'-DDD		< 0.10	0.10	ug/L	
4,4'-DDE		< 0.10	0.10	ug/L	
4,4'-DDT		< 0.10	0.10	ug/L	
Dieldrin		< 0.10	0.10	ug/L	
Endosulfan I		< 0.05	0.05	ug/L	
Endosulfan II		< 0.10	0.10	ug/L	
Endosulfan sulfate		< 0.10	0.10	ug/L	
Endrin		< 0.10	0.10	ug/L	
Endrin aldehyde		< 0.10	0.10	ug/L	
Endrin ketone		< 0.10	0.10	ug/L	
Heptachlor		< 0.05	0.05	ug/L	
Heptachlor epoxide		< 0.05	0.05	ug/L	
Methoxychlor		< 0.50	0.50	ug/L	
Toxaphene		< 1.0	1.0	ug/L	
Total Metals	**Method: 7470A**				
Analysis Date: 11/16/10					
Mercury		< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 11/16/10			Preparation Date: 11/15/10		
Arsenic		0.009	0.002	mg/L	
Barium		0.446	0.001	mg/L	
Cadmium		< 0.001	0.001	mg/L	
Chromium		0.010	0.001	mg/L	
Lead		0.010	0.002	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
Boron		2.97	0.01	mg/L	
Copper		< 0.001	0.001	mg/L	
Iron		119	0.01	mg/L	
Manganese		1.53	0.001	mg/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	11/10/10
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	7:15
Sample ID:	BW-LCS-53	**Date Received:**	11/10/10
Sample No:	10-4976-001	**Date Reported:**	11/22/10

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 11/16/10			Preparation Date: 11/15/10		
Nickel		0.087	0.001	mg/L	
Zinc		0.344	0.005	mg/L	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	
Sample ID:	Trip Blank	**Date Received:**	11/10/10
Sample No:	10-4976-002	**Date Reported:**	11/22/10

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 11/16/10				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

CHAIN OF CUSTODY RECORD

First Environmental Laboratories, Inc.

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Company Name: MWH
Street Address: 175 W. JACKSON BLVD, SUITE 1900
City: CHICAGO State: IL Zip: 60604
Phone: (312) 831-3000 Fax: (312) 831-3021 e-mail: JUSTIN.E.FINGER@MWHGLOBAL.COM
Send Report To: JUSTIN FINGER Via: Fax ☐ e-mail ☒
Sampled By: JUSTIN FINGER, CHRIS SWAN

Project I.D.: BLACKWELL
P.O. #: 1007333.04811101

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	VOCs	Arsenic, Barium, Boron, Cadmium, Chloride, Chromium (total), Copper, Cyanide, Iron (total), Lead, Manganese, Mercury, Nickel, pH, Phenols, Selenium, Silver, Sulfate, Zinc	BOD, COD, Oil and Grease, Ammonia (as N)	TDS, TSS, Acid compounds	Base/Neutrals, Pesticides	Comments	Lab I.D.
11/10/10 0715	BW-LCS-53	W	X	X	X	X	X		10-4976-001
11/10/10 0630	TRIP BLANK	W	X						-002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No.__ _____°C
Received within 6 hrs. of collection:_____
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ☑ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: _____

Relinquished By: [signature] Date/Time 11/10/10 1055 Received By: [signature] Date/Time 11/10/10 1055
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

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January 20, 2011

Mr. Justin Finger
MONTGOMERY WATSON HARZA
175 West Jackson Boulevard,
Suite 1900
Chicago, IL 60604

Project ID: Blackwell P.O. # 1007333.04811101
First Environmental File ID: 11-0120
Date Received: January 12, 2011

Dear Mr. Justin Finger:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002468: effective 02/23/2010 through 02/28/2011.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

William Mottashed
Project Manager

First Environmental Laboratories, Inc.

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Case Narrative

MONTGOMERY WATSON HARZA

Project ID: **Blackwell P.O. # 1007333.04811101**

First Environmental File ID: **11-0120**

Date Received: **January 12, 2011**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	01/12/11
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	10:45
Sample ID:	BW-LCS-54	**Date Received:**	01/12/11
Sample No:	11-0120-001	**Date Reported:**	01/20/11

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Phenols	1.6	0.010	mg/L	01/19/11	420.1	
Total Suspended Solids	2,230	1	mg/L	01/12/11	2540D	
Total Dissolved Solids	10,100	10	mg/L	01/17/11	2540C	
pH @ 25°C	7.28		Units	01/12/11 15:00	4500H+,B	
COD	8,020	10	mg/L	01/18/11	5220D	
BOD, 5 Day	2,180	1	mg/L	01/17/11 15:00	5210B	
Oil & Grease	26	1	mg/L	01/14/11	1664A	
Ammonia (as N)	585	0.10	mg/L	01/17/11	350.1R2.0	
Cyanide, Total	0.008	0.005	mg/L	01/13/11	4500CN,C,E	
Chloride	2,290	5	mg/L	01/14/11	4500Cl, E	
Sulfate	142	15	mg/L	01/18/11	375.2R2.0	

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Analytical Report

Client:	MONTGOMERY WATSON HARZA	**Date Collected:**	01/12/11
Project ID:	Blackwell P.O. # 1007333.04811101	**Time Collected:**	10:45
Sample ID:	BW-LCS-54	**Date Received:**	01/12/11
Sample No:	11-0120-001	**Date Reported:**	01/20/11

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 7470A**				
Analysis Date: 01/14/11					
Mercury		< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date:			Preparation Date: 01/13/11		
Arsenic		0.041	0.002	mg/L	
Barium		1.02	0.001	mg/L	
Cadmium		0.004	0.001	mg/L	
Chromium		0.004	0.001	mg/L	
Lead		0.052	0.002	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
Boron		4.01	0.01	mg/L	
Copper		< 0.001	0.001	mg/L	
Iron		710	0.01	mg/L	
Manganese		4.39	0.001	mg/L	
Nickel		0.097	0.001	mg/L	
Zinc		11.1	0.005	mg/L	

CHAIN OF CUSTODY RECORD

Page 1 of 1 pgs

First Environmental Laboratories, Inc.

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Phone: (312) 831-3000 Fax: (312) 831-3999 e-mail: JUSTIN.E.FINGER@MWHGLOBAL.COM
Send Report To: JUSTIN FINGER Via: Fax ☐ e-mail ☒
Sampled By: JUSTIN FINGER, DAVID NOWAK

Project I.D.: BLACKWELL
P.O. #: 1007333, 0481101

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	ARSENIC, BARIUM, BORON, CADMIUM, CHLORIDE	CHROMIUM (TOTAL), COPPER, CYANIDE, IRON (TOTAL)	LEAD, MANGANESE, MERCURY, NICKEL, pH	PHENOLS, SELENIUM, SILVER, SULFATE, ZINC	BOD, COD, OIL & GREASE, AMMONIA (AS N)	TOTAL DISSOLVED SOLIDS (TDS)	TOTAL SUSPENDED SOLIDS (TSS)		Comments	Lab I.D.
1/12/10 1045	BW-LCS-54	W	X	X	X	X	X	X	X			11-0120-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6ºC Yes ✓ No.__ 4.6 ºC
Received within 6 hrs. of collection:_____
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____ºC
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____ºC

Containers Received Preserved: ☐ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: _____

Relinquished By: [signature] Date/Time 1/12/11 1170 Received By: [signature] Date/Time 1/12/11 1120
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

APPENDIX C

LANDFILL GAS

Table C-1: Landfill Gas Composition
Table C-2: Landfill Gas Temperature
Table C-3: Static Landfill Gas Pressure
Table C-4: Landfill Gas Velocity
Table C-5: Landfill Gas Flow Rate
Table C-6: TNMOC Emission Rate

APPENDIX C

Table C-1: Landfill Gas Composition

Table C-1
Landfill Gas Composition
Blackwell Landfill NPL Site

Vent	May-10			July-10			September-10			November-10			January-11			March-11		
Number	% CH_4	%CO_2	%O_2	% CH_4	%CO_2	%O_2	% CH_4	%CO_2	%O_2	% CH_4	%CO_2	%O_2	% CH_4	%CO_2	%O_2	% CH_4	%CO_2	%O_2
SV-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-4	57.0	35.1	2.5	2.7	1.4	20.6	4.0	2.9	18.6	0.7	0.3	20.6	NM	NM	NM	NM	NM	NM
SV-5	0.4	0.0	21.6	4.4	3.1	19.3	1.8	2.4	20.1	1.2	0.9	20.4	0.3	0.3	20.8	NM	NM	NM
SV-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-8	1.1	0.4	20.2	0.7	0.3	21.3	0.9	1.2	20.6	3.0	2.2	19.8	NM	NM	NM	NM	NM	NM
SV-9	56.0	35.8	1.6	NM	NM	NM	NM	NM	NM	41.4	27.0	6.3	NM	NM	NM	NM	NM	NM
SV-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SV-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-5	15.2	7.4	15.6	6.1	3.1	19.1	24.3	14.0	13.0	3.4	2.1	19.8	NM	NM	NM	0.0	0.2	20.1
DV-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-8	0.4	0.0	20.7	1.3	0.7	21.0	0.9	1.4	20.3	0.2	0.0	20.8	NM	NM	NM	NM	NM	NM
DV-9	1.0	0.3	21.2	1.6	1.0	20.8	1.7	2.9	19.1	0.4	0.1	20.8	NM	NM	NM	NM	NM	NM
DV-10	2.8	1.4	21.0	0.7	0.2	20.6	8.8	6.1	17.8	0.6	0.2	20.7	NM	NM	NM	NM	NM	NM
DV-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DV-15	16.4	8.0	15.2	0.4	0.1	21.2	16.1	8.9	16.2	3.3	2.6	19.7	NM	NM	NM	31.8	17.5	10.8
DV-16	66.2	38.8	0.5	68.5	40.0	0.0	69.1	31.1	0.0	68.4	37.1	0.2	NM	NM	NM	NM	NM	NM
DV-17	17.6	6.6	15.2	1.0	0.5	21.3	10.1	7.4	17.4	5.8	4.7	18.7	2.2	1.2	19.7	0.0	0.2	21.3
DV-18	66.6	38.1	0.1	69.0	40.4	0.0	66.2	33.4	0.2	37.9	22.4	8.1	NM	NM	NM	68.4	34.1	0.2
EW-1	63.6	41.0	0.4	67.1	45.3	0.2	64.4	34.9	8.5	65.4	40.0	0.5	66.5	38.3	0.3	65.8	36.5	1.0
EW-1A	33.0	19.5	10.3	61.9	30.6	0.0	57.5	25.5	0.1	45.9	24.0	0.7	1.8	0.3	19.1	2.4	2.2	19.4
EW-2	65.0	43.1	0.6	66.4	44.3	0.6	67.1	32.3	0.4	67.6	37.6	0.5	67.0	36.7	1.2	66.5	35.7	0.2
EW-3	66.0	39.5	0.1	68.1	40.9	0.0	66.8	32.8	0.5	67.5	37.0	0.5	70.3	36.7	0.0	69.3	34.2	0.2
EW-4	69.4	33.9	0.0	71.0	34.9	0.1	71.7	27.8	0.1	73.8	30.5	0.5	71.1	30.8	0.0	70.8	29.4	0.2
EW-5	73.6	27.4	0.0	75.4	29.7	0.0	74.6	25.2	0.0	77.1	24.7	0.2	5.3	2.0	18.5	77.9	24.6	0.2
EW-6	66.1	39.0	0.0	68.9	40.2	0.0	68.4	31.0	0.6	69.2	35.6	0.1	70.1	36.1	0.1	69.7	34.2	0.2
EW-7	63.9	40.4	0.2	67.8	42.6	0.0	66.8	32.9	0.1	67.6	36.7	0.2	70.1	37.8	0.0	67.3	35.7	0.2
EW-8	61.6	39.4	0.8	52.4	35.3	2.4	19.0	12.4	14.0	50.6	29.7	4.1	49.2	28.6	4.8	61.9	33.2	1.5
Vent Stack	52.3	30.0	2.4	53.7	31.3	3.3	45.1	24.7	5.6	60.8	32.8	1.2	43.8	25.6	5.1	61.9	31.3	1.2
LS-01	0.4	0.1	21.1	0.0	1.2	20.9	0.0	1.0	20.7	0.4	6.1	19.3	0.0	0.7	20.5	0.0	0.8	21.2

Notes:

%O_2 = Percent oxygen
%CH_4 = Percent methane
%CO_2 = Percent carbon dioxide
SV = Shallow vent
DV = Deep vent
EW = Extraction well
LS = Lift station
NA = Not recorded
NM = Not measured

1. All measurements collected with a Landtec GA-90 gas analyzer.
2. Measurements not collected at SV-9 on 7-15-10 and 9-8-10 because vent could not be located.
3. Several measurements not collected on 1-12-11 and 3-16-11 due to frozen vaults.

JEF/TPC/PJV
J:\100\7333 Blackwell\4.0 Execution (Project Deliverables)\4.4 Operations & Maintenance\4.4.2 OM Monitoring - FY2011\13th Year O&M Report\Appendices\Appendix C\Table C-1.xls\Table C-1

APPENDIX C

Table C-2: Landfill Gas Temperature

Table C-2
Landfill Gas Temperature
Blackwell Landfill NPL Site

Vent Number	May-10	Jul-10	September-10	November-10	January-11	March-11
SV-1	NA	NA	NA	NA	NA	NA
SV-2	NA	NA	NA	NA	NA	NA
SV-3	NA	NA	NA	NA	NA	NA
SV-4	85.6	89.8	76.9	68.2	NM	NM
SV-5	78.7	93.2	70.3	72.4	37.8	NM
SV-6	NA	NA	NA	NA	NA	NA
SV-7	NA	NA	NA	NA	NA	NA
SV-8	71.5	83.5	54.6	57.4	NM	NM
SV-9	70.2	NM	NM	72.7	NM	NM
SV-10	NA	NA	NA	NA	NA	NA
SV-11	NA	NA	NA	NA	NA	NA
SV-12	NA	NA	NA	NA	NA	NA
DV-3	NA	NA	NA	NA	NA	NA
DV-4	NA	NA	NA	NA	NA	NA
DV-5	67.3	83.5	58.8	56.7	NM	43.3
DV-6	NA	NA	NA	NA	NA	NA
DV-7	NA	NA	NA	NA	NA	NA
DV-8	82.2	94.0	68.4	70.2	NM	NM
DV-9	77.9	94.0	73.3	74.0	NM	NM
DV-10	84.1	96.8	73.5	71.0	NM	NM
DV-11	NA	NA	NA	NA	NA	NA
DV-13	NA	NA	NA	NA	NA	NA
DV-14	NA	NA	NA	NA	NA	NA
DV-15	73.4	82.2	58.8	58.3	NM	60.4
DV-16	60.7	77.9	59.1	54.6	NM	NM
DV-17	69.3	83.4	56.8	57.2	31.0	45.8
DV-18	74.6	85.1	68.7	67.7	NM	72.5

Table C-2
Landfill Gas Temperature
Blackwell Landfill NPL Site

Vent Number	May-10	Jul-10	September-10	November-10	January-11	March-11
EW-1	79.4	92.4	70.3	74.0	41.2	40.1
EW-1A	68.5	82.0	72.7	72.7	32.8	39.6
EW-2	75.4	92.1	74.9	71.8	34.4	39.4
EW-3	74.8	86.1	66.8	70.1	40.6	54.5
EW-4	72.1	75.4	62.9	58.9	38.8	61.6
EW-5	75.8	82.7	61.6	60.0	29.4	63.9
EW-6	66.0	64.3	63.7	61.3	52.6	66.7
EW-7	74.0	79.5	68.3	59.4	41.3	61.7
EW-8	79.9	89.7	68.6	70.2	29.2	64.0
Vent Stack	66.9	82.0	64.5	53.9	35.6	58.4
LS-01	78.4	81.6	59.2	59.4	30.2	52.3

Notes:
SV = Shallow vent
DV = Deep Well
EW = Extraction well
LS = Lift Station
NM = not measured for specific date
NA = not analyzed as part of O & M

1. Temperature in units of degrees Fahrenheit.
2. All measurements collected with a TSI VELOCICALC Model 8384 velocity/temperature meter.
3. Temperature measurements not collected at SV-9 on 7-15-10 and 9-8-10 because vent could not be located.
4. Several temperature measurements not collected on 1-12-11 and 3-16-11 due to frozen vaults.

APPENDIX C

Table C-3: Static Landfill Gas Pressure

Table C-3
Static Landfill Gas Pressure
Blackwell Landfill NPL Site

Vent Number	May-10	Jul-10	Sep-10	Nov-10	Jan-11	Mar-11
SV-1	NA	NA	NA	NA	NA	NA
SV-2	NA	NA	NA	NA	NA	NA
SV-3	NA	NA	NA	NA	NA	NA
SV-4	0.88	0.15	NM	0.00	NM	NM
SV-5	0.01	0.00	0.00	0.00	0.00	NM
SV-6	NA	NA	NA	NA	NA	NA
SV-7	NA	NA	NA	NA	NA	NA
SV-8	0.00	0.01	0.02	0.00	NM	NM
SV-9	1.40	NM	NM	0.80	NM	NM
SV-10	NA	NA	NA	NA	NA	NA
SV-11	NA	NA	NA	NA	NA	NA
SV-12	NA	NA	NA	NA	NA	NA
DV-3	NA	NA	NA	NA	NA	NA
DV-4	NA	NA	NA	NA	NA	NA
DV-5	0.00	0.00	0.02	0.00	NM	0.00
DV-6	NA	NA	NA	NA	NA	NA
DV-7	NA	NA	NA	NA	NA	NA
DV-8	0.02	0.00	0.01	0.00	NM	NM
DV-9	0.02	0.00	0.01	0.00	NM	NM
DV-10	0.02	0.00	0.02	0.02	NM	NM
DV-11	NA	NA	NA	NA	NA	NA
DV-13	NA	NA	NA	NA	NA	NA
DV-14	NA	NA	NA	NA	NA	NA
DV-15	0.30	0.00	0.02	0.00	NM	0.08
DV-16	3.20	0.52	0.32	0.30	NM	NM
DV-17	0.00	0.00	0.02	0.00	0.00	0.00
DV-18	3.40	2.60	0.40	0.10	NM	3.20

Table C-3
Static Landfill Gas Pressure
Blackwell Landfill NPL Site

Vent Number	May-10	Jul-10	Sep-10	Nov-10	Jan-11	Mar-11
SV-1	NA	NA	NA	NA	NA	NA
EW-1	0.32	0.01	0.04	0.10	0.36	0.32
EW-1A	0.02	0.00	0.01	0.00	0.00	0.02
EW-2	0.05	0.20	NM	0.05	0.24	0.20
EW-3	1.00	0.80	0.08	0.00	0.66	1.40
EW-4	0.16	0.12	0.10	0.00	0.16	0.10
EW-5	0.03	0.20	0.02	0.00	0.00	0.03
EW-6	0.42	1.00	0.20	0.20	0.78	1.00
EW-7	0.80	0.86	0.10	1.00	1.00	5.80
EW-8	0.00	0.00	0.00	0.00	0.01	0.00
Vent Stack	NA	NA	NA	NA	NA	NA
LS-01	0.00	0.01	0.01	0.00	0.00	0.00
Barometric (in. Hg)	30.02	29.91	30.10	30.07	30.38	30.07

Notes:
SV = Shallow vent
DV = Deep vent
EW = Extraction well
LS = Lift station
NA = Not analyzed as part of O&M
NM = Not measured for specific date
in = Inches
Hg = Mercury

1. Pressure in units of inches of water.
2. Pressure measurements were not collected at the main vent stack as it is open to the atmosphere.
3. All measurements collected with an Alnor 6000AP velometer.
4. Pressure measurements not collected at SV-9 on 7-15-10 and 9-8-10 because vent could not be located.
5. Pressure measurements not collected at SV-4 and EW-2 on 9-8-10 due to equipment failure.
6. Several pressure measurements not collected on 1-12-11 and 3-16-11 due to frozen vaults.

APPENDIX C

Table C-4: Landfill Gas Velocity

Table C-4
Landfill Gas Velocity
Blackwell Landfill NPL Site

Vent Number	May-10	July-10	September-10	November-10	January-11	March-11
SV-1	NA	NA	NA	NA	NA	NA
SV-2	NA	NA	NA	NA	NA	NA
SV-3	NA	NA	NA	NA	NA	NA
SV-4	26	1	1	1	NM	NM
SV-5	0	2	0	1	0	NM
SV-6	NA	NA	NA	NA	NA	NA
SV-7	NA	NA	NA	NA	NA	NA
SV-8	3	0	1	4	NM	NM
SV-9	28	NM	NM	26	NM	NM
SV-10	NA	NA	NA	NA	NA	NA
SV-11	NA	NA	NA	NA	NA	NA
SV-12	NA	NA	NA	NA	NA	NA
DV-3	NA	NA	NA	NA	NA	NA
DV-4	NA	NA	NA	NA	NA	NA
DV-5	0	5	6	24	NM	3
DV-6	NA	NA	NA	NA	NA	NA
DV-7	NA	NA	NA	NA	NA	NA
DV-8	1	3	0	1	NM	NM
DV-9	1	2	4	2	NM	NM
DV-10	0	1	6	3	NM	NM
DV-11	NA	NA	NA	NA	NA	NA
DV-13	NA	NA	NA	NA	NA	NA
DV-14	NA	NA	NA	NA	NA	NA
DV-15	31	2	3	2	NM	37
DV-16	98	130	65	61	NM	NM
DV-17	1	0	1	1	0	5
DV-18	31	40	28	39	NM	69

Table C-4
Landfill Gas Velocity
Blackwell Landfill NPL Site

Vent Number	May-10	July-10	September-10	November-10	January-11	March-11
EW-1	NA	NA	NA	NA	NA	NA
EW-1A	NA	NA	NA	NA	NA	NA
EW-2	NA	NA	NA	NA	NA	NA
EW-3	NA	NA	NA	NA	NA	NA
EW-4	NA	NA	NA	NA	NA	NA
EW-5	NA	NA	NA	NA	NA	NA
EW-6	NA	NA	NA	NA	NA	NA
EW-7	NA	NA	NA	NA	NA	NA
EW-8	NA	NA	NA	NA	NA	NA
Vent Stack	430	310	433	463	475	381
LS-01	NA	NA	NA	NA	NA	NA

Notes:
SV = Shallow vent
DV = Deep vent
EW = Extraction well
LS = Lift station
NM = Not measured for specific date
NA = Not analyzed as part of O&M

1. Velocity in units of standard feet per minute (fpm).
2. All measurements collected with a TSI VELOCICALC Model 8384 velocity/temperature meter.
3. Velocity measurements not collected at SV-9 on 7-15-10 and 9-8-10 because vent could not be located.
4. Several velocity measurements not collected on 1-12-11 and 3-16-11 due to frozen vaults.

APPENDIX C

Table C-5: Landfill Gas Flow Rate

Table C-5
Landfill Gas Flow Rate
Blackwell Landfill NPL Site

Vent Number	May-10	July-10	September-10	November-10	January-11	March-11
SV-1	NA	NA	NA	NA	NA	NA
SV-2	NA	NA	NA	NA	NA	NA
SV-3	NA	NA	NA	NA	NA	NA
SV-4	0.606	0.023	0.023	0.023	NM	NM
SV-5	0.000	0.047	0.000	0.023	0.000	NM
SV-6	NA	NA	NA	NA	NA	NA
SV-7	NA	NA	NA	NA	NA	NA
SV-8	0.070	0.000	0.023	0.093	NM	NM
SV-9	0.652	NM	NM	0.606	NM	NM
SV-10	NA	NA	NA	NA	NA	NA
SV-11	NA	NA	NA	NA	NA	NA
SV-12	NA	NA	NA	NA	NA	NA
DV-2	NA	NA	NA	NA	NA	NA
DV-3	NA	NA	NA	NA	NA	NA
DV-4	NA	NA	NA	NA	NA	NA
DV-5	0.000	0.116	0.140	0.559	NM	0.070
DV-6	NA	NA	NA	NA	NA	NA
DV-7	NA	NA	NA	NA	NA	NA
DV-8	0.088	0.265	0.000	0.088	NM	NM
DV-9	0.088	0.177	0.353	0.177	NM	NM
DV-10	0.000	0.088	0.530	0.265	NM	NM
DV-11	NA	NA	NA	NA	NA	NA
DV-13	NA	NA	NA	NA	NA	NA
DV-14	NA	NA	NA	NA	NA	NA
DV-15	2.739	0.177	0.265	0.177	NM	3.269
DV-16	8.659	11.487	5.743	5.390	NM	NM
DV-17	0.088	0.000	0.088	0.088	0.000	0.442
DV-18	2.739	3.534	2.474	3.446	NM	6.097

Table C-5
Landfill Gas Flow Rate
Blackwell Landfill NPL Site

Vent Number	May-10	July-10	September-10	November-10	January-11	March-11
EW-1	NA	NA	NA	NA	NA	NA
EW-1A	NA	NA	NA	NA	NA	NA
EW-2	NA	NA	NA	NA	NA	NA
EW-3	NA	NA	NA	NA	NA	NA
EW-4	NA	NA	NA	NA	NA	NA
EW-5	NA	NA	NA	NA	NA	NA
EW-6	NA	NA	NA	NA	NA	NA
EW-7	NA	NA	NA	NA	NA	NA
EW-8	NA	NA	NA	NA	NA	NA
LS-01	NA	NA	NA	NA	NA	NA
Vent Stack Flowrate	86.080	62.060	86.680	92.690	95.090	76.270

Notes:
SV = Shallow vent
DV = Deep vent
EW = Extraction well
LS = Lift station
NM = Not measured for specific date
NA = Not analyzed as part of O&M

1. Flowrate in units of cubic feet per minute (cfm).
2. All measurements collected with a TSI VELOCICALC Model 8384 velocity/temperature meter.
3. Velocity measurements not collected at SV-9 on 7-15-10 and 9-8-10 because vent could not be located.
4. Several velocity measurements not collected on 1-12-11 and 3-16-11 due to frozen vaults.

APPENDIX C

Table C-6: TNMOC Emission Rate

Table C-6
TNMOC Emission Rate
Blackwell Landfill NPL Site

Date	I.D. (ft)	Vent Readings			Peak TNMOC Concentration (ppm-carbon)	Peak TNMOC Concentration (ppm-hexane)	TNMOC Emission Rate	
		Velocity (fpm)	Flowrate (ft^3/min)	Flowrate (m^3/min)			(mg/yr)	(lb/hr)
May-10	0.505	430	86.08	2.44	920	153.33	0.75	0.1895
July-10	0.505	310	62.06	1.76	920	153.33	0.54	0.1366
September-10	0.505	433	86.68	2.45	920	153.33	0.76	0.1909
November-10	0.505	463	92.69	2.62	920	153.33	0.81	0.2041
January-11	0.505	475	95.09	2.69	920	153.33	0.83	0.2094
March-11	0.505	381	76.27	2.16	920	153.33	0.67	0.1679

Notes:

I.D. = Inside diameter
ft = Feet
fpm = Feet per minute
ft^3/min = Cubic feet per minute
m^3/min = Cubic meters per minute
ppm = Parts per million
TNMOC = Total non-methane organic compounds
mg/yr = Milligrams per year
lb/hr = Pounds per hour

1. Flowrate in units of cubic feet per minute (cfm).
2. Measurements collected with a Landtec GA90 and TSI VELOCICALC Model 8384 velocity/temperature meter.
3. Peak TNMOC concentration represents highest detected concentration during the 13th O&M year.

APPENDIX D

LANDFILL GAS ANALYTICAL DATA

Air Toxics LTD.
Laboratory Services Since 1989

6/3/2010
Mr. Dave Powers
MWH Americas, Inc.
175 West Jackson Blvd.
Suite 1900
Chicago IL 60604

Project Name: Blackwell
Project #: 1007333.04811001
Workorder #: 1005488A

Dear Mr. Dave Powers

The following report includes the data for the above referenced project for sample(s) received on 5/20/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jacquelyn Luta at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Jacquelyn Luta
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005488A

Work Order Summary

CLIENT:	Mr. Dave Powers MWH Americas, Inc. 175 West Jackson Blvd. Suite 1900 Chicago, IL 60604	**BILL TO:**	Accounts Payable MWH Americas, Inc. PO Box 6610 Broomfield, CO 80021
PHONE:	312-831-3000 x3432	**P.O. #**	
FAX:	312-831-3021	**PROJECT #**	1007333.04811001 Blackwell
DATE RECEIVED:	05/20/2010	**CONTACT:**	Jacquelyn Luta
DATE COMPLETED:	06/02/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	BW-LFGSTACK-54A	Modified TO-14A (5&20 pp	4.0 "Hg	5 psi
02A	Lab Blank	Modified TO-14A (5&20 pp	NA	NA
03A	CCV	Modified TO-14A (5&20 pp	NA	NA
04A	LCS	Modified TO-14A (5&20 pp	NA	NA
04AA	LCSD	Modified TO-14A (5&20 pp	NA	NA

CERTIFIED BY: Linda L. Freeman DATE: 06/03/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-14A Soil Gas
MWH Americas, Inc.
Workorder# 1005488A

One 6 Liter Summa Canister sample was received on May 20, 2010. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-14A*	*ATL Modifications*
Initial Calibration	+- 30 % RSD	</= 30 % RSD with 2 compounds allowed out to < 40 %.
Daily CCV	+- 30 % D	</= 30 % D with 2 allowed out up to 40%; flag and narrate associated sample results
BFB Tune Absolute Abundance Criteria	Within 10% of that from the previous day.	CCV Internal Standard area counts are compared to the ICAL; corrective action for > 40 %D
Blank acceptance criteria	< 0.2 ppbv	< RL
Sampling Drying System	Nafion Dryer	Multisorbent concentrator
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

All Quality Control Limit exceedences and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS

Client Sample ID: BW-LFGSTACK-54A

Lab ID#: 1005488A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	16	2600	77	13000
Freon 114	16	340	110	2400
Vinyl Chloride	16	3200	40	8300
Chloroethane	16	310	41	810
Freon 11	16	69	87	390
Freon 113	16	5.4 J	120	41 J
Acetone	62	210	150	500
2-Propanol	62	85	150	210
Carbon Disulfide	16	3.8 J	48	12 J
Methylene Chloride	16	150	54	520
trans-1,2-Dichloroethene	16	140	61	560
Hexane	16	800	55	2800
1,1-Dichloroethane	16	61	63	250
2-Butanone (Methyl Ethyl Ketone)	16	390	46	1200
cis-1,2-Dichloroethene	16	1800	61	7100
Cyclohexane	16	400	53	1400
Benzene	16	940	50	3000
Heptane	16	1600	64	6800
Trichloroethene	16	580	83	3100
1,2-Dichloropropane	16	82	72	380
1,4-Dioxane	62	31 J	220	110 J
Toluene	16	14000	58	53000
Tetrachloroethene	16	290	100	2000
Chlorobenzene	16	290	71	1300
Ethyl Benzene	16	3600	67	16000
m,p-Xylene	16	7800	67	34000
o-Xylene	16	1900	67	8400
Cumene	16	380	76	1800
Propylbenzene	16	570	76	2800
4-Ethyltoluene	16	1900	76	9300
1,3,5-Trimethylbenzene	16	710	76	3500
1,2,4-Trimethylbenzene	16	2100	76	10000
1,4-Dichlorobenzene	16	480	93	2900
1,2-Dichlorobenzene	16	22	93	130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: BW-LFGSTACK-54A

Lab ID#: 1005488A-01A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w052622	Date of Collection:	5/19/10 2:37:00 PM
Dil. Factor:	3.10	Date of Analysis:	5/26/10 07:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	16	2600	77	13000
Freon 114	16	340	110	2400
Chloromethane	62	Not Detected	130	Not Detected
Vinyl Chloride	16	3200	40	8300
1,3-Butadiene	16	Not Detected	34	Not Detected
Bromomethane	16	Not Detected	60	Not Detected
Chloroethane	16	310	41	810
Freon 11	16	69	87	390
Ethanol	62	Not Detected	120	Not Detected
Freon 113	16	5.4 J	120	41 J
1,1-Dichloroethene	16	Not Detected	61	Not Detected
Acetone	62	210	150	500
2-Propanol	62	85	150	210
Carbon Disulfide	16	3.8 J	48	12 J
3-Chloropropene	62	Not Detected	190	Not Detected
Methylene Chloride	16	150	54	520
Methyl tert-butyl ether	16	Not Detected	56	Not Detected
trans-1,2-Dichloroethene	16	140	61	560
Hexane	16	800	55	2800
1,1-Dichloroethane	16	61	63	250
2-Butanone (Methyl Ethyl Ketone)	16	390	46	1200
cis-1,2-Dichloroethene	16	1800	61	7100
Tetrahydrofuran	16	Not Detected	46	Not Detected
Chloroform	16	Not Detected	76	Not Detected
1,1,1-Trichloroethane	16	Not Detected	84	Not Detected
Cyclohexane	16	400	53	1400
Carbon Tetrachloride	16	Not Detected	98	Not Detected
2,2,4-Trimethylpentane	16	Not Detected	72	Not Detected
Benzene	16	940	50	3000
1,2-Dichloroethane	16	Not Detected	63	Not Detected
Heptane	16	1600	64	6800
Trichloroethene	16	580	83	3100
1,2-Dichloropropane	16	82	72	380
1,4-Dioxane	62	31 J	220	110 J
Bromodichloromethane	16	Not Detected	100	Not Detected
cis-1,3-Dichloropropene	16	Not Detected	70	Not Detected
4-Methyl-2-pentanone	16	Not Detected	63	Not Detected
Toluene	16	14000	58	53000
trans-1,3-Dichloropropene	16	Not Detected	70	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: BW-LFGSTACK-54A

Lab ID#: 1005488A-01A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w052622**	**Date of Collection:**	**5/19/10 2:37:00 PM**
Dil. Factor:	**3.10**	**Date of Analysis:**	**5/26/10 07:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	16	Not Detected	84	Not Detected
Tetrachloroethene	16	290	100	2000
2-Hexanone	62	Not Detected	250	Not Detected
Dibromochloromethane	16	Not Detected	130	Not Detected
1,2-Dibromoethane (EDB)	16	Not Detected	120	Not Detected
Chlorobenzene	16	290	71	1300
Ethyl Benzene	16	3600	67	16000
m,p-Xylene	16	7800	67	34000
o-Xylene	16	1900	67	8400
Styrene	16	Not Detected	66	Not Detected
Bromoform	16	Not Detected	160	Not Detected
Cumene	16	380	76	1800
1,1,2,2-Tetrachloroethane	16	Not Detected	110	Not Detected
Propylbenzene	16	570	76	2800
4-Ethyltoluene	16	1900	76	9300
1,3,5-Trimethylbenzene	16	710	76	3500
1,2,4-Trimethylbenzene	16	2100	76	10000
1,3-Dichlorobenzene	16	Not Detected	93	Not Detected
1,4-Dichlorobenzene	16	480	93	2900
alpha-Chlorotoluene	16	Not Detected	80	Not Detected
1,2-Dichlorobenzene	16	22	93	130
1,2,4-Trichlorobenzene	62	Not Detected	460	Not Detected
Hexachlorobutadiene	62	Not Detected	660	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005488A-02A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w052620a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 5/26/10 06:02 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005488A-02A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w052620a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/26/10 06:02 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	1.0 J	30	6.3 J
1,4-Dichlorobenzene	5.0	1.2 J	30	7.2 J
alpha-Chlorotoluene	5.0	1.2 J	26	6.1 J
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	7.2 J	150	53 J
Hexachlorobutadiene	20	Not Detected	210	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005488A-03A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w052602	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 5/26/10 09:03 AM	

Compound	%Recovery
Freon 12	95
Freon 114	95
Chloromethane	96
Vinyl Chloride	98
1,3-Butadiene	95
Bromomethane	102
Chloroethane	96
Freon 11	95
Ethanol	88
Freon 113	99
1,1-Dichloroethene	93
Acetone	97
2-Propanol	87
Carbon Disulfide	98
3-Chloropropene	92
Methylene Chloride	96
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	99
Hexane	92
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	94
Tetrahydrofuran	95
Chloroform	98
1,1,1-Trichloroethane	94
Cyclohexane	94
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	94
Benzene	97
1,2-Dichloroethane	95
Heptane	96
Trichloroethene	83
1,2-Dichloropropane	99
1,4-Dioxane	96
Bromodichloromethane	99
cis-1,3-Dichloropropene	95
4-Methyl-2-pentanone	93
Toluene	99
trans-1,3-Dichloropropene	92

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV
Lab ID#: 1005488A-03A
MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w052602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/26/10 09:03 AM

Compound	%Recovery
1,1,2-Trichloroethane	99
Tetrachloroethene	100
2-Hexanone	90
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	101
Chlorobenzene	101
Ethyl Benzene	98
m,p-Xylene	98
o-Xylene	96
Styrene	95
Bromoform	100
Cumene	102
1,1,2,2-Tetrachloroethane	99
Propylbenzene	100
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005488A-04A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w052603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/26/10 09:26 AM**	

Compound	%Recovery
Freon 12	94
Freon 114	96
Chloromethane	95
Vinyl Chloride	99
1,3-Butadiene	97
Bromomethane	102
Chloroethane	94
Freon 11	95
Ethanol	82
Freon 113	86
1,1-Dichloroethene	82
Acetone	92
2-Propanol	83
Carbon Disulfide	96
3-Chloropropene	90
Methylene Chloride	87
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	95
Hexane	89
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	92
cis-1,2-Dichloroethene	91
Tetrahydrofuran	92
Chloroform	95
1,1,1-Trichloroethane	90
Cyclohexane	91
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	92
Benzene	94
1,2-Dichloroethane	90
Heptane	93
Trichloroethene	81
1,2-Dichloropropane	95
1,4-Dioxane	96
Bromodichloromethane	94
cis-1,3-Dichloropropene	91
4-Methyl-2-pentanone	90
Toluene	91
trans-1,3-Dichloropropene	92

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005488A-04A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w052603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/26/10 09:26 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	98
Tetrachloroethene	99
2-Hexanone	90
Dibromochloromethane	99
1,2-Dibromoethane (EDB)	103
Chlorobenzene	100
Ethyl Benzene	97
m,p-Xylene	99
o-Xylene	95
Styrene	96
Bromoform	100
Cumene	98
1,1,2,2-Tetrachloroethane	101
Propylbenzene	98
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	101
1,2-Dichlorobenzene	112
1,2,4-Trichlorobenzene	116
Hexachlorobutadiene	122

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1005488A-04AA

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w052619	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 5/26/10 05:37 PM	

Compound	%Recovery
Freon 12	94
Freon 114	96
Chloromethane	95
Vinyl Chloride	98
1,3-Butadiene	96
Bromomethane	103
Chloroethane	96
Freon 11	96
Ethanol	80
Freon 113	89
1,1-Dichloroethene	82
Acetone	92
2-Propanol	83
Carbon Disulfide	95
3-Chloropropene	88
Methylene Chloride	88
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	98
Hexane	91
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	93
Tetrahydrofuran	94
Chloroform	97
1,1,1-Trichloroethane	92
Cyclohexane	95
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	95
Benzene	97
1,2-Dichloroethane	96
Heptane	98
Trichloroethene	85
1,2-Dichloropropane	99
1,4-Dioxane	101
Bromodichloromethane	98
cis-1,3-Dichloropropene	94
4-Methyl-2-pentanone	90
Toluene	97
trans-1,3-Dichloropropene	91

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1005488A-04AA

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w052619**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/26/10 05:37 PM**	

Compound	**%Recovery**
1,1,2-Trichloroethane	101
Tetrachloroethene	103
2-Hexanone	91
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	104
Chlorobenzene	105
Ethyl Benzene	101
m,p-Xylene	102
o-Xylene	99
Styrene	101
Bromoform	100
Cumene	104
1,1,2,2-Tetrachloroethane	106
Propylbenzene	103
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	112
1,4-Dichlorobenzene	114
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	116
1,2,4-Trichlorobenzene	130
Hexachlorobutadiene	136 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

6/3/2010
Mr. Dave Powers
MWH Americas, Inc.
175 West Jackson Blvd.
Suite 1900
Chicago IL 60604

Project Name: Blackwell
Project #: 1007333.04811001
Workorder #: 1005488B

Dear Mr. Dave Powers

The following report includes the data for the above referenced project for sample(s) received on 5/20/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1945 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jacquelyn Luta at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Jacquelyn Luta
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005488B

Work Order Summary

CLIENT:	Mr. Dave Powers MWH Americas, Inc. 175 West Jackson Blvd. Suite 1900 Chicago, IL 60604	**BILL TO:**	Accounts Payable MWH Americas, Inc. PO Box 6610 Broomfield, CO 80021
PHONE:	312-831-3000 x3432	**P.O. #**	
FAX:	312-831-3021	**PROJECT #**	1007333.04811001 Blackwell
DATE RECEIVED:	05/20/2010	**CONTACT:**	Jacquelyn Luta
DATE COMPLETED:	06/03/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	BW-LFGSTACK-54A	Modified ASTM D-1945	4.0 "Hg	5 psi
02A	Lab Blank	Modified ASTM D-1945	NA	NA
02B	Lab Blank	Modified ASTM D-1945	NA	NA
03A	LCS	Modified ASTM D-1945	NA	NA
03AA	LCSD	Modified ASTM D-1945	NA	NA
03B	LCS	Modified ASTM D-1945	NA	NA
03BB	LCSD	Modified ASTM D-1945	NA	NA

CERTIFIED BY: Linda L. Freeman DATE: 06/03/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1945
MWH Americas, Inc.
Workorder# 1005488B

One 6 Liter Summa Canister sample was received on May 20, 2010. The laboratory performed analysis via modified ASTM Method D-1945 for Methane and fixed gases in natural gas using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	*ASTM D-1945*	*ATL Modifications*
Normalization	Sum of original values should not differ from 100.0% by more than 1.0%.	Sum of original values may range between 85-115%. Normalization of data not performed.
Sample analysis	Equilibrate samples to 20-50° F. above source temperature at field sampling	No heating of samples is performed.
Sample calculation	Response factor is calculated using peak height for C5 and lighter compounds.	Peak areas are used for all target analytes to quantitate concentrations.
Reference Standard	Concentration should not be < half of nor differ by more than 2 X the concentration of the sample. Run 2 consecutive checks; must agree within 1%.	A minimum 3-point linear calibration is performed. The acceptance criterion is %RSD <= 15%. All target analytes must be within the linear range of calibration (with the exception of O2, N2, and C6+ Hydrocarbons).
Sample Injection Volume	0.50 mL to achieve Methane linearity.	1.0 mL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Six qualifiers may have been used on the data analysis sheets and indicate as follows:
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Client Sample ID: BW-LFGSTACK-54A

Lab ID#: 1005488B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.16	3.9
Nitrogen	0.16	19
Methane	0.00062	49
Carbon Dioxide	0.016	28
Ethane	0.0016	0.0022
Ethene	0.0016	0.0011 J
Propane	0.0016	0.0016
Isobutane	0.0016	0.00035 J
Butane	0.0016	0.00010 J
Pentane	0.0016	0.000081 J
C6+	0.016	0.0015 J

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: BW-LFGSTACK-54A

Lab ID#: 1005488B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	**9060222**	**Date of Collection:**	**5/19/10 2:37:00 PM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**6/2/10 07:11 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.16	3.9
Nitrogen	0.16	19
Carbon Monoxide	0.016	Not Detected
Methane	0.00062	49
Carbon Dioxide	0.016	28
Ethane	0.0016	0.0022
Ethene	0.0016	0.0011 J
Acetylene	0.0016	Not Detected
Propane	0.0016	0.0016
Isobutane	0.0016	0.00035 J
Butane	0.0016	0.00010 J
Neopentane	0.0016	Not Detected
Isopentane	0.0016	Not Detected
Pentane	0.0016	0.000081 J
C6+	0.016	0.0015 J
Hydrogen	0.016	Not Detected

J = Estimated value.

Methane was reported from file # 9060223 analyzed on June 2, 2010 at a dilution factor of 6.20.

Container Type: 6 Liter Summa Canister

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005488B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	**9060204a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 11:52 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.10	0.011 J
Nitrogen	0.10	0.081 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected
Acetylene	0.0010	Not Detected
Propane	0.0010	Not Detected
Isobutane	0.0010	Not Detected
Butane	0.0010	Not Detected
Neopentane	0.0010	Not Detected
Isopentane	0.0010	Not Detected
Pentane	0.0010	Not Detected
C6+	0.010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005488B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9060203b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 6/2/10 11:27 AM	

Compound	Rpt. Limit (%)	Amount (%)
Hydrogen	0.010	Not Detected

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005488B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	**9060229**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 10:02 PM**

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	100
Methane	97
Carbon Dioxide	101
Ethane	98
Ethene	98
Acetylene	100
Propane	96
Isobutane	96
Butane	94
Neopentane	97
Isopentane	98
Pentane	97
C6+	98

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1005488B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	**9060230**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 10:26 PM**

Compound	**%Recovery**
Oxygen	98
Nitrogen	100
Carbon Monoxide	100
Methane	98
Carbon Dioxide	101
Ethane	99
Ethene	99
Acetylene	102
Propane	98
Isobutane	98
Butane	96
Neopentane	97
Isopentane	98
Pentane	97
C6+	98

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005488B-03B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9060231b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 6/2/10 10:48 PM	

Compound	%Recovery
Hydrogen	100

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1005488B-03BB

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9060232b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/10 11:11 PM

Compound	%Recovery
Hydrogen	103

Container Type: NA - Not Applicable

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager DAVID POWERS
Collected by: (Print and Sign) JUSTIN FINGER / TIM CARROLL
Company MWH Email JUSTIN.E.FINGER@MWHGLOBAL.COM
Address 175 W. JACKSON BLVD, SUITE 1900 City CHICAGO State IL Zip 60604
Phone (312) 831-3000 Fax (312) 831-3021

Project Info:
P.O. #
Project # 1007333.04811001
Project Name BLACKWELL

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
OHA	BW-LFGSTACK-54A	33945	5/19/10	0657-1437	TO14A / ASTM 1945D	-30 in.Hg	-2.5"Hg		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	5/19/10 1300	Monica Greggen AIL	5/20/10 850
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
PLEASE CHECK THAT FLOW CONTROLLER WAS NOT DAMAGED DURING SHIPPING, THUS AFFECTING SAMPLE RESULTS.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	1005489

Form 1293 rev.11

Atmospheric Analysis & Consulting, Inc.

CLIENT : MWH Americas
AAC PROJECT NO. : 100357
REPORT DATE : 05/25/2010

On May 20, 2010 Atmospheric Analysis & Consulting, Inc. received one (1) Summa Canister for TNMOC analysis by EPA 25C. Upon receipt the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Initial Pressure	Final Pressure
BW-LFGSTACK-54A	100357-44487	711.2	900.0

EPA 25C Analysis - Up to a 1 mL aliquot of samples is injected into the GC/FID/TCA for analysis in triplicate following EPA 25C as specified in the SOW.

No problems were encountered during receiving, preparation, and/ or analysis of this sample. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# AACI- EPA 25C.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. Release of the data contained in this hardcopy data package and its electronic data deliverable submitted on diskette has been authorized by the Laboratory Director or his designee, as verified by the following signature.

If you have any questions or require further explanation of data results, please contact the undersigned.

Sucha S. Parmar, Ph.D.
President

This report consists of 4 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 (805) 650-1642 • FAX (805) 650-1644 • www.aaclab.com

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Client	: **MWH Americas**	**Sampling Date**	: **05/19/2010**
Project No.	: **100357**	**Receiving Date**	: **05/20/2010**
Matrix	: **Air**	**Analysis Date**	: **05/21/2010**
Units	: **ppmv**	**Report Date**	: **05/25/2010**

EPA Method 25C

Detection Limit:		**1.0 ppmv**
Client Sample ID	**AAC ID**	**TNMOC***
BW-LFGSTACK-54A	**100357-44487**	334.1

***Total Non-Methane Organic Compounds as Methane**

Sucha Parmar, Ph.D
Technical Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 (805) 650-1642 • FAX (805) 650-1644 • www.aaclab.com

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Analysis Date : 05/21/2010
Analyst : TT
Units : ppmv

Instrument ID: FID#4
Calibration Date: 5/19/2010

I - Opening Calibration Verification Standard - Method 25C

Analyte	xRF	DRF	%RPD*
CO	18598	17734	4.8
CH4	20494	19239	6.3
CO2	20067	19760	1.5
Propane	54851	51985	5.4

II - TNMOC Response Factor - Method 25C

Analyte	xRF	CV RF	CV dp RF	CV tp RF	Average RF	% RPD***
NMNEOC	54851	51985	55537	56444	54655	0.4

III - Method Blank - Method 25C

AAC ID	Analyte	Sample Result
MB	TNMOC	ND

IV - Laboratory Control Spike & Duplicate - Method 25C

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec **	LCSD % Rec **	% RPD***
LCS/LCSD	TNMOC	50.0	52.5	53.4	105.1	106.8	1.6

V - Closing Calibration Verification Standard - Method 25C

Analyte	xCF	dCF	%RPD*
CO	18598	16989	9.0
CH4	20494	19872	3.1
CO2	20067	18996	5.5
Propane	54851	51360	6.6

xCF - Average Calibration Factor from Initial Calibration Curve
dCF - Daily Calibration Factor
* Must be <15%
** Must be 90-110 %
*** Must be <20%

Sucha Parmar, Ph.D
Technical Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 (805) 650-1642 • FAX (805) 650-1644 • www.aaclab.com

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 100357 Page 1 of

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client Name: MWH
Project Name: BLACKWELL
Project Mgr (Print Name): DAVID POWERS
Project Number: 1007333. 04811001
Sampler's Name (Print Name): JUSTIN FINGER / TIM CARROLL
Sampler's Signature:

Analysis Requested: EPA 25C MOD (TNMOC)

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of containers	EPA 25C MOD (TNMOC)
44487	5/19/10	0657-1437	TIME-INTEGRATED	BW-LFGSTACK-54A	AIR 1	X

Send Report:
Attn: JUSTIN FINGER
Phone #: (312) 831-3447
Fax #: (312) 831-3021

Send Invoice to:
Attn:
P.O. #

Turn Around Time
24-Hr ____ 48-Hr ____
5 day ____ Normal X
Other (Specify)

Special Intructions / remarks:
CANISTER # 000060
INITIAL VAC = -29.5 in Hg
FINAL VAC = -1 "Hg

Relinquished by (Signature)	Print name:	Date/Time	Received by (Signature)	Print Name
	JUSTIN FINGER	5/19/10 1500		
Relinquished by (Signature)	Print name:	Date/Time	Received by (Signature)	Print Name

Air Toxics LTD.
Laboratory Services Since 1989

8/4/2010
Mr. Dave Powers
MWH Americas, Inc.
175 West Jackson Blvd.
Suite 1900
Chicago IL 60604

Project Name: Blackwell
Project #: 100733.04811101
Workorder #: 1007370A

Dear Mr. Dave Powers

The following report includes the data for the above referenced project for sample(s) received on 7/16/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jacquelyn Luta at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Jacquelyn Luta
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1007370A

Work Order Summary

CLIENT:	Mr. Dave Powers MWH Americas, Inc. 175 West Jackson Blvd. Suite 1900 Chicago, IL 60604	**BILL TO:**	Accounts Payable MWH Americas, Inc. PO Box 6610 Broomfield, CO 80021
PHONE:	312-831-3000 x3432	**P.O. #**	
FAX:	312-831-3021	**PROJECT #**	100733.04811101 Blackwell
DATE RECEIVED:	07/16/2010	**CONTACT:**	Jacquelyn Luta
DATE COMPLETED:	08/04/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	BW-LFGSTACK-55A	Modified TO-14A (5&20 pp	6.5 "Hg	5 psi
02A	Lab Blank	Modified TO-14A (5&20 pp	NA	NA
03A	CCV	Modified TO-14A (5&20 pp	NA	NA
04A	LCS	Modified TO-14A (5&20 pp	NA	NA
04AA	LCSD	Modified TO-14A (5&20 pp	NA	NA

CERTIFIED BY: Linda L. Freeman

Laboratory Director

DATE: 08/04/10

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291; UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-14A Soil Gas
MWH Americas, Inc.
Workorder# 1007370A

One 6 Liter Summa Canister sample was received on July 16, 2010. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-14A*	*ATL Modifications*
Initial Calibration	+- 30 % RSD	</= 30 % RSD with 2 compounds allowed out to < 40 %.
Daily CCV	+- 30 % D	</= 30 % D with 2 allowed out up to 40%; flag and narrate associated sample results
BFB Tune Absolute Abundance Criteria	Within 10% of that from the previous day.	CCV Internal Standard area counts are compared to the ICAL; corrective action for > 40 %D
Blank acceptance criteria	< 0.2 ppbv	< RL
Sampling Drying System	Nafion Dryer	Multisorbent concentrator
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

All Quality Control Limit exceedences and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not

performed).

J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS

Client Sample ID: BW-LFGSTACK-55A

Lab ID#: 1007370A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	17	2000	84	9900
Freon 114	17	390	120	2700
Vinyl Chloride	17	3000	44	7700
Chloroethane	17	290	45	770
Freon 11	17	35	96	200
Freon 113	17	6.7 J	130	51 J
1,1-Dichloroethene	17	14 J	68	55 J
Acetone	68	300	160	710
2-Propanol	68	130	170	330
Carbon Disulfide	17	3.2 J	53	10 J
Methylene Chloride	17	160	59	550
trans-1,2-Dichloroethene	17	150	68	600
Hexane	17	780	60	2700
1,1-Dichloroethane	17	66	69	270
2-Butanone (Methyl Ethyl Ketone)	17	540	50	1600
cis-1,2-Dichloroethene	17	2000	68	8100
Tetrahydrofuran	17	89	50	260
1,1,1-Trichloroethane	17	2.5 J	93	13 J
Cyclohexane	17	420	59	1500
2,2,4-Trimethylpentane	17	74	80	340
Benzene	17	960	55	3000
1,2-Dichloroethane	17	13 J	69	52 J
Heptane	17	1600	70	6500
Trichloroethene	17	660	92	3500
1,2-Dichloropropane	17	90	79	420
1,4-Dioxane	68	20 J	250	73 J
4-Methyl-2-pentanone	17	180	70	720
Toluene	17	13000	64	50000
Tetrachloroethene	17	340	120	2300
Chlorobenzene	17	280	79	1300
Ethyl Benzene	17	3400	74	15000
m,p-Xylene	17	7200	74	31000

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS

Client Sample ID: BW-LFGSTACK-55A

Lab ID#: 1007370A-01A

o-Xylene	17	1900	74	8300
Styrene	17	160	73	700
Cumene	17	330	84	1600
Propylbenzene	17	550	84	2700
4-Ethyltoluene	17	1700	84	8400
1,3,5-Trimethylbenzene	17	690	84	3400
1,2,4-Trimethylbenzene	17	2000	84	9900
1,4-Dichlorobenzene	17	420	100	2600
1,2-Dichlorobenzene	17	25	100	150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: BW-LFGSTACK-55A

Lab ID#: 1007370A-01A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w072809	Date of Collection:	7/15/10 1:55:00 PM
Dil. Factor:	3.42	Date of Analysis:	7/28/10 09:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	17	2000	84	9900
Freon 114	17	390	120	2700
Chloromethane	68	Not Detected	140	Not Detected
Vinyl Chloride	17	3000	44	7700
1,3-Butadiene	17	Not Detected	38	Not Detected
Bromomethane	17	Not Detected	66	Not Detected
Chloroethane	17	290	45	770
Freon 11	17	35	96	200
Ethanol	68	Not Detected	130	Not Detected
Freon 113	17	6.7 J	130	51 J
1,1-Dichloroethene	17	14 J	68	55 J
Acetone	68	300	160	710
2-Propanol	68	130	170	330
Carbon Disulfide	17	3.2 J	53	10 J
3-Chloropropene	68	Not Detected	210	Not Detected
Methylene Chloride	17	160	59	550
Methyl tert-butyl ether	17	Not Detected	62	Not Detected
trans-1,2-Dichloroethene	17	150	68	600
Hexane	17	780	60	2700
1,1-Dichloroethane	17	66	69	270
2-Butanone (Methyl Ethyl Ketone)	17	540	50	1600
cis-1,2-Dichloroethene	17	2000	68	8100
Tetrahydrofuran	17	89	50	260
Chloroform	17	Not Detected	83	Not Detected
1,1,1-Trichloroethane	17	2.5 J	93	13 J
Cyclohexane	17	420	59	1500
Carbon Tetrachloride	17	Not Detected	110	Not Detected
2,2,4-Trimethylpentane	17	74	80	340
Benzene	17	960	55	3000
1,2-Dichloroethane	17	13 J	69	52 J
Heptane	17	1600	70	6500
Trichloroethene	17	660	92	3500
1,2-Dichloropropane	17	90	79	420
1,4-Dioxane	68	20 J	250	73 J
Bromodichloromethane	17	Not Detected	110	Not Detected
cis-1,3-Dichloropropene	17	Not Detected	78	Not Detected
4-Methyl-2-pentanone	17	180	70	720
Toluene	17	13000	64	50000
trans-1,3-Dichloropropene	17	Not Detected	78	Not Detected
1,1,2-Trichloroethane	17	Not Detected	93	Not Detected
Tetrachloroethene	17	340	120	2300

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: BW-LFGSTACK-55A

Lab ID#: 1007370A-01A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w072809	Date of Collection:	7/15/10 1:55:00 PM
Dil. Factor:	3.42	Date of Analysis:	7/28/10 09:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	68	Not Detected	280	Not Detected
Dibromochloromethane	17	Not Detected	140	Not Detected
1,2-Dibromoethane (EDB)	17	Not Detected	130	Not Detected
Chlorobenzene	17	280	79	1300
Ethyl Benzene	17	3400	74	15000
m,p-Xylene	17	7200	74	31000
o-Xylene	17	1900	74	8300
Styrene	17	160	73	700
Bromoform	17	Not Detected	180	Not Detected
Cumene	17	330	84	1600
1,1,2,2-Tetrachloroethane	17	Not Detected	120	Not Detected
Propylbenzene	17	550	84	2700
4-Ethyltoluene	17	1700	84	8400
1,3,5-Trimethylbenzene	17	690	84	3400
1,2,4-Trimethylbenzene	17	2000	84	9900
1,3-Dichlorobenzene	17	Not Detected	100	Not Detected
1,4-Dichlorobenzene	17	420	100	2600
alpha-Chlorotoluene	17	Not Detected	88	Not Detected
1,2-Dichlorobenzene	17	25	100	150
1,2,4-Trichlorobenzene	68	Not Detected	510	Not Detected
Hexachlorobutadiene	68	Not Detected	730	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics Ltd.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1007370A-02A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w072807a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 7/28/10 09:03 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	1.3 J	25	6.3 J
Freon 114	5.0	1.5 J	35	10 J
Chloromethane	20	2.2 J	41	4.6 J
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	1.7 J	28	9.6 J
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	1.6 J	38	12 J
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	1.5 J	16	4.6 J
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	1.9 J	17	6.5 J
Methyl tert-butyl ether	5.0	1.6 J	18	5.6 J
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	1.4 J	18	4.8 J
1,1-Dichloroethane	5.0	1.6 J	20	6.5 J
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	1.7 J	15	5.0 J
Chloroform	5.0	1.7 J	24	8.4 J
1,1,1-Trichloroethane	5.0	1.5 J	27	8.4 J
Cyclohexane	5.0	1.4 J	17	4.9 J
Carbon Tetrachloride	5.0	1.5 J	31	9.4 J
2,2,4-Trimethylpentane	5.0	1.5 J	23	6.9 J
Benzene	5.0	1.9 J	16	6.0 J
1,2-Dichloroethane	5.0	1.6 J	20	6.6 J
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	1.7 J	34	12 J
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	2.2 J	19	8.2 J
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	2.0 J	27	11 J
Tetrachloroethene	5.0	1.9 J	34	13 J

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1007370A-02A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w072807a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/10 09:03 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	1.5 J	42	13 J
1,2-Dibromoethane (EDB)	5.0	1.6 J	38	13 J
Chlorobenzene	5.0	2.2 J	23	10 J
Ethyl Benzene	5.0	2.1 J	22	9.0 J
m,p-Xylene	5.0	1.9 J	22	8.3 J
o-Xylene	5.0	1.8 J	22	7.9 J
Styrene	5.0	0.68 J	21	2.9 J
Bromoform	5.0	1.6 J	52	17 J
Cumene	5.0	2.0 J	24	9.9 J
1,1,2,2-Tetrachloroethane	5.0	2.8 J	34	19 J
Propylbenzene	5.0	2.4 J	24	12 J
4-Ethyltoluene	5.0	2.1 J	24	10 J
1,3,5-Trimethylbenzene	5.0	1.6 J	24	8.1 J
1,2,4-Trimethylbenzene	5.0	1.5 J	24	7.5 J
1,3-Dichlorobenzene	5.0	2.8 J	30	17 J
1,4-Dichlorobenzene	5.0	2.9 J	30	17 J
alpha-Chlorotoluene	5.0	1.3 J	26	6.9 J
1,2-Dichlorobenzene	5.0	3.2 J	30	19 J
1,2,4-Trichlorobenzene	20	3.5 J	150	26 J
Hexachlorobutadiene	20	3.4 J	210	36 J

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1007370A-03A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w072802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/28/10 06:31 AM

Compound	%Recovery
Freon 12	113
Freon 114	123
Chloromethane	112
Vinyl Chloride	113
1,3-Butadiene	113
Bromomethane	129
Chloroethane	121
Freon 11	100
Ethanol	108
Freon 113	110
1,1-Dichloroethene	99
Acetone	112
2-Propanol	94
Carbon Disulfide	106
3-Chloropropene	100
Methylene Chloride	106
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	102
Hexane	105
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	100
Tetrahydrofuran	104
Chloroform	98
1,1,1-Trichloroethane	88
Cyclohexane	97
Carbon Tetrachloride	89
2,2,4-Trimethylpentane	101
Benzene	87
1,2-Dichloroethane	81
Heptane	95
Trichloroethene	85
1,2-Dichloropropane	99
1,4-Dioxane	99
Bromodichloromethane	91
cis-1,3-Dichloropropene	93
4-Methyl-2-pentanone	97
Toluene	100
trans-1,3-Dichloropropene	89
1,1,2-Trichloroethane	100
Tetrachloroethene	102

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1007370A-03A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w072802**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/10 06:31 AM**	

Compound	**%Recovery**
2-Hexanone	92
Dibromochloromethane	94
1,2-Dibromoethane (EDB)	99
Chlorobenzene	100
Ethyl Benzene	98
m,p-Xylene	98
o-Xylene	97
Styrene	96
Bromoform	93
Cumene	101
1,1,2,2-Tetrachloroethane	99
Propylbenzene	101
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	91
1,2-Dichlorobenzene	105
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1007370A-04A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w072803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/28/10 06:56 AM

Compound	%Recovery
Freon 12	86
Freon 114	89
Chloromethane	87
Vinyl Chloride	90
1,3-Butadiene	88
Bromomethane	100
Chloroethane	93
Freon 11	86
Ethanol	76
Freon 113	74
1,1-Dichloroethene	72
Acetone	84
2-Propanol	70
Carbon Disulfide	83
3-Chloropropene	79
Methylene Chloride	74
Methyl tert-butyl ether	71
trans-1,2-Dichloroethene	80
Hexane	76
1,1-Dichloroethane	77
2-Butanone (Methyl Ethyl Ketone)	92
cis-1,2-Dichloroethene	88
Tetrahydrofuran	84
Chloroform	90
1,1,1-Trichloroethane	85
Cyclohexane	93
Carbon Tetrachloride	88
2,2,4-Trimethylpentane	88
Benzene	92
1,2-Dichloroethane	88
Heptane	95
Trichloroethene	80
1,2-Dichloropropane	92
1,4-Dioxane	93
Bromodichloromethane	87
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	88
Toluene	90
trans-1,3-Dichloropropene	85
1,1,2-Trichloroethane	94
Tetrachloroethene	96

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1007370A-04A

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w072803**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/10 06:56 AM**	

Compound	**%Recovery**
2-Hexanone	79
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	98
Chlorobenzene	96
Ethyl Benzene	95
m,p-Xylene	96
o-Xylene	94
Styrene	93
Bromoform	91
Cumene	96
1,1,2,2-Tetrachloroethane	99
Propylbenzene	97
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	87
1,2-Dichlorobenzene	111
1,2,4-Trichlorobenzene	131 Q
Hexachlorobutadiene	145 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1007370A-04AA

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	w072804	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 7/28/10 07:18 AM	

Compound	%Recovery
Freon 12	78
Freon 114	83
Chloromethane	88
Vinyl Chloride	90
1,3-Butadiene	88
Bromomethane	103
Chloroethane	96
Freon 11	92
Ethanol	75
Freon 113	86
1,1-Dichloroethene	78
Acetone	86
2-Propanol	70
Carbon Disulfide	87
3-Chloropropene	81
Methylene Chloride	79
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	96
Hexane	86
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	92
cis-1,2-Dichloroethene	90
Tetrahydrofuran	85
Chloroform	93
1,1,1-Trichloroethane	86
Cyclohexane	92
Carbon Tetrachloride	88
2,2,4-Trimethylpentane	88
Benzene	93
1,2-Dichloroethane	90
Heptane	96
Trichloroethene	80
1,2-Dichloropropane	91
1,4-Dioxane	92
Bromodichloromethane	88
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	88
Toluene	90
trans-1,3-Dichloropropene	86
1,1,2-Trichloroethane	95
Tetrachloroethene	98

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1007370A-04AA

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	**w072804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/10 07:18 AM**	

Compound	**%Recovery**
2-Hexanone	79
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	99
Chlorobenzene	96
Ethyl Benzene	96
m,p-Xylene	96
o-Xylene	94
Styrene	93
Bromoform	91
Cumene	96
1,1,2,2-Tetrachloroethane	99
Propylbenzene	97
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	88
1,2-Dichlorobenzene	111
1,2,4-Trichlorobenzene	138 Q
Hexachlorobutadiene	152 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.
Laboratory Services Since 1989

7/29/2010
Mr. Dave Powers
MWH Americas, Inc.
175 West Jackson Blvd.
Suite 1900
Chicago IL 60604

Project Name: Blackwell
Project #: 100733.04811101
Workorder #: 1007370B

Dear Mr. Dave Powers

The following report includes the data for the above referenced project for sample(s) received on 7/16/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1945 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jacquelyn Luta at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Jacquelyn Luta
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1007370B

Work Order Summary

CLIENT:	Mr. Dave Powers MWH Americas, Inc. 175 West Jackson Blvd. Suite 1900 Chicago, IL 60604	**BILL TO:**	Accounts Payable MWH Americas, Inc. PO Box 6610 Broomfield, CO 80021
PHONE:	312-831-3000 x3432	**P.O. #**	
FAX:	312-831-3021	**PROJECT #**	100733.04811101 Blackwell
DATE RECEIVED:	07/16/2010	**CONTACT:**	Jacquelyn Luta
DATE COMPLETED:	07/29/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	BW-LFGSTACK-55A	Modified ASTM D-1945	6.5 "Hg	5 psi
02A	Lab Blank	Modified ASTM D-1945	NA	NA
02B	Lab Blank	Modified ASTM D-1945	NA	NA
03A	LCS	Modified ASTM D-1945	NA	NA
03AA	LCSD	Modified ASTM D-1945	NA	NA
03B	LCS	Modified ASTM D-1945	NA	NA
03BB	LCSD	Modified ASTM D-1945	NA	NA

CERTIFIED BY: Linda J. Freeman DATE: 07/29/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1945
MWH Americas, Inc.
Workorder# 1007370B

One 6 Liter Summa Canister sample was received on July 16, 2010. The laboratory performed analysis via modified ASTM Method D-1945 for Methane and fixed gases in natural gas using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	*ASTM D-1945*	*ATL Modifications*
Normalization	Sum of original values should not differ from 100.0% by more than 1.0%.	Sum of original values may range between 85-115%. Normalization of data not performed.
Sample analysis	Equilibrate samples to 20-50° F. above source temperature at field sampling	No heating of samples is performed.
Sample calculation	Response factor is calculated using peak height for C5 and lighter compounds.	Peak areas are used for all target analytes to quantitate concentrations.
Reference Standard	Concentration should not be < half of nor differ by more than 2 X the concentration of the sample. Run 2 consecutive checks; must agree within 1%.	A minimum 3-point linear calibration is performed. The acceptance criterion is %RSD <= 15%. All target analytes must be within the linear range of calibration (with the exception of O2, N2, and C6+ Hydrocarbons).
Sample Injection Volume	0.50 mL to achieve Methane linearity.	1.0 mL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Six qualifiers may have been used on the data analysis sheets and indicate as follows:
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Client Sample ID: BW-LFGSTACK-55A

Lab ID#: 1007370B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.17	3.5
Nitrogen	0.17	14
Methane	0.00057	54
Carbon Dioxide	0.017	28
Ethane	0.0017	0.0021
Ethene	0.0017	0.0011 J
Propane	0.0017	0.00082 J
Isobutane	0.0017	0.00037 J
Butane	0.0017	0.000097 J
Pentane	0.0017	0.000084 J
C6+	0.017	0.011 J

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: BW-LFGSTACK-55A

Lab ID#: 1007370B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	**9072915**	**Date of Collection:**	**7/15/10 1:55:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/29/10 10:46 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.17	3.5
Nitrogen	0.17	14
Carbon Monoxide	0.017	Not Detected
Methane	0.00057	54
Carbon Dioxide	0.017	28
Ethane	0.0017	0.0021
Ethene	0.0017	0.0011 J
Acetylene	0.0017	Not Detected
Propane	0.0017	0.00082 J
Isobutane	0.0017	0.00037 J
Butane	0.0017	0.000097 J
Neopentane	0.0017	Not Detected
Isopentane	0.0017	Not Detected
Pentane	0.0017	0.000084 J
C6+	0.017	0.011 J
Hydrogen	0.017	Not Detected

J = Estimated value.

Methane was reported from file # 9072916 analyzed on July 29, 2010 at a dilution factor of 5.70.

Container Type: 6 Liter Summa Canister

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1007370B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9072907	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 7/29/10 07:41 AM	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected
Acetylene	0.0010	Not Detected
Propane	0.0010	Not Detected
Isobutane	0.0010	Not Detected
Butane	0.0010	Not Detected
Neopentane	0.0010	Not Detected
Isopentane	0.0010	Not Detected
Pentane	0.0010	Not Detected
C6+	0.010	Not Detected

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1007370B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9072906b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 7/29/10 07:19 AM	

Compound	Rpt. Limit (%)	Amount (%)
Hydrogen	0.010	Not Detected

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1007370B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9072902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/10 05:42 AM

Compound	%Recovery
Oxygen	96
Nitrogen	100
Carbon Monoxide	102
Methane	99
Carbon Dioxide	99
Ethane	100
Ethene	100
Acetylene	102
Propane	98
Isobutane	99
Butane	97
Neopentane	99
Isopentane	100
Pentane	99
C6+	99

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1007370B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	**9072917**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/29/10 11:35 AM**	

Compound	%Recovery
Oxygen	97
Nitrogen	100
Carbon Monoxide	100
Methane	100
Carbon Dioxide	98
Ethane	100
Ethene	101
Acetylene	103
Propane	99
Isobutane	99
Butane	97
Neopentane	100
Isopentane	100
Pentane	100
C6+	101

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1007370B-03B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9072904b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/10 06:28 AM

Compound	%Recovery
Hydrogen	100

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1007370B-03BB

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9072918b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/10 12:01 PM

Compound	%Recovery
Hydrogen	101

Container Type: NA - Not Applicable

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: DAVID POWERS
Collected by: (Print and Sign) JUSTIN FINCER / TIM CARROLL
Company: MWH
Email: JUSTIN.E.FINCER@MWHGLOBAL.COM
Address: 175 W. JACKSON BLVD SUITE 1900 City: CHICAGO State: IL Zip: 60604
Phone: (312) 831-3000 Fax: (312) 831-3021

Project Info:
P.O. #:
Project #: 1007333.0481101
Project Name: BLACKWELL

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	BW-LFGSTACK-55A	34335	7/15/10	0620-1355	TO14A / ASTM 1945D	-28" Hg	-1" Hg		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
7/15/10 1400	Monica Gregson 7/16/10 845
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:
PLEASE CHECK THAT FLOW CONTROLLER WAS NOT DAMAGED DURING SHIPPING, THUS AFFECTING SAMPLE RESULTS.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1007370

Form 1293 rev.11

Atmospheric Analysis & Consulting, Inc.

CLIENT : MWH Americas
AAC PROJECT NO. : 100584
REPORT DATE : 07/20/2010

On July 16, 2010 Atmospheric Analysis & Consulting, Inc. received one (1) Summa Canister for TNMOC analysis by EPA 25C. Upon receipt the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Initial Pressure	Final Pressure
BW-LFGSTACK-55A	100584-45648	636.4	901.8

EPA 25C Analysis - Up to a 1 mL aliquot of samples is injected into the GC/FID/TCA for analysis in triplicate following EPA 25C as specified in the SOW.

No problems were encountered during receiving, preparation, and/ or analysis of this sample. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# AACI- EPA 25C.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. Release of the data contained in this hardcopy data package and its electronic data deliverable submitted on diskette has been authorized by the Laboratory Director or his designee, as verified by the following signature.

If you have any questions or require further explanation of data results, please contact the undersigned.

Sucha S. Parmar, Ph.D.
President

This report consists of 4 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate#E87837

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 (805) 650-1642 • FAX (805) 650-1644 • www.aaclab.com

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Client	: **MWH Americas**	**Sampling Date**	: **07/15/2010**
Project No.	: **100584**	**Receiving Date**	: **07/16/2010**
Matrix	: **Air**	**Analysis Date**	: **07/19/2010**
Units	: **ppmv**	**Report Date**	: **07/20/2010**

EPA Method 25C

Detection Limit:		**1.0 ppmv**
Client Sample ID	**AAC ID**	**TNMOC***
BW-LFGSTACK-55A	**100584-45648**	274.6

***Total Non-Methane Organic Compounds as Methane**

Sucha Parmar, Ph.D
Technical Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 (805) 650-1642 • FAX (805) 650-1644 • www.aaclab.com

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Analysis Date : 07/19/2010 **Instrument ID:** FID#4
Analyst : DN **Calibration Date:** 5/19/2010
Units : ppmv

I - Opening Calibration Verification Standard - Method 25C

Analyte	xRF	DRF	%RPD*
CO	17217	17141	0.4
CH4	18369	18590	1.2
CO2	19029	18338	3.7
Propane	46975	47586	1.3

II - TNMOC Response Factor - Method 25C

Analyte	xRF	CV RF	CV dp RF	CV tp RF	Average RF	% RPD***
NMNEOC	46975	47586	49562	49300	48816	3.8

III - Method Blank - Method 25C

AAC ID	Analyte	Sample Result
MB	TNMOC	ND

IV - Laboratory Control Spike & Duplicate - Method 25C

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec **	LCSD % Rec **	% RPD***
LCS/LCSD	TNMOC	50.0	54.8	54.5	109.5	108.9	0.5

V - Closing Calibration Verification Standard - Method 25C

Analyte	xCF	dCF	%RPD*
CO	17217	16715	3.0
CH4	18369	19003	3.4
CO2	19029	19678	3.4
Propane	46975	46404	1.2

xCF - Average Calibration Factor from Initial Calibration Curve
dCF - Daily Calibration Factor
* Must be <15%
** Must be 90-110 %
*** Must be <20%

Sucha Parmar, Ph.D
Technical Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 (805) 650-1642 • FAX (805) 650-1644 • www.aaclab.com

STAT Analysis Corporation
2255 W Harrison St., Suite B. Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail Address: STATinfo@STATAnalysis.com AIHA #10248, NVLAP #101200-0, NELAP #100445

CHAIN OF CUSTODY RECORD

№: 810122

Page : 1 of 1

Company: MWH

Project Number: 1007333.04811101 Client Tracking No.:

Project Name: BLACKWELL

Location/Address: WARRENVILLE IL

Sampler(s): JUSTIN FINCOR / TIM CARROLL

Report To: JUSTIN FINCOR Phone: (312) 831-3447

QC Level: 1 ____ 2 ____ 3 ____ 4 ____ Fax: (312) 831-3021

Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other: ____

P.O. No.:

Quote No.:

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp	Grab	Preserv.	No. of Containers	Remarks	Lab No.:
BW-LFGSTACK-SSA	7/15/10	1405	AIR			A	1		45845

Relinquished by: (Signature)	Date/Time: 7/15/10 1415
Received by: (Signature)	Date/Time: 7/16/10 0745
Relinquished by: (Signature)	Date/Time:
Received for lab by: (Signature)	Date/Time:
Relinquished by: (Signature)	Date/Time:

Laboratory Use:	Sample Verification:	
- Container On	Yes	No
- Samples Leaking	Yes	No
- Refrigerated (Temp: ____ °C	Yes	No
- Sample Labels Match Sample ID	Yes	No

Work Order No.:

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = S_2O_3 [illegible]

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December 01, 2010

Montgomery Watson Harza
175 W. Jackson Blvd.
Suite 1900
Chicago, IL 60604
Telephone: (312) 831-3800
Fax: (312) 831-3999

RE: 1007333.04811101, Blackwell, Warrenville, IL STAT Project No: 10110354

Dear Justin Finger:

STAT Analysis received 1 sample for the referenced project on 11/11/2010 1:45:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Donald R. Cortes, Ph.D.
Laboratory Director

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

STAT Analysis Corporation

Date: December 01, 2010

Client: Montgomery Watson Harza
Project: 1007333.04811101, Blackwell, Warrenville, IL
Lab Order: 10110354

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
10110354-001A	BW-LFGStack-56A		11/10/2010 2:31:00 PM	11/11/2010

CLIENT:	Montgomery Watson Harza
Project:	1007333.04811101, Blackwell, Warrenville, IL
Lab Order:	10110354

CASE NARRATIVE

A modified version of EPA 25C was performed on this sample. The method is modified to perform non-methane organic compound (NMOC) reduction without catalytic oxidation. Therefore NMOC (reduced) is quantitated directly, without conversion to methane.

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: December 01, 2010
Print Date: December 01, 2010

Client:	Montgomery Watson Harza	**Client Sample ID**	BW-LFGStack-56A
Lab Order:	10110354	**Tag Number:**	
Project:	1007333.04811101, Blackwell, Warrenville, IL	**Collection Date**	11/10/2010 2:31:00 PM
Lab ID:	10110354-001A	**Matrix:**	Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
EPA Modified 25	**Modified 25C**			Prep Date: **11/12/2010**		Analyst **VP**
NMOC	ND	1700	*	ppmv	100	11/29/2010
Landfill Gases by EPA Method 3c	**METHOD 3C**			Prep Date: **11/12/2010**		Analyst: **VP**
Carbon Dioxide	32	0.0677		mol %	1	11/18/2010
Methane	55.4	0.0846		mol %	1	11/18/2010
Nitrogen	7.9	1.69		mol %	1	11/18/2010
Oxygen	0.731	0.677		mol %	1	11/18/2010
Volatile Organic Compounds in Air by GC/MS	**TO-15**			Prep Date: **11/12/2010**		Analyst: **VP**
1,1,1-Trichloroethane	ND	34		ppbv	100	11/17/2010
1,1,2,2-Tetrachloroethane	ND	34		ppbv	100	11/17/2010
1,1,2-Trichloroethane	ND	34		ppbv	100	11/17/2010
1,1-Dichloroethane	110	85		ppbv	100	11/17/2010
1,1-Dichloroethene	ND	34		ppbv	100	11/17/2010
1,2,4-Trichlorobenzene	ND	85		ppbv	100	11/17/2010
1,2,4-Trimethylbenzene	1500	34		ppbv	100	11/17/2010
1,2-Dibromoethane	ND	34		ppbv	100	11/17/2010
1,2-Dichlorobenzene	ND	34		ppbv	100	11/17/2010
1,2-Dichloroethane	ND	34		ppbv	100	11/17/2010
1,2-Dichloropropane	100	34		ppbv	100	11/17/2010
1,3,5-Trimethylbenzene	650	34		ppbv	100	11/17/2010
1,3-Butadiene	ND	34		ppbv	100	11/17/2010
1,3-Dichlorobenzene	ND	34		ppbv	100	11/17/2010
1,4-Dichlorobenzene	610	34		ppbv	100	11/17/2010
1,4-Dioxane	ND	170		ppbv	100	11/17/2010
2-Butanone	200	85		ppbv	100	11/17/2010
2-Hexanone	ND	340		ppbv	100	11/17/2010
4-Ethyltoluene	460	34		ppbv	100	11/17/2010
4-Methyl-2-pentanone	ND	170		ppbv	100	11/17/2010
Acetone	380	340	*	ppbv	100	11/17/2010
Benzene	1200	34		ppbv	100	11/17/2010
Benzyl chloride	ND	170		ppbv	100	11/17/2010
Bromodichloromethane	ND	34		ppbv	100	11/17/2010
Bromoform	ND	170		ppbv	100	11/17/2010
Bromomethane	ND	170		ppbv	100	11/17/2010
Carbon disulfide	ND	170		ppbv	100	11/17/2010
Carbon tetrachloride	ND	34		ppbv	100	11/17/2010
Chlorobenzene	590	34		ppbv	100	11/17/2010
Chloroethane	480	34		ppbv	100	11/17/2010
Chloroform	ND	34		ppbv	100	11/17/2010
Chloromethane	ND	170		ppbv	100	11/17/2010
cis-1,2-Dichloroethene	2300	34		ppbv	100	11/17/2010
cis-1,3-Dichloropropene	ND	34		ppbv	100	11/17/2010
Cyclohexane	530	34		ppbv	100	11/17/2010
Dibromochloromethane	ND	34		ppbv	100	11/17/2010
Dichlorodifluoromethane	2900	34		ppbv	100	11/17/2010
Ethyl acetate	ND	34		ppbv	100	11/17/2010
Ethylbenzene	4000	34		ppbv	100	11/17/2010
Freon-113	ND	34		ppbv	100	11/17/2010
Freon-114	430	34		ppbv	100	11/17/2010
Heptane	2000	34		ppbv	100	11/17/2010

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: December 01, 2010
Print Date: December 01, 2010

Client:	Montgomery Watson Harza	**Client Sample ID**	BW-LFGStack-56A
Lab Order:	10110354	**Tag Number:**	
Project:	1007333.04811101, Blackwell, Warrenville, IL	**Collection Date**	11/10/2010 2:31:00 PM
Lab ID:	10110354-001A	**Matrix:**	Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS TO-15				Prep Date: **11/12/2010**	Analyst: **VP**	
Hexachlorobutadiene	ND	34		ppbv	100	11/17/2010
Hexane	1100	170		ppbv	100	11/17/2010
Isopropyl Alcohol	ND	170		ppbv	100	11/17/2010
m,p-Xylene	7600	68		ppbv	100	11/17/2010
Methyl tert-butyl ether	ND	34		ppbv	100	11/17/2010
Methylene chloride	ND	340		ppbv	100	11/17/2010
o-Xylene	2100	34		ppbv	100	11/17/2010
Propene	2100	340		ppbv	100	11/17/2010
Styrene	76	34		ppbv	100	11/17/2010
Tetrachloroethene	480	34		ppbv	100	11/17/2010
Tetrahydrofuran	ND	85		ppbv	100	11/17/2010
Toluene	25000	340		ppbv	1000	11/17/2010
trans-1,2-Dichloroethene	170	34		ppbv	100	11/17/2010
trans-1,3-Dichloropropene	ND	85		ppbv	100	11/17/2010
Trichloroethene	760	85		ppbv	100	11/17/2010
Trichlorofluoromethane	ND	34		ppbv	100	11/17/2010
Vinyl acetate	ND	340		ppbv	100	11/17/2010
Vinyl chloride	3200	34		ppbv	100	11/17/2010
Xylenes, Total	9700	100		ppbv	100	11/17/2010

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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e-mail address: STATinfo@STATAnalysis.com AIHA 10248, NVLAP 101202-0, NEALP 100445

CHAIN OF CUSTODY RECORD

№: 810123

Page: 1 of 1

Company: MWH
Project Number: 1007333.04811101 Client Tracking No.:
Project Name: BLACKWELL
Location/Address: WARRENVILLE, IL
Sampler(s): JUSTIN FINCER, CHRIS SWAN
Report To: JUSTIN FINCER Phone: (312) 831-3447
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ Fax: (312) 831-3021
Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other: ____

P.O. No.:
Quote No.:

Turn Around: STANDARD
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	TO15	EPA 3C	EPA 25C (TNMOC)	Remarks	Lab No.:
BW-LFG-STACK-56A	11/10/10	CESSR 1431	AIR		X	A	1	X	X	X	CAN #078	601
											INITIAL VAC: -26" Hg	
											FINAL VAC: -7" Hg	

Relinquished by: (Signature) Date/Time: 11/11/10 1210
Received by: (Signature) Date/Time: 11/11/10 1210
Relinquished by: (Signature) Date/Time: 11/11/10 1345
Received for lab by: (Signature) Date/Time: 11/11/10 1745
Relinquished by: (Signature) Date/Time:

Laboratory Use:	Sample Verification: Yes	No
- Container OK	X	
- Samples Leaking		X
- Refrigerated (Temp: Ambient °C)		X
- Sample Labels Match Sample ID	X	

Work Order No.: 10110354

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore

STAT Analysis Corporation

Sample Receipt Checklist

Client Name MWHARZA

Date and Time Received: 11/11/2010 1:45:00 PM

Work Order Number 10110354

Received by: CDF

Checklist completed by: Signature Date 11/11/10

Reviewed by: CG 11/12/10 Initials Date

Matrix:

Carrier name: STAT Analysis

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature Ambient °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by:
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted?

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted: Date contacted: Contacted by:

Response:

STAT Analysis Corporation
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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
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January 31, 2011

Montgomery Watson Harza
175 W. Jackson Blvd.
Suite 1900
Chicago, IL 60604
Telephone: (312) 831-3800
Fax: (312) 831-3999

RE: 1007333.04811101, Blackwell, Warrenville, IL STAT Project No 11010249

Dear Justin Finger:

STAT Analysis received 1 sample for the referenced project on 1/14/2011 11:15:00 AM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Craig Chawla
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory. This analytical report shall become property of the Customer upon payment in full. Otherwise, STAT will be under no obligation to support, defend or discuss the analytical report.

STAT Analysis Corporation

Date: January 31, 2011

Client: Montgomery Watson Harza
Project: 1007333.04811101, Blackwell, Warrenville, IL
Lab Order: 11010249

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
11010249-001A	BW-LFGStack-57A		1/12/2011 3:24:00 PM	1/14/2011

CLIENT:	Montgomery Watson Harza	
Project:	1007333.04811101, Blackwell, Warrenville, IL	**CASE NARRATIVE**
Lab Order:	11010249	

A modified version of EPA 25C was performed on this sample. The method is modified to perform non-methane organic compound (NMOC) reduction without catalytic oxidation. Therefore NMOC (reduced) is quantitated directly, without conversion to methane.

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: January 31, 2011
Print Date: January 31, 2011

Client:	Montgomery Watson Harza	**Client Sample ID:**	BW-LFGStack-57A
Lab Order:	11010249	**Tag Number:**	
Project:	1007333.04811101, Blackwell, Warrenville, IL	**Collection Date:**	1/12/2011 3:24:00 PM
Lab ID:	11010249-001A	**Matrix:**	Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
EPA Method 25	**METHOD 25C**			Prep Date: **1/14/2011**		Analyst: **VP**
NMOC	920	770	*	ppmv	10	1/26/2011
Landfill Gases by EPA Method 3c	**METHOD 3C**			Prep Date: **1/14/2011**		Analyst: **VP**
Carbon Dioxide	23.6	0.0617		mol %	1	1/19/2011
Methane	40.2	0.0772		mol %	1	1/19/2011
Nitrogen	23.4	1.54		mol %	1	1/19/2011
Oxygen	4.71	0.617		mol %	1	1/19/2011
Volatile Organic Compounds in Air by GC/MS	**TO-15**			Prep Date: **1/14/2011**		Analyst: **VP**
1,1,1-Trichloroethane	9.6	7.7		ppbv	25	1/14/2011
1,1,2,2-Tetrachloroethane	ND	7.7		ppbv	25	1/14/2011
1,1,2-Trichloroethane	ND	7.7		ppbv	25	1/14/2011
1,1-Dichloroethane	140	19		ppbv	25	1/14/2011
1,1-Dichloroethene	17	7.7		ppbv	25	1/14/2011
1,2,4-Trichlorobenzene	ND	19		ppbv	25	1/14/2011
1,2,4-Trimethylbenzene	2200	62		ppbv	200	1/15/2011
1,2-Dibromoethane	ND	7.7		ppbv	25	1/14/2011
1,2-Dichlorobenzene	ND	7.7		ppbv	25	1/14/2011
1,2-Dichloroethane	18	7.7		ppbv	25	1/14/2011
1,2-Dichloropropane	120	7.7		ppbv	25	1/14/2011
1,3,5-Trimethylbenzene	990	7.7		ppbv	25	1/14/2011
1,3-Butadiene	ND	7.7		ppbv	25	1/14/2011
1,3-Dichlorobenzene	ND	7.7		ppbv	25	1/14/2011
1,4-Dichlorobenzene	810	7.7		ppbv	25	1/14/2011
1,4-Dioxane	240	39		ppbv	25	1/14/2011
2-Butanone	670	19		ppbv	25	1/14/2011
2-Hexanone	ND	77		ppbv	25	1/14/2011
4-Ethyltoluene	720	7.7		ppbv	25	1/14/2011
4-Methyl-2-pentanone	390	39		ppbv	25	1/14/2011
Acetone	690	77	*	ppbv	25	1/14/2011
Benzene	1500	7.7		ppbv	25	1/14/2011
Benzyl chloride	ND	39		ppbv	25	1/14/2011
Bromodichloromethane	ND	7.7		ppbv	25	1/14/2011
Bromoform	ND	39		ppbv	25	1/14/2011
Bromomethane	ND	39		ppbv	25	1/14/2011
Carbon disulfide	ND	39		ppbv	25	1/14/2011
Carbon tetrachloride	ND	7.7		ppbv	25	1/14/2011
Chlorobenzene	780	7.7		ppbv	25	1/14/2011
Chloroethane	510	7.7		ppbv	25	1/14/2011

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: January 31, 2011
Print Date: January 31, 2011

Client:	Montgomery Watson Harza	**Client Sample ID:**	BW-LFGStack-57A
Lab Order:	11010249	**Tag Number:**	
Project:	1007333.04811101, Blackwell, Warrenville, IL	**Collection Date:**	1/12/2011 3:24:00 PM
Lab ID:	11010249-001A	**Matrix:**	Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS	**TO-15**			Prep Date: **1/14/2011**		Analyst: **VP**
Chloroform	ND	7.7		ppbv	25	1/14/2011
Chloromethane	ND	39		ppbv	25	1/14/2011
cis-1,2-Dichloroethene	1900	62		ppbv	200	1/15/2011
cis-1,3-Dichloropropene	ND	7.7		ppbv	25	1/14/2011
Cyclohexane	620	7.7		ppbv	25	1/14/2011
Dibromochloromethane	ND	7.7		ppbv	25	1/14/2011
Dichlorodifluoromethane	2700	62		ppbv	200	1/15/2011
Ethyl acetate	ND	7.7		ppbv	25	1/14/2011
Ethylbenzene	4300	62		ppbv	200	1/15/2011
Freon-113	ND	7.7		ppbv	25	1/14/2011
Freon-114	520	7.7		ppbv	25	1/14/2011
Heptane	1900	7.7		ppbv	25	1/14/2011
Hexachlorobutadiene	ND	7.7		ppbv	25	1/14/2011
Hexane	1200	39		ppbv	25	1/14/2011
Isopropyl Alcohol	240	39		ppbv	25	1/14/2011
m,p-Xylene	8600	120		ppbv	200	1/15/2011
Methyl tert-butyl ether	ND	7.7		ppbv	25	1/14/2011
Methylene chloride	180	77		ppbv	25	1/14/2011
o-Xylene	2300	62		ppbv	200	1/15/2011
Propene	1600	77		ppbv	25	1/14/2011
Styrene	130	7.7		ppbv	25	1/14/2011
Tetrachloroethene	460	7.7		ppbv	25	1/14/2011
Tetrahydrofuran	190	19		ppbv	25	1/14/2011
Toluene	14000	62		ppbv	200	1/15/2011
trans-1,2-Dichloroethene	210	7.7		ppbv	25	1/14/2011
trans-1,3-Dichloropropene	ND	19		ppbv	25	1/14/2011
Trichloroethene	740	19		ppbv	25	1/14/2011
Trichlorofluoromethane	22	7.7		ppbv	25	1/14/2011
Vinyl acetate	ND	77		ppbv	25	1/14/2011
Vinyl chloride	3200	62		ppbv	200	1/15/2011
Xylenes, Total	11000	190		ppbv	200	1/15/2011

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

Nº: 836487 **Page:** 1 **of** 1

Company: MWM
Project Number: [illegible] Client Tracking No.:
Project Name: [illegible]
Project Location: [illegible]
Sampler(s): [illegible]
Report To: [illegible] Phone: [illegible]
Fax: [illegible]
QC Level: 1 ___ 2 ___ 3 ___ 4 ___ e-mail: [illegible]

P.O. No.:
Quote No.:

Turn Around: STANDARD
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	TC 15	EPA 30	EPA 25 C											Remarks	Lab No.:
BW-LFG-STACK-57A	1/12/11	0724-1324	AIR		X	A	1	X	X	X												001

Relinquished by: (Signature)	[signature]	Date/Time:	1/14/11 [illegible]
Received by: (Signature)	[signature]	Date/Time:	1/14/11 1005
Relinquished by: (Signature)	[signature]	Date/Time:	1/14/11 1115
Received by: (Signature)	[signature]	Date/Time:	1/14/11 1115
Relinquished by: (Signature)	[signature]	Date/Time:	
Received by: (Signature)		Date/Time:	

Comments: CANISTER # 537
INITIAL VAC [illegible]
FINAL VAC [illegible]

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 11010249

Received on Ice: Yes ☐ No ☒

Temperature: [illegible] °C

STAT Analysis Corporation

Sample Receipt Checklist

Client Name MWHARZA

Date and Time Received: 1/14/2011 11:15:00 AM

Work Order Number 11010249

Received by: CDF

Checklist completed by: Signature Date 1/14/11

Reviewed by: GG Initials 1/17/11 Date

Matrix: Carrier name: STAT Analysis

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature Ambient °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by:
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted?

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted: Date contacted: Contacted by:

Response:

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R68944

Sample ID: MB011411-6	SampType: MBLK	TestCode: TO_15A	Units: ppbv	Prep Date:	Run ID: VOA-6_110114A
Client ID: ZZZZZ	Batch ID: R68944	TestNo: TO-15		Analysis Date: 1/14/2011	SeqNo: 1844933

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.20									
1,1,2,2-Tetrachloroethane	ND	0.20									
1,1,2-Trichloroethane	ND	0.20									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.20									
1,2,4-Trichlorobenzene	ND	0.50									
1,2,4-Trimethylbenzene	ND	0.20									
1,2-Dibromoethane	ND	0.20									
1,2-Dichlorobenzene	ND	0.20									
1,2-Dichloroethane	ND	0.20									
1,2-Dichloropropane	ND	0.20									
1,3,5-Trimethylbenzene	ND	0.20									
1,3-Butadiene	ND	0.20									
1,3-Dichlorobenzene	ND	0.20									
1,4-Dichlorobenzene	ND	0.20									
1,4-Dioxane	ND	1.0									
2-Butanone	ND	0.50									
2-Hexanone	ND	2.0									
4-Ethyltoluene	ND	0.20									
4-Methyl-2-pentanone	ND	1.0									
Acetone	0.16	2.0									J*
Benzene	ND	0.20									
Benzyl chloride	ND	1.0									
Bromodichloromethane	ND	0.20									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	0.20									
Chlorobenzene	ND	0.20									
Chloroethane	ND	0.20									
Chloroform	ND	0.20									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R68944

Sample ID: **MB011411-6** SampType: **MBLK** TestCode: **TO_15A** Units: **ppbv** Prep Date: Run ID: **VOA-6_110114A**
Client ID: ZZZZZ Batch ID: **R68944** TestNo: **TO-15** Analysis Date: **1/14/2011** SeqNo: **1844933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	0.20									
cis-1,3-Dichloropropene	ND	0.20									
Cyclohexane	ND	0.20									
Dibromochloromethane	ND	0.20									
Dichlorodifluoromethane	ND	0.20									
Ethyl acetate	ND	0.20									
Ethylbenzene	ND	0.20									
Freon-113	ND	0.20									
Freon-114	ND	0.20									
Heptane	ND	0.20									
Hexachlorobutadiene	ND	0.20									
Hexane	ND	1.0									
Isopropyl Alcohol	ND	1.0									
m,p-Xylene	ND	0.40									
Methyl tert-butyl ether	ND	0.20									
Methylene chloride	ND	2.0									
o-Xylene	ND	0.20									
Propene	ND	2.0									
Styrene	ND	0.20									
Tetrachloroethene	ND	0.20									
Tetrahydrofuran	ND	0.50									
Toluene	ND	0.20									
trans-1,2-Dichloroethene	ND	0.20									
trans-1,3-Dichloropropene	ND	0.50									
Trichloroethene	ND	0.50									
Trichlorofluoromethane	ND	0.20									
Vinyl acetate	ND	2.0									
Vinyl chloride	ND	0.20									
Xylenes, Total	ND	0.60									

Qualifiers:
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CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R68944

Sample ID: **LCS011411-6** SampType: **LCS** TestCode: **TO_15A** Units: **ppbv** Prep Date: Run ID: **VOA-6_110114A**
Client ID: **ZZZZZ** Batch ID: **R68944** TestNo: **TO-15** Analysis Date: **1/14/2011** SeqNo: **1844934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	5.51	0.20	5	0	110	70	130	0	0		
1,1,2,2-Tetrachloroethane	5.74	0.20	5	0	115	70	130	0	0		
1,1,2-Trichloroethane	5.67	0.20	5	0	113	70	130	0	0		
1,1-Dichloroethane	5.61	0.50	5	0	112	70	130	0	0		
1,1-Dichloroethene	5.45	0.20	5	0	109	70	130	0	0		
1,2,4-Trichlorobenzene	5.97	0.50	5	0	119	70	130	0	0		
1,2,4-Trimethylbenzene	5.82	0.20	5	0	116	70	130	0	0		
1,2-Dibromoethane	5.78	0.20	5	0	116	70	130	0	0		
1,2-Dichlorobenzene	5.7	0.20	5	0	114	70	130	0	0		
1,2-Dichloroethane	5.33	0.20	5	0	107	70	130	0	0		
1,2-Dichloropropane	5.57	0.20	5	0	111	70	130	0	0		
1,3,5-Trimethylbenzene	5.82	0.20	5	0	116	70	130	0	0		
1,3-Butadiene	4.46	0.20	5	0	89.2	70	130	0	0		
1,3-Dichlorobenzene	5.87	0.20	5	0	117	70	130	0	0		
1,4-Dichlorobenzene	5.85	0.20	5	0	117	70	130	0	0		
1,4-Dioxane	5.3	1.0	5	0	106	70	130	0	0		
2-Butanone	5.88	0.50	5	0	118	70	130	0	0		
2-Hexanone	5.71	2.0	5	0	114	70	130	0	0		
4-Ethyltoluene	5.92	0.20	5	0	118	70	130	0	0		
4-Methyl-2-pentanone	5.78	1.0	5	0	116	70	130	0	0		
Acetone	5.03	2.0	5	0.16	97.4	70	130	0	0		*
Benzene	5.64	0.20	5	0	113	70	130	0	0		
Benzyl chloride	6.13	1.0	5	0	123	70	130	0	0		
Bromodichloromethane	5.77	0.20	5	0	115	70	130	0	0		
Bromoform	6.38	1.0	5	0	128	70	130	0	0		
Bromomethane	4.89	1.0	5	0	97.8	70	130	0	0		
Carbon disulfide	5.83	1.0	5	0	117	70	130	0	0		
Carbon tetrachloride	5.42	0.20	5	0	108	70	130	0	0		
Chlorobenzene	5.81	0.20	5	0	116	70	130	0	0		
Chloroethane	5.22	0.20	5	0	104	70	130	0	0		
Chloroform	5.49	0.20	5	0	110	70	130	0	0		

Qualifiers:
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H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R68944

Sample ID: **LCS011411-6** SampType: **LCS** TestCode: **TO_15A** Units: **ppbv** Prep Date: Run ID: **VOA-6_110114A**
Client ID: **ZZZZZ** Batch ID: **R68944** TestNo: **TO-15** Analysis Date: **1/14/2011** SeqNo: **1844934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	5.63	1.0	5	0	113	70	130	0	0		
cis-1,2-Dichloroethene	5.65	0.20	5	0	113	70	130	0	0		
cis-1,3-Dichloropropene	5.87	0.20	5	0	117	70	130	0	0		
Cyclohexane	5.53	0.20	5	0	111	70	130	0	0		
Dibromochloromethane	5.94	0.20	5	0	119	70	130	0	0		
Dichlorodifluoromethane	5.81	0.20	5	0	116	70	130	0	0		
Ethyl acetate	5.52	0.20	5	0	110	70	130	0	0		
Ethylbenzene	5.9	0.20	5	0	118	70	130	0	0		
Freon-113	5.59	0.20	5	0	112	70	130	0	0		
Freon-114	4.96	0.20	5	0	99.2	70	130	0	0		
Heptane	5.58	0.20	5	0	112	70	130	0	0		
Hexachlorobutadiene	6.27	0.20	5	0	125	70	130	0	0		
Hexane	5.5	1.0	5	0	110	70	130	0	0		
Isopropyl Alcohol	5.06	1.0	5	0	101	70	130	0	0		
m,p-Xylene	11.69	0.40	10	0	117	70	130	0	0		
Methyl tert-butyl ether	5.63	0.20	5	0	113	70	130	0	0		
Methylene chloride	4.67	2.0	5	0	93.4	70	130	0	0		
o-Xylene	5.82	0.20	5	0	116	70	130	0	0		
Propene	6.1	2.0	5	0	122	70	130	0	0		
Styrene	5.95	0.20	5	0	119	70	130	0	0		
Tetrachloroethene	5.76	0.20	5	0	115	70	130	0	0		
Tetrahydrofuran	5.28	0.50	5	0	106	70	130	0	0		
Toluene	5.73	0.20	5	0	115	70	130	0	0		
trans-1,2-Dichloroethene	5.41	0.20	5	0	108	70	130	0	0		
trans-1,3-Dichloropropene	6.26	0.50	5	0	125	70	130	0	0		
Trichloroethene	5.67	0.50	5	0	113	70	130	0	0		
Trichlorofluoromethane	5.5	0.20	5	0	110	70	130	0	0		
Vinyl acetate	5.89	2.0	5	0	118	70	130	0	0		
Vinyl chloride	4.24	0.20	5	0	84.8	70	130	0	0		
Xylenes, Total	17.51	0.60	15	0	117	70	130	0	0		

Qualifiers:
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R68944

Sample ID: **LCSD011411-6** SampType: **LCSD** TestCode: **TO_15A** Units: **ppbv** Prep Date: Run ID: **VOA-6_110114A**
Client ID: **ZZZZZ** Batch ID: **R68944** TestNo: **TO-15** Analysis Date: **1/14/2011** SeqNo: **1844935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	5.48	0.20	5	0	110	70	130	5.51	0.546	25	
1,1,2,2-Tetrachloroethane	5.68	0.20	5	0	114	70	130	5.74	1.05	25	
1,1,2-Trichloroethane	5.64	0.20	5	0	113	70	130	5.67	0.531	25	
1,1-Dichloroethane	5.56	0.50	5	0	111	70	130	5.61	0.895	25	
1,1-Dichloroethene	5.42	0.20	5	0	108	70	130	5.45	0.552	25	
1,2,4-Trichlorobenzene	5.84	0.50	5	0	117	70	130	5.97	2.20	25	
1,2,4-Trimethylbenzene	5.75	0.20	5	0	115	70	130	5.82	1.21	25	
1,2-Dibromoethane	5.73	0.20	5	0	115	70	130	5.78	0.869	25	
1,2-Dichlorobenzene	5.66	0.20	5	0	113	70	130	5.7	0.704	25	
1,2-Dichloroethane	5.31	0.20	5	0	106	70	130	5.33	0.376	25	
1,2-Dichloropropane	5.52	0.20	5	0	110	70	130	5.57	0.902	25	
1,3,5-Trimethylbenzene	5.83	0.20	5	0	117	70	130	5.82	0.172	25	
1,3-Butadiene	5.23	0.20	5	0	105	70	130	4.46	15.9	25	
1,3-Dichlorobenzene	5.82	0.20	5	0	116	70	130	5.87	0.855	25	
1,4-Dichlorobenzene	5.77	0.20	5	0	115	70	130	5.85	1.38	25	
1,4-Dioxane	5.33	1.0	5	0	107	70	130	5.3	0.564	25	
2-Butanone	5.93	0.50	5	0	119	70	130	5.88	0.847	25	
2-Hexanone	5.82	2.0	5	0	116	70	130	5.71	1.91	25	
4-Ethyltoluene	5.9	0.20	5	0	118	70	130	5.92	0.338	25	
4-Methyl-2-pentanone	5.85	1.0	5	0	117	70	130	5.78	1.20	25	
Acetone	4.93	2.0	5	0.16	95.4	70	130	5.03	2.01	25	*
Benzene	5.64	0.20	5	0	113	70	130	5.64	0	25	
Benzyl chloride	6.24	1.0	5	0	125	70	130	6.13	1.78	25	
Bromodichloromethane	5.7	0.20	5	0	114	70	130	5.77	1.22	25	
Bromoform	6.33	1.0	5	0	127	70	130	6.38	0.787	25	
Bromomethane	5.42	1.0	5	0	108	70	130	4.89	10.3	25	
Carbon disulfide	5.85	1.0	5	0	117	70	130	5.83	0.342	25	
Carbon tetrachloride	5.36	0.20	5	0	107	70	130	5.42	1.11	25	
Chlorobenzene	5.77	0.20	5	0	115	70	130	5.81	0.691	25	
Chloroethane	5.73	0.20	5	0	115	70	130	5.22	9.32	25	
Chloroform	5.42	0.20	5	0	108	70	130	5.49	1.28	25	

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R68944

Sample ID: **LCSD011411-6** SampType: **LCSD** TestCode: **TO_15A** Units: **ppbv** Prep Date: Run ID: **VOA-6_110114A**
Client ID: ZZZZZ Batch ID: **R68944** TestNo: **TO-15** Analysis Date: **1/14/2011** SeqNo: **1844935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	5.62	1.0	5	0	112	70	130	5.63	0.178	25	
cis-1,2-Dichloroethene	5.64	0.20	5	0	113	70	130	5.65	0.177	25	
cis-1,3-Dichloropropene	5.89	0.20	5	0	118	70	130	5.87	0.340	25	
Cyclohexane	5.52	0.20	5	0	110	70	130	5.53	0.181	25	
Dibromochloromethane	5.91	0.20	5	0	118	70	130	5.94	0.506	25	
Dichlorodifluoromethane	5.74	0.20	5	0	115	70	130	5.81	1.21	25	
Ethyl acetate	5.61	0.20	5	0	112	70	130	5.52	1.62	25	
Ethylbenzene	5.84	0.20	5	0	117	70	130	5.9	1.02	25	
Freon-113	5.58	0.20	5	0	112	70	130	5.59	0.179	25	
Freon-114	5.39	0.20	5	0	108	70	130	4.96	8.31	25	
Heptane	5.56	0.20	5	0	111	70	130	5.58	0.359	25	
Hexachlorobutadiene	6	0.20	5	0	120	70	130	6.27	4.40	25	
Hexane	5.45	1.0	5	0	109	70	130	5.5	0.913	25	
Isopropyl Alcohol	4.88	1.0	5	0	97.6	70	130	5.06	3.62	25	
m,p-Xylene	11.64	0.40	10	0	116	70	130	11.69	0.429	25	
Methyl tert-butyl ether	5.69	0.20	5	0	114	70	130	5.63	1.06	25	
Methylene chloride	4.65	2.0	5	0	93	70	130	4.67	0.429	25	
o-Xylene	5.78	0.20	5	0	116	70	130	5.82	0.690	25	
Propene	5.89	2.0	5	0	118	70	130	6.1	3.50	25	
Styrene	5.96	0.20	5	0	119	70	130	5.95	0.168	25	
Tetrachloroethene	5.74	0.20	5	0	115	70	130	5.76	0.348	25	
Tetrahydrofuran	5.26	0.50	5	0	105	70	130	5.28	0.380	25	
Toluene	5.72	0.20	5	0	114	70	130	5.73	0.175	25	
trans-1,2-Dichloroethene	5.37	0.20	5	0	107	70	130	5.41	0.742	25	
trans-1,3-Dichloropropene	6.27	0.50	5	0	125	70	130	6.26	0.160	25	
Trichloroethene	5.6	0.50	5	0	112	70	130	5.67	1.24	25	
Trichlorofluoromethane	5.5	0.20	5	0	110	70	130	5.5	0	25	
Vinyl acetate	6	2.0	5	0	120	70	130	5.89	1.85	25	
Vinyl chloride	4.84	0.20	5	0	96.8	70	130	4.24	13.2	25	
Xylenes, Total	17.42	0.60	15	0	116	70	130	17.51	0.515	25	

Qualifiers:
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CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 54018

Sample ID: **11010249-001A** SampType: **DUP** TestCode: **EPA_25C** Units: **ppmv** Prep Date: **1/14/2011** Run ID: **GC-TCD1_110126A**
Client ID: **BW-LFGStack-57A** Batch ID: **54018** TestNo: **Method 25c** Analysis Date: **1/26/2011** SeqNo: **1850345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NMOC	-951.6	770	0	0	0	0	0	918.7	3.52	5	*

Sample ID: **11010249-001A** SampType: **DUP** TestCode: **EPA_3C** Units: **mol %** Prep Date: **1/14/2011** Run ID: **GC-TCD1_110119A**
Client ID: **BW-LFGStack-57A** Batch ID: **54018** TestNo: **Method 3c** Analysis Date: **1/19/2011** SeqNo: **1846721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon Dioxide	23.51	0.0617	0	0	0	0	0	23.55	0.171	5	
Methane	40.18	0.0772	0	0	0	0	0	40.18	0.00384	5	
Nitrogen	23.25	1.54	0	0	0	0	0	23.38	0.550	5	
Oxygen	4.714	0.617	0	0	0	0	0	4.711	0.0655	5	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R69006

Sample ID: **MB0111911-3C** SampType: **MBLK** TestCode: **EPA_3C** Units: **mol %** Prep Date: Run ID: **GC-TCD1_110119A**
Client ID: ZZZZZ Batch ID: **R69006** TestNo: **Method 3c** Analysis Date: **1/19/2011** SeqNo: **1846719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon Dioxide	ND	0.0400									
Methane	ND	0.0500									
Nitrogen	ND	1.00									
Oxygen	ND	0.400									

Sample ID: **LCS011911-3C L5** SampType: **LCS** TestCode: **EPA_3C** Units: **mol %** Prep Date: Run ID: **GC-TCD1_110119A**
Client ID: ZZZZZ Batch ID: **R69006** TestNo: **Method 3c** Analysis Date: **1/19/2011** SeqNo: **1846718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon Dioxide	34.18	0.0400	35	0	97.7	80	120	0	0		
Methane	47.31	0.0500	50	0	94.6	80	120	0	0		
Nitrogen	9.494	1.00	10	0	94.9	80	120	0	0		
Oxygen	4.837	0.400	5	0	96.7	80	120	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Montgomery Watson Harza
Work Order: 11010249
Project: 1007333.04811101, Blackwell, Warrenville, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R69144

Sample ID: **MB012611-F** SampType: **MBLK** TestCode: **EPA_25C** Units: **ppmv** Prep Date: Run ID: **GC-TCD1_110126A**
Client ID: ZZZZZ Batch ID: **R69144** TestNo: **Method 25c** Analysis Date: **1/26/2011** SeqNo: **1850343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NMOC	ND	50									*
Methane	ND	3.0									*

Sample ID: **LCS012611-F 10.0** SampType: **LCS** TestCode: **EPA_25C** Units: **ppmv** Prep Date: Run ID: **GC-TCD1_110126A**
Client ID: ZZZZZ Batch ID: **R69144** TestNo: **Method 25c** Analysis Date: **1/26/2011** SeqNo: **1850342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	10.42	3.0	10	0	104	90	110	0	0		*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

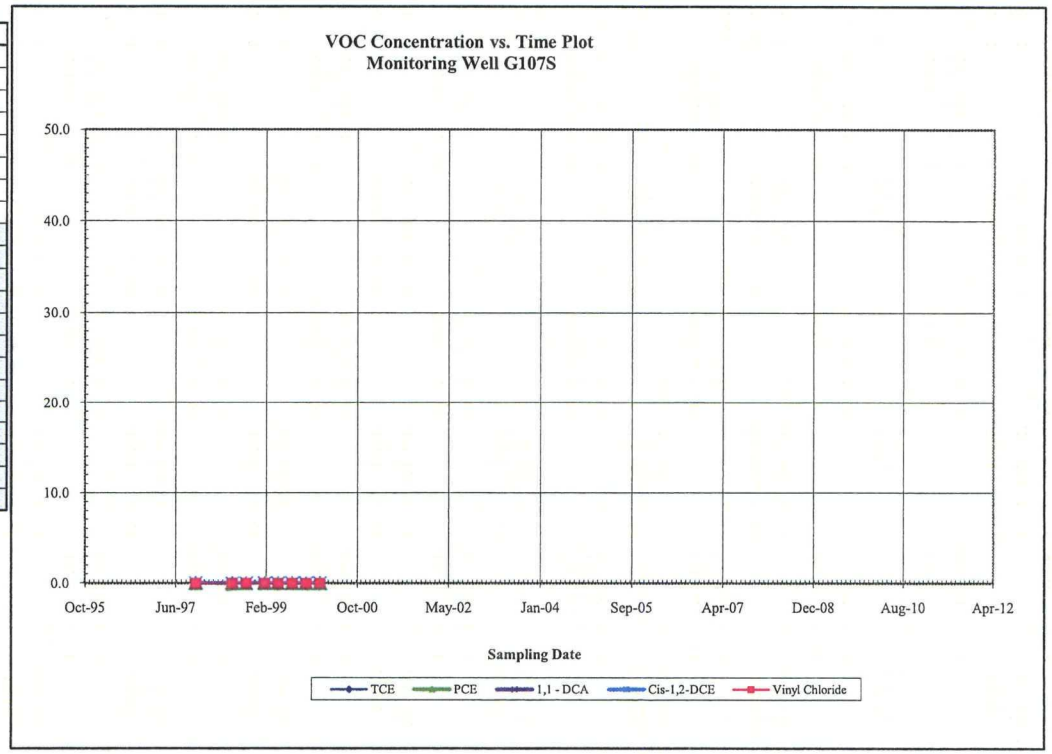
APPENDIX E

GROUNDWATER CONCENTRATION VS. TIME PLOTS

Concentration vs. Time Plot for Monitoring Well G107S

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

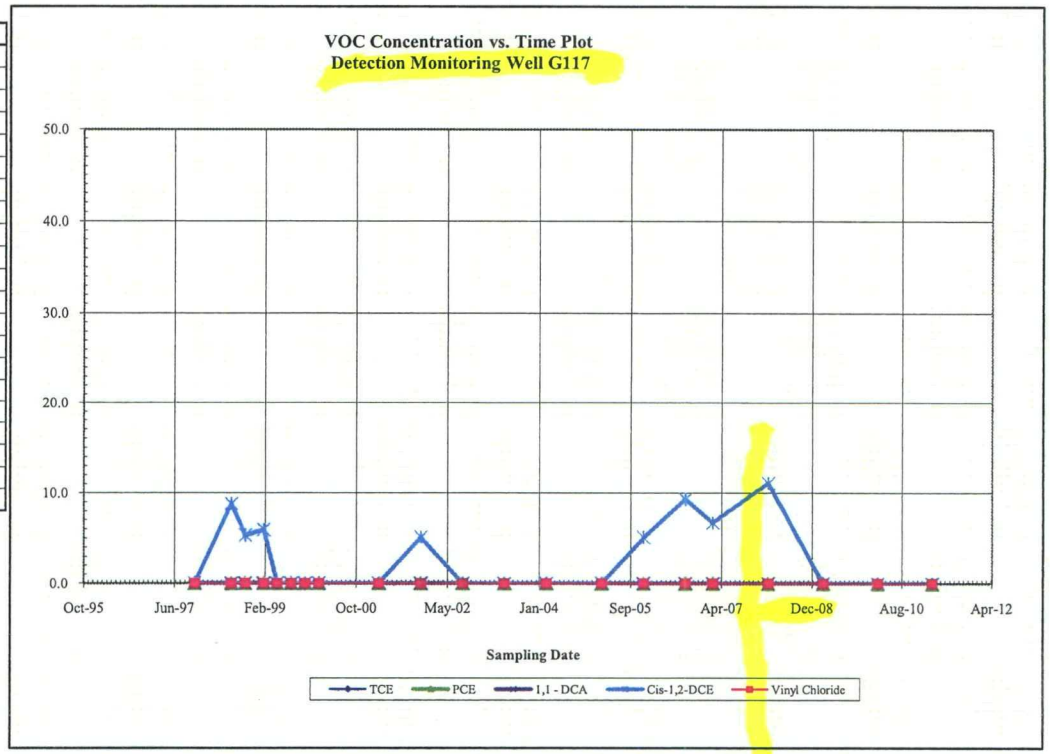
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Detection Monitoring Well G117

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	8.8	ND
October-98	ND	ND	ND	5.3	ND
February-99	ND	ND	ND	5.9	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	5.1	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	5.1	ND
September-06	ND	ND	ND	9.3	ND
March-07	ND	ND	ND	6.7	ND
March-08	ND	ND	ND	11.1	ND
March-09	ND	ND	ND	ND	ND
March-10	ND	ND	ND	ND	ND
March-11	ND	ND	ND	ND	ND

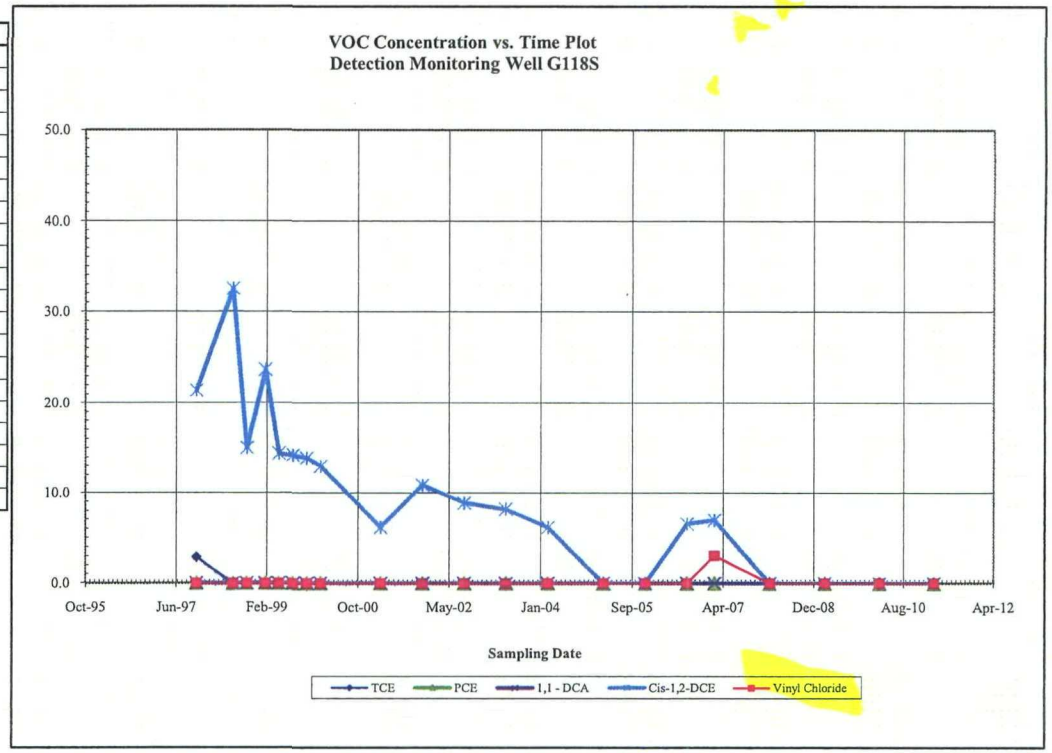
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter



Concentration vs. Time Plot for Detection Monitoring Well G118S

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	2.9	ND	ND	21.4	ND
July-98	ND	ND	ND	32.5	ND
October-98	ND	ND	ND	15.0	ND
February-99	ND	ND	ND	23.7	ND
May-99	ND	ND	ND	14.4	ND
August-99	ND	ND	ND	14.2	ND
November-99	ND	ND	ND	13.9	ND
February-00	ND	ND	ND	13.0	ND
March-01	ND	ND	ND	6.2	ND
December-01	ND	ND	ND	10.9	ND
September-02	ND	ND	ND	8.9	ND
June-03	ND	ND	ND	8.2	ND
March-04	ND	ND	ND	6.2	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	6.6	ND
March-07	ND	ND	ND	7.0	3.1
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10	ND	ND	ND	ND	ND
March-11	ND	ND	ND	ND	ND

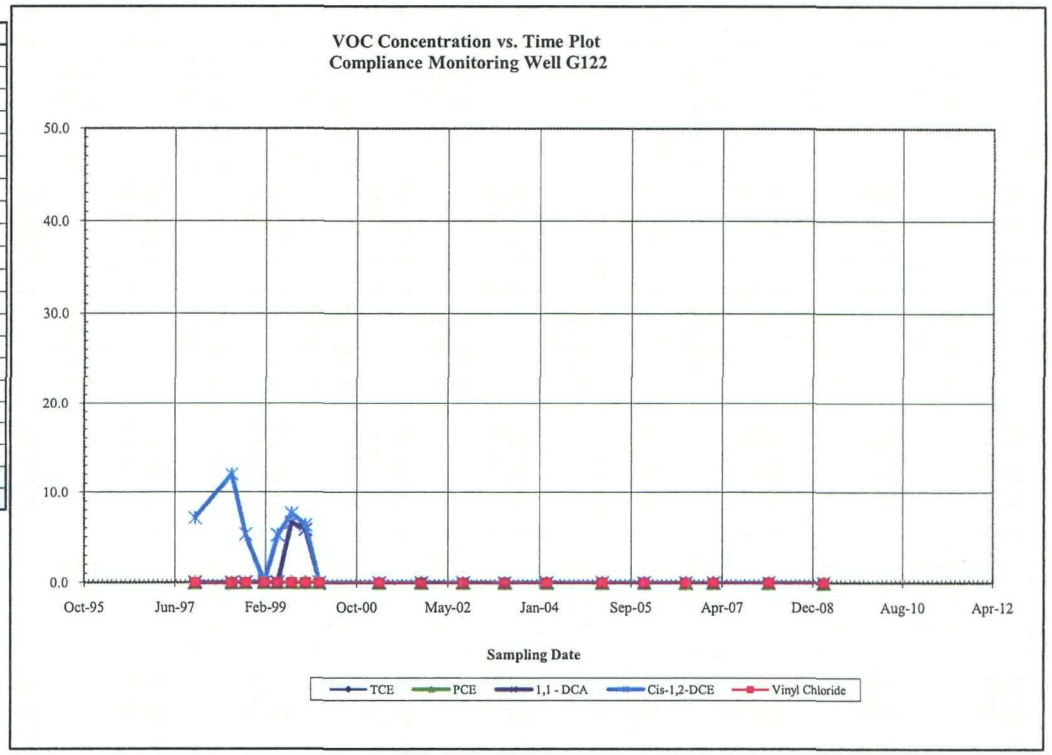
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter



Concentration vs. Time Plot for
Compliance Monitoring Well G122

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	7.1	ND
July-98	ND	ND	ND	12.0	ND
October-98	ND	ND	ND	5.3	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	5.2	ND
August-99	ND	ND	6.6	7.6	ND
November-99	ND	ND	5.8	6.3	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10					
March-11					

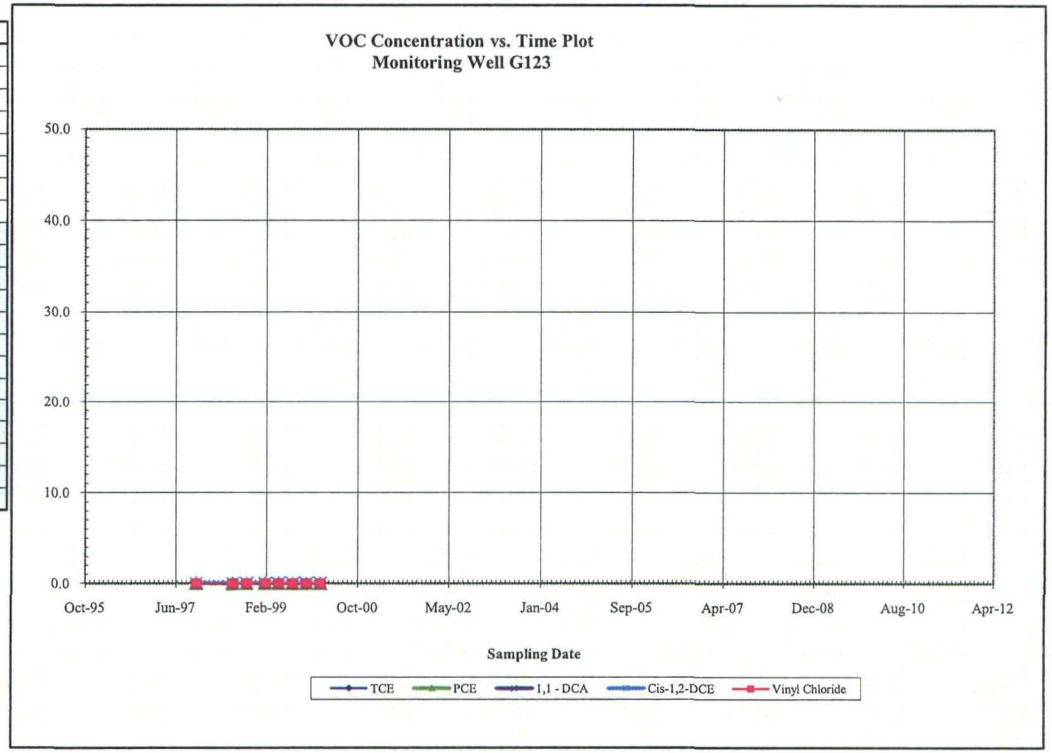
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G123

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

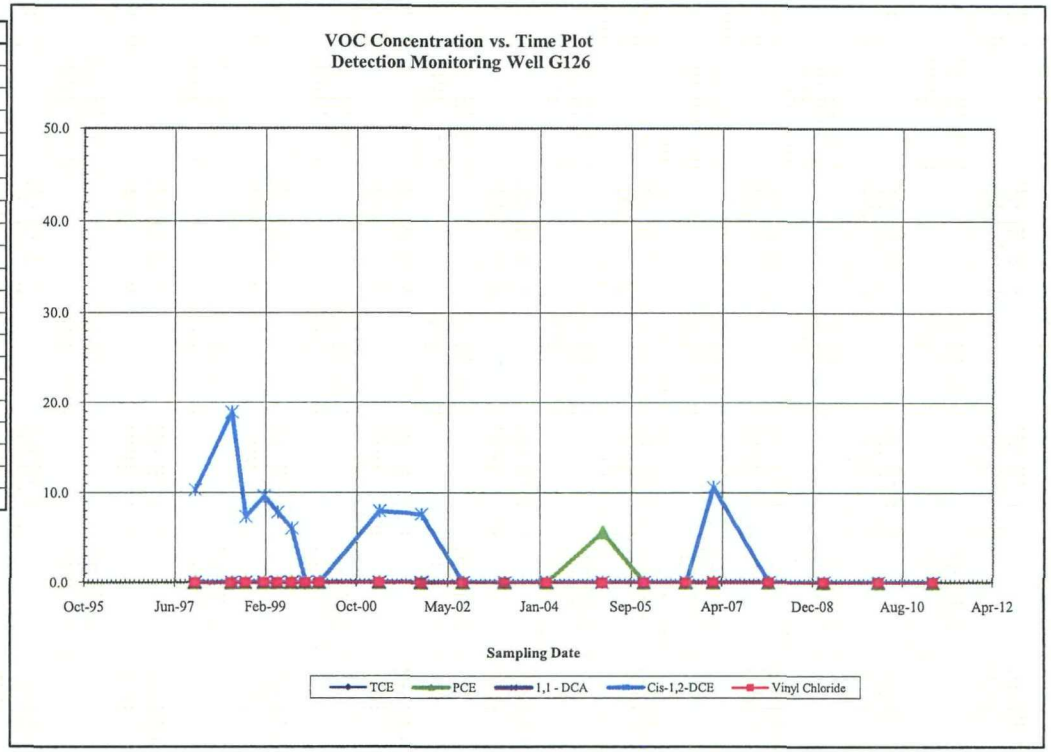
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Detection Monitoring Well G126

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	10.3	ND
July-98	ND	ND	ND	18.9	ND
October-98	ND	ND	ND	7.3	ND
February-99	ND	ND	ND	9.6	ND
May-99	ND	ND	ND	7.8	ND
August-99	ND	ND	ND	6.0	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	7.9	ND
December-01	ND	ND	ND	7.6	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	5.6	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	10.6	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10	ND	ND	ND	ND	ND
March-11	ND	ND	ND	ND	ND

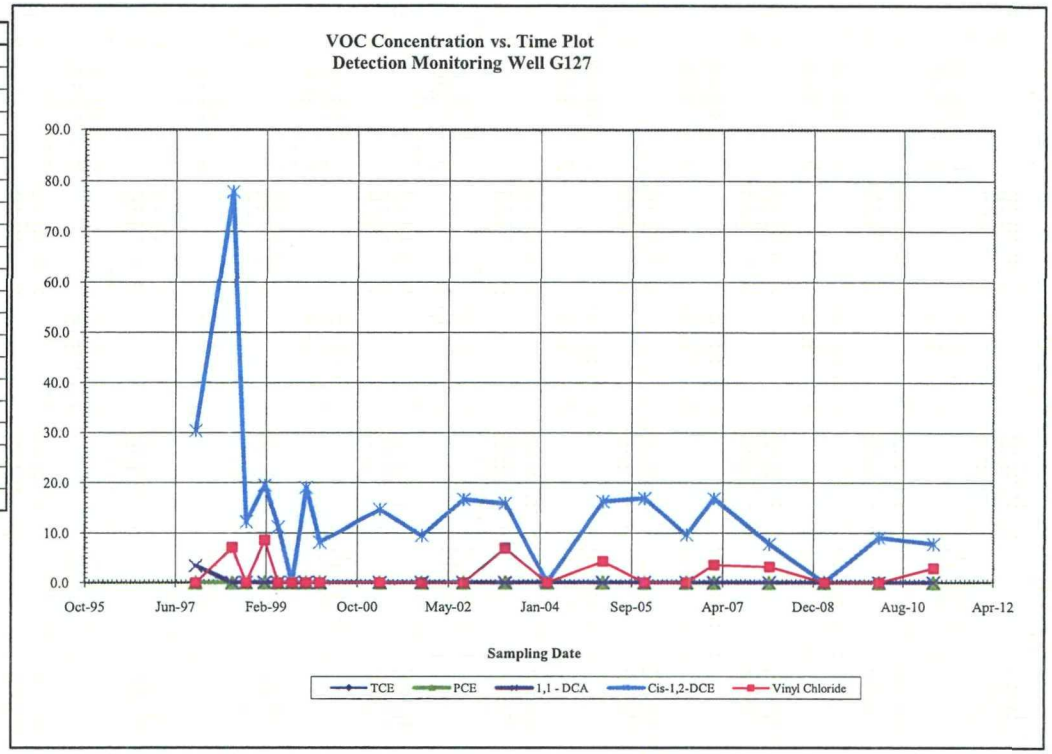
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter



Concentration vs. Time Plot for
Detection Monitoring Well G127

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	3.4	30.3	ND
July-98	ND	ND	ND	77.9	7.1
October-98	ND	ND	ND	12.1	ND
February-99	ND	ND	ND	19.5	8.6
May-99	ND	ND	ND	11.1	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	19.0	ND
February-00	ND	ND	ND	8.1	ND
March-01	ND	ND	ND	14.6	ND
December-01	ND	ND	ND	9.4	ND
September-02	ND	ND	ND	16.6	ND
June-03	ND	ND	ND	15.8	6.9
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	16.2	4.3
December-05	ND	ND	ND	16.8	ND
September-06	ND	ND	ND	9.6	ND
March-07	ND	ND	ND	16.8	3.6
March-08	ND	ND	ND	7.8	3.2
March-09	ND	ND	ND	ND	ND
March-10	ND	ND	ND	9.0	ND
March-11	ND	ND	ND	7.8	2.9

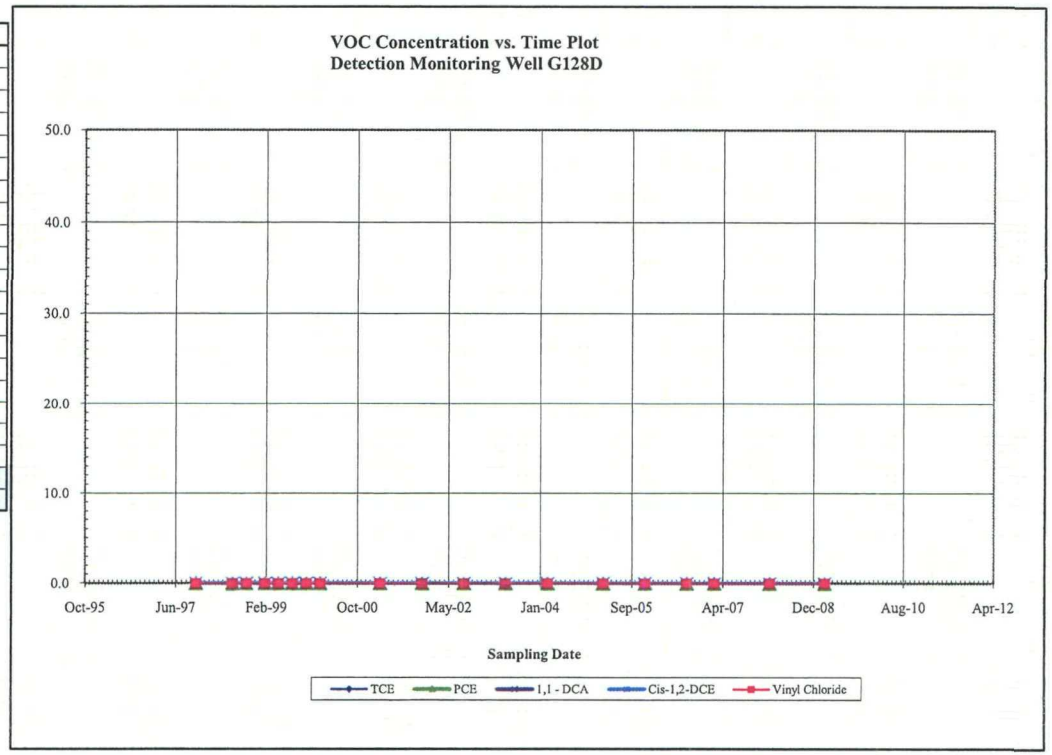
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter



Concentration vs. Time Plot for
Detection Monitoring Well G128D

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10					
March-11					

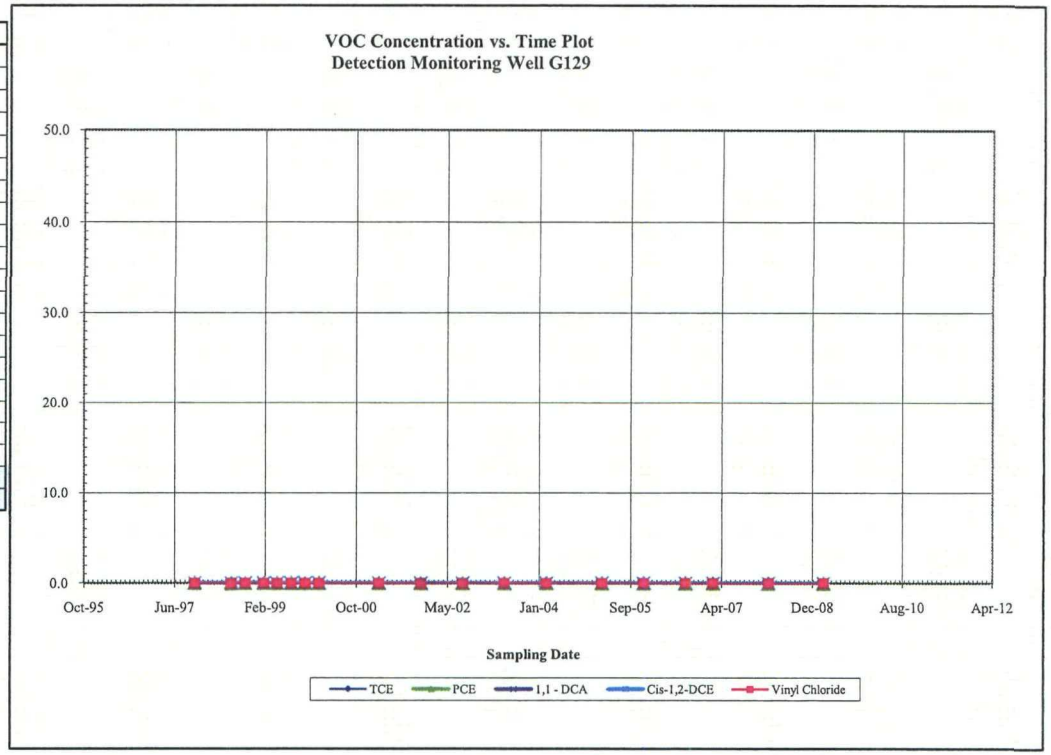
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Detection Monitoring Well G129

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10					
March-11					

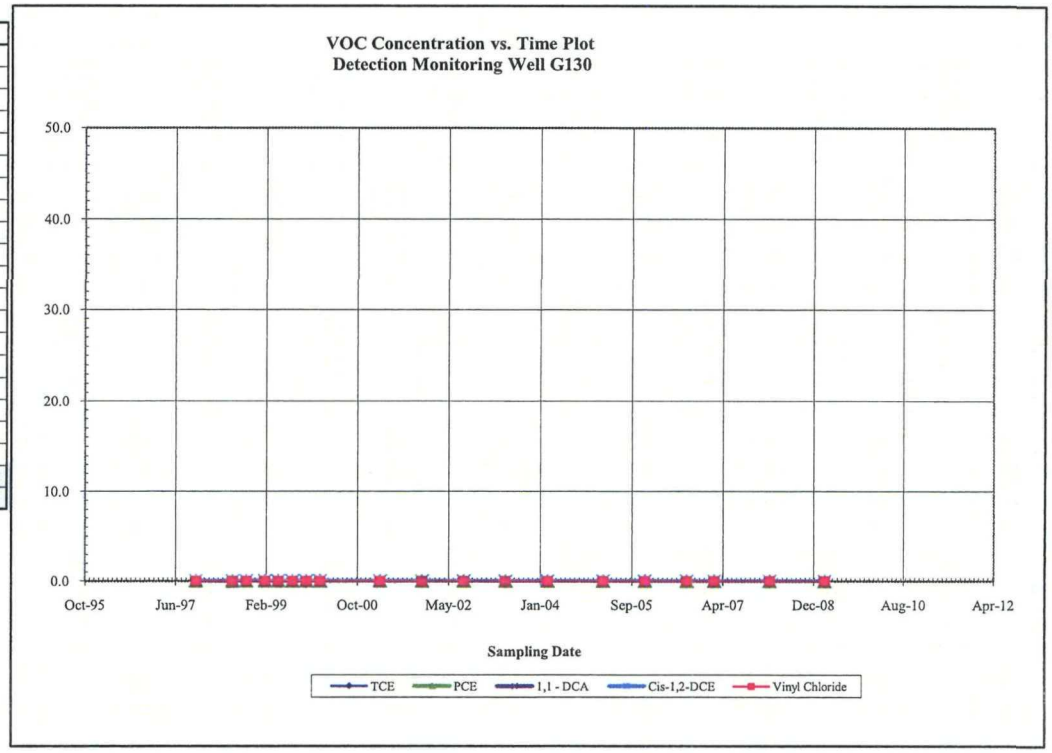
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Detection Monitoring Well G130

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10					
March-11					

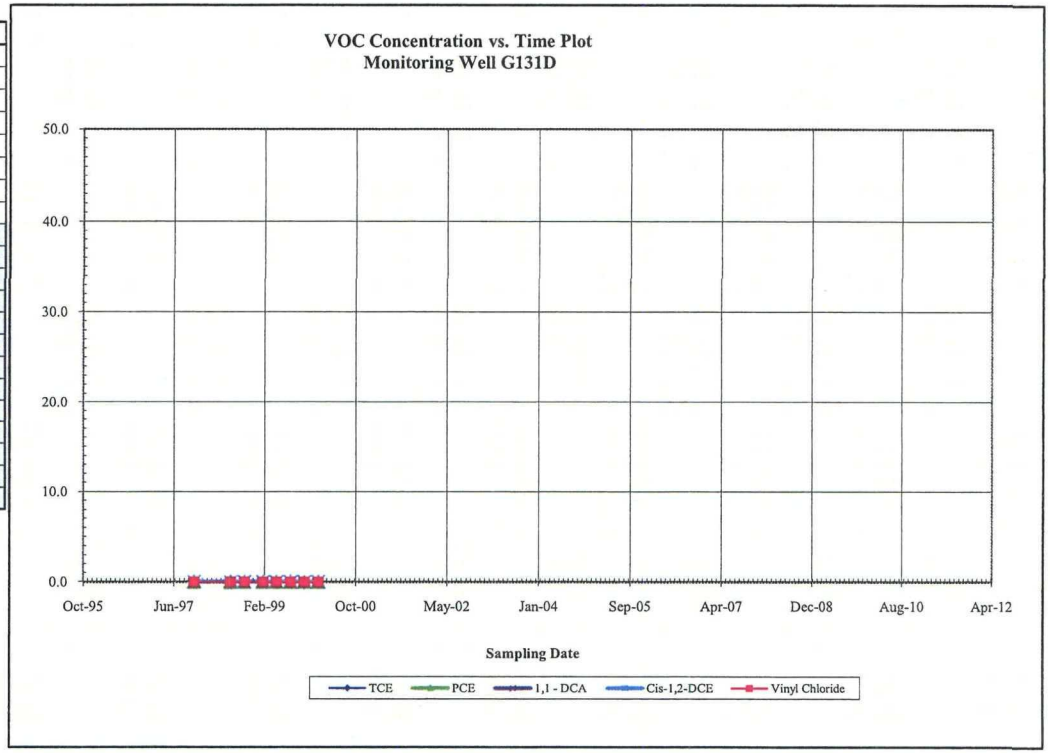
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G131D

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

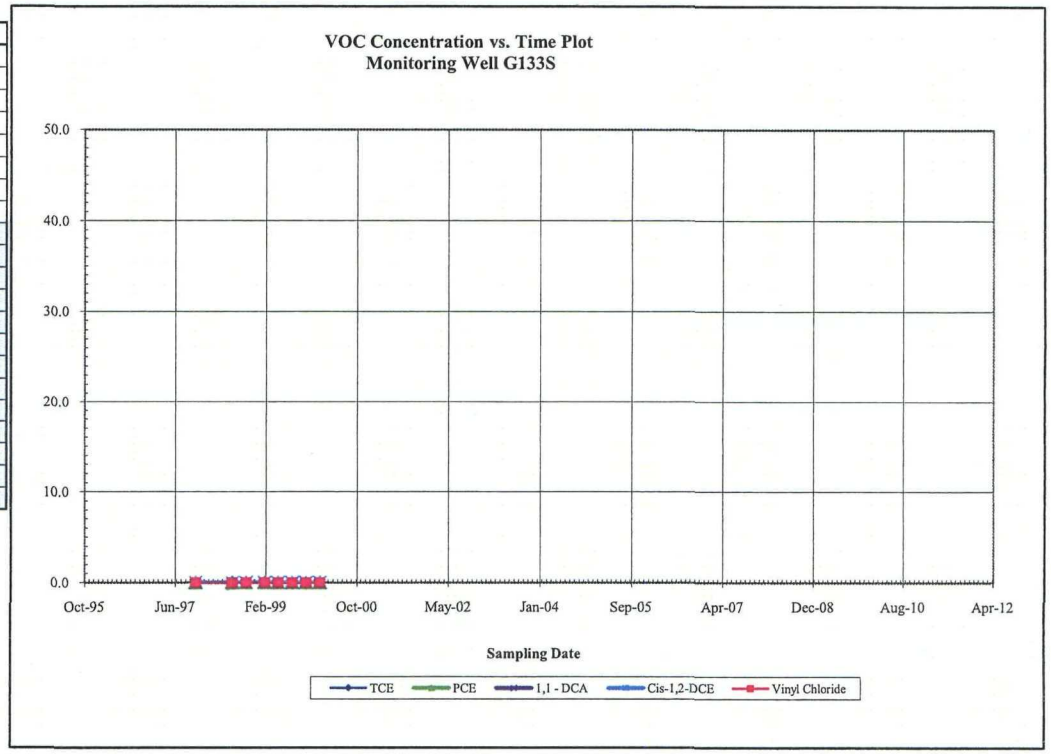
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G133S

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

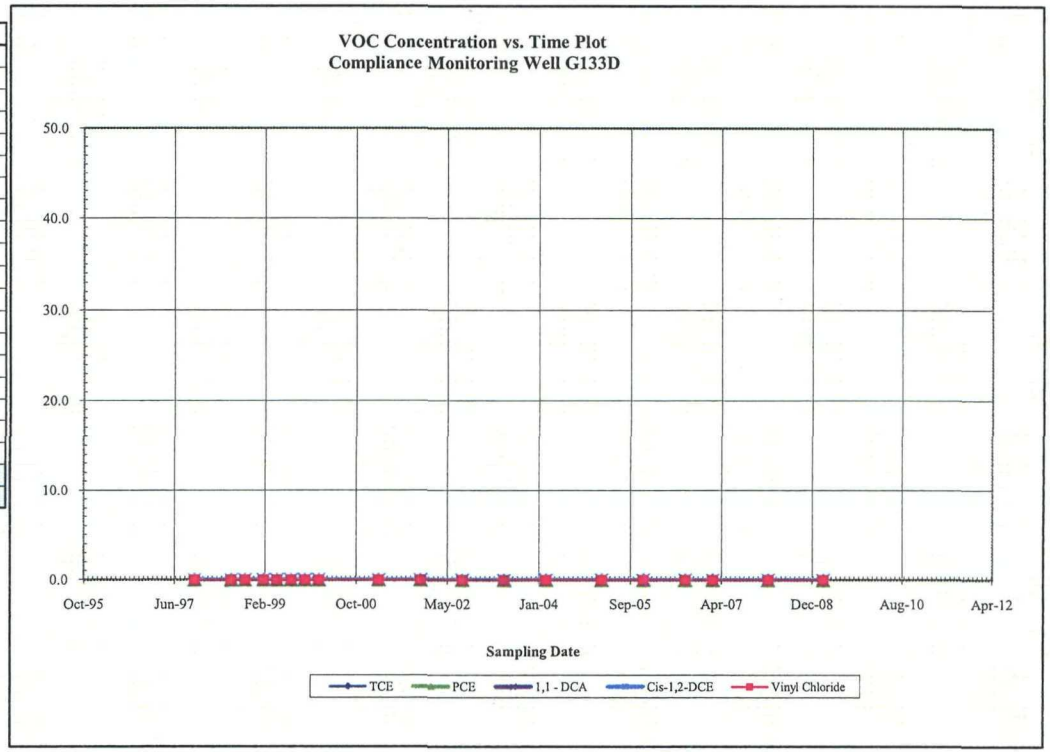
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Compliance Monitoring Well G133D

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10					
March-11					

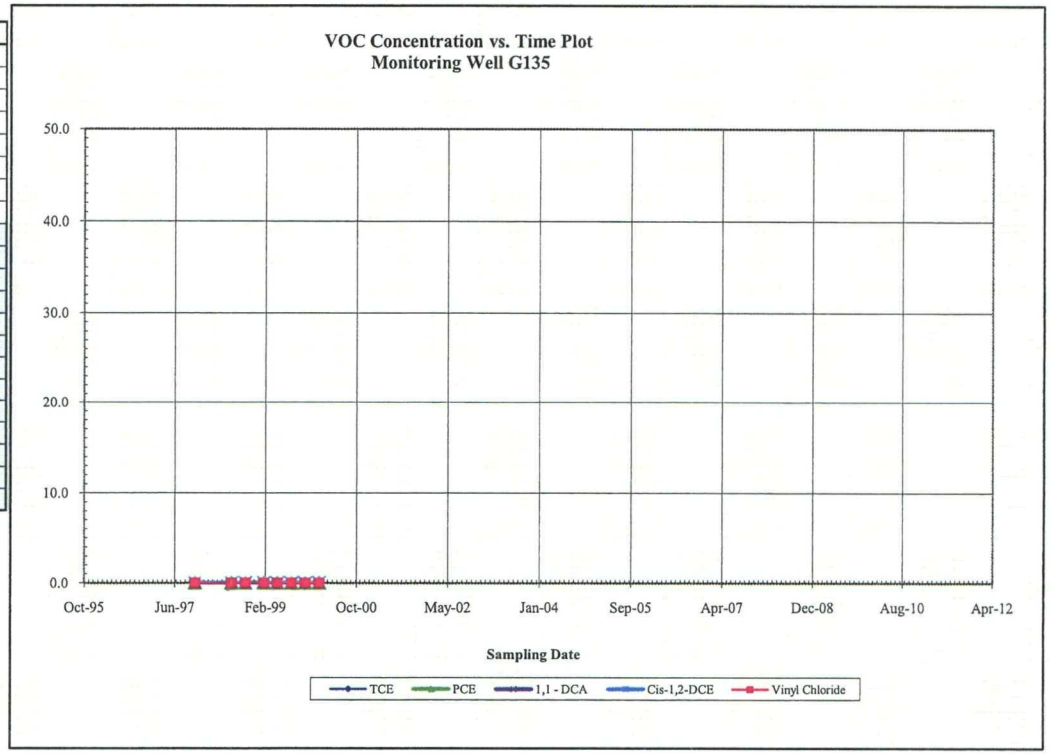
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G135

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

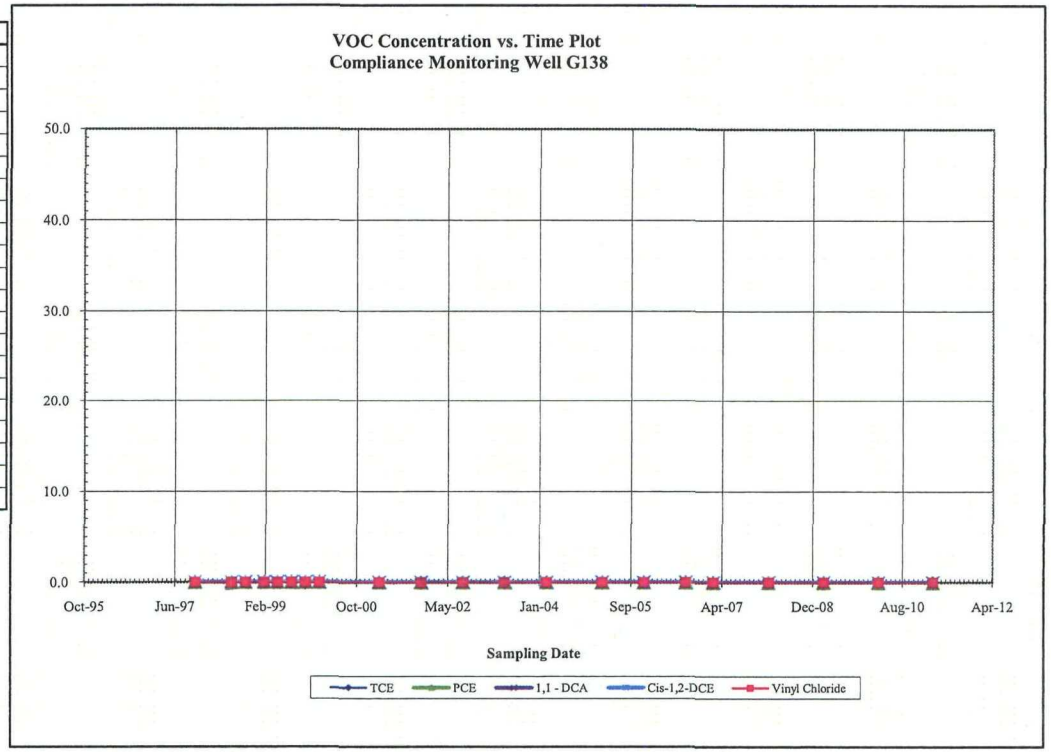
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Compliance Monitoring Well G138

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10	ND	ND	ND	ND	ND
March-11	ND	ND	ND	ND	ND

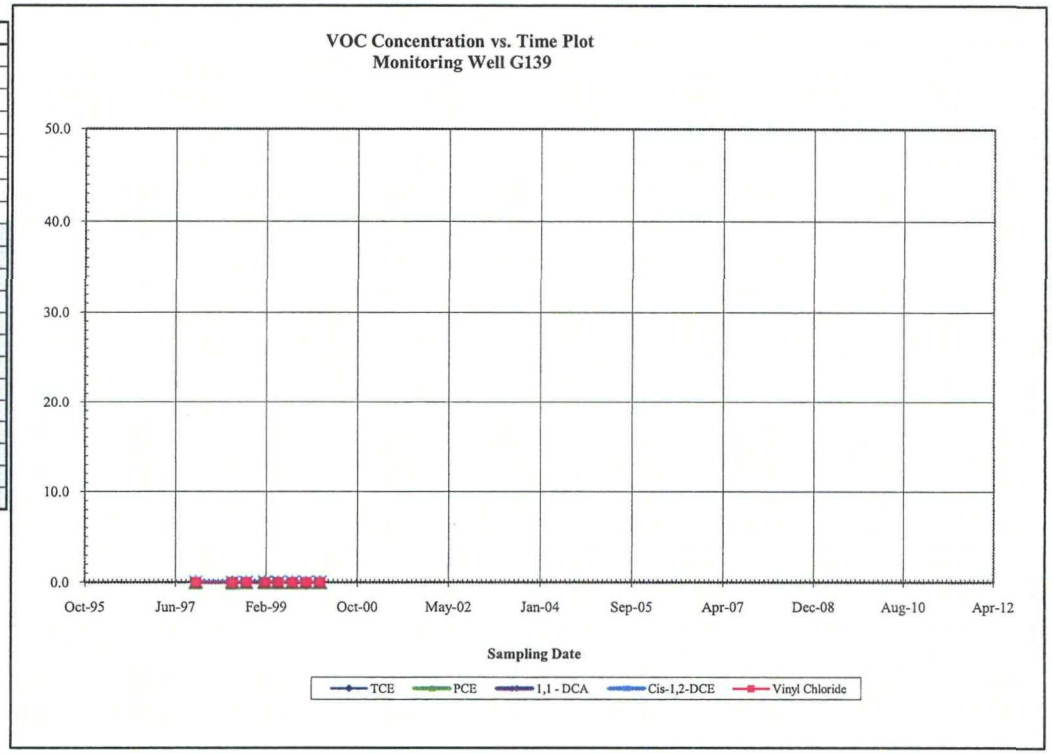
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter



Concentration vs. Time Plot for Monitoring Well G139

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

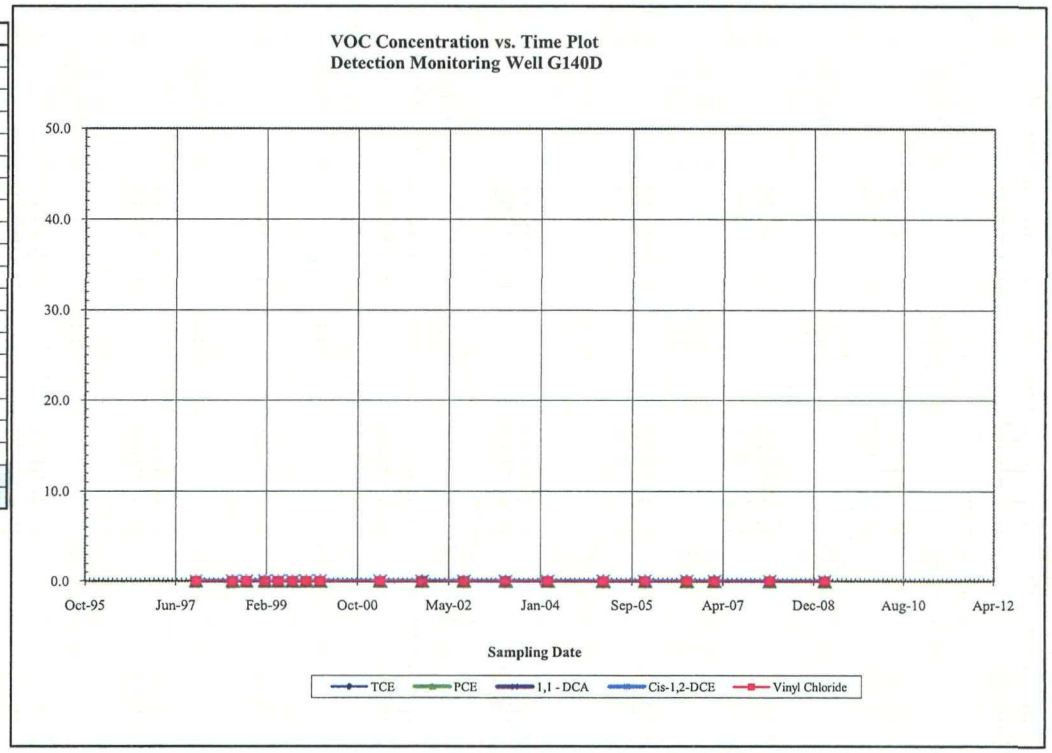
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Detection Monitoring Well G140D

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02	ND	ND	ND	ND	ND
June-03	ND	ND	ND	ND	ND
March-04	ND	ND	ND	ND	ND
March-05	ND	ND	ND	ND	ND
December-05	ND	ND	ND	ND	ND
September-06	ND	ND	ND	ND	ND
March-07	ND	ND	ND	ND	ND
March-08	ND	ND	ND	ND	ND
March-09	ND	ND	ND	ND	ND
March-10					
March-11					

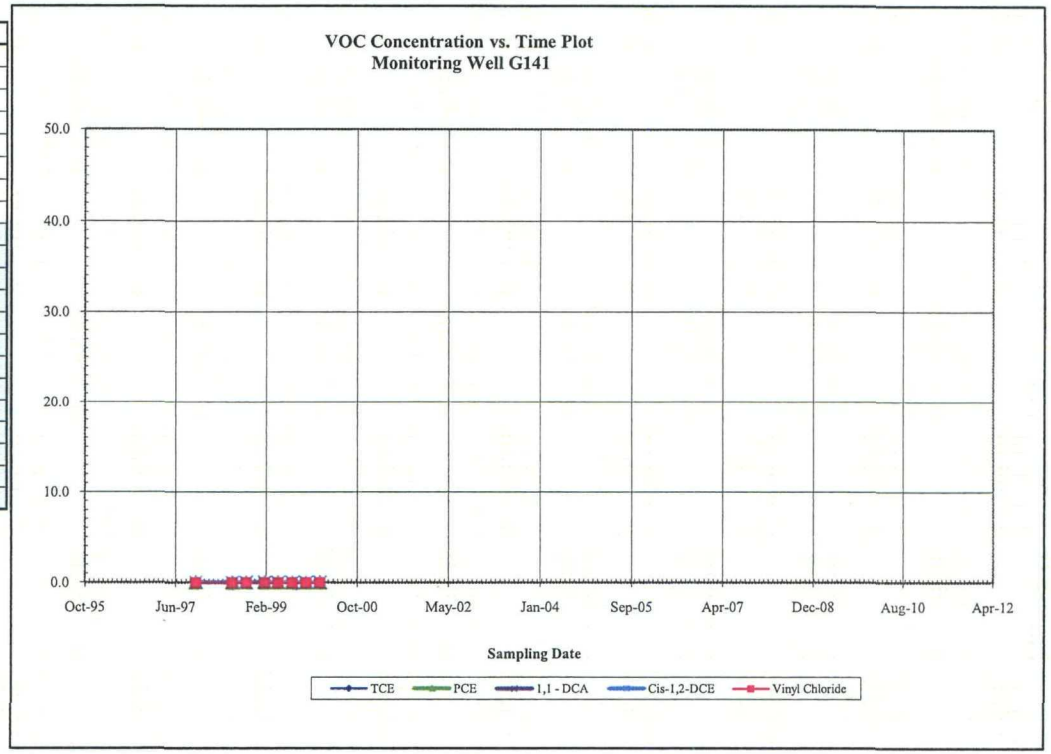
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G141

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

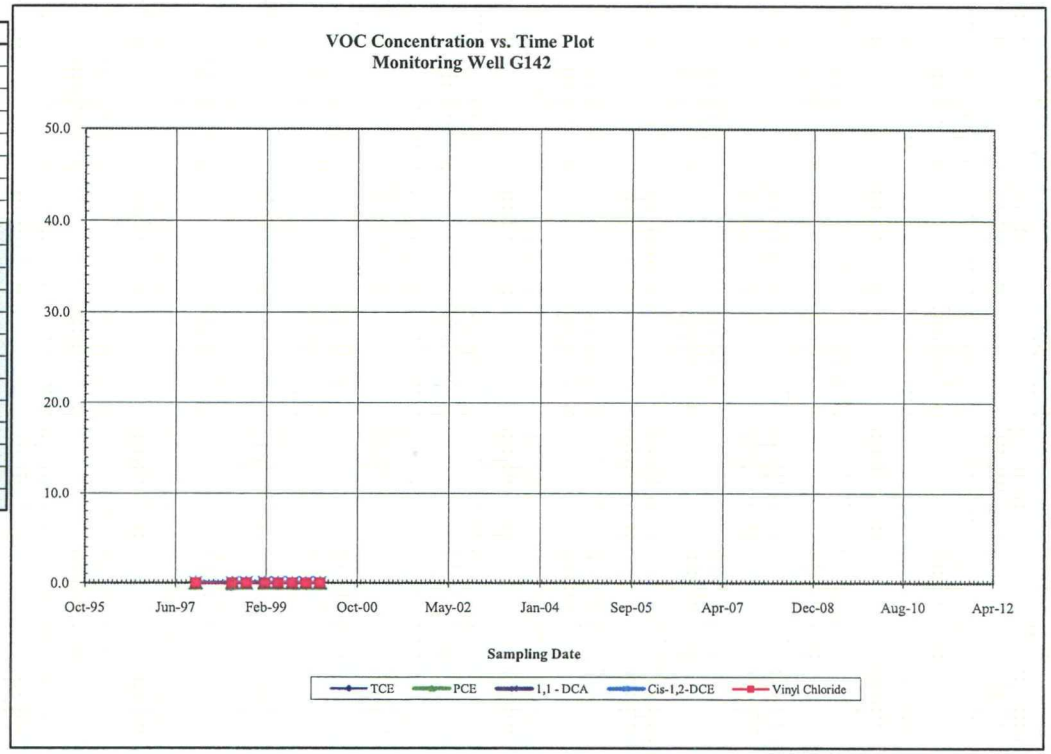
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G142

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

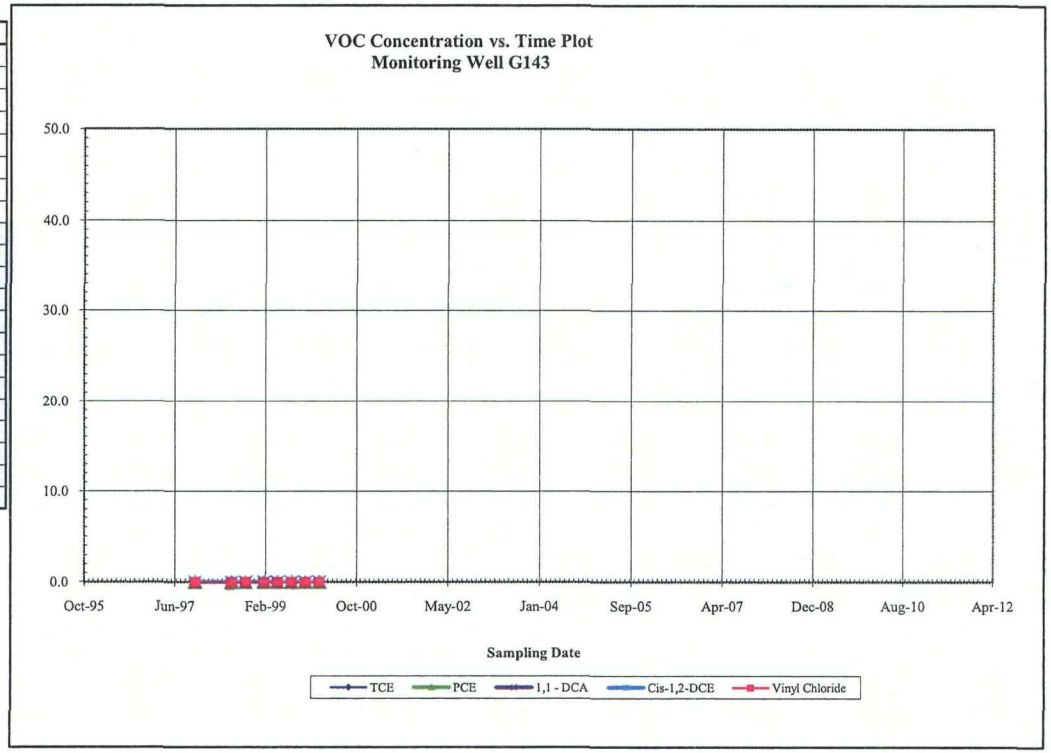
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G143

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

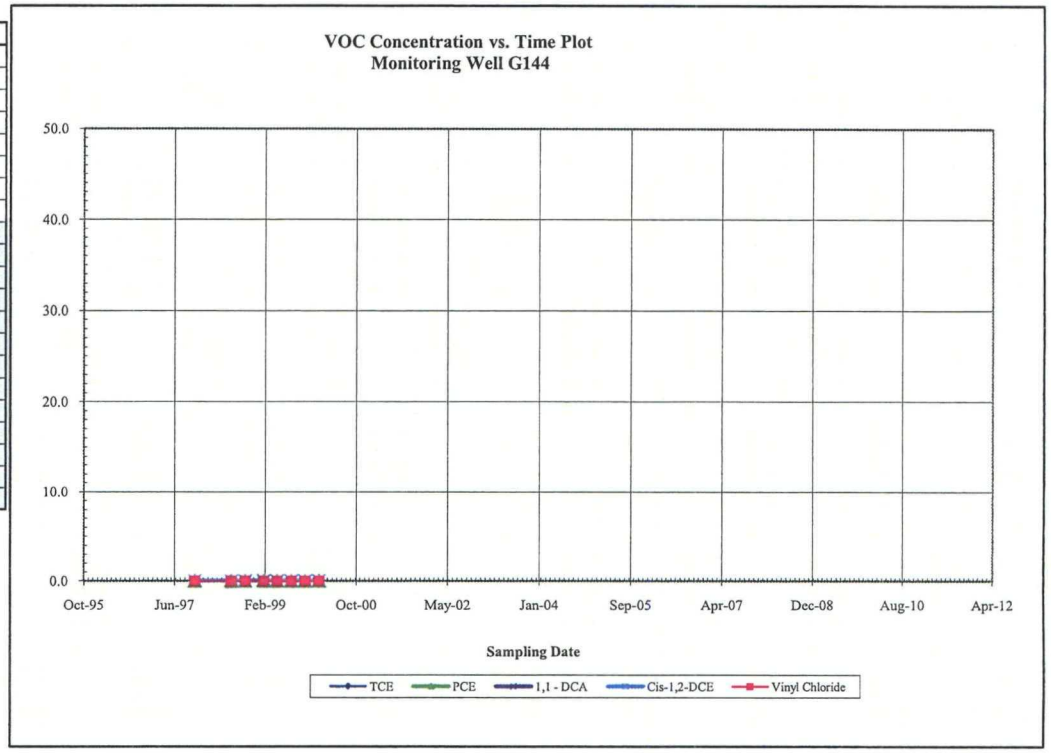
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G144

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

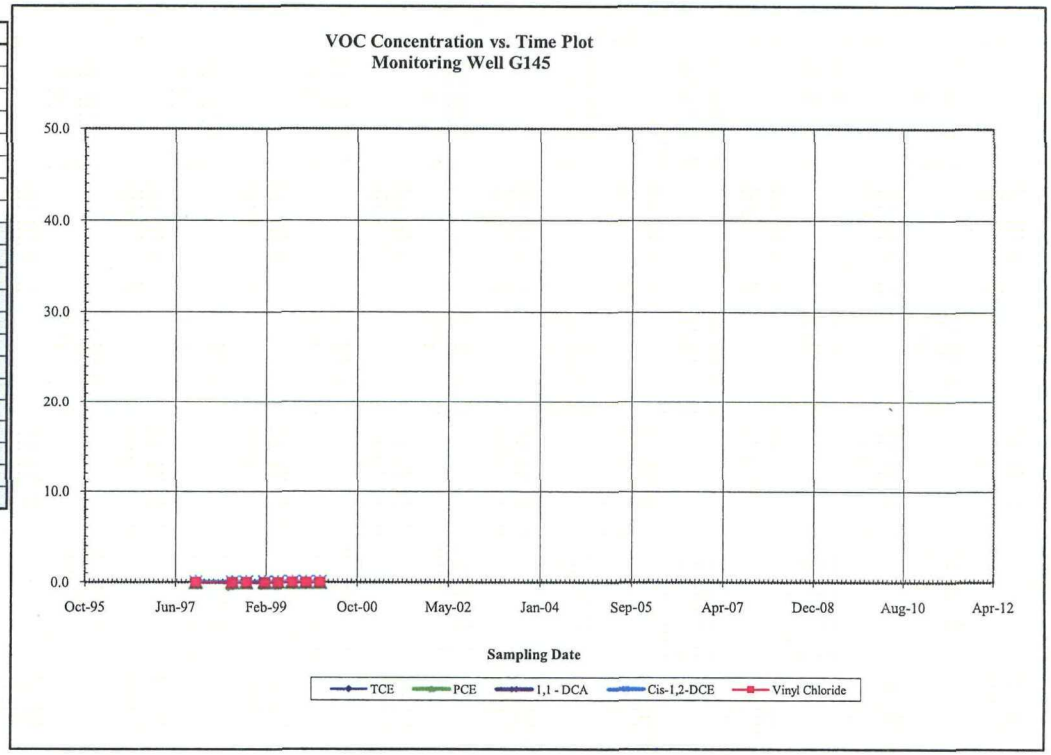
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for Monitoring Well G145

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

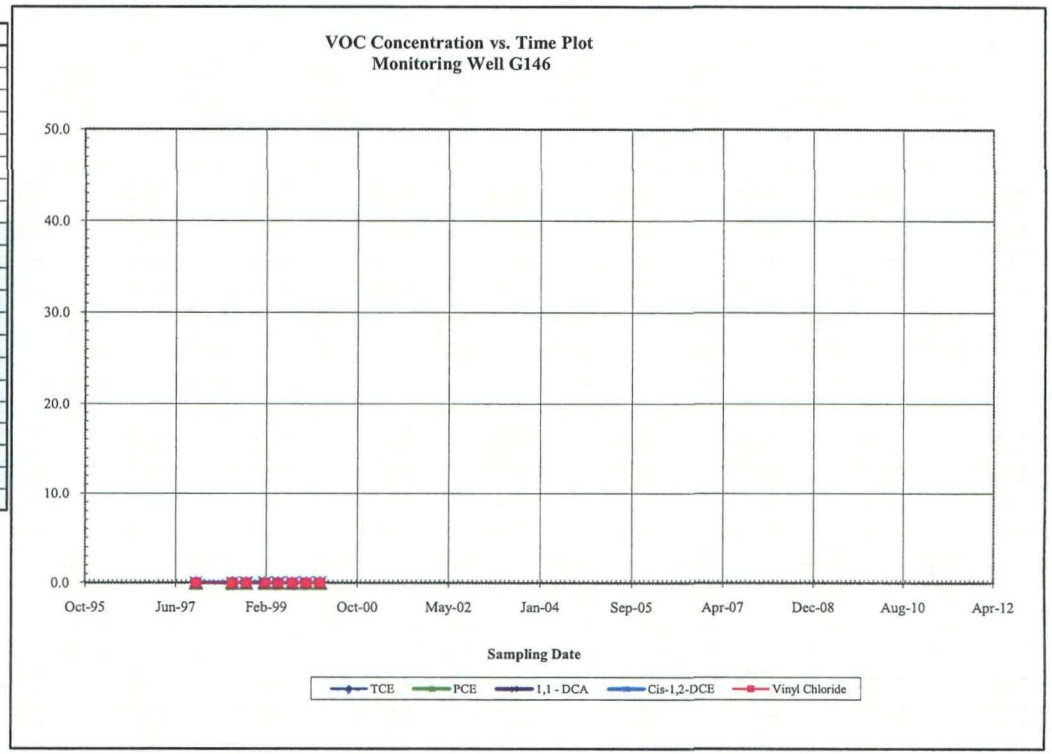
Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



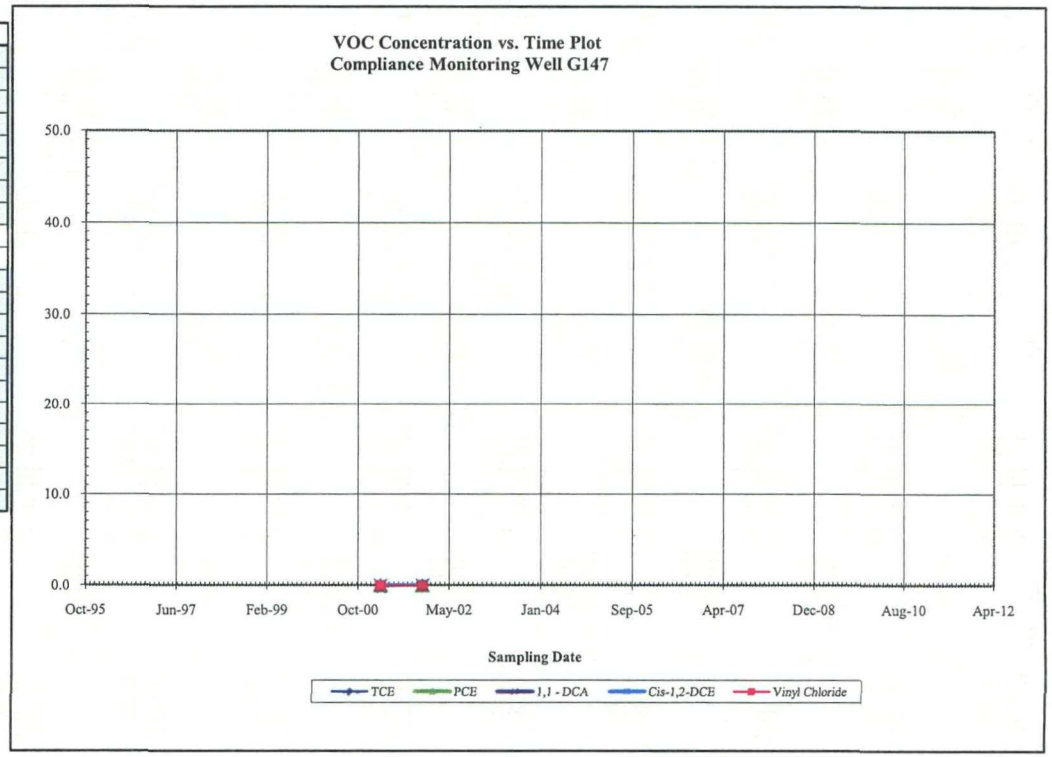
Concentration vs. Time Plot for Monitoring Well G146

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97	ND	ND	ND	ND	ND
July-98	ND	ND	ND	ND	ND
October-98	ND	ND	ND	ND	ND
February-99	ND	ND	ND	ND	ND
May-99	ND	ND	ND	ND	ND
August-99	ND	ND	ND	ND	ND
November-99	ND	ND	ND	ND	ND
February-00	ND	ND	ND	ND	ND
March-01					
December-01					
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event



Concentration vs. Time Plot for
Compliance Monitoring Well G147

DATE	TCE	PCE	1,1 - DCA	Cis-1,2-DCE	Vinyl Chloride
November-97					
July-98					
October-98					
February-99					
May-99					
August-99					
November-99					
February-00					
March-01	ND	ND	ND	ND	ND
December-01	ND	ND	ND	ND	ND
September-02					
June-03					
March-04					
March-05					
December-05					
September-06					
March-07					
March-08					
March-09					
March-10					
March-11					

Notes:
1,1 - DCA = 1,1-Dichloroethane
Cis-1,2-DCE = Cis-1,2-Dichloroethene
ND = Not Detected
PCE = Tetrachloroethene
TCE = Trichloroethene
All concentrations reported in micrograms per liter
Well was not sampled during particular monitoring event