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**BROOKHAVEN NATIONAL LABORATORY  
2008 ENVIRONMENTAL MONITORING  
REPORT  
CURRENT AND FORMER LANDFILL AREAS**

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**March 16, 2009  
Revised September 2, 2009**



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**2008 ENVIRONMENTAL MONITORING REPORT**  
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*Executive Summary*

This report documents the Operations and Maintenance activities undertaken during the calendar year 2008 for the Current Landfill and the Former Landfill Areas (Former Landfill, Interim Landfill, and Slit Trench). Brookhaven National Laboratory is responsible for performing this work to comply with the post-closure O&M requirements specified in 6 New York State Code of Rules and Regulations (NYCRR) Part 360, Solid Waste Management Facilities, effective December 31, 1988. The landfill caps are functioning as designed and the 2008 results are consistent with results from previous years.

**GROUNDWATER QUALITY**

The groundwater quality at both the Current and Former Landfill Areas remains relatively unchanged from 2007. Volatile organic compounds (VOCs) and metals continue to be detected downgradient of the Current Landfill. The most prevalent VOCs detected above standards are chloroethane and benzene, at maximum concentrations of 80 µg/L and 2.3 µg/L, respectively. As with previous years, iron, manganese, and arsenic were detected downgradient from the Current Landfill at concentrations above applicable standards. Concentrations of these metals were similar to those detected in 2007. Maximum concentrations of iron, manganese, and arsenic in downgradient wells were 86,800 µg/L, 4,350 µg/L, and 16 µg/L, respectively. These results are an indicator of continued low level leachate generation at this landfill.

Concentrations of parameters detected in wells downgradient of the Former Landfill Area do not indicate the presence of leachate. VOCs were not detected above standards in Former Landfill Area monitoring wells. Leachate indicator parameters and metals concentrations were generally the same when comparing downgradient monitoring wells to upgradient monitoring wells.

The groundwater monitoring well network for the Current Landfill is adequate at this time. Based on the low levels of detections of leachate parameters in groundwater, it is recommended that the sampling frequency for all organic and inorganic compounds be reduced from quarterly to semiannual except for VOCs in wells 088-22 and 088-23. Based on the lack of VOC detections in these wells, the VOC analyses in wells 088-22 and 088-23 should be reduced from semi-annual to annual. Based on the lack of detections of gross alpha and beta above 10% of the groundwater standard, it is recommended that these parameters be dropped from the sampling program. Individual radionuclide analyses for strontium-90, tritium and gamma spectroscopy will continue on an annual basis.

Since the Former Landfill Area has had concentrations of indicator parameters at background levels for several years, it is recommended that the non-radiological parameters have their sampling frequency reduced from semiannual to annual. Based on the lack of detections of gross alpha and beta above 10% of the groundwater standard, it is recommended that these parameters be dropped from the sampling program. Individual radionuclide analyses for strontium-90, tritium and/or gamma spectroscopy will continue.

**WOODED WETLANDS MONITORING**

The results of the May 2008 sediment and surface water sampling program indicate no elevated risk to adult tiger salamanders from sediments in the South or North Ponds. The average sediment concentrations for both ponds were lower than the maximum and/or background concentrations that would result in an elevated hazard quotient, as discussed in the *Final Focused Ecological Risk Assessment for OUI*, 1999. Ten years of data from both surface water and sediment sampling within the wooded wetlands indicate a stable pattern in the concentration of metals. Because of this stability BNL is recommending that sampling of both surface waters and sediments within the wooded wetland complex be reduced to once every two years.

### **SOIL-GAS MONITORING**

Soil-gas monitoring at the Current Landfill indicates that decomposition is still occurring. However, as with prior years, there is no indication that the vapors are migrating beyond the monitoring well network. Therefore, there is no potential risk to the nearby National Weather Service building. Soil-gas monitoring at the Former Landfill Area indicates that there are only minimal detects of hydrogen sulfide, with no detectable levels of methane present. The soil gas monitoring well networks are sufficient to monitor both landfill areas. Since there have been little to no detections of methane during monitoring at the Former Landfill Area over the past nine years, it is recommended that the soil gas monitoring frequency be reduced from quarterly to semiannual.

### **MAINTENANCE AND REPAIR**

Monthly inspections and maintenance continued throughout 2008. To prevent ruts in the landfills caused by the weight of the lawn mowers and a significant amount of precipitation, the cutting of the grass was suspended until optimal soil conditions are evident. This pattern of vegetation control will continue.

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## ACRONYMS

BNL	Brookhaven National Laboratory	NYSDEC	NY State Dept. of Environmental Conservation
BSA	Brookhaven Science Associates		
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	NYSDOH	NY State Dept. of Health
		O&M	Operations and Maintenance
CLF	Current Landfill	OU	Operable Unit
DCG	Derived concentration guides	PCBs	polychlorinated biphenyls
DOE	U.S. Department of Energy	QA/QC	Quality Assurance/Quality Control
DQOs	Data quality objectives	QAPP	Quality Assurance Project Plan
EIMS	Environmental Info. Mgmt. System	Sr-90	Strontium 90
FLF	Former Landfill	TDS	Total dissolved solids
HWMF	Former Hazardous Waste Management Facility	TKN	Total Kjeldahl nitrogen
		TSS	Total suspended solids
LEL	Lower explosive limit	TVOCs	Total volatile organic compounds
MS/MSDs	Matrix spike/matrix spike duplicates	UEL	Upper explosive limit
NPL	National Priorities List	VOCs	Volatile organic compounds

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## **1.0 INTRODUCTION**

This report documents the Operation and Maintenance (O&M) activities conducted during calendar year 2008 for the Current Landfill (AOC 3) and the Former Landfill Areas (Former Landfill AOC 2A, Interim Landfill AOC 2D, and Slit Trench AOC 2E). Brookhaven National Laboratory (BNL) is responsible for performing this work to comply with the post-closure O&M requirements specified in the 6 New York State Code of Rules and Regulations (6NYCRR) Part 360, Solid Waste Management Facilities, effective December 31, 1988. The details of the O&M programs are described in the Final Operations and Maintenance Manuals for the Current Landfill (CDM Federal, 1996a) and the Former Landfill Areas (CDM Federal, 1996b).

The following are the primary objectives of the O&M program:

- Monitor the effectiveness of the impermeable caps in protecting groundwater quality;
- Monitor the potential generation and migration of soil-gas; and
- Maintain and monitor the various components of the closure system (landfill caps, drainage structure, and environmental monitoring systems).

This is the thirteenth year of O&M for the Current Landfill, the twelfth year for the Former Landfill and Slit Trench, and the eleventh year for the Interim Landfill.

### **1.1 Site Description and Project Background**

BNL is a 5,265-acre site located in central eastern Long Island, New York. The facility is a federally owned and funded international research and learning center managed, by Brookhaven Science Associates (BSA) under contract with the United States Department of Energy (DOE). On December 21, 1989, the site was placed on the United States Environmental Protection Agency's (USEPA's) National Priorities List (NPL), a ranking of hazardous waste sites compiled by the federal government as part of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Placing BNL on the NPL resulted in the establishment of a remediation-task list for various locations around the facility. The site subsequently was divided into seven separate remediation work areas known as Operable Units (OU). The Current Landfill and Former Landfill



Area are located in OU I, near the south central portion of the BNL site (see Figure 1).

Current Landfill). The Current Landfill consists of one unlined waste-cell that operated from the late 1960s until 1990 for disposing of waste generated at the Laboratory. An impermeable cap covering the cell was completed in November 1995. Additional information about the cap's construction can be obtained from the *Construction Certification Report for the Current Landfill* (CDM Federal, 1996b). Following the installation of the cap, the post-closure groundwater-monitoring program was implemented in December 1996, in accordance with 6 NYCRR Part 360 Section 2.15, Solid Waste Management Facilities (effective December 31, 1988).

Groundwater quality near the Current Landfill is monitored under the O&M program for a wide variety of volatile organic compounds (VOCs), metals, radiological, and water chemistry (landfill leachate) parameters. Monitoring in this vicinity was expanded in 1999 to include a wetland area adjacent to the landfill's eastern boundary. This area, known as the Wooded Wetland area, is a two-acre wetland located between the Former Hazardous Waste Management Facility (HWMF) and the Current Landfill. The wetland receives surface runoff from the Current Landfill and usually is flooded during the spring/early summer and dry in late summer/fall. Monitoring of the Wooded Wetland area has been incorporated into the Current Landfill Monitoring Program and consists of sampling and analyzing surface water and sediment to evaluate the potential for leachate migrating into this area, as originally performed under the *OUI Ecological Risk Assessment* (CDM Federal, 1999).

As required under 6 NYCRR Part 360, groundwater quality must be monitored for a minimum of five years, after which the permittee may request modification of the sampling and analysis requirements. In October 2001, BNL submitted the *Five-Year Evaluation Report for the Current Landfill* (BNL, 2001). This report assessed groundwater trends over the five years after capping, and proposed changes to the sampling program. These changes were implemented in CY02. In July 2006, BNL issued the *Final Five-Year Review Report* which discussed all remediation areas at the site. Review of the Current Landfill was included in this report.

Former Landfill Area The Former Landfill Area encompasses three closely located landfill units; the Former Landfill, the Slit Trench, and the Interim Landfill. The Former Landfill is an unlined waste-disposal area originally used by the United States Army in the 1940s. Waste disposal operations ceased in 1966, and the landfill was covered with soil. The Interim Landfill also is unlined, and was reportedly used for approximately one year between the time the Former Landfill was closed and the Current Landfill was opened. The Slit Trench is unlined as well, and is believed to have operated between 1960 and 1967 for disposal of construction and demolition debris (CDM Federal, 1996).

The Former Landfill and Slit Trench were capped in November 1996 and the Interim Landfill was capped in October 1997. Additional information about the construction of the caps can be found in the *Construction Certification Report for the Former Landfill* (Roy F. Weston, 1997) and *Construction Certification Report for the Interim Landfill Capping* (PW Grosser, 1997). BNL started O&M activities in December 1996 at the Former Landfill and Slit Trench, and in November 1997 at the Interim Landfill. Under this O&M program, groundwater quality in downgradient wells in the vicinity of the Former Landfill is monitored for VOCs, metals, radionuclides, and landfill-leachate parameters.

In March 2002, BNL submitted a *Five-Year Evaluation Report for the Former Landfill* (P.W. Grosser, 2002), which assessed trends in groundwater quality over the five-year period following capping and proposed changes to the sampling program. These changes were implemented in CY03. In July 2006, BNL issued the *Final Five-Year Review Report* which discussed all remediation areas at the site. Review of the Former Landfill Area was included in this report.

## **1.2 Overview of the Monitoring Program**

### ***Groundwater Monitoring***

Data quality objectives for each of BNL's groundwater monitoring programs are presented in the *BNL Environmental Monitoring Plan* (BNL, 2008). The design of the data collection network was optimized as part of the process. Such optimization continues annually as part of the O&M program and is based on the interpretation of new data as well as historical trends. The primary decision

identified for the landfill monitoring programs is “Are the controls effectively improving groundwater quality below and downgradient of the landfill?”

Groundwater samples are collected from monitoring wells positioned upgradient and downgradient of each landfill area. Analytical data are reviewed, and determinations are made regarding the effectiveness of landfill controls.

The additional monitoring programs for the landfill areas consists of:

*Soil-gas Monitoring.* Measurements of methane, Lower Explosive Limit (LEL), and hydrogen sulfide are taken quarterly from monitoring locations surrounding the landfills to evaluate the movement of soil-gas from the landfills.

*Wooded Wetland Monitoring.* Surface waters and sediments in the wooded wetland adjacent to the eastern boundary of the Current Landfill are sampled annually to evaluate possible effects of landfill leachate on Tiger Salamander habitats. This work was incorporated into the routine landfill monitoring program, and is carried out annually (See Appendix A).

*Routine Visual Inspection, Maintenance, and Repair.* Monthly inspections are performed to monitor the structural and/or operational status of the landfill caps, drainage structures, and environmental monitoring systems.

*Leachate Discharge.* Visual inspections of the landfills are performed monthly to monitor for signs of leachate discharge. If observed, samples of the leachate are collected and analyzed.

These activities are discussed in greater detail in Sections 2 through 5 of this report. Section 6 contains the conclusions and recommendations. References are included in Section 7.

## **2.0 GROUNDWATER MONITORING**

### **2.1 Monitoring Well Networks**

#### **2.1.1 Current Landfill**

Since February 1996, groundwater quality at the Current Landfill has been monitored using ten downgradient wells and one background monitoring well. Figure 2 depicts the location of the

monitoring wells. Figure 3 shows the water table contours for this area in November 2008. The depths of the screen intervals for the Current Landfill wells are listed below.

Well ID	Screen Interval (ft BLS)	Screen Zone
087-09*	24-34	Shallow Glacial
087-11	11-21	Shallow Glacial
087-23	25-40	Shallow Glacial
087-24	70-80	Intermediate
087-26	70-80	Intermediate
087-27	5-20	Shallow Glacial
088-109	6-21	Shallow Glacial
088-110	10-25	Shallow Glacial
088-21	5-20	Shallow Glacial
088-22	70-80	Intermediate
088-23	120-130	Deep Glacial

BLS = Below Land Surface

\*Background well

Screen zones were determined based on the following characteristics:

- Shallow Zone: typical water table within 10 ft of the screen zone.
- Intermediate Zone: typical water table between 10 ft and 100 ft above the screen zone.
- Deep Zone: typical water table >100 ft above the screen zone.

### **2.1.2 Former Landfill**

Since January 1997, groundwater quality at the Former Landfill area has been monitored using eight shallow monitoring wells (three background and five downgradient). The locations of the eight monitoring wells are presented in Figure 4. In addition, six wells, 106-20, 106-21, 106-43, 106-44, 106-45 and 106-64 were moved from the Chemical/Animal holes project to the Former Landfill Area project. This move was made since the analyte of interest detected in these wells originated from the Former Landfill. The direction of groundwater flow in the OU I area of the site is generally to the south-southeast. Figure 3 shows the November 2008 water table contours for the area. The screen zones for Former Landfill Area wells are summarized below.

Well ID	Screen Interval (ft BLS)	Screen Zone
086-42*	65-75	Intermediate
086-72*	41.5-56.5	Shallow Glacial

087-22*	43-53	Shallow Glacial
097-17	29-39	Shallow Glacial
097-64	29-44	Shallow Glacial
097-277	40-55	Shallow Glacial
106-02	55-65	Intermediate
106-30	29-44	Shallow Glacial
106-20	85-95	Intermediate
106-21	55-65	Shallow Glacial
106-43	43-53	Shallow Glacial
106-44	44-54	Shallow Glacial
106-45	44-55	Shallow Glacial
106-64	30-40	Shallow Glacial

BLS = Below Land Surface

\*Background well

Screen zones were determined based on the following characteristics:

- Shallow Zone: typical water table within 10 ft of the screen zone.
- Intermediate Zone: typical water table between 10 ft and 100 ft above the screen zone.

### **2.1.3 Sampling Frequency and Analytical Parameters**

Monitoring wells at both landfills were sampled in 2008 during the following periods:

Sampling Event	Sampling Dates
Round 1	February 28
Round 2	June 5
Round 3	September 4
Round 4	December 10

R&C Formation, Ltd. of Bellmore, New York conducted the groundwater sampling, and Severn Trent Laboratories, Inc. analyzed the samples. See Table 1 for a summary of analyses performed, by well and sampling round.

### **2.1.4 Quality Assurance / Quality Control**

The groundwater samples were collected and analyzed in accordance with strict quality assurance, quality control (QA/QC) requirements as described in the BNL Groundwater Monitoring Program Quality Assurance Project Plan (QAPP) (BNL, 1999). The analytical results for groundwater samples collected during 2008 satisfied the data-quality objectives. The sampling team personnel are responsible for assuring that a master calibration/maintenance log is maintained for each field-

measuring device (e.g., pH conductivity, turbidity meters). The sample coordinator provided a calibration/maintenance log for equipment supplied to the contractor's sampling teams.

The analytical results of samples collected for the Current and Former Landfill Area projects underwent data verification, using BNL standard operating procedures EM-SOP-203, Chemical Data Verification, and EM-SOP-204, Radiochemical Data Verification. These procedures are designed to verify the accuracy and/or completeness of analytical data. The data verification process is implemented to detect the most common analytical problems that affect the quality of the results. To accomplish this task, QA/QC items such as the following were checked: holding times, matrix spikes, laboratory and field blanks, and field logs. If items are found that can affect the use and interpretation of the data, they are either corrected, as in the case of unreadable information on the field logs, or the data are "qualified," as in the case of contamination of the blanks or violations of the holding time.

Guidance on the collection of QA/QC samples is contained in the QAPP, and in BNL procedure EM-SOP-200, "Collection and Frequency of Field Quality Control Samples." The QA/QC samples collected included trip blanks, field blanks, matrix spike/matrix spike duplicate (MS/MSDs), and blind duplicates.

Trip blanks were analyzed for aqueous VOCs only. One trip blank was shipped to the analytical laboratory with each set of samples submitted for VOC analyses. One duplicate sample was collected during the first and third quarters when only the Current Landfill was sampled, and two duplicate samples were collected during the second and fourth quarters when both landfills were sampled. No errors were detected in the duplicate analyses. MS/MSD samples were collected at a frequency of one sample during the first and third quarters and two samples during the second and fourth quarters. This ensures that the matrix of the sample does not adversely impact the analysis. Methylene chloride was detected in all method blanks. The methylene chloride results were qualified as non-detects. The June nitrate and nitrite analyses were performed two days outside of holding time requirements. The affected results were qualified as estimated. The amount of qualified data was within acceptable limits and did not adversely impact the review of the groundwater quality.

## **2.2 Landfill Groundwater Monitoring Results**

This section summarizes the results for VOCs, metals, water-chemistry parameters, and radionuclides detected for both the Current Landfill and Former Landfill Area in CY08. The historical trends in concentrations of key contaminants are assessed and shown graphically in Figures 5 through 12. Summary tables of all 2008 landfill groundwater data are presented in Tables 2 through 10. Detections that exceed groundwater standards are in bold text. The summary tables include groundwater standards, laboratory results, minimum detection limits, and laboratory data qualifiers.

The groundwater standards used for evaluating groundwater data include those contained in the NYSDEC Ambient Water Quality Standards and Guidance Values (June 1998, with addendums April 2000 and June 2004). Groundwater standards for radiological compounds were supplemented with New York State Department of Health's (NYSDOH's) standards for drinking water when a NYSDEC groundwater standard was not available. When there were no groundwater standards for a radiological compound, a Groundwater Screening Level was used. This value is based on a dose equivalent of 4 mrem/year and was calculated as 4% of the DOE Derived Concentration Guides (DCG) (DOE Order 5400.5) for the isotope of concern. These values are listed under the "groundwater standards" column in the summary tables and annotated where appropriate. Laboratory results that exceed the groundwater standards are highlighted in the data summary tables to facilitate review of the information.

The laboratory data qualifiers included in the summary tables vary for the different analyses. Explanations for the most commonly used laboratory data qualifiers are included in the notes in each summary table. Complete 2008 laboratory data reports, chain of custody forms, and well-sampling logs for both landfills are archived and available upon request. In addition, analytical results are stored in the BNL Environmental Information Management System (EIMS) database.

### **2.2.1 Current Landfill**

#### **2.2.1.1 Volatile Organic Compounds (VOCs)**

Benzene, and/or chloroethane, were detected above their respective groundwater standards in four of the 10 downgradient monitoring wells during 2008 (Table 2). 1,1-Dichloroethane was also detected

above the groundwater standard in one well. These VOCs have historically been the primary groundwater contaminants detected downgradient of the Current Landfill. No other VOCs were detected above groundwater standards during 2008.

Figure 5 plots the concentration trends of total VOCs (TVOC), benzene, and chloroethane. As shown, VOCs remained relatively stable at low concentrations. Overall, the trend plots also show a distinct decrease in VOC concentrations from the high concentrations seen prior to the installation of the cap. This reflects the positive effects of the capping on the groundwater quality downgradient. However, the chloroethane results were slightly elevated during the June, September, and/or December rounds in wells 088-109, 088-110, and 087-11. The chloroethane concentrations for samples collected during 2009 have returned to previous levels. BNL will continue to monitor fluctuations in the VOC concentrations.

Benzene exceeded the 1 µg/L standard in well 087-11, well 088-109, and 088-110. Chloroethane exceeded the 5 µg/L standard in wells 087-11, 087-23, 088-109, and 088-110. The maximum chloroethane concentration was 80.8 µg/L in well 088-109; which is a increase from the high of 36.1 µg /L in 2007. Benzene was detected at a maximum of 3.02 µg/L in well 087-11. There have been no detections of VOCs exceeding groundwater standards in wells 087-24, 088-22, and 088-23 since 1998. These downgradient wells are screened in the mid to deep Upper Glacial Aquifer as perimeter wells to monitor the vertical extent of contamination from the Current Landfill.

#### **2.2.1.2 Water Chemistry Parameters**

Groundwater samples near the Current Landfill were analyzed for ammonia, total kjeldahl nitrogen (TKN) cyanide, sulfate, nitrite, nitrate, total nitrogen, chloride, alkalinity, total dissolved solids (TDS or residue, nonfilterable), and total suspended solids (TSS or residue, filterable) during 2008 (Table 1). The results are provided in Table 3. Elevated levels of these parameters can be indicative of the presence of landfill leachate. During 2008, ammonia was the only water chemistry parameter detected above standards.

Ammonia was detected above the standard of 2 mg/L, with exceedances in four downgradient wells (087-11, 087-27, 088-109 and 088-110) during four sampling events, as shown in Table 3. The



highest concentration of 7.62 mg/L was reported for well 087-11 in December. The levels of ammonia detected have stabilized.

During 2008, all sulfate and chloride concentrations remained below the groundwater standard of 250 mg/L. The highest sulfate value reported for 2008 was detected in the September sample from background monitoring well 087-09 at a concentration of 20.9 mg/L. Chloride concentrations ranged from 6.94 mg/L in well 087-23 during June, to a high of 63.8 mg/L in well 087-09 in December. Chloride concentrations historically have been significantly below the groundwater standard of 250 mg/L in all Current Landfill wells with the highest concentrations detected in background well 087-09. Figure 6 plots these trends, showing the low and stable nature of chloride concentrations in the vicinity of the Current Landfill.

Alkalinity, in the form of bicarbonate, is the concentration of anions available to neutralize acid, and is often used as an indicator of leachate contamination. The alkalinity in background well 087-09 ranged from 9.54 mg/L to 20.2 mg/L during 2008. The highest alkalinity concentration during 2008 was detected in downgradient, shallow Upper Glacial Aquifer well 088-109, at 210 mg/L in December. There is no groundwater standard for alkalinity. The concentration trends plotted in Figure 6 show an overall decrease in alkalinity following the capping of the landfill. Alkalinity levels in the background well remained stable during this period.

Total dissolved solids and TSS results were similar to those from previous years. TDS and TSS concentrations in background well 087-09 ranged from 112 mg/L to 167 mg/L, and 3.09 mg/L to 9.47 mg/L, respectively. The maximum concentrations observed in downgradient wells were 275 mg/L and 41 mg/L of TDS and TSS, respectively.

No water chemistry parameters have exceeded groundwater standards in downgradient wells 087-24, 088-22, and 088-23, since 1998. These wells are all screened in the mid to deep-Upper Glacial Aquifer to monitor the vertical extent of contamination from the Current Landfill. A comparison of downgradient and background wells shows that leachate continues to be generated from the Current Landfill, albeit at low concentrations. Decreasing trends in concentration indicate that the capping is effectively reducing the generation and migration of leachate.

### **2.2.1.3 Metals**

Historically, iron and manganese were detected consistently above groundwater standards in the majority of wells surrounding the landfill. While these metals indicate the presence of leachate, the groundwater standards for these compounds are considered secondary standards based on aesthetics and taste rather than risk to human health. Precipitated iron from the BNL Water Treatment Plant was disposed of at the Current Landfill during past operations. The highest iron concentrations generally are found in the shallow wells 87-11 and 87-27, located immediately south of the Current Landfill (see Figure 7). Concentrations in upgradient well 87-09 still are lower than in the downgradient wells, suggesting continued leachate migration from the landfill.

During 2008, chromium in the background well and iron, manganese, sodium, arsenic, antimony, aluminum, nickel, and thallium in downgradient wells were detected above their respective groundwater standards (Table 4). Iron in the downgradient wells peaked at a maximum of 86,800 µg/L in well 087-11 during December, in contrast to background concentrations, in well 87-09, iron ranged from 575 µg/L to 2,500 µg/L.

Manganese ranged from 51.6 µg/L to 99.6 µg/L in background well 087-09, and up to 6,200 µg/L in the downgradient wells. Background sodium levels ranged from 19,500 to 43,100 µg/L; whereas downgradient levels reached a high of 29,700 µg/L. The proximity of well 087-09 to Brookhaven Avenue and the affects of road salting in the winter may be contributing to the higher values. Arsenic was reported above the standard of 10 µg/L in well 088-110 at a concentration of 16.2 µg/L. Arsenic detections have historically been observed at similar levels in Current Landfill wells. Antimony was detected above the standard of 3 µg/L in downgradient wells 087-11, 087-23, 087-26, 088-109, and 088-21 at concentrations ranging from 3.9 µg/L to 7.5 µg/L. Thallium was detected in background well, 087-09, and downgradient well 087-24 above the standard of 0.5 µg/L ranging from 0.71 µg/L to 0.86 µg/L. Nickel and chromium were detected above the standard of 100 µg/L and 50 µg/L, respectively, in background well 087-09. However, neither were detected above standards in any of the downgradient wells.

### **2.2.1.4 Radionuclides**

No radionuclides were detected above groundwater standards during 2008 (Table 5). Strontium-90 (Sr-90), gross beta and tritium were the only radionuclides detected during 2008. The highest

concentration of gross beta was detected in downgradient well 088-109 at 7.54 pCi/L. This is well below the standard of 1,000 pCi/L.

Sr-90 was detected in well 088-21 at a concentration of 2.25 pCi/L during December. This is well below the standard of 8 pCi/L.

Tritium was detected significantly below the groundwater standard of 20,000 pCi/L with a maximum value of 903 pCi/L in well 087-11 (Figure 8). Tritium and Sr-90 concentrations have not exceeded groundwater standards in all wells since 1998.

## **2.2.2 Former Landfill**

### **2.2.2.1 VOCs**

During 2008 there were no detections of VOCs above groundwater standards in wells in the Former Landfill Area (Table 6). The compounds consistently found in the Former Landfill Area monitoring wells include 1,1,1-trichloroethane, and chloroform. Chloroform was reported in several wells during the year at concentrations ranging from 0.121 µg/L to 1.4 µg/L, well below the groundwater standard of 7 µg/L. 1,1,1-Trichloroethane detections ranged from 0.12 µg/L to 1.67 µg/L. These concentrations are well below the standard of 5 µg/L. Figure 9 shows plots of the historical VOC detections for the Former Landfill Area monitoring wells. During 2008, VOCs were detected at the Former Landfill Area in several wells, but only at trace concentrations, indicating that the cap on the landfill is operating as intended.

### **2.2.2.2 Water Chemistry Parameters**

Groundwater samples from monitoring wells in the Former Landfill Area were analyzed for sulfate, nitrite, nitrate, total nitrogen, chloride, alkalinity, TDS (TDS or residue, non-filterable) and TSS (TSS or residue, filterable). During 2008, none of the of water chemistry parameters exceeded applicable groundwater standards (Table 7). In general, all of the landfill leachate indicator parameter concentrations in the downgradient wells were indistinguishable from concentrations in the upgradient wells in 2008. These trends indicate that the landfill cap is effective.

Sulfate concentrations ranged from 9.31 mg/L to 12.6 mg/L in the background wells, and from 7.92 mg/L to 19.6 mg/L in downgradient wells, significantly below the standard of 250 mg/L.

Nitrogen in the form of nitrate (NO<sub>3</sub>), and chloride were consistently low with concentrations up to 1.29 mg/L and 25.9 mg/L, respectively in the background wells and concentrations up to 0.982 mg/L and 13.3 mg/L, respectively in the downgradient wells. The trends plotted in Figure 10 indicate chloride concentrations are stable over time.

Alkalinity concentrations ranged from 5.27 mg/L to 29.5 mg/L in background wells and from 5.27 mg/L to 28.6 mg/L in downgradient wells. The trends plotted in Figure 10 demonstrate that the alkalinity concentrations in 2008 continue to be at background levels.

TDS concentrations ranged from 35 mg/L to 103 mg/L in the background wells, and from 36 mg/L to 76 mg/L in the downgradient wells. TSS concentrations ranged from nondetect to 1.24 mg/L in the background wells, and from nondetect to 28.27 mg/L in the downgradient wells.

TKN was not detected in the background wells. TKN concentrations in the downgradient wells ranged from nondetect to 1.12 mg/L. Nitrite was not detected in the Former Landfill Area monitoring wells during 2008.

### **2.2.2.3 Metals**

The sampling results are summarized in Table 8, and concentration trend plots for iron are shown on Figure 11. Iron was the only metal detected that exceeded the groundwater standards during 2008. Downgradient well 106-02 had a concentration of 445 µg/L in December. This is above the standard of 300 µg/L.

### **2.2.2.4 Pesticides/PCBs**

There were no detections of pesticides during 2008. There was one detection of aroclor 1254 in background well 087-22. The concentration was reported as 0.172 µg/L, which is above the standard of 0.09 µg/L but well below the reporting limit of 0.5 µg/L. The sampling results are summarized in Table 9.

### **2.2.2.5 Radionuclides**

Tritium was detected in only one well, background well 086-42, at a concentration of 347 pCi/L, well below the groundwater standard of 20,000 pCi/L. Strontium-90 was detected in five wells in

2008 below the groundwater standard of 8 pCi/L. Detects ranged from 0.377 pCi/L to 7.88 pCi/L in well 106-44. The sampling results are summarized in Table 10, and concentration trend plots are shown on Figure 12.

### **3.0 WOODED WETLAND MONITORING**

Sampling at the Wooded Wetland is performed as part of the compliance monitoring for the Current Landfill. Prior to the capping of the Current Landfill, leachate was periodically observed in the wetland. The monitoring is focused on metal concentrations in the sediment and surface water to evaluate potential risks to the local Tiger Salamander population. See Appendix A for a detailed discussion of the sampling and analytical results.

#### **Surface Water**

Seven surface water samples from the Southern and Northern Ponds were collected. They had average iron concentrations of 1,015 µg/L and 922 µg/L, respectively (Appendix A, Table 6). Although the average concentrations in the South Pond were higher than the 1,000 µg/L critical toxicity concentration, they were lower than the BNL background concentration of 1,990 µg/L (Appendix A, Table 2B).

Aluminum had average concentrations of 265 µg/L and 234 µg/L in the South and North Ponds, respectively. Both ponds were below the critical toxicity concentration of 525 µg/L.

The average zinc concentrations in the South Pond and North Pond were 12.8 µg/L and 6.97 µg/L, respectively, which are below both the critical toxicity concentration of 23.8 µg/L and the background concentration of 62.9 µg/L.

Metals in water are the primary source of absorption by tiger salamanders. No significant change in dissolved metals indicates that the wooded wetland is not experiencing an increase in metals concentration.

Based on the 2008 sampling results, annual sampling of the Wooded Wetlands should continue as part of the annual O&M landfills monitoring activities. A complete copy of the *2008 Annual Wooded Wetlands Report* is included in Appendix A of this report.

## **Sediment**

Seven sediment samples were collected from the Wooded Wetland Area in May 2008. The results for 2008 indicate that average mercury concentrations in sediments in the South Pond are less than the maximum concentration benchmarks (Appendix A, Table 2A). The average mercury concentration in the North Pond was 0.22 mg/kg, which is above the maximum sediment concentration of 0.17 mg/kg and below the background concentration of 0.41 mg/kg (Appendix A, Table 5). Historically, the highest average value of mercury was detected in 2001 at 0.37 mg/kg in the North Pond. This analysis indicates that no significant change from historic values has occurred.

## **4.0 SOIL-GAS MONITORING**

### **4.1 Soil-gas Monitoring Networks**

Soil-gas readings were collected from wells surrounding the Current and Former Landfills in March, July, September, and December 2008. Methane, lower explosive limit (LEL), and hydrogen sulfide were measured using a Landtec GA-90 (Serial # 690). The LEL for methane is 5.3% and the upper explosive limit (UEL) is 15%.

#### ***4.1.1 Current Landfill***

Along the perimeter of the Current Landfill, 58 points were sampled for soil-gas, which includes four outpost soil-gas well clusters, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue. The sampling points include 12 soil-gas well clusters consisting of three sampling intervals per cluster, and 11 soil-gas well couplets consisting of two sampling intervals per couplet. Table 11 describes each soil-gas well. Their locations are illustrated on Figure 13.

### **4.1.2 Former Landfill Area**

Twenty-four sampling points were monitored for the Former Landfill Area. These points include 12 well couplets consisting of two sampling points per couplet. Details of each soil-gas well are given in Table 11 and their locations shown in Figure 14.

### **4.1.3 Sampling Frequency**

Soil-gas was monitored for each landfill in the following months.

Sampling Event	Current Landfill	Former Landfill
Round 1	March 2008	March 2008
Round 2	July 2008	July 2008
Round 3	September 2008	September 2008
Round 4	December 2008	December 2008

## **4.2 Results of Soil-Gas Monitoring**

Action levels for soil-gas are specified in 6 NYCRR Part 360-2.17(f) in terms of percent LEL, which is primarily related to the amount of methane present. This discussion focuses primarily on the methane levels detected during quarterly monitoring. Hydrogen sulfide is monitored, but has no regulatory action level. 6 NYCRR Part 360-2.17(f) specifies that active measures to control decomposition gases are required when the concentration of methane or other explosive gases exceeds 25 percent of the LEL (or 1.3% methane) in facility structures, or 100 percent (%) of the LEL (or 5.3% methane) at the site boundary.

### **4.2.1 Current Landfill**

A total of 23 soil-gas monitoring well clusters are positioned around the Current Landfill (Figure 13). Potential receptors, or areas where methane can accumulate in the vicinity of the Current Landfill, include the National Weather Service building located 480 ft north northwest of the Current Landfill on the north side of Brookhaven Avenue. Should methane extend to the south side of Brookhaven Avenue, active measures will be required to control its migration. The four outpost soil-gas wells, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue, are used to monitor the northern extent of the migration of landfill gas.

The results of the soil-gas monitoring for 2008 are summarized in Table 12. Appendix B contains the field notes recorded during the sampling events. Instrument measurements show that methane continues to be generated in several areas of the landfill. The percent of the LEL is elevated along the western side and the southeast boundary of the Current Landfill. In addition, one point, SGM-19, along the northern side of the Current Landfill had elevated LEL readings. The highest levels were recorded in well cluster SGM-3 (ranging from 142 % of the LEL to 1156% of the LEL) and in well cluster SGM-2 (ranging from 62 % of the LEL to 1066 % of the LEL) located along the western boundary. These levels have remained stable since 1996 when monitoring began and the current gas venting system appears to be controlling gas accumulation. These data are consistent with previous years (see Appendix D).

Outpost wells, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue showed no methane during 2008, indicating that the methane accumulation and migration does not extend to this area. Should methane extend to these outpost wells on the south side of Brookhaven Avenue, active measures will be required to control its migration.

Hydrogen sulfide is a product of anaerobic decay in landfills and can produce an odor like rotten eggs. It is a nuisance, but rarely a toxicity problem. For reference, the National Institute of Occupational Safety and Health sets an exposure limit of 10 parts per million (ppm) hydrogen sulfide in the breathing zone for an 8-hour period.

Hydrogen sulfide measurements collected from the soil-gas monitoring wells ranged from 0 ppm to 92 ppm. Well SGM-12A located near the south-eastern section of the landfill, had the highest hydrogen-sulfide concentration, which was above the 10 ppm exposure limit; however it was taken from a vapor point screened 2.5 - 7.5 ft below the surface and not from the ambient breathing zone. Like methane, receptors to hydrogen sulfide are considered to be in areas such as basements where the gas can accumulate. Based upon the readings obtained from the outpost soil-gas wells along the south side of Brookhaven Avenue (GSGM-1 – GSGM-4), there is no evidence that hydrogen sulfide is migrating toward the National Weather Service building.



#### **4.2.1.1 Trend in Soil-Gas Data**

Appendix D contains the results of methane monitoring for the Current Landfill from 1996 through 2007. Generally the levels of methane and hydrogen sulfide in the wells along the northwest landfill boundary and southeast corner have remained stable.

#### **4.2.2 Former Landfill Area**

A total of 12 soil-gas monitoring well clusters are positioned around the Former Landfill Area. During 2008, the well clusters were monitored on a quarterly basis. The only existing operating facility within the immediate vicinity of the Former Landfill Area is Building 670 located approximately 650 ft to the southeast. This building houses the Chemical/Animal Holes Sr-90 groundwater treatment system. Because this facility does not have a basement, there is minimal potential for hazardous levels of landfill gases to accumulate in this structure.

Based upon the four sampling events, there was no methane or hydrogen sulfide detected. Table 13 details the 2008 soil-gas monitoring results for the Former Landfill Area. Appendix B contains the field notes recorded during the sampling events.

#### **4.2.2.1 Trends in Soil-Gas Data**

The results of monitoring the Former Landfill Area continue to be consistent with the initial survey of the methane- gas migration conducted in 1995, during which concentrations between 0% to 0.1% methane were recorded. Hydrogen-sulfide gas also was measured during this survey. The hydrogen sulfide results indicate there were no detectable levels during 2008. Appendix D includes the results of monitoring methane in the Former Landfill Area for 1996 through 2007.

Presently, there is no measured pathway for methane-gas migration, nor do the concentrations represent an explosive hazard as shown by the nondetect readings on the LEL meter. The age of the Former Landfill Area and the types of materials disposed of would likely result in the low levels or absence of methane or hydrogen sulfide.

## **5.0 MAINTENANCE AND REPAIR**

Monthly site inspections were performed by BNL at the Current and Former Landfill areas to monitor the structural and/or operational status of the landfill cap, gas vents, drainage structure, fences and environmental monitoring system (groundwater wells, soil-gas wells) in accordance with the approved O&M Manuals. A copy of the inspection reports is included in Appendix C. Maintenance and repair work completed or required by BNL is discussed below.

### **5.1 Landfill Cap and Gas Vents**

The grass cover on the Former Landfill Area and the Current Landfill were maintained in accordance with the O&M Plan (CDM, 1996a and CDM 1996c). Small cracks in the asphalt road next to the Current Landfill were noted on the inspection logs. Repairs are scheduled for spring 2009. In April 2008, animal burrows were noted on the south, east and north slopes up to 12" deep. They penetrated past the top soil and into the protective soil layer, but not near the liner. Similar animal burrows were noted in the November Land Use and Institutional Controls inspection log along the south, east and west slopes. During the November inspection, it was recommended to build stairs over the rip rap to provide a safer access to the Current Landfill cap area for inspection and maintenance.

### **5.2 Drainage Structures**

The drainage structures at both the Current and Former Landfill areas were maintained and any obstructions removed. They were observed to be operational and structurally sound during the site inspections. Small pine tree seedlings were weeded from the Current and Former Landfills drainage channels during the year, as well as on the edge of the caps for the Former Landfill, Interim Landfill, and Slit Trench..

### **5.3 Environmental Monitoring System**

The monitoring wells and soil-gas monitoring wells associated with the landfills required no significant maintenance. Access to the soil-gas monitoring wells was cleared via mechanical weed

wacking. In September 2008, protective steel casings were placed over soil gas monitoring locations GSGM-1 through 4.

## **5.4 Related Structures**

No other structures required maintenance during 2008.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Groundwater Monitoring**

#### **6.1.1 Conclusions for the Current Landfill**

- VOCs such as benzene, and/or chloroethane continue to be detected in downgradient wells 087-11, 087-23, 088-109, and 088-110 at concentrations above groundwater standards. The maximum chloroethane concentration was 80.8 µg/L in well 088-109. Benzene was detected at a maximum of 3.02 µg/L in well 088-11. TVOC concentrations in these four wells have ranged between 1.51 µg/L to 89.52 µg/L over the past several years indicating that low level VOCs continue to emanate from the landfill. However, an analysis of the trends of VOCs indicated the concentrations are stable to decreasing.
- Landfill water chemistry parameters and metals evaluated during the year suggest that leachate continues to emanate from the landfill, but at low levels.
- Tritium and Sr-90 continue to be detected in the wells downgradient of the Current Landfill, but at concentrations well below groundwater standards. These concentrations were consistent with those observed in 2007.
- Since 1998, there have been no detections of VOCs, water chemistry parameters or radionuclides exceeding groundwater standards in wells 087-24, 088-22, and 088-23. These wells are all screened in the mid-to deep-Upper Glacial Aquifer to monitor the vertical extent of contamination from the Current Landfill.
- Although low levels of contaminants continue to be detected, the landfill controls are effective as evidenced by the improving quality of groundwater downgradient of the landfill.

- The average values of the concentrations of the metals of concern in the Wooded Wetlands sediments in either pond in 2008 were not above BNL background concentrations. However, mercury was above the benchmark concentration in the north pond.
- The averages for the water samples collected from each pond in 2008 indicate that iron in the South Pond was present above BNL critical water concentrations. However the average iron concentration in both ponds were below the BNL background levels. No significant changes have occurred compared to previous year's data. Since metals in water are the primary source of absorption by tiger salamanders, and there was no significant increase in dissolved metals in 2008, this indicates that the wooded wetland is not experiencing an increase in metals concentrations.

### ***6.1.2 Recommendations for the Current Landfill***

The groundwater monitoring well network is adequate at this time. Based on the low levels of detections of leachate parameters in groundwater, it is recommended that the sampling frequency for all organic and inorganic compounds be reduced from quarterly to semiannual except for VOCs in wells 088-22 and 088-23. Based on the lack of VOC detections in these wells, the VOC analyses in wells 088-22 and 088-23 should be reduced from semi-annual to annual. Based on the lack of detections of gross alpha and beta above 10% of the groundwater standard, it is recommended that these parameters be dropped from the sampling program. Individual radionuclide analyses for strontium-90, tritium and gamma spectroscopy will continue on an annual basis.

Ten years of data from both surface water and sediment sampling within the wooded wetlands indicate a stable pattern in the concentration of metals. Because of this stability BNL is recommending that sampling of both surface waters and sediments within the wooded wetland complex be reduced to once every two years.

### ***6.1.3 Conclusions for the Former Landfill Area***

- The Former Landfill Area is not a significant source of VOC contamination. No VOCs were detected above groundwater standards in 2008. VOC concentrations in the downgradient wells were at or near the minimum detectable limits.

- Landfill-leachate indicators in downgradient wells were detected at concentrations approximating those in the background monitoring wells, indicating that leachate generation is minimal to nonexistent.
- The Former Landfill Area no longer appears to be a source of Sr-90 contamination. Only trace amounts of Sr-90 were detected near the Former Landfill Area (Well 097-64). The Sr-90 detected in wells 106-43, 106-44, 106-45 and 106-64 have been decreasing with time and are currently not above groundwater standards.
- The implemented landfill controls are effective, as evidenced by the improving quality of groundwater downgradient of the landfill.

#### ***6.1.4 Recommendations for the Former Landfill Area***

Based on the lack of detections above background levels of non-radiological parameters, it is recommended that the monitoring frequency of all non-radiological parameters be reduced from semiannual to annual. Based on the lack of detections of gross alpha and beta above 10% of the groundwater standard, it is recommended that these parameters be dropped from the sampling program. Individual radionuclide analyses for strontium-90, tritium and/or gamma spectroscopy will continue.

## **6.2 Soil-Gas Monitoring**

### ***6.2.1 Conclusions for the Current Landfill***

Methane and hydrogen sulfide levels in wells located along the west landfill boundary and southeast corner have remained stable and have not shown any significant increases or decreases over time. No gas migration has been observed this year at the outpost soil-gas wells along Brookhaven Avenue.

### ***6.2.2 Recommendations for the Current Landfill***

The soil-gas monitoring program is adequate at this time, since methane gas is still being produced and leachate is continuing to discharge from the landfill.

### ***6.2.3 Conclusions for the Former Landfill Area***

Methane and hydrogen sulfide levels at the Former Landfill Area continue to show little to no landfill gas.

#### **6.2.4 Recommendations for the Former Landfill Area**

Since there have been little to no detections of methane during monitoring at the Former Landfill Area over the past nine years, it is recommended that the soil gas monitoring frequency be reduced from quarterly to semiannual.

### **6.3 Maintenance and Repair**

Maintenance of the landfill caps will continue in accordance with the O&M requirements.

#### **6.3.1 Current Landfill**

Monthly inspections and maintenance will continue in accordance with the O&M requirements. To prevent ruts in the landfills caused by the weight of the lawn mowers and moist surface conditions, the cutting of the grass will only be conducted when optimal soil conditions are evident. Access to the soil-gas monitoring wells will be cleared via mechanical weed whacking. During 2009, all outer steel casings for the monitoring wells will be repainted to minimize the affects of weather on the casings. It is recommended that stairs be built over the rip rap to provide a safer access to the Current Landfill cap area for inspection and maintenance.

#### **6.3.2 Former Landfill Area**

Monthly inspections and maintenance will continue in accordance with the O&M requirements. To prevent ruts in the landfills caused by the weight of the lawn mowers and a significant amount of precipitation, the cutting of the grass will be suspended until optimal soil conditions are evident. Access to the soil-gas monitoring wells will be cleared via mechanical weed whacking. During 2009, all outer steel casings for the monitoring wells will be repainted to minimize the affects of weather on the casings.

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Table 1. Analytical Requirements for Groundwater Samples

Well ID	Project	Decision Subunit	EPA 524.2 VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sulfates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Cyanide	EPA 900 Gross Alpha/Beta	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr-90	Blind Duplicate/MS/MSD	Frequency (events/year)	
087-09	CLF	Background	X			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
087-11	CLF	Downgradient	X <sup>f</sup>			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
087-23	CLF	Downgradient	X <sup>f</sup>			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
087-24	CLF	Downgradient	X <sup>a</sup>			Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
087-26	CLF	Downgradient	X <sup>f</sup>			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
087-27	CLF	Downgradient	X <sup>f</sup>			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
088-109	CLF	Downgradient	X			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X	4	
088-110	CLF	Downgradient	X <sup>f</sup>			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
088-21	CLF	Downgradient	X <sup>f</sup>			X	X	X	X	X	X	X	X	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		4	
088-22	CLF	Downgradient	X <sup>a</sup>			Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
088-23	CLF	Downgradient	X <sup>a</sup>			Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
086-42	FLF	Background	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X	X <sup>a</sup>		2f	
086-72	FLF	Background	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
087-22	FLF	Background	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
097-17	FLF	Downgradient	X	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
097-277	FLF	Downgradient	X	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
097-64	FLF	Downgradient	X	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
106-02	FLF	Downgradient	X	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>		2f	
106-30	FLF	Downgradient	X	X <sup>a</sup>	X <sup>a</sup>	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X	2f		
106-20	FLF	Downgradient																Xf		2f	
106-21	FLF	Downgradient																	Xf		2f
106-43	FLF	Downgradient																	Xf		2f
106-44	FLF	Downgradient																	Xf		2f
106-45	FLF	Downgradient																	Xf		2f
106-64	FLF	Downgradient																	Xf		2f

NOTES:  
a: Collect in 4th Quarter only.  
f: Collect in 2nd and 4th Quarters.

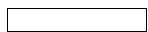


Table 2. Current Landfill - Summary of 2008 VOC Data

Landfill Report  
2008 CLF - Volatile Organic Compounds

<i>Analyte</i>	Groundwater Standards (ug/L)	087-09 6/5/2008 (ug/L)	087-09 12/10/2008 (ug/L)	087-11 6/5/2008 (ug/L)	087-11 12/10/2008 (ug/L)	087-23 6/5/2008 (ug/L)	087-23 12/10/2008 (ug/L)	087-24 12/10/2008 (ug/L)	087-26 6/5/2008 (ug/L)
1,1,1,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.634	0.632	0.5 U	0.5 U
1,1-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	1	0.5 U	0.5 U	1.3	3.02	1	0.995	0.5 U	0.5 U
Benzene, 1,2,4-trimethyl	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,3,5-trimethyl-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1-methylethyl-	--	0.5 U	0.5 U	0.5 U	0.111 J	0.5 U	0.142 J	0.5 U	0.5 U
Bromobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	5	0.5 U	0.5 U	0.468 J	0.531	0.657	0.59	0.5 U	0.5 U
Chlorobromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5	0.5 U	0.5 U	3.74	7.95	8.3	6.38	0.5 U	0.5 U
Chloroform	7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.192 J	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cymene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DBCP	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
EDB	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethene, 1,2-dichloro-, (E)-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p xylene	5	0.5 U	0.5 U	0.5 U	0.104 J	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl chloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	5	1.75 U	0.717 U	1.68 U	0.95 U	1.9 U	1.09 U	0.79 U	2.47 U
n-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	10	0.5 U	0.5 U	0.5 U	0.361 J	0.5 U	0.5 U	0.5 U	0.5 U
o-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.217 J	0.258 J	0.5 U	0.5 U
o-Dichlorobenzene	3	0.5 U	0.5 U	0.119 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Dichlorobenzene	3	0.5 U	0.5 U	0.521	0.256 J	0.343 J	0.357 J	0.5 U	0.5 U
sec-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.188 J	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.118 J	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
524.2 TVOC	--	0	0	6.27	12.83	11.2	9.31	0	0

U - Not detected.  
J - Estimated value.

Table 2. Current Landfill - Summary of 2008 VOC Data

Landfill Report  
2008 CLF - Volatile Organic Compounds

Analyte	Groundwater Standards (ug/L)	087-26 12/10/2008 (ug/L)	087-27 6/5/2008 (ug/L)	088-109 2/28/2008 (ug/L)	088-109 6/5/2008 (ug/L)	088-109 9/4/2008 (ug/L)	088-109 12/10/2008 (ug/L)	088-110 6/5/2008 (ug/L)
1,1,1,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5	0.5 U	0.5 U	0.5 U	3.44	5.24	3.22	0.653
1,1-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	1	0.5 U	0.957	0.5 U	0.3 J	1.51	2.34	0.617
Benzene, 1,2,4-trimethyl	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,3,5-trimethyl-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1-methylethyl-	--	0.5 U	0.5 U	0.5 U	0.5 U	0.226 J	0.474 J	0.5 U
Bromobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	5	0.5 U	1.55	0.5 U	0.5 U	0.19 J	0.235 J	0.175 J
Chlorobromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5	0.5 U	1.91	1.49	48	80.8	30.5	2
Chloroform	7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cymene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DBCP	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
EDB	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethene, 1,2-dichloro-, (E)-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.0941 J	0.207 J	0.5 U
Hexachlorobutadiene	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl chloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.244 J	0.5 U	0.5 U
Methyl tert-butyl ether	10	0.5 U	0.5 U	0.5 U	0.5 U	0.177 J	0.34 J	0.5 U
Methylene chloride	5	0.741 U	1.77 U	0.473 U	1.8 U	0.766 U	0.888 U	1.7 U
n-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.225 J	0.297 J	0.5 U
Naphthalene	10	0.5 U	0.5 U	0.5 U	0.5 U	0.419 J	1.24	0.5 U
o-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Dichlorobenzene	3	0.5 U	0.247 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Dichlorobenzene	3	0.5 U	0.319 J	0.5 U	0.5 U	0.5 U	0.149 J	0.318 J
sec-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.104 J	0.166 J	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	2	0.5 U	0.5 U	0.5 U	0.5 U	0.29 J	0.5 U	0.5 U
524.2 TVOC	--	0	5.23	1.51	51.7	89.52	39.17	3.76

U - Not detected.  
J - Estimated value.

Table 2. Current Landfill - Summary of 2008 VOC Data

Landfill Report  
2008 CLF - Volatile Organic Compounds

Analyte	Groundwater Standards (ug/L)	088-110 12/10/2008 (ug/L)	088-21 6/5/2008 (ug/L)	088-21 12/10/2008 (ug/L)	088-22 12/10/2008 (ug/L)	088-23 12/10/2008 (ug/L)
1,1,1,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5	4.62 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	1	1.38 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,2,4-trimethyl	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,3,5-trimethyl-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1-methylethyl-	--	0.255 J	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	5	0.577 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5	6.51 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cymene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DBCP	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
EDB	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethene, 1,2-dichloro-, (E)-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	5	0.328 J	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl chloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	10	0.267 J	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	5	0.837 U	1.29 U	0.696 U	0.787 U	0.861 U
n-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	5	0.18 J	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Dichlorobenzene	3	0.569 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	5	0.132 J	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
524.2 TVOC	--	14.82	0	0	0	0

U - Not detected.  
J - Estimated value.

Table 3. Current Landfill - Summary of 2008 Water Chemistry Data

<i>Analyte</i>	Groundwater Standards (mg/L)	087-09		087-09		087-09		087-09		087-11		087-11		087-11		087-11		087-23		087-23	
		2/28/2008 (mg/L)		6/5/2008 (mg/L)		9/4/2008 (mg/L)		12/10/2008 (mg/L)		2/28/2008 (mg/L)		6/5/2008 (mg/L)		9/4/2008 (mg/L)		12/10/2008 (mg/L)		2/28/2008 (mg/L)		6/5/2008 (mg/L)	
Alkalinity (as CaCO <sub>3</sub> )	--	15.5		20.2		10.2		9.54		102		173		142		169		66.5		89.2	
Ammonia (as N)	2	0.03	U	0.057		0.03	U	0.03	U	<b>3.78</b>		<b>8.03</b>		<b>6.53</b>		<b>7.62</b>		1.62		0.703	
Chloride	250	47.4		33.9		61.7		63.8		13.1		9.99		10.3		17.4		9.98		6.94	
Cyanide	-0.2	0.002	U	0.002	U	0.0015	U	0.0015	U	0.002	U	0.002	U	0.002	U	0.0015	U	0.002	U	0.002	U
Nitrate (as N)	10	0.834		0.988	J	0.328		0.399		0.033	U	0.033	JU	0.033	U	0.033	U	0.033	U	0.033	JU
Nitrite (as N)	1	0.033	U	0.033	JU	0.033	U	0.033	U	0.033	U	0.033	JU	0.033	U	0.033	U	0.033	U	0.033	JU
Nitrite + Nitrate-N	10	0.831		0.23	J	0.0542		0.348	J	0.01	U	0.01	U	0.01	U	0.1	U	0.01	U	0.01	U
Nitrogen	--	0.961		0.239	J	0.207		0.74		4.24		9.41		9.79		16.4		1.84		1.16	
Sulfate	250	18.8		10.5		20.9		11.6		2.06	J	1.17	J	1.41	J	1.49	J	3.26	J	7.07	
TDS	--	146		112		167		162		198		211		205		240		135		135	
Total Kjeldahl Nitrogen	--	0.13		0.029	U	0.153		0.392		4.23		9.41		9.79		16.4		1.83		1.16	
TSS	--	8.19		3.09		9.47		6.11		29.6		25.1		14.7		27.7		12.9		14	

J - Estimated value.

U - Not detected.

Table 3. Current Landfill - Summary of 2008 Water Chemistry Data

<i>Analyte</i>	Groundwater Standards (mg/L)	087-23		087-23		087-24		087-24		087-26		087-26		087-26		087-27		087-27	
		9/4/2008 (mg/L)	12/10/2008 (mg/L)	6/5/2008 (mg/L)	12/10/2008 (mg/L)	2/28/2008 (mg/L)	6/5/2008 (mg/L)	9/4/2008 (mg/L)	12/10/2008 (mg/L)	2/28/2008 (mg/L)	6/5/2008 (mg/L)	9/4/2008 (mg/L)	12/10/2008 (mg/L)	2/28/2008 (mg/L)	6/5/2008 (mg/L)	9/4/2008 (mg/L)	12/10/2008 (mg/L)		
Alkalinity (as CaCO <sub>3</sub> )	--	110	79.5	14		17		18.1		16.6		16.6		17.5		93.9		145	
Ammonia (as N)	2	1.11	0.958	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U	2.39		4.77	
Chloride	250	9.06	8.32	22		15.7		17		16.8		17.5		30.1		28.4		23.6	
Cyanide	-0.2	0.002	U	0.0015	U	0.002	U	0.0015	U	0.002	U	0.002	U	0.0015	U	0.008		0.002	U
Nitrate (as N)	10	0.033	U	0.033	U	0.498	J	0.419		0.455		0.461	J	0.456		0.433		0.033	U
Nitrite (as N)	1	0.033	U	0.033	U	0.033	JU	0.033	U	0.033	U	0.033	JU	0.033	U	0.033	U	0.033	JU
Nitrite + Nitrate-N	10	0.01	U	0.1	U	0.426		0.445		0.474		0.353		0.101		0.429		0.01	U
Nitrogen	--	1.51		1.12		0.426		1.01		0.549		0.354		0.218		0.954		2.84	
Sulfate	250	7.14		7.2		16.8		12		12.2		12.7		12.3		12.1		15.6	
TDS	--	161		118		89		72		77		75		76		102		210	
Total Kjeldahl Nitrogen	--	1.51		1.12		0.029	U	0.562		0.075	J	0.029	U	0.117		0.525		2.83	
TSS	--	5.9		5.85		0.626	U	0.633	U	0.663	U	1.69	J	0.671	U	0.71	J	33.2	

J - Estimated value.

U - Not detected.

Table 3. Current Landfill - Summary of 2008 Water Chemistry Data

<i>Analyte</i>	Groundwater Standards (mg/L)	087-27		088-109		088-109		088-109		088-110		088-110		088-110					
		9/4/2008 (mg/L)	12/10/2008 (mg/L)	2/28/2008 (mg/L)	6/5/2008 (mg/L)	9/4/2008 (mg/L)	12/10/2008 (mg/L)	2/28/2008 (mg/L)	6/5/2008 (mg/L)	9/4/2008 (mg/L)	12/10/2008 (mg/L)								
Alkalinity (as CaCO <sub>3</sub> )	--	163	133	31.5	104	194	210	110	107	146	146								
Ammonia (as N)	2	1.8	4.56	0.131	1.83	4.59	4.82	3.51	1.24	3.36	4.1								
Chloride	250	26.9	19.3	9.88	17.2	19.6	19.2	30.9	32	32.7	31.5								
Cyanide	-0.2	0.0015	U	0.0015	U	0.002	J	0.0015	U	0.002	U	0.0015	U	0.002	J	0.002	U	0.0015	U
Nitrate (as N)	10	0.033	U	0.033	U	0.336	U	0.088	JJ	0.033	U	0.033	U	0.033	JU	0.033	U	0.033	U
Nitrite (as N)	1	0.033	U	0.033	U	0.033	U	0.033	JU	0.033	U	0.033	U	0.033	JU	0.033	U	0.033	U
Nitrite + Nitrate-N	10	0.0229	J	0.1	U	0.308	U	0.0185	J	0.032	J	0.1	U	0.0119	J	0.01	U	0.01	U
Nitrogen	--	2.58	5.49	0.852	0.9	4.9	5.43	3.96	1.54	3.45	5.46								
Sulfate	250	13.1	9.8	19.1	14.9	9.34	7.04	17.9	17.3	16.5	13.8								
TDS	--	269	223	90	163	261	257	244	213	275	260								
Total Kjeldahl Nitrogen	--	2.56	5.49	0.544	0.881	4.87	5.43	3.95	1.54	3.45	5.46								
TSS	--	16.8	25.2	7	17.4	22.8	26.8	35.2	29.1	12.5	27.2								

J - Estimated value.

U - Not detected.

Table 3. Current Landfill - Summary of 2008 Water Chemistry Data

<i>Analyte</i>	Groundwater Standards (mg/L)	088-21 2/28/2008 (mg/L)	088-21 6/5/2008 (mg/L)	088-21 9/4/2008 (mg/L)	088-21 12/10/2008 (mg/L)	088-22 6/5/2008 (mg/L)	088-22 12/10/2008 (mg/L)	088-23 6/5/2008 (mg/L)	088-23 12/10/2008 (mg/L)
Alkalinity (as CaCO <sub>3</sub> )	--	17.5	16.6	14.5	26.5	10.9	13.3	27.5	30.2
Ammonia (as N)	2	0.03 U	0.115	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Chloride	250	56.5	32.7	35.9	26.4	16.1	15.9	15.5	15
Cyanide	-0.2	0.003 J	0.0015 U	0.002 U	0.0015 U	0.002 U	0.0015 U	0.002 U	0.0015 U
Nitrate (as N)	10	0.324	0.149 J	0.203	0.289	0.436 J	0.448	0.033 JU	0.033 U
Nitrite (as N)	1	0.033 U	0.033 JU	0.033 U	0.033 U	0.033 JU	0.033 U	0.033 JU	0.033 U
Nitrite + Nitrate-N	10	0.283	0.0838	0.146	0.238 J	0.358	0.418	0.01 U	0.05 U
Nitrogen	--	0.472	0.226	0.366	0.238 J	0.362	0.958	0.029 U	0.05 U
Sulfate	250	4.05 J	3.69 J	4.42 J	4.32 J	11.6	10.9	11.7	10.6
TDS	--	153	90	97	86	62	70	83	87
Total Kjeldahl Nitrogen	--	0.189	0.142	0.22	0.029 U	0.029 U	0.54	0.029 U	0.029 U
TSS	--	41	23.4	8.21	30.7	16.6	8.46	3.98	8.22

J - Estimated value.

U - Not detected.



Table 4. Current Landfill - Summary of 2008 Metals Data

<i>Analyte</i>	Groundwater Standards (ug/L)	087-09 2/28/2008		087-09 6/5/2008		087-09 9/4/2008		087-09 12/10/2008		087-11 2/28/2008		087-11 6/5/2008		087-11 9/4/2008		087-11 12/10/2008		087-23 2/28/2008		087-23 6/5/2008		087-23 9/4/2008		087-23 12/10/2008			
		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)	
Aluminum	200	267		306		545		107	B	92.8	B	139	B	68	U	68	U	68	U	68	U	68	U	68	U	68	U
Antimony	3	3	U	3	U	3	U	3	U	5.1	B	3	U	3	U	3	U	3	U	3	U	3	U	3.9	B	3	U
Arsenic	10	1.5	U	1.5	U	1.5	U	1.5	U	4	B	5.5		4.6	B	5.4		8.4		9.7		9.7		9.7		9.2	
Barium	1000	34.7	B	31	B	35.4	B	38	B	30.1	B	38.9	B	33.2	B	41.7	B	45.7	B	26.8	B	39.3	B	30.5	B		
Beryllium	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	6370		7530		6030	J	6820		20800		22400		20100		24100		7990		5210		7390		5360			
Chromium	50	531		84.5		408		197		8	B	2	U	2	U	2.6	B	11.4		2	U	2	U	2	U	2	U
Cobalt	--	2	B	1	U	2.2	B	1.7	B	1.1	B	1	U	1	U	1	U	3.6	B	2.1	B	1.9	B	1.4	B		
Copper	200	8.1	B	3	U	7.4	B	5.2	B	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Iron	300	2500		575		2280		1390		69100		58900		65000		86800		52000		45300		58500		41400			
Lead	25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	3110	B	3520	B	2760	B	3370	B	5150		5650		4900	B	5690		2250	B	1620	B	2190	B	1570	B		
Manganese	300	51.6		99.6		91.2		87.4		1750		1450		1410		1840		3370		3610		4350		2870			
Mercury	0.7	0.03	U	0.03	U	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U	0.067	U		
Nickel	100	263		22.8	B	235		118		1.4	B	1	B	1	U	1	U	3.2	B	1	U	1.1	B	1	U		
Potassium	--	1700	B	570	B	1100	B	1210	B	3700	B	5440		5500		5770		1730	B	781	B	1320	B	1300	B		
Selenium	10	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Silver	50	1	U	1	U	1.1	B	1	U	1	U	1	U	1.7	B	1.7	B	1	U	1	U	2.1	B	1	U		
Sodium	20000	36700		19500		39500		43100		10100		9030		6370		11900		6700		4680	B	6370		6220			
Thallium	0.5	0.71	B	0.48	B	0.85	B	0.44	B	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Vanadium	--	3.5	B	1.6	B	3.3	B	2.3	B	1.7	B	1	U	1	U	2.2	B	1.1	B	1.9	B	1	U	1	U		
Zinc	2000	6.3	B	3.8	B	8.7	B	7.2	B	2	U	2	U	2	U	9.6	B	4	B	2	U	3.8	B	7.5	B		

J - Estimated value.  
 U - Not detected.  
 B - Value reported between contract and method detection limits.

Table 4. Current Landfill - Summary of 2008 Metals Data

<i>Analyte</i>	Groundwater Standards (ug/L)	087-24 6/5/2008		087-24 12/10/2008		087-26 2/28/2008		087-26 6/5/2008		087-26 9/4/2008		087-26 12/10/2008		087-27 2/28/2008		087-27 6/5/2008		087-27 9/4/2008		087-27 12/10/2008		088-109 2/28/2008		088-109 6/5/2008			
		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)	
Aluminum	200	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U
Antimony	3	3	U	3	U	3	U	3	U	6.7	B	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Arsenic	10	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	5.3	U	8.9	U	7.5	U	6.7	U	1.7	B	1.5	U	1.5	U
Barium	1000	13	B	10.1	B	20.9	B	21	B	20.6	B	32.1	B	46.2	B	48.6	B	44.7	B	53.6	B	14.9	B	46.4	B	46.4	B
Beryllium	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	6970		5440		5560		5120		5460		8480		24400		31000		30400		26000		13800		21800		21800	
Chromium	50	2	U	2	U	2	U	2	U	2	U	2	U	4.6	B	2	U	2	U	2	U	2	U	2	U	2	U
Cobalt	--	1	U	1	U	2.3	B	1.9	B	1.6	B	1.5	B	7.6	B	6.5	B	3.5	B	4.7	B	1	U	6.4	B	6.4	B
Copper	200	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Iron	300	25	U	37.3	B	64.4	B	611		25	U	133		50200		47200		54800		49900		3060		22400		22400	
Lead	25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	4150	B	3840	B	3810	B	3180	B	3760	B	5730		5790		5500		6510		7450		4620	B	5290		5290	
Manganese	300	2	U	2	U	2	U	2	U	2	U	2	U	2630		1900		2210		2440		173		3430		3430	
Mercury	0.7	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U
Nickel	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.7	B	1	U	1.2	B	1	U	1.9	B	1.9	B
Potassium	--	1030	B	1110	B	897	B	753	B	927	B	1200	B	4350	B	4650	B	5070		5920		2060	B	5710		5710	
Selenium	10	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Silver	50	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.5	B	1.1	B	1	U	1	U	1	U
Sodium	20000	11700		10600		11800		11100		11300		13800		20200		15600		21000		17000		6860		11000		11000	
Thallium	0.5	0.86	B	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Vanadium	--	1	U	1	U	1.3	B	1	U	1	U	1	U	1.5	B	1.1	B	1	U	1	U	1	U	1	U	1	U
Zinc	2000	2	U	2.9	B	2	U	2	U	2	U	5	B	2	U	2	U	5.3	B	8.1	B	2.4	B	2	U	2	U

J - Estimated value.  
 U - Not detected.  
 B - Value reported between contract and method detection limits.

Table 4. Current Landfill - Summary of 2008 Metals Data

Analyte	Groundwater Standards (ug/L)	088-109 9/4/2008 (ug/L)		088-109 12/10/2008 (ug/L)		088-110 2/28/2008 (ug/L)		088-110 6/5/2008 (ug/L)		088-110 9/4/2008 (ug/L)		088-110 12/10/2008 (ug/L)		088-21 2/28/2008 (ug/L)		088-21 6/5/2008 (ug/L)		088-21 9/4/2008 (ug/L)		088-21 12/10/2008 (ug/L)		088-22 6/5/2008 (ug/L)		088-22 12/10/2008 (ug/L)		088-23 6/5/2008 (ug/L)		088-23 12/10/2008 (ug/L)	
		Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B	Value	U/B
Aluminum	200	68	U	68	U	68	U	68	U	68	U	68	U	279	B	114	B	191	B	109	B	68	U	68	U	68	U	68	U
Antimony	3	4.3	B	3	U	3	U	3	U	3	B	3	U	3	U	3	U	7.5	B	3	U	3	U	3	U	3	U	3	U
Arsenic	10	5.5		7.7		9.3		16.2		8.2		9.4		1.5	U	1.5	U	1.5	U	1.5	U	6.9		2.2	B	2.9	B	2.6	B
Barium	1000	79.1	B	79.8	B	51.7	B	35.9	B	57.3	B	55.4	B	12.9	B	12.5	B	20	B	22.4	B	21.6	B	20.9	B	3.9	B	4.7	B
Beryllium	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	41000		44300		25400		18200		25900		26200		9860		4600	B	4780	B	4380	B	4480	B	6230		7650		8410	
Chromium	50	3.5	B	2	U	4.7	B	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Cobalt	--	12.7	B	1.4	B	7.2	B	2.7	B	3	B	4.4	B	1	U	1	U	1	U	1	U	4.1	B	3.1	B	1	U	1	U
Copper	200	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Iron	300	43100		45900		59000		49800		58500		57800		11800		4490		5090		3950		9210		3720		3110		3710	
Lead	25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.67	B	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	7840		8390		7330		5370		7120		7590		4680	B	2310	B	2520	B	2420	B	1790	B	2200	B	1950	B	2240	B
Manganese	300	6200		1380		1910		3320		2910		2530		180		89.1		127		98.6		543		183		2650		2450	
Mercury	0.7	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U	0.067	U	0.03	U	0.03	U	0.03	U	0.067	U	0.03	U	0.067	U	0.03	U	0.067	U
Nickel	100	2.2	B	2	B	1	U	1.2	B	1	U	1.1	B	1	U	1	U	1	U	1	U	3.1	B	1.4	B	1	U	1	U
Potassium	--	9470		9420		6050		3500	B	5210		5590		1390	B	1770	B	2150	B	2010	B	1010	B	1040	B	825	B	830	B
Selenium	10	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Silver	50	1.7	B	1.1	B	1	U	1	U	1.6	B	1.6	B	1	U	1	U	1.2	B	1	U	1	U	1	U	1	U	1	U
Sodium	20000	13600		14200		25200		22500		27600		25200		29700		18000		20900		20800		11200		11400		13200		12800	
Thallium	0.5	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Vanadium	--	1	U	1	U	1.5	B	1	U	1	U	1	U	20.4	B	9.2	B	11	B	9.3	B	1	U	1	U	1	U	1	U
Zinc	2000	3.9	B	7.4	B	2	U	2	U	2.1	B	5.5	B	2.6	B	2	U	2.3	B	2.7	B	2	U	2.1	B	2	U	2.1	B

J - Estimated value.  
 U - Not detected.  
 B - Value reported between contract and method detection limits.

Table 5. Current Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	087-09 12/10/2008 pCi/L				087-11 12/10/2008 pCi/L				087-23 12/10/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2	1.76	U	18.5	11.9	5.97	U	13.1	8.71	4.09	U	9.02	6.3
<b>Beryllium-7</b>	40000	-22.9	U	30.5	20.5	1.49	U	26.9	15.6	20	U	30.9	17.5
<b>Cesium-134</b>	80	2.61	U	4.11	2.24	0.0481	U	3.44	2.06	-1.58	U	2.8	1.83
<b>Cesium-137</b>	120	-0.295	U	3.01	1.8	-0.242	U	2.45	1.48	0.24	U	2.61	1.53
<b>Co-60</b>	200	0.63	U	3.2	1.83	0.421	U	2.85	1.64	0.000176	U	2.66	1.58
<b>Cobalt-57</b>	4000	0.428	U	2.8	1.67	0.0841	U	2.12	1.24	-0.682	U	2.19	1.37
<b>Europium-152</b>	841	1.3	U	8.89	5.21	1.49	U	7.64	4.56	1.91	U	7.07	4.12
<b>Europium-154</b>	573	-0.93	U	8.33	5.05	2.41	U	8.14	4.56	-1.54	U	6.64	4.13
<b>Europium-155</b>	4000	3.23	U	11.6	6.82	2.13	U	8.96	5.14	2.1	U	8.8	5.26
<b>Gross Alpha</b>	15	0.139	U	0.746	0.391	-0.171	U	0.862	0.384	0.439	U	0.837	0.503
<b>Gross Beta</b>	1000	3.43	J	1.09	0.776	6.93		1.07	0.898	1.5	J	1.34	0.831
<b>Manganese-54</b>	2000	0.167	U	2.86	1.7	0.0745	U	2.48	1.49	1.45	U	2.71	1.5
<b>Sodium-22</b>	400	-0.314	U	3.01	1.83	0.871	U	2.93	1.65	-0.71	U	2.41	1.52
<b>Strontium-90</b>	8	0.11	U	0.543	0.301	-0.135	U	0.585	0.291	0.0165	U	0.513	0.267
<b>Tritium</b>	20000	37.9	U	237	137	903		246	176	75.2	U	241	141
<b>Zinc-65</b>	360	1.6	U	6.47	3.62	-1.25	U	5.32	3.24	-0.226	U	5.75	3.39

J - Estimated value.

U - Not detected.

Table 5. Current Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	087-24 12/10/2008 pCi/L				087-26 12/10/2008 pCi/L				087-27 12/10/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2	-1.26	U	5.44	3.17	7.05	U	21.6	12.3	-6.3	U	9.95	7.2
<b>Beryllium-7</b>	40000	29.2	U	35.8	19.2	-5.54	U	32.7	20.1	-0.521	U	25.5	15.6
<b>Cesium-134</b>	80	-0.356	U	3.97	2.36	0.668	U	3.22	1.83	0.99	U	2.59	1.44
<b>Cesium-137</b>	120	1.26	U	3.5	2.02	0.437	U	2.79	3.19	0.304	U	2.42	1.4
<b>Co-60</b>	200	0.457	U	3.26	1.92	0.366	U	3.28	1.88	1.56	U	2.7	2.12
<b>Cobalt-57</b>	4000	0.0955	U	2.08	1.23	0.925	U	2.63	1.54	1.21	U	2.25	1.26
<b>Europium-152</b>	841	-1.94	U	7.87	4.7	-0.849	U	8.21	4.89	0.887	U	6.91	4.1
<b>Europium-154</b>	573	-0.123	U	8.71	5.3	-3.24	U	6.36	4.2	-0.387	U	6.54	4.04
<b>Europium-155</b>	4000	1	U	8.3	4.83	-0.668	U	10.4	6.2	-3.71	U	8.21	4.88
<b>Gross Alpha</b>	15	0.0671	U	1.19	0.495	0.759	U	1.39	0.867	0.781	U	1.69	1
<b>Gross Beta</b>	1000	1.94	U	2.03	1.29	2.1	J	1.91	1.23	7.44		1.88	1.61
<b>Manganese-54</b>	2000	-1.05	U	3.33	2.05	1.15	U	2.8	1.55	0.0621	U	2.25	1.33
<b>Sodium-22</b>	400	-0.0537	U	3.14	1.91	-1.23	U	2.26	1.5	-0.0775	U	2.38	1.46
<b>Strontium-90</b>	8	0.0944	U	0.618	0.342	-0.264	U	0.486	0.2	0.429	U	0.457	0.299
<b>Tritium</b>	20000	349		242	153	431		246	159	622		246	166
<b>Zinc-65</b>	360	-2.7	U	7.83	5.33	3.12	U	6.88	3.83	-1.35	U	4.84	3.08

J - Estimated value.

U - Not detected.

Table 5. Current Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	088-109 12/10/2008 pCi/L				088-110 12/10/2008 pCi/L				088-21 12/10/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2	-7.01	U	19.1	12.3	3.41	U	13.1	8.68	5.52	U	14.8	9.62
<b>Beryllium-7</b>	40000	12.9	U	40.1	22.7	-1.99	U	26.7	15.9	-3.83	U	29.8	17.6
<b>Cesium-134</b>	80	-1.49	U	3.62	2.27	-0.117	U	2.57	1.51	-0.998	U	2.92	1.86
<b>Cesium-137</b>	120	-2	U	2.53	1.78	1.63	U	2.39	1.3	1.85	U	2.96	1.62
<b>Co-60</b>	200	1.37	U	3.41	1.86	-0.688	U	2.55	1.63	0.55	U	2.91	1.68
<b>Cobalt-57</b>	4000	0.0668	U	2.92	1.69	0.253	U	2.17	1.26	-0.563	U	2.41	1.51
<b>Europium-152</b>	841	-1.27	U	8.19	4.82	-1.75	U	6.82	4.04	-3.37	U	7.67	4.83
<b>Europium-154</b>	573	0.0221	U	7.73	4.68	-0.706	U	5.76	3.59	-2.74	U	6.92	4.48
<b>Europium-155</b>	4000	2.34	U	11.9	6.74	-0.331	U	8.74	5.08	2.08	U	10	6.04
<b>Gross Alpha</b>	15	0.647	U	0.835	0.536	0.216	U	0.804	0.451	0.107	U	0.753	0.418
<b>Gross Beta</b>	1000	7.54		1.44	1.05	6.13		1.12	0.822	7.42		0.88	0.713
<b>Manganese-54</b>	2000	-0.0813	U	2.99	1.75	-0.862	U	2.29	1.41	-1.56	U	2.3	1.55
<b>Sodium-22</b>	400	-0.0442	U	2.77	1.68	-0.342	U	2.08	1.31	-0.951	U	2.51	1.62
<b>Strontium-90</b>	8	0.212	U	0.477	0.279	0.624	U	0.684	0.436	2.25		0.556	0.521
<b>Tritium</b>	20000	508		245	161	531		246	162	103	U	246	145
<b>Zinc-65</b>	360	-5.66	U	6.27	4.71	-0.986	U	6.18	3.92	-2.58	U	5.93	3.76

J - Estimated value.

U - Not detected.

Table 5. Current Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	088-22 12/10/2008 pCi/L				088-23 12/10/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2	-21.9	U	17.8	11.5	5.28	U	16.1	10.6
<b>Beryllium-7</b>	40000	-5.6	U	33.6	20.8	3.83	U	30.5	17.8
<b>Cesium-134</b>	80	-1.21	U	3.75	2.35	-0.584	U	2.99	2.2
<b>Cesium-137</b>	120	1.2	U	3.19	1.81	1.32	U	2.65	1.49
<b>Co-60</b>	200	-0.205	U	2.69	1.64	0.203	U	2.58	1.54
<b>Cobalt-57</b>	4000	-0.134	U	2.94	1.77	-1.34	U	2.3	1.39
<b>Europium-152</b>	841	-0.471	U	9.03	5.42	0.926	U	7.37	4.2
<b>Europium-154</b>	573	-2.52	U	8.34	5.27	1.06	U	6.9	4.03
<b>Europium-155</b>	4000	2.53	U	12.3	7.26	-2.84	U	9.62	5.66
<b>Gross Alpha</b>	15	0.577	U	1.67	0.921	0.225	U	1.99	0.901
<b>Gross Beta</b>	1000	0.537	U	2.34	1.31	1.28	U	2.46	1.47
<b>Manganese-54</b>	2000	0.248	U	3.03	1.8	-0.329	U	2.49	1.49
<b>Sodium-22</b>	400	-0.889	U	3.01	1.9	0.348	U	2.47	1.45
<b>Strontium-90</b>	8	-0.0514	U	0.753	0.399	0.00136	U	0.655	0.351
<b>Tritium</b>	20000	776		245	171	475		245	159
<b>Zinc-65</b>	360	0.595	U	6.39	3.72	-0.842	U	5.64	4.88

J - Estimated value.

U - Not detected.

Table 6. Former Landfill - Summary of 2008 VOC Data

Analyte	Groundwater Standards (ug/L)	086-42		086-72		087-22		097-17		097-17	
		12/11/2008 (ug/L)		12/11/2008 (ug/L)		12/11/2008 (ug/L)		6/16/2008 (ug/L)		12/11/2008 (ug/L)	
1,1,1,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	7	0.5	U	0.634		0.211	J	0.5	U	0.5	U
cis-1,2-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.05	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	1.99	U	1.51	U	1.9	U	0.5	U	1.52	U
n-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
524.2 TVOC	--	0		0.634		0.211		0		0	

J - Estimated value.

U - Not detected.



Table 6. Former Landfill - Summary of 2008 VOC Data

Analyte	Groundwater Standards (ug/L)	097-277		097-64		106-02		106-30	
		6/16/2008	12/11/2008	6/16/2008	12/11/2008	6/16/2008	12/11/2008	6/16/2008	12/11/2008
1,1,1,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	5	0.5 U	0.5 U	0.12 J	0.24 J	0.5 U	0.5 U	0.36 J	1.67 U
1,1,2,2-Tetrachloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.804 U
1,1-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,2,4-trimethyl	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,3,5-trimethyl	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1-methylethyl-	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	7	1.4	1.01	0.217 J	0.5 U	0.361 J	0.121 J	0.209 J	0.152 J
cis-1,2-Dichloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cymene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DBCP	0.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
EDB	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethene, 1,2-dichloro-, (E)-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl chloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	5	0.5 U	1.41 U	0.5 U	1.68 U	0.5 U	1.69 U	0.5 U	1.31 U
n-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Dichlorobenzene	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	5	0.5 U	0.5 U	0.5 U	0.229 J	0.5 U	0.5 U	0.5 U	0.159 J
Trichlorofluoromethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
524.2 TVOC	--	1.4	1.01	0.337	0.469	0.361	0.121	0.569	2.785

J - Estimated value.  
 U - Not detected.

Table 7. Former Landfill - Summary of 2008 Water Chemistry Data

<i>Analyte</i>	Groundwater Standards (mg/L)	086-42		086-72		087-22		097-17		097-277	
		6/16/2008 (mg/L)	12/11/2008 (mg/L)	6/16/2008 (mg/L)	12/11/2008 (mg/L)	6/16/2008 (mg/L)	12/11/2008 (mg/L)	6/16/2008 (mg/L)	12/11/2008 (mg/L)	6/16/2008 (mg/L)	
Alkalinity (as CaCO <sub>3</sub> )	--	29.5	20.1	5.27	6.36	6.32	6.89	5.27	9.54	7.37	
Ammonia (as N)	2	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Chloride	250	19.3	25.9	6.54	7.1	3.61	3.86	3.13	2.58	13.3	
Cyanide	0.2	0.002 U	0.0015 U	0.002 U	0.0015 U	0.002 U	0.0015 U	0.002 U	0.0015 U	0.002 U	0.002 U
Nitrate (as N)	10	1.05	1.29	0.223	0.17	0.673	0.555	0.351	0.465	0.322	
Nitrite (as N)	1	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U
Nitrite + Nitrate-N	10	1.15	1.29	0.101 J	0.05 U	0.705	0.482	0.336	0.362	0.31	
Nitrogen	--	1.15		0.101 J		0.705		0.374		0.31	
Sulfate	250	12.6	11.6	10.3	10.7	9.31	9.37	9.6	7.92	11.9	
TDS	--	96	103	37	49	39	35	36	36	59	
Total Kjeldahl Nitrogen	--	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.038 J	0.029 U	0.029 U	0.029 U
TSS	--	0.814 U	1.24 J	0.857 J	0.64 U	0.814 U	0.886 J	0.857 J	0.648 U	0.814 U	0.814 U

J - Estimated value.

U - Not detected.

Table 7. Former Landfill - Summary of 2008 Water Chemistry Data

<i>Analyte</i>	Groundwater Standards (mg/L)	097-277		097-64		097-64		106-02		106-02		106-30		106-30	
		12/11/2008 (mg/L)		6/16/2008 (mg/L)		12/11/2008 (mg/L)		6/16/2008 (mg/L)		12/11/2008 (mg/L)		6/16/2008 (mg/L)		12/11/2008 (mg/L)	
Alkalinity (as CaCO <sub>3</sub> )	--	7.95		26.9		28.6		12.6		24.4		17.4		21.2	
Ammonia (as N)	2	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U
Chloride	250	10.5		6.13		4.41		5.41		4.99		5.47		4.02	
Cyanide	0.2	0.0015	U	0.002	U	0.0015	U	0.002	U	0.0015	U	0.002	U	0.0015	U
Nitrate (as N)	10	0.234		0.982		0.98		0.299		0.521		0.614		0.728	
Nitrite (as N)	1	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	10	0.11	J	1.16		0.93		0.28		0.378		0.71		0.66	
Nitrogen	--			1.16				0.28				0.737			
Sulfate	250	12.3		13.4		12.4		9.37		9.56		12.3		19.6	
TDS	--	62		65		76		44		67		57		74	
Total Kjeldahl Nitrogen	--	0.029	U	0.029	U	0.031	J	0.029	U	1.12		0.029	U	0.056	J
TSS	--	0.655	U	0.814	U	1.82	J	1.86	J	28.2		2.29	J	1.75	J

J - Estimated value.

U - Not detected.

Table 8. Former Landfill - Summary of 2008 Metals Data

<i>Analyte</i>	Groundwater Standards (ug/L)	086-42 6/16/2008 (ug/L)		086-42 12/11/2008 (ug/L)		086-72 6/16/2008 (ug/L)		086-72 12/11/2008 (ug/L)		087-22 6/16/2008 (ug/L)		087-22 12/11/2008 (ug/L)		097-17 6/16/2008 (ug/L)		097-17 12/11/2008 (ug/L)		097-27 6/16/2008 (ug/L)		
<b>Aluminum</b>	200	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68
<b>Antimony</b>	3	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3
<b>Arsenic</b>	10	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5
<b>Barium</b>	1000	11.6	B	12.6	B	11.6	B	12.9	B	13.6	B	14.8	B	7.4	B	8.6	B	9.3	B	9.3
<b>Beryllium</b>	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1
<b>Cadmium</b>	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1
<b>Calcium</b>	--	10700		10700		2220	B	2320	B	2720	B	3070	B	3220	B	3670	B	4410	B	4410
<b>Chromium</b>	50	2	U	4.7	B	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2
<b>Cobalt</b>	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1
<b>Copper</b>	200	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3
<b>Iron</b>	300	25.5	B	98.3	B	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25
<b>Lead</b>	25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5
<b>Magnesium</b>	35000	4530	B	4760	B	1730	B	1910	B	1840	B	1990	B	1150	B	1470	B	2210	B	2210
<b>Manganese</b>	300	2.5	B	4	B	3.9	B	3.8	B	2.1	B	2.5	B	11.9	B	11.8	B	11.9	B	11.9
<b>Mercury</b>	0.7	0.03	U	0.067	U	0.03	U	0.067	U	0.03	U	0.067	U	0.03	U	0.067	U	0.03	U	0.03
<b>Nickel</b>	100	1	U	1	U	1	U	1	U	1	U	1.2	B	1	U	1	U	1	U	1
<b>Potassium</b>	--	1330	B	1370	B	893	B	786	B	1230	B	1120	B	719	B	733	B	1180	B	1180
<b>Selenium</b>	10	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1
<b>Silver</b>	50	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1
<b>Sodium</b>	20000	12600		14700		6200		6150		3810	B	3200	B	3620	B	3510	B	8150	B	8150
<b>Thallium</b>	0.5	0.3	U	0.41	B	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3
<b>Vanadium</b>	--	2.1	B	1	U	3.4	B	1	U	2.8	B	1	U	3.2	B	1	U	2.6	B	2.6
<b>Zinc</b>	2000	2	U	2.6	B	2	U	2.2	B	2	U	2	U	3	B	2	U	2.3	B	2.3

J - Estimated value.

U - Not detected.

B - Value reported between contract and method detection limits.

Table 8. Former Landfill - Summary of 2008 Metals Data

Analyte	Groundwater Standards (ug/L)	77	097-277		097-64		097-64		106-02		106-02		106-30		106-30	
		08	12/11/2008		6/16/2008		12/11/2008		6/16/2008		12/11/2008		6/16/2008		12/11/2008	
		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Aluminum	200	U	68	U	68	U	68	U	68	U	135	B	264		212	
Antimony	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Arsenic	10	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Barium	1000	B	9	B	18.7	B	21	B	8.2	B	13.7	B	12.6	B	18	B
Beryllium	3	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	B	4230	B	13100		12400		6230		9770		8070		10300	
Chromium	50	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Cobalt	--	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Copper	200	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Iron	300	U	25	U	25	U	49.4	B	42.8	B	445		182		142	
Lead	25	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	B	2310	B	1800	B	1770	B	1300	B	2070	B	2250	B	3130	B
Manganese	300	B	34.2		5.5	B	3.7	B	4.5	B	8.2	B	19.1		14.7	B
Mercury	0.7	U	0.067	U	0.03	U	0.067	U	0.03	U	0.067	U	0.03	U	0.067	U
Nickel	100	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Potassium	--	B	1080	B	2030	B	2050	B	1200	B	1430	B	1860	B	2200	B
Selenium	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Silver	50	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Sodium	20000		7170		4170	B	4710	B	4290	B	5220		4150	B	5420	
Thallium	0.5	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Vanadium	--	B	1	U	2.5	B	1	U	3	B	1	U	3.1	B	1	U
Zinc	2000	B	2	U	2	U	2	U	2.8	B	5.3	B	2.8	B	3	B

J - Estimated value.

U - Not detected.

B - Value reported between contract and method detection limits.

Table 9. Former Landfill - Summary of 2008 Pesticide/PCB Data

Analyte	Groundwater Standards (ug/L)	086-42		086-72		087-22		097-17		097-277		097-64		106-02		106-30	
		12/11/2008 (ug/L)	U	12/11/2008 (ug/L)	U	12/11/2008 (ug/L)	U	12/11/2008 (ug/L)	U	12/11/2008 (ug/L)	U	12/11/2008 (ug/L)	U	12/11/2008 (ug/L)	U		
4,4"-DDD	0.3	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
4,4"-DDE	0.2	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
4,4"-DDT	0.2	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
Aldrin	0	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
alpha-BHC	0.01	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Aroclor 1016	0.09	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
Aroclor 1221	0.09	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
Aroclor 1232	0.09	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
Aroclor 1248	0.09	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
Aroclor 1254	0.09	0.455	U	0.5	U	0.172	J	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
Aroclor 1260	0.09	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
Aroclor-1242	0.09	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U
beta-BHC	0.01	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Chlordane	0.05	0.227	U	0.25	U	0.25	U	0.245	U	0.25	U	0.245	U	0.266	U	0.255	U
delta-BHC	0.04	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Dieldrin	0.004	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
Endosulfan I	0.009	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Endosulfan II	--	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
Endosulfan sulfate	--	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
Endrin	0	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
Endrin aldehyde	5	0.0364	U	0.04	U	0.04	U	0.0392	U	0.04	U	0.0392	U	0.0426	U	0.0408	U
Heptachlor	0.04	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Heptachlor epoxide	0.03	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Lindane	0.05	0.0182	U	0.02	U	0.02	U	0.0196	U	0.02	U	0.0196	U	0.0213	U	0.0204	U
Toxaphene	0.06	0.455	U	0.5	U	0.5	U	0.49	U	0.5	U	0.49	U	0.532	U	0.51	U

J - Estimated value.  
 U - Not detected.

Table 10. Former Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	086-42 6/16/2008 pCi/L				086-42 12/11/2008 pCi/L				086-72 12/11/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2					-1.04	U	4.54	2.94	-0.134	U	16.2	10.5
<b>Beryllium-7</b>	40000					-4.76	U	28.5	17.3	6.11	U	28.3	16.9
<b>Cesium-134</b>	80					1.15	U	3.46	1.94	0.796	U	3.11	1.8
<b>Cesium-137</b>	120					-0.472	U	2.94	1.83	-0.145	U	2.47	1.46
<b>Co-60</b>	200					0.71	U	2.73	1.58	0.523	U	2.63	1.52
<b>Cobalt-57</b>	4000					-0.466	U	1.83	1.1	0.571	U	2.37	1.41
<b>Europium-152</b>	841					-1.82	U	7.1	4.23	-1.7	U	6.98	4.23
<b>Europium-154</b>	573					2.01	U	7.83	4.52	0.152	U	6.85	4.05
<b>Europium-155</b>	4000					-3.42	U	6.5	3.95	-3.06	U	9.59	5.83
<b>Gross Alpha</b>	15					0.136	U	0.775	0.43	-0.168	U	0.828	0.433
<b>Gross Beta</b>	1000					1.97	J	1.15	0.728	-0.198	U	1.27	0.731
<b>Manganese-54</b>	2000					-0.161	U	2.62	1.55	0.897	U	2.53	1.45
<b>Sodium-22</b>	400					0.585	U	2.81	1.64	-0.0532	U	2.43	1.45
<b>Strontium-90</b>	8					-0.122	U	0.553	0.266	-0.149	U	0.449	0.191
<b>Tritium</b>	20000	116	U	197	118	347		238	152	-6.77	U	239	136
<b>Zinc-65</b>	360					-5.62	U	6.06	4.69	-1.74	U	5.36	3.29

J - Estimated value.

U - Not detected.

Table 10. Former Landfill - Summary of 2008 Radionuclide Data

Analyte	Groundwater Standards pCi/L	087-22 12/11/2008 pCi/L				097-17 12/11/2008 pCi/L				097-277 12/11/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2	-12.8	U	16.3	10	6.97	U	18.5	11.7	0.61	U	13.1	8.82
Beryllium-7	40000	-4.44	U	27.9	17.3	14.5	U	26.7	15.2	-0.0949	U	22.9	13.5
Cesium-134	80	0.283	U	3.33	1.98	1.56	U	2.93	1.61	0.125	U	2.58	1.96
Cesium-137	120	1.16	U	2.74	1.56	0.707	U	2.38	2.35	-0.115	U	2.22	1.35
Co-60	200	1.05	U	2.85	1.62	0.443	U	2.4	1.36	0.511	U	2.19	1.28
Cobalt-57	4000	-0.875	U	2.49	1.53	-0.51	U	2.12	1.29	-0.141	U	1.97	1.15
Europium-152	841	-1.54	U	7.48	4.54	4.57	U	7.15	4	0.184	U	6.33	3.64
Europium-154	573	-4.74	U	7.25	4.79	-0.673	U	6.38	3.81	3.63	U	6.52	3.58
Europium-155	4000	3.6	U	10.7	6.28	1.45	U	8.68	5.12	2.36	U	7.98	4.53
Gross Alpha	15	0.389	U	1.74	0.881	-0.426	U	1.69	0.397	0.263	U	0.832	0.479
Gross Beta	1000	2.21	U	2.82	1.75	0.649	U	2.58	1.46	0.792	U	1.18	0.705
Manganese-54	2000	-0.0129	U	2.64	1.59	1.47	U	2.49	1.36	-0.187	U	2.07	1.22
Sodium-22	400	-1.71	U	2.61	1.72	-0.257	U	2.29	1.37	1.35	U	2.36	1.29
Strontium-90	8	0.0325	U	0.534	0.28	-0.0314	U	0.399	0.188	0.0524	U	0.453	0.238
Tritium	20000	167	U	239	144	38.2	U	238	137	156	U	239	144
Zinc-65	360	-1.77	U	5.7	3.51	-1.14	U	4.51	2.86	-4.49	U	4.08	4.15

J - Estimated value.

U - Not detected.



Table 10. Former Landfill - Summary of 2008 Radionuclide Data

Analyte	Groundwater Standards pCi/L	097-64 12/11/2008 pCi/L				106-02 12/11/2008 pCi/L				106-30 12/11/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2	-20.6	U	18.9	12.3	-0.391	U	8.71	5.96	-2.27	U	12.3	8.31
<b>Beryllium-7</b>	40000	9.52	U	28.6	16.8	-0.526	U	22.4	13.2	-14.1	U	21.6	13.5
<b>Cesium-134</b>	80	-0.267	U	2.68	1.61	0.389	U	2.41	1.44	1.47	U	2.71	1.52
<b>Cesium-137</b>	120	-0.29	U	2.23	1.32	0.227	U	2.03	1.21	0.0717	U	2.45	1.46
<b>Co-60</b>	200	-0.992	U	2.62	2.03	1.35	U	2.16	1.16	0.988	U	2.38	1.33
<b>Cobalt-57</b>	4000	-0.328	U	2.19	1.33	-0.0608	U	1.79	1.05	0.365	U	2.05	1.25
<b>Europium-152</b>	841	-2.19	U	6.93	4.22	-1.08	U	5.58	3.27	2.26	U	6.56	3.85
<b>Europium-154</b>	573	1.27	U	6.98	3.98	1.85	U	6.03	3.44	-0.548	U	6.32	3.83
<b>Europium-155</b>	4000	-1.77	U	9.06	5.5	-0.038	U	7.1	4.11	0.00947	U	8.19	5.01
<b>Gross Alpha</b>	15	0.0144	U	0.902	0.486	0.364	U	0.627	0.378	0.0881	U	0.611	0.332
<b>Gross Beta</b>	1000	4.34		1.06	0.743	1.24	J	1.12	0.686	2.54	J	1.02	0.667
<b>Manganese-54</b>	2000	-0.373	U	2.29	1.39	-0.696	U	1.8	1.1	-0.028	U	2.25	1.37
<b>Sodium-22</b>	400	0.431	U	2.51	1.43	0.609	U	2.16	1.24	-0.173	U	2.29	1.38
<b>Strontium-90</b>	8	1.73		0.639	0.493	-0.053	U	0.424	0.202	0.18	U	0.592	0.34
<b>Tritium</b>	20000	133	U	239	143	-13.5	U	239	135	140	U	239	143
<b>Zinc-65</b>	360	-1.25	U	5.24	3.31	-2.07	U	3.72	2.42	-4.36	U	4.2	2.89

J - Estimated value.

U - Not detected.

Table 10. Former Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	106-20 7/17/2008 pCi/L				106-20 12/12/2008 pCi/L				106-21 7/17/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2												
<b>Beryllium-7</b>	40000												
<b>Cesium-134</b>	80												
<b>Cesium-137</b>	120												
<b>Co-60</b>	200												
<b>Cobalt-57</b>	4000												
<b>Europium-152</b>	841												
<b>Europium-154</b>	573												
<b>Europium-155</b>	4000												
<b>Gross Alpha</b>	15												
<b>Gross Beta</b>	1000												
<b>Manganese-54</b>	2000												
<b>Sodium-22</b>	400												
<b>Strontium-90</b>	8	-0.0193	U	0.391	0.198	-0.121	U	0.79	0.374	0.166	U	0.342	0.202
<b>Tritium</b>	20000												
<b>Zinc-65</b>	360												

J - Estimated value.

U - Not detected.

Table 10. Former Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	106-21 12/12/2008 pCi/L				106-43 7/17/2008 pCi/L				106-43 12/12/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2												
<b>Beryllium-7</b>	40000												
<b>Cesium-134</b>	80												
<b>Cesium-137</b>	120												
<b>Co-60</b>	200												
<b>Cobalt-57</b>	4000												
<b>Europium-152</b>	841												
<b>Europium-154</b>	573												
<b>Europium-155</b>	4000												
<b>Gross Alpha</b>	15												
<b>Gross Beta</b>	1000												
<b>Manganese-54</b>	2000												
<b>Sodium-22</b>	400												
<b>Strontium-90</b>	8	0.273	U	0.663	0.387	0.617	J	0.41	0.295	0.895		0.461	0.347
<b>Tritium</b>	20000												
<b>Zinc-65</b>	360												

J - Estimated value.

U - Not detected.

Table 10. Former Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	106-44 7/17/2008 pCi/L				106-44 12/12/2008 pCi/L				106-45 7/17/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2												
<b>Beryllium-7</b>	40000												
<b>Cesium-134</b>	80												
<b>Cesium-137</b>	120												
<b>Co-60</b>	200												
<b>Cobalt-57</b>	4000												
<b>Europium-152</b>	841												
<b>Europium-154</b>	573												
<b>Europium-155</b>	4000												
<b>Gross Alpha</b>	15												
<b>Gross Beta</b>	1000												
<b>Manganese-54</b>	2000												
<b>Sodium-22</b>	400												
<b>Strontium-90</b>	8	3.64		0.392	0.52	7.88		0.445	0.781	1.69		0.375	0.373
<b>Tritium</b>	20000												
<b>Zinc-65</b>	360												

J - Estimated value.

U - Not detected.

Table 10. Former Landfill - Summary of 2008 Radionuclide Data

<i>Analyte</i>	Groundwater Standards pCi/L	106-45 12/12/2008 pCi/L				106-64 7/17/2008 pCi/L				106-64 12/12/2008 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
<b>Americium-241</b>	1.2												
<b>Beryllium-7</b>	40000												
<b>Cesium-134</b>	80												
<b>Cesium-137</b>	120												
<b>Co-60</b>	200												
<b>Cobalt-57</b>	4000												
<b>Europium-152</b>	841												
<b>Europium-154</b>	573												
<b>Europium-155</b>	4000												
<b>Gross Alpha</b>	15												
<b>Gross Beta</b>	1000												
<b>Manganese-54</b>	2000												
<b>Sodium-22</b>	400												
<b>Strontium-90</b>	8	2.07		0.375	0.43	2.29		0.438	0.455	0.377	J	0.307	0.222
<b>Tritium</b>	20000												
<b>Zinc-65</b>	360												

J - Estimated value.

U - Not detected.

**Table 11**  
**Soil Gas Monitoring Well Description**

<b>Current Landfill</b>			
<b>Soil Gas Monitoring Well</b>	<b>Screen Location</b>	<b>Top of Screen (Feet BLS)</b>	<b>Bottom Screen (Feet BLS)</b>
SGM-1 PROBE A	Shallow	2.5	7.5
SGM-1 PROBE B	Intermediate	10.5	17.5
SGM-1 PROBE C	Deep	20	29.5
SGM-2 PROBE A	Shallow	2.5	7.5
SGM-2 PROBE B	Intermediate	10.5	16
SGM-2 PROBE C	Deep	19	28
SGM-3 PROBE A	Shallow	2.5	7.5
SGM-3 PROBE B	Intermediate	10.5	17
SGM-3 PROBE C	Deep	20	29
SGM-4 PROBE A	Shallow	2.5	7.5
SGM-4 PROBE B	Intermediate	10.5	20
SGM-4 PROBE C	Deep	23	32
SGM-5 PROBE A	Shallow	2.5	7.5
SGM-5 PROBE B	Intermediate	10.5	22
SGM-5 PROBE C	Deep	25	34
SGM-6 PROBE A	Shallow	2.5	7.5
SGM-6 PROBE B	Intermediate	10.5	18.5
SGM-6 PROBE C	Deep	21.5	30.5
SGM-7 PROBE A	Shallow	2.5	7.5
SGM-7 PROBE B	Intermediate	10.5	16
SGM-7 PROBE C	Deep	19	26
SGM-8 PROBE A	Shallow	2.5	7.5
SGM-8 PROBE B	Intermediate	10.5	16.5
SGM-8 PROBE C	Deep	19.5	28.5
SGM-9 PROBE A	Shallow	2.5	7.5
SGM-9 PROBE B	Intermediate	10.5	20.5
SGM-9 PROBE C	Deep	23.5	32.5
SGM-10 PROBE A	Shallow	2.5	7.5
SGM-10 PROBE B	Intermediate	10.5	15.5
SGM-10 PROBE C	Deep	18.5	27.5
SGM-11 PROBE A	Shallow	2.5	7.5
SGM-11 PROBE B	Intermediate	10.5	16
SGM-12 PROBE A	Shallow	2.5	7.5
SGM-12 PROBE B	Intermediate	10.5	15
SGM-13 PROBE A	Shallow	2.5	7.5
SGM-13 PROBE B	Intermediate	10.5	13
SGM-14 PROBE A	Shallow	2.5	7.5
SGM-14 PROBE B	Intermediate	10.5	13
SGM-15 PROBE A	Shallow	2.5	5.5
SGM-15 PROBE B	Intermediate	8.5	11.5
SGM-16 PROBE A	Shallow	2.5	5.5
SGM-16 PROBE B	Intermediate	8.5	11
SGM-17 PROBE A	Shallow	2.5	5.5
SGM-17 PROBE B	Intermediate	8.5	11

**Table 11  
Soil Gas Monitoring Well Description**

<b>Current Landfill</b>			
<b>SGM-18 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>7.5</b>
<b>SGM-18 PROBE B</b>	<b>Intermediate</b>	<b>10.5</b>	<b>13.5</b>
<b>SGM-19 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>7.5</b>
<b>SGM-19 PROBE B</b>	<b>Intermediate</b>	<b>10.5</b>	<b>17</b>

**BLS – Below Land Surface**

<b>Former Landfill</b>			
<b>Soil Gas Monitoring Well</b>	<b>Screen Location</b>	<b>Top of Screen (Feet BLS)</b>	<b>Bottom Screen (Feet BLS)</b>
<b>SGM-1 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-1 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>43</b>
<b>SGM-2 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-2 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>40</b>
<b>SGM-3 PROBE A</b>	<b>Shallow</b>	<b>2</b>	<b>9.5</b>
<b>SGM-3 PROBE B</b>	<b>Intermediate</b>	<b>14.5</b>	<b>36</b>
<b>SGM-4 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-4 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>35.5</b>
<b>SGM-5 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-5 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>37</b>
<b>SGM-6 PROBE A</b>	<b>Shallow</b>	<b>2.7</b>	<b>10.2</b>
<b>SGM-6 PROBE B</b>	<b>Intermediate</b>	<b>22</b>	<b>37.2</b>
<b>SGM-7 PROBE A</b>	<b>Shallow</b>	<b>2.8</b>	<b>10.3</b>
<b>SGM-7 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>42</b>
<b>SGM-8 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-8 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>47</b>
<b>SGM-9 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-9 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>52</b>
<b>SGM-10 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-10 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>52</b>
<b>SGM-11 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-11 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>46</b>
<b>SGM-12 PROBE A</b>	<b>Shallow</b>	<b>2.5</b>	<b>10</b>
<b>SGM-12 PROBE B</b>	<b>Intermediate</b>	<b>15</b>	<b>43.5</b>

**BLS – Below Land Surface**

Table 12

2008 Current Landfill Soil Gas Monitoring Summary Table

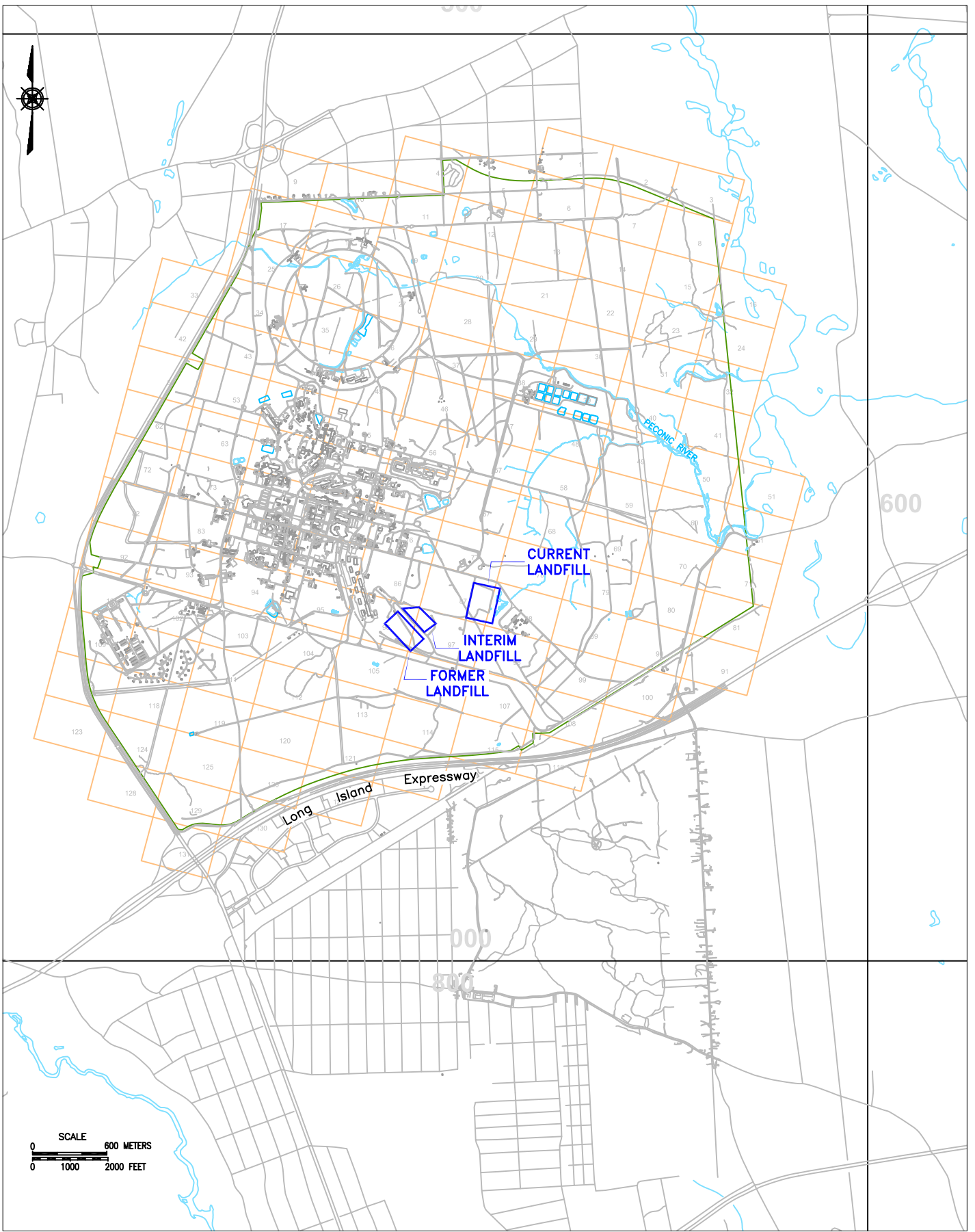
Soil Gas Monitoring Well	Methane				LEL				Hydrogen Sulfide				Soil Gas Monitoring Well
	(% By Volume)	(% By Volume)	(% By Volume)	(% By Volume)	(% By Volume)	(% By Volume)	(% By Volume)	(% By Volume)	(ppm by volume)	(ppm by volume)	(ppm by volume)	(ppm by volume)	
	3/24/2008	7/29/2008	9/30/2008	12/9/2008	3/24/2008	7/29/2008	9/30/2008	12/9/2008	3/24/2008	7/29/2008	9/30/2008	12/9/2008	
SGMW-01A	10.8	3	8.8	11.2	220	96	176	224	3	2	2	0	SGMW-01A
SGMW-01B	9.9	2.9	6.5	11.7	198	58	130	234	0	0.0	0.0	4.0	SGMW-01B
SGMW-01C	9.4	5.7	6.2	9.8	190	112	124	196	0	0	0	4	SGMW-01C
SGMW-02A	34.2	39.1	42.5	37.3	680	788	850	746	11	16	0	0	SGMW-02A
SGMW-02B	3.1	47.2	45	44.3	62	944	900	886	1	12	20	19	SGMW-02B
SGMW-02C	3.2	49.9	52.5	53.3	64	998	1050	1066	1	1	1	3	SGMW-02C
SGMW-03A	13.2	49.1	44	30	264	960	880	600	1	11	6	1	SGMW-03A
SGMW-03B	55.5	53.6	57.8	60.6	1110	1072	1156	142	15	23	36	14	SGMW-03B
SGMW-03C	48.5	51.6	55.9	57.3	970	1032	1118	1146	1	13	26	63	SGMW-03C
SGMW-04A	14.5	43.8	50.6	44.5	290	882	1012	890	1	5	8	0	SGMW-04A
SGMW-04B	40.6	43.4	50.2	44.1	812	870	1004	882	5	16	20	6	SGMW-04B
SGMW-04C	32.7	40.1	45.8	36.1	654	756	916	722	2	0	1	3	SGMW-04C
SGMW-05A	30	36.5	43.7	38.8	600	728	874	776	4	12	5	4	SGMW-05A
SGMW-05B	30.7	35.8	39.7	36.1	614	708	794	722	3	2	6	3	SGMW-05B
SGMW-05C	24	24.6	31.8	28.3	502	566	636	566	3	0	3	2	SGMW-05C
SGMW-06A	18.9	25.3	39.9	40.4	378	510	798	808	0	0	7	0	SGMW-06A
SGMW-06B	30.9	36.4	39.9	40.2	618	724	798	804	1	2	5	7	SGMW-06B
SGMW-06C	28	33.7	37.7	37.3	560	670	754	746	3	0	1	3	SGMW-06C
SGMW-07A	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-07B
SGMW-07C	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-07C
SGMW-08A	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-08B
SGMW-08C	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-08C
SGMW-09A	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0.4	0	0	0	8	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-09C
SGMW-10A	0	12.2	22.5	8.4	0	244	450	168	0	9	19	1	SGMW-10A
SGMW-10B	0	9.9	19.1	10.3	0	200	382	206	0	0	9	2	SGMW-10B
SGMW-10C	0	9.4	15.7	8.3	0	92	314	166	0	0	13	7	SGMW-10C
SGMW-11A	4	14.9	23	11.9	80	300	450	238	5	23	2	4	SGMW-11A
SGMW-11B	2.3	13.7	21.6	6.9	46	274	430	138	0	3	20	0	SGMW-11B
SGMW-12A	32.1	43.4	52.5	47.1	642	868	1050	942	39	65	92	3	SGMW-12A
SGMW-12B	30.6	32.9	43.7	41.3	612	658	874	826	0	1	10	2	SGMW-12B
SGMW-13A	0	0.5	0.6	0.2	0	10	13	4	0	2	0	0	SGMW-13A
SGMW-13B	0	31.9	42.8	36.7	0	648	856	734	0	2	29	4	SGMW-13B
SGMW-14A	0	0.7	2.1	0.5	0	14	42	10	0	0	0	0	SGMW-14A
SGMW-14B	0	0.3	3	0.5	0	6	61	11	0	0	0	0	SGMW-14B
SGMW-15A	0	0.2	2.2	0	0	4	45	0	0	0	0	0	SGMW-15A
SGMW-15B	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-15B
SGMW-16A	0	0.2	0	0	0	4	0	0	1	0	0	0	SGMW-16A
SGMW-16B	0	0.5	0	0	0	10	0	0	0	0	0	0	SGMW-16B
SGMW-17A	0	0	0	0	0	0	0	0	1	0	0	0	SGMW-17A
SGMW-17B	0	0.4	0	0	0	8	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-18A
SGMW-18B	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-18B
SGMW-19A	14.5	7.5	32.4	0	290	154	648	312	11	3	30	1	SGMW-19A
SGMW-19B	11.5	8.2	28	0	230	164	560	0	8	2	0	0	SGMW-19B
GSGM-1A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1B
GSGM-1C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4B

Measurements in ( ) are calculated, not measured.





R:\Gw\_projects\Landfills\2008 Report\Fig01.dwg



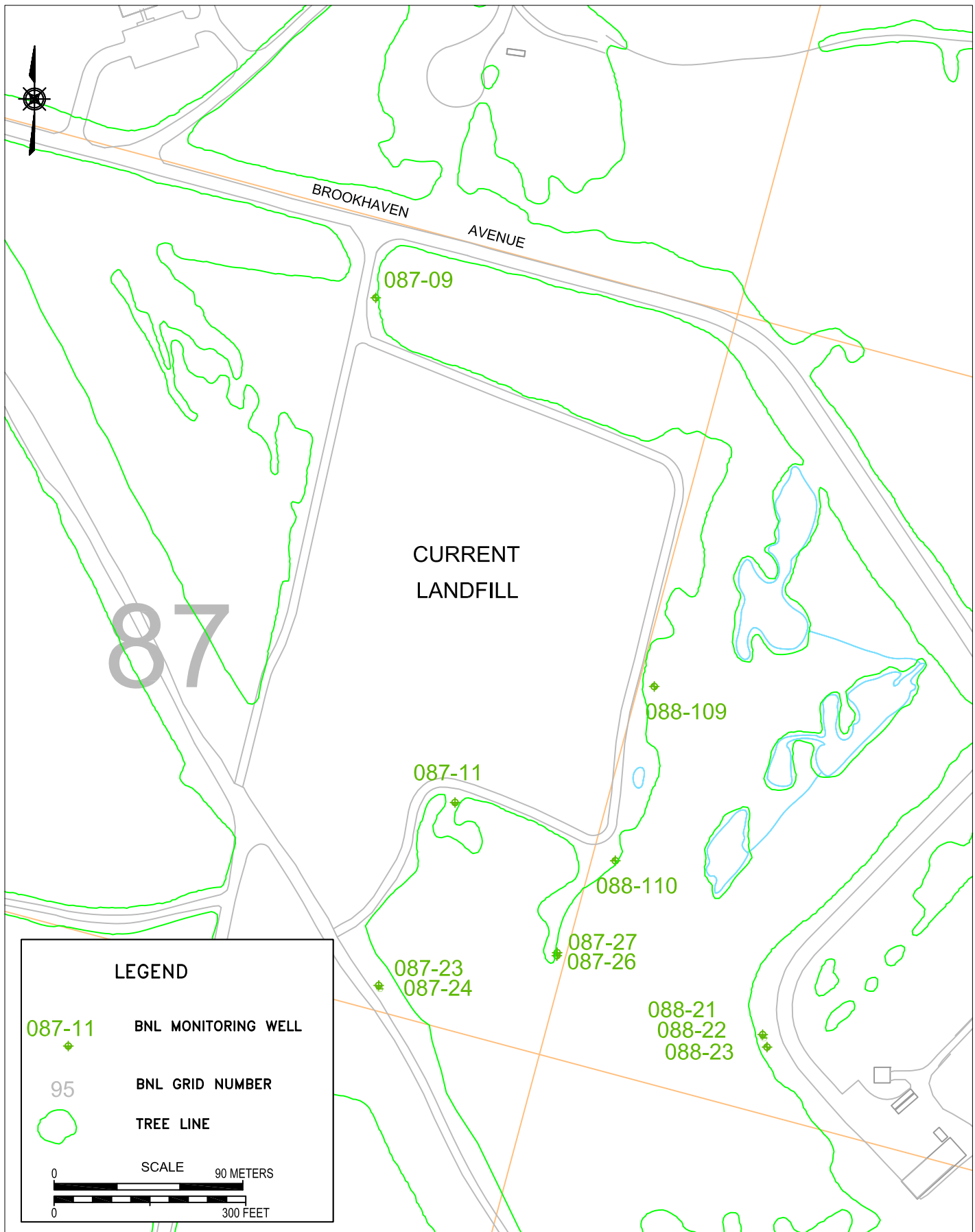
**BROOKHAVEN**  
NATIONAL LABORATORY

ENVIRONMENTAL  
PROTECTION DIVISION

TITLE:

**SITE LOCATION MAP**  
**2008 ENVIRONMENTAL MONITORING REPORT**  
**CURRENT AND FORMER LANDFILL AREAS**

DWN: AJZ	VT: HZ.: -	DATE: 02/02/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:		1	



R:\Gw\_projects\Landfills\2008 Report\Fig02.dwg

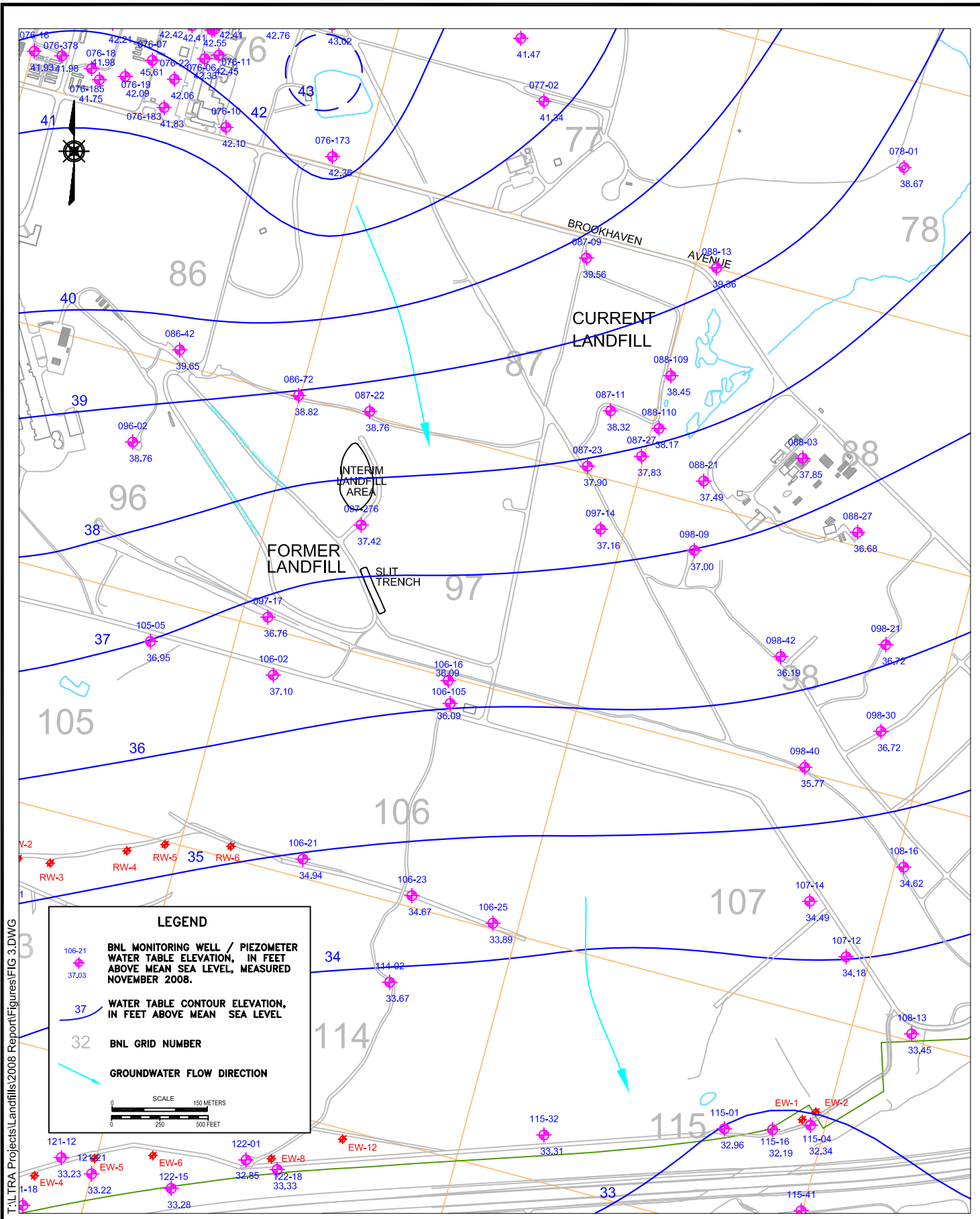
**BROOKHAVEN**  
NATIONAL LABORATORY

ENVIRONMENTAL  
PROTECTION DIVISION

TITLE:

**CURRENT LANDFILL  
MONITORING WELL LOCATIONS**  
2008 ENVIRONMENTAL MONITORING REPORT  
CURRENT AND FORMER LANDFILL AREAS

DWN: AJZ	VT: HZ.: -	DATE: 02/02/09	PROJECT NO.: -
CHKD: WRD	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:		2	



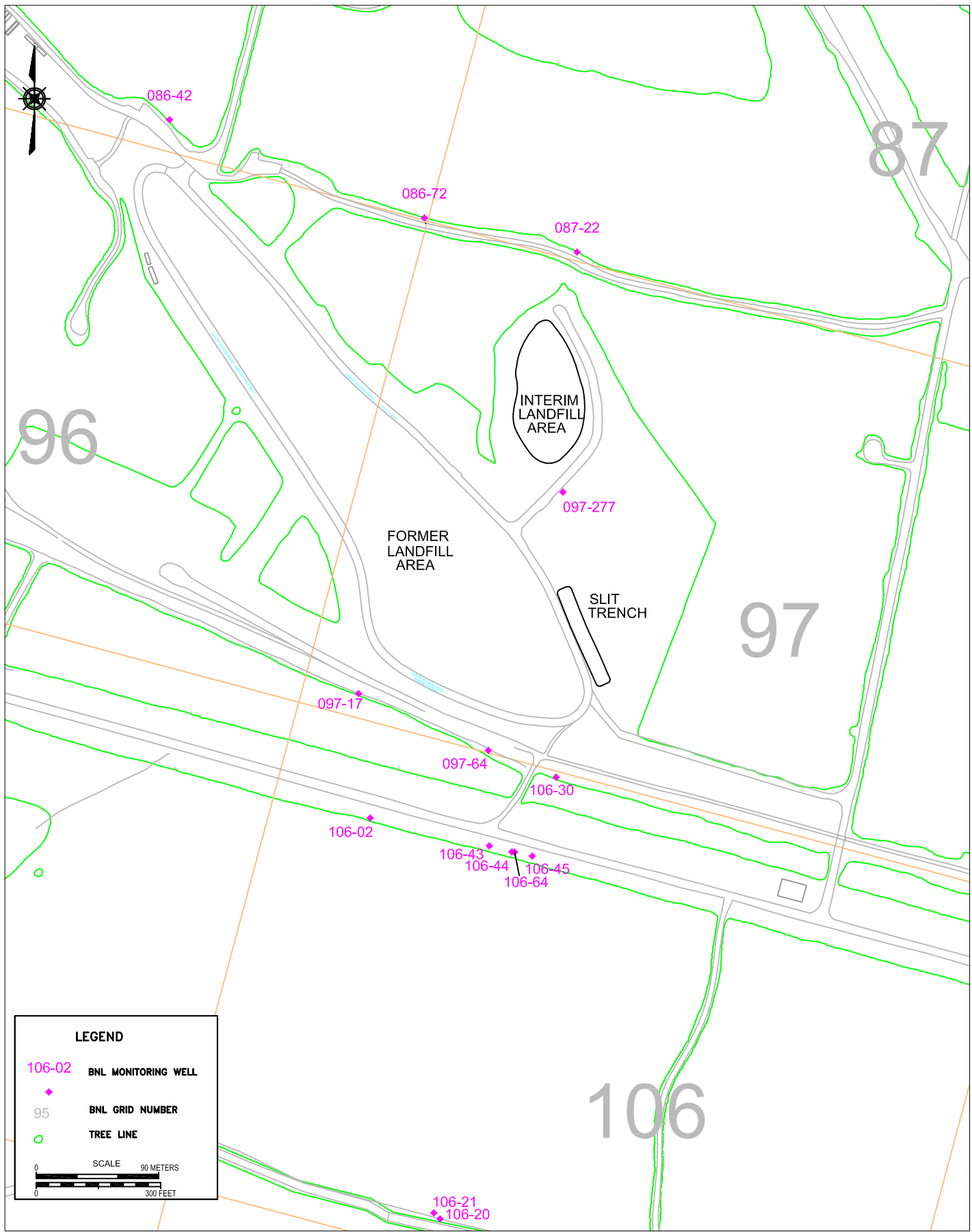
T:\LTRA Projects\Landfills\2008 Report\Figures\FIG 3.DWG



TITLE:  
**WATER TABLE CONTOUR MAP  
2008 ENVIRONMENTAL MONITORING REPORT  
CURRENT AND FORMER LANDFILL AREAS**

DWN: AJZ	VT:HZ.: -	DATE: 02/03/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: 9/2/09	NOTES: -
FIGURE NO.:		3	

R:\Gw\_projects\Landfills\2008 Report\Fig04.dwg



**LEGEND**

- 106-02 BNL MONITORING WELL
- 95 BNL GRID NUMBER
- TREE LINE

SCALE 90 METERS  
0 300 FEET

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NATIONAL LABORATORY

ENVIRONMENTAL  
PROTECTION DIVISION

TITLE:

**FORMER LANDFILL  
MONITORING WELL LOCATIONS**

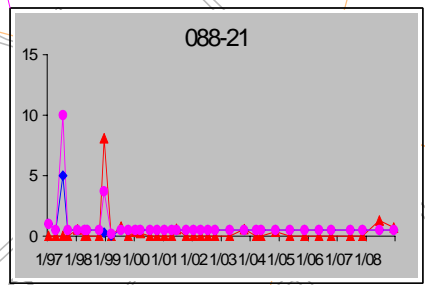
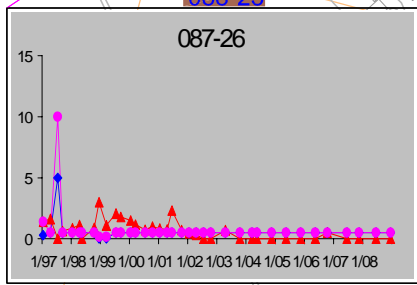
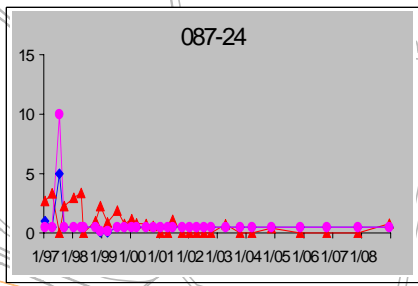
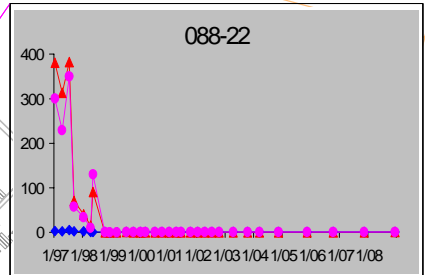
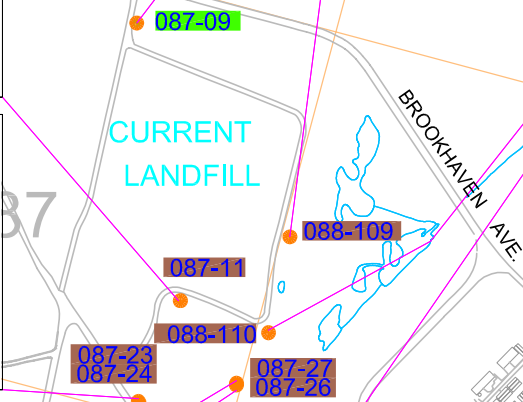
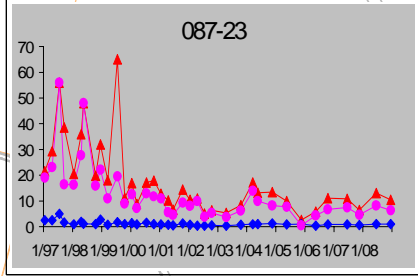
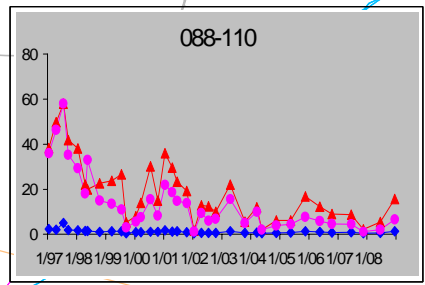
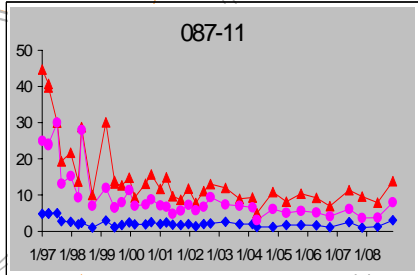
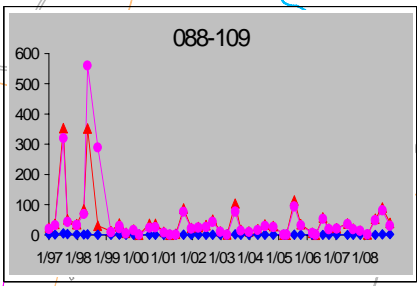
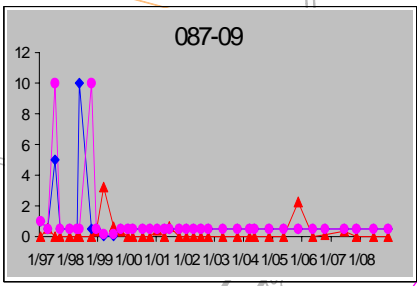
2008 ENVIRONMENTAL MONITORING REPORT  
CURRENT AND FORMER LANDFILL AREAS

DWN: AJZ	VT:HZ.: -	DATE: 02/26/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:			4

68



RA V BASIN



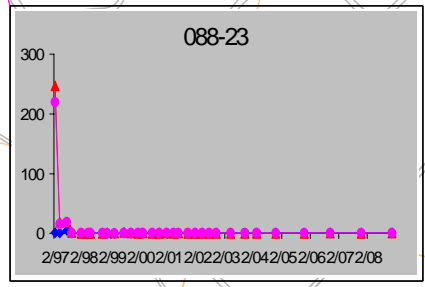
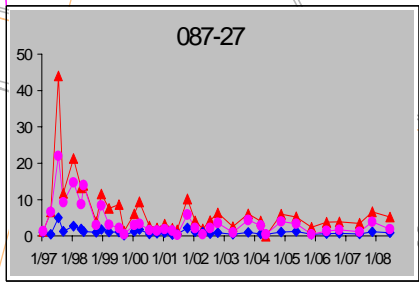
PRINCETON AVE.

98

**LEGEND**

- 11 MONITORING WELL
- ◆ Benzene (µG/L)
- Chloroethane (µG/L)
- ▲ TVOC (µG/L)
- 32 BNL GRID NUMBER
- RA V BNL RECHARGE BASIN
- 087-09 BACKGROUND
- 087-11 DOWNGRAIDENT

SCALE  
0 500 FEET



107

T:\TRA Projects\Landfills\2008 Report\Figures\FIG 5 082609.DWG

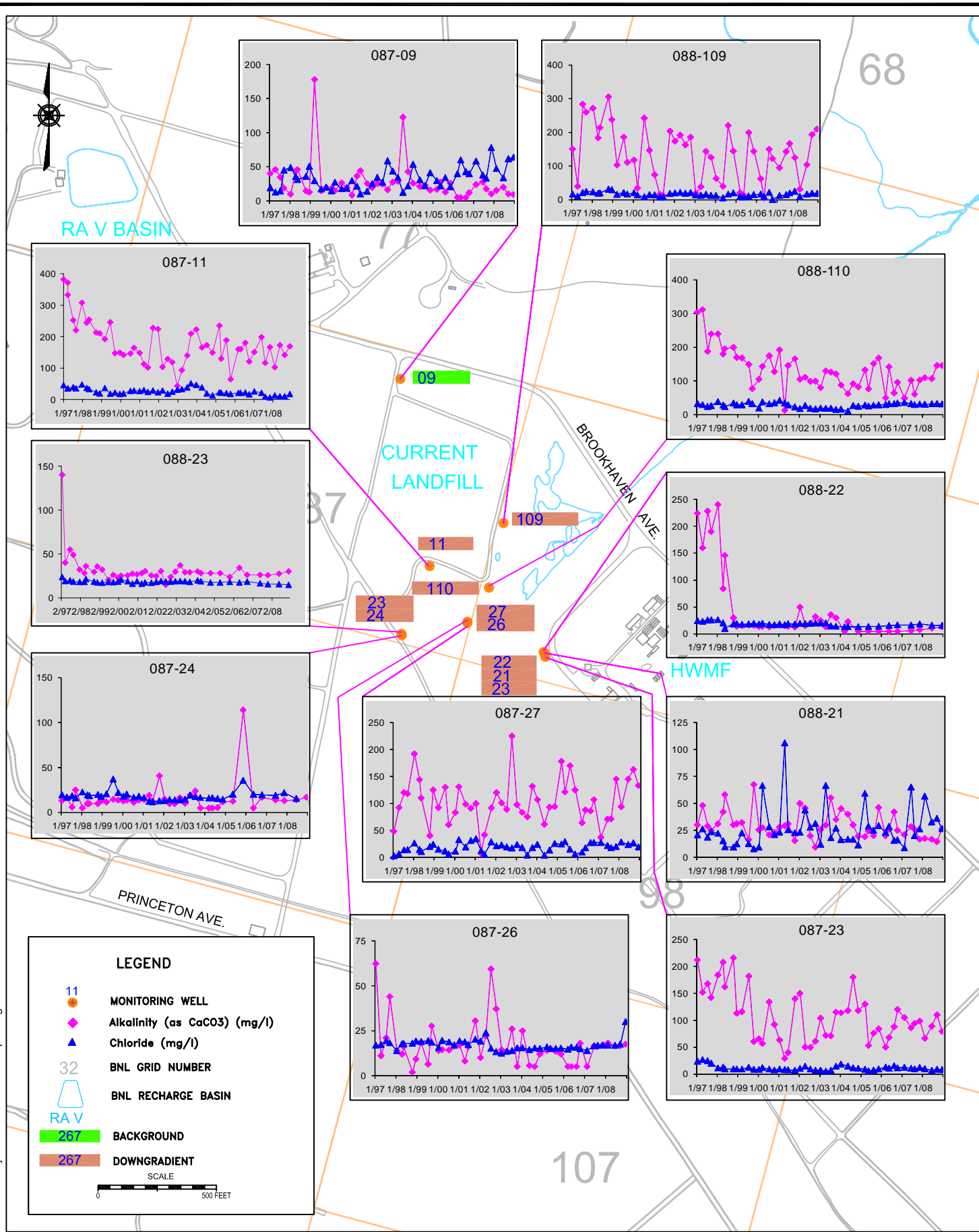
**BROOKHAVEN**  
NATIONAL LABORATORY

ENVIRONMENTAL  
PROTECTION DIVISION

TITLE:  
**CURRENT LANDFILL  
VOC TREND PLOTS**  
2008 ENVIRONMENTAL MONITORING REPORT  
CURRENT AND FORMER LANDFILL AREAS

DWN: AJZ	VT:HZ.: -	DATE: 08/26/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: 1	NOTES: -
FIGURE NO.:			5

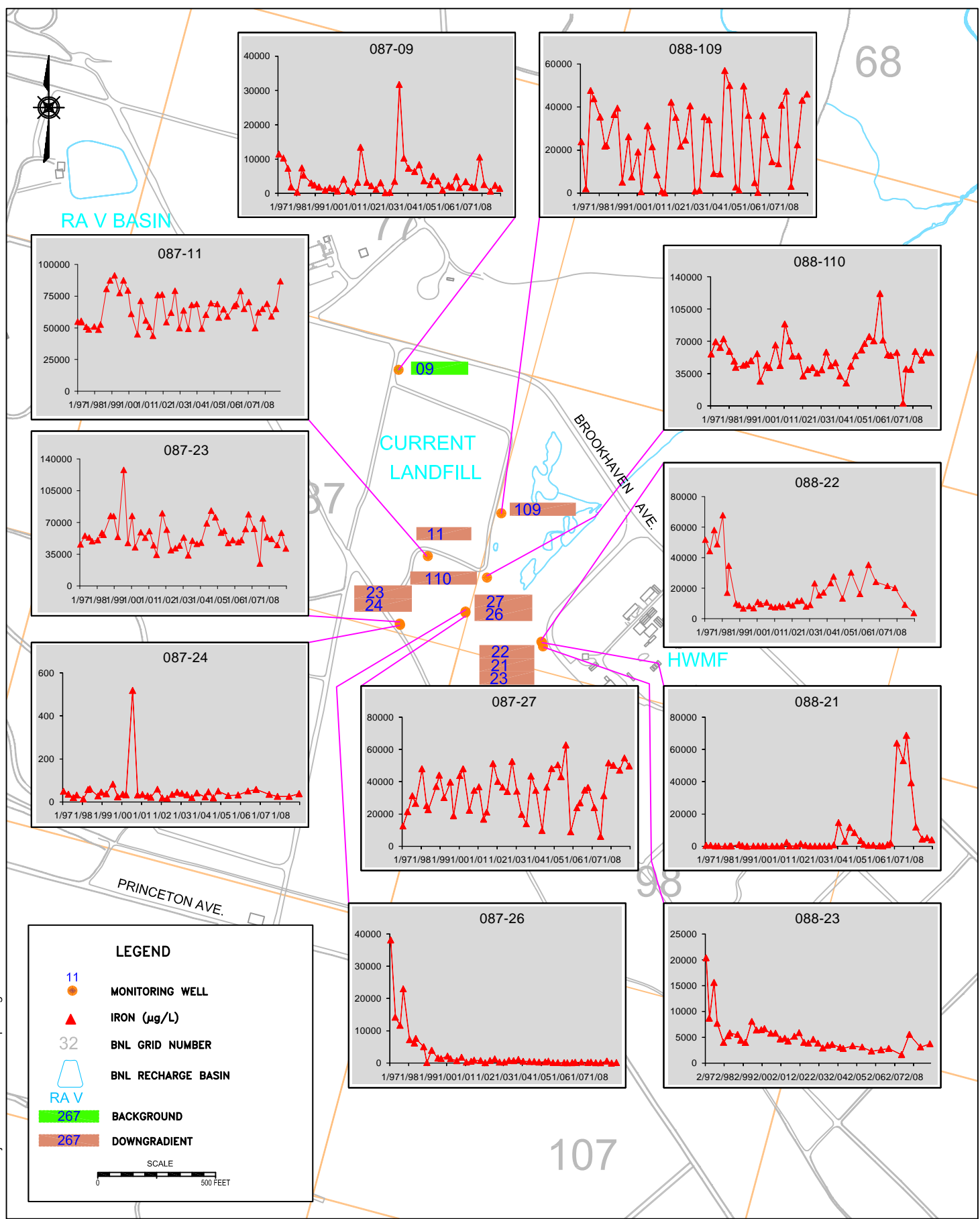
T:\TRA Projects\Landfills\2008 Report\Figures\FIG 6.DWG



TITLE:  
CURRENT LANDFILL  
ALKALINITY AND CHLORIDE TREND PLOTS  
2008 ENVIRONMENTAL MONITORING REPORT  
CURRENT AND FORMER LANDFILL AREAS

DWN: AJZ	VT:HZ.: -	DATE: 02/02/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:			6

T:\TRA Projects\Landfills\2008 Report\Figures\FIG 7.DWG

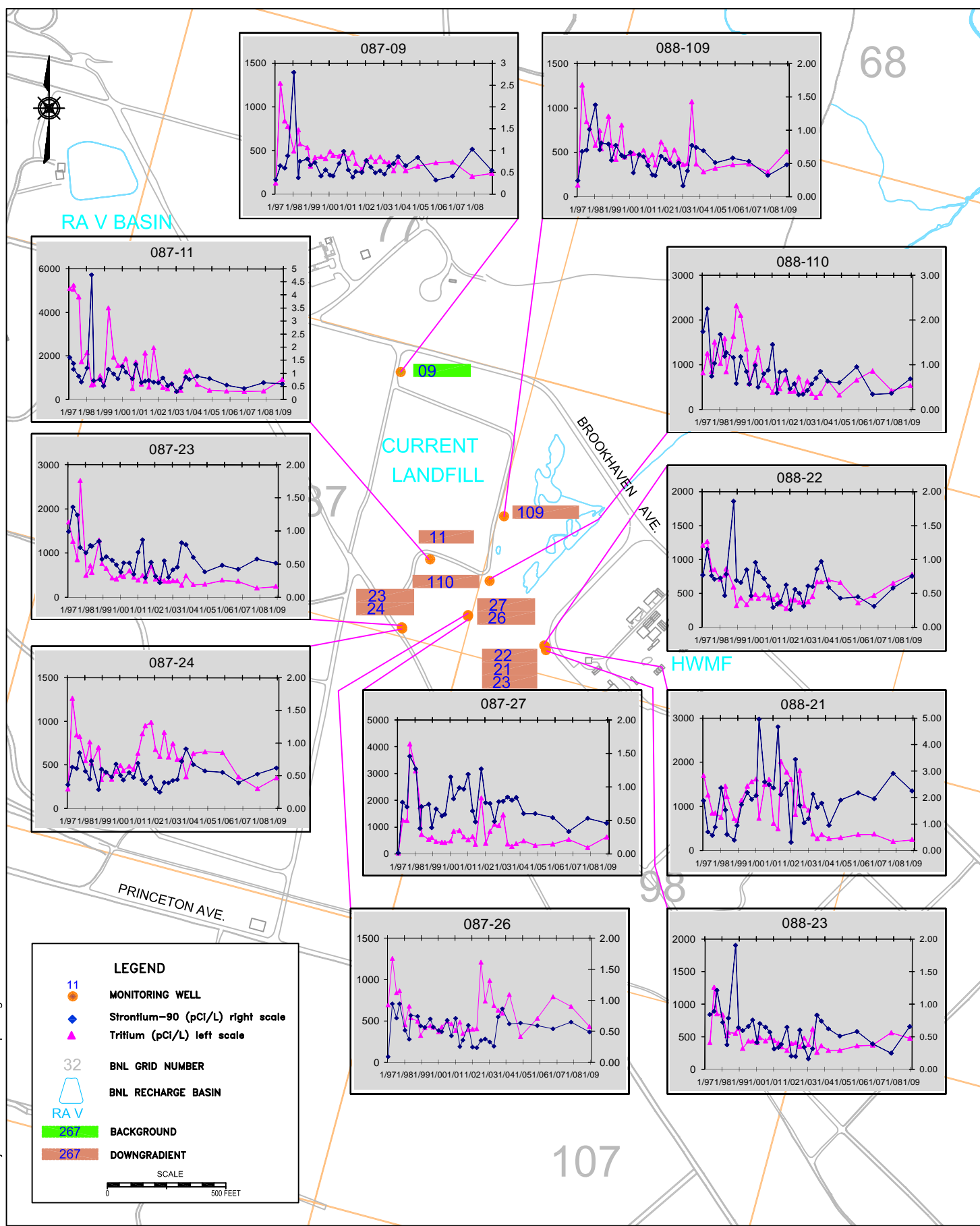


TITLE:  
**CURRENT LANDFILL  
 IRON TREND PLOTS**  
 2008 ENVIRONMENTAL MONITORING REPORT  
 CURRENT AND FORMER LANDFILL AREAS

DWN: AJZ	VT:HZ.: -	DATE: 02/02/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:			7



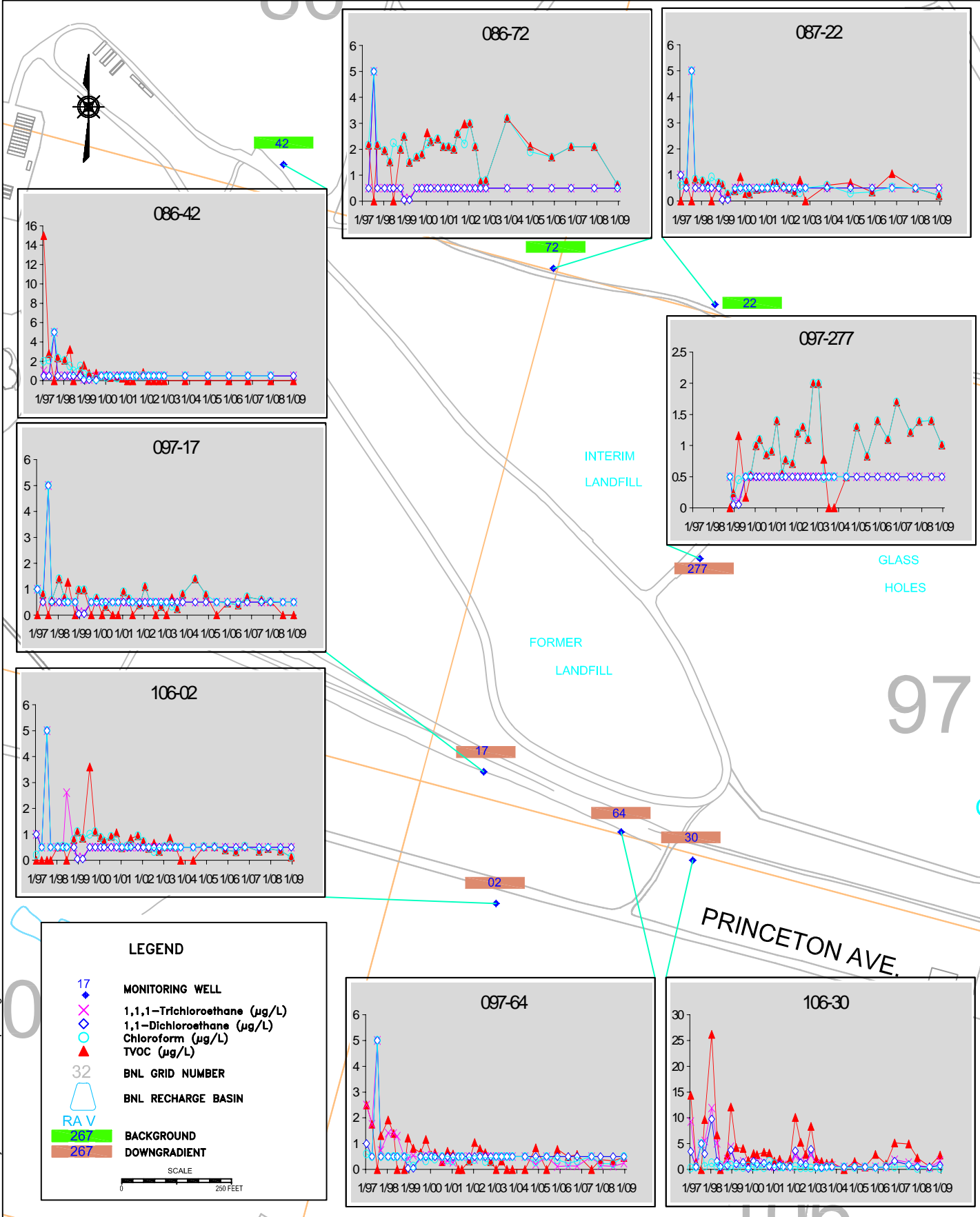
T:\TRA Projects\Landfills\2008 Report\Figures\FIG 8.DWG



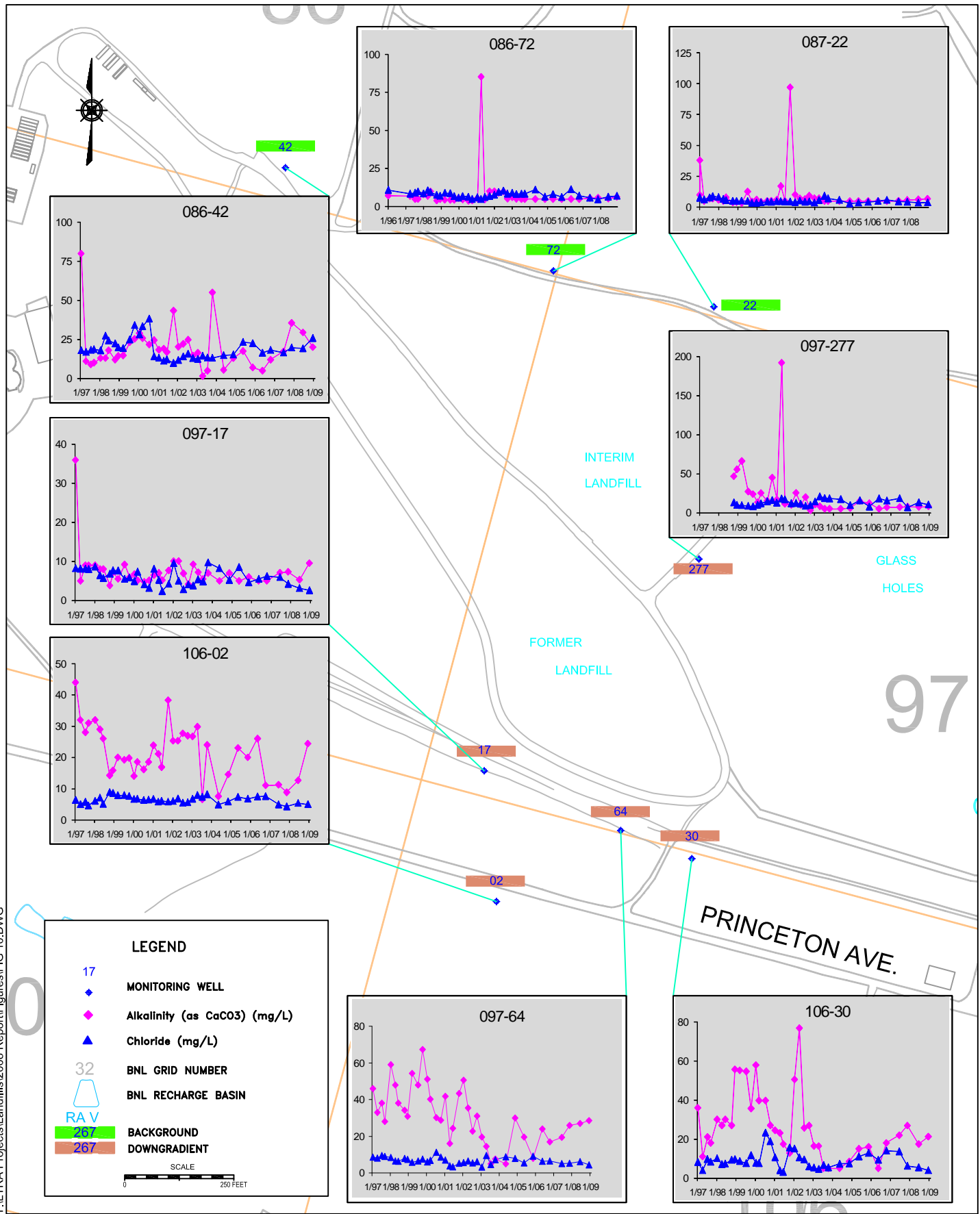
TITLE:  
**CURRENT LANDFILL  
 TRITIUM AND SR-90 TREND PLOTS  
 2008 ENVIRONMENTAL MONITORING REPORT  
 CURRENT AND FORMER LANDFILL AREAS**

DWN: AJZ	VT:HZ.: -	DATE: 02/12/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:			8

T:\LTRA Projects\Landfills\2008 Report\Figures\FIG 9 082609.DWG



T:\LTRA Projects\Landfills\2008 Report\Figures\FIG 10.DWG

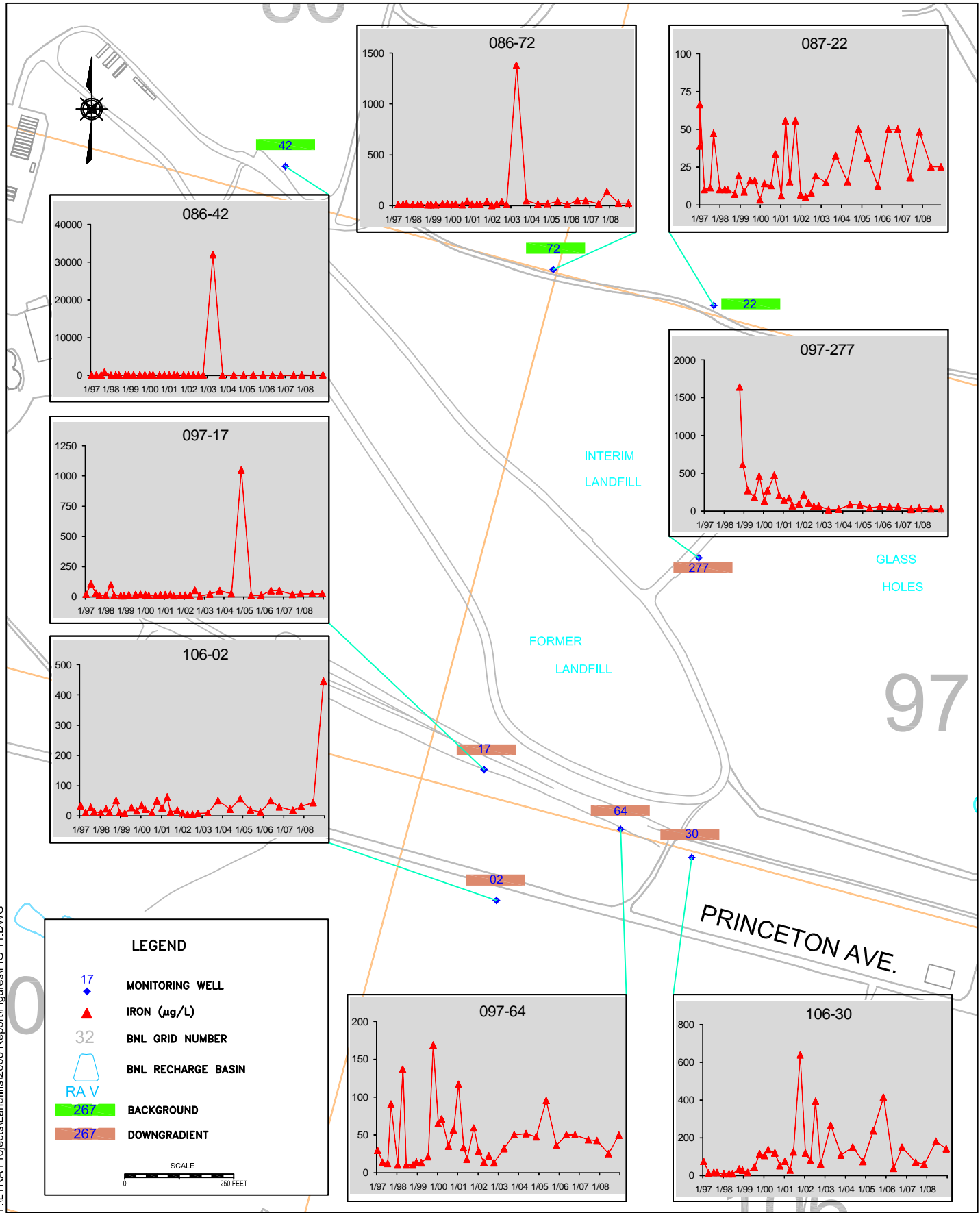


**LEGEND**

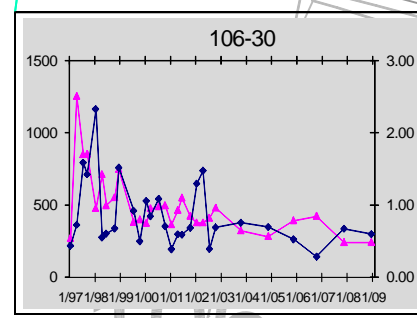
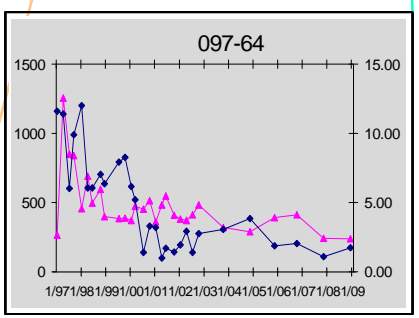
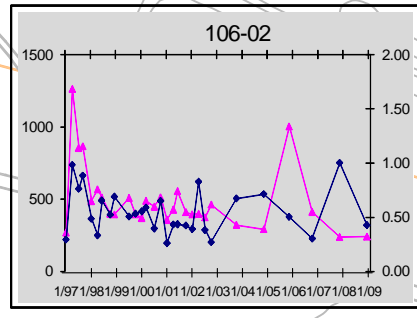
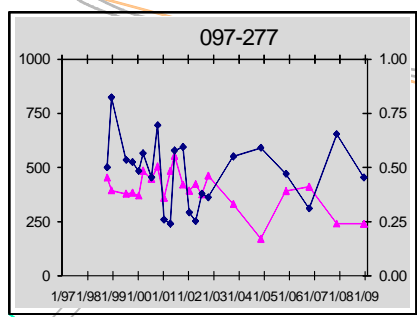
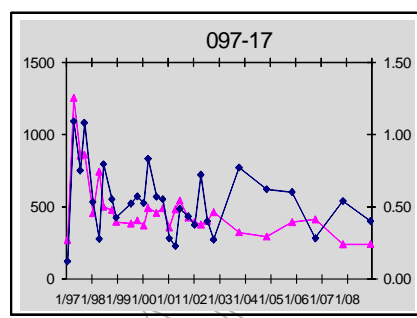
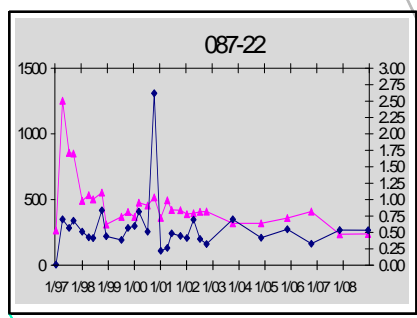
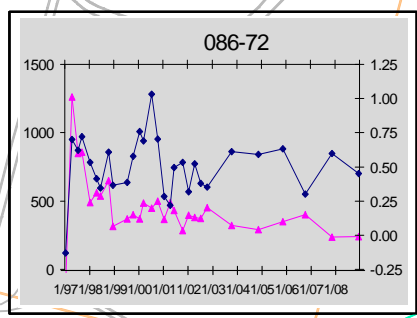
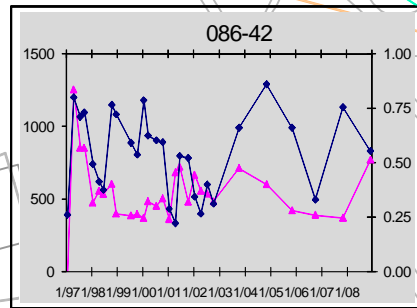
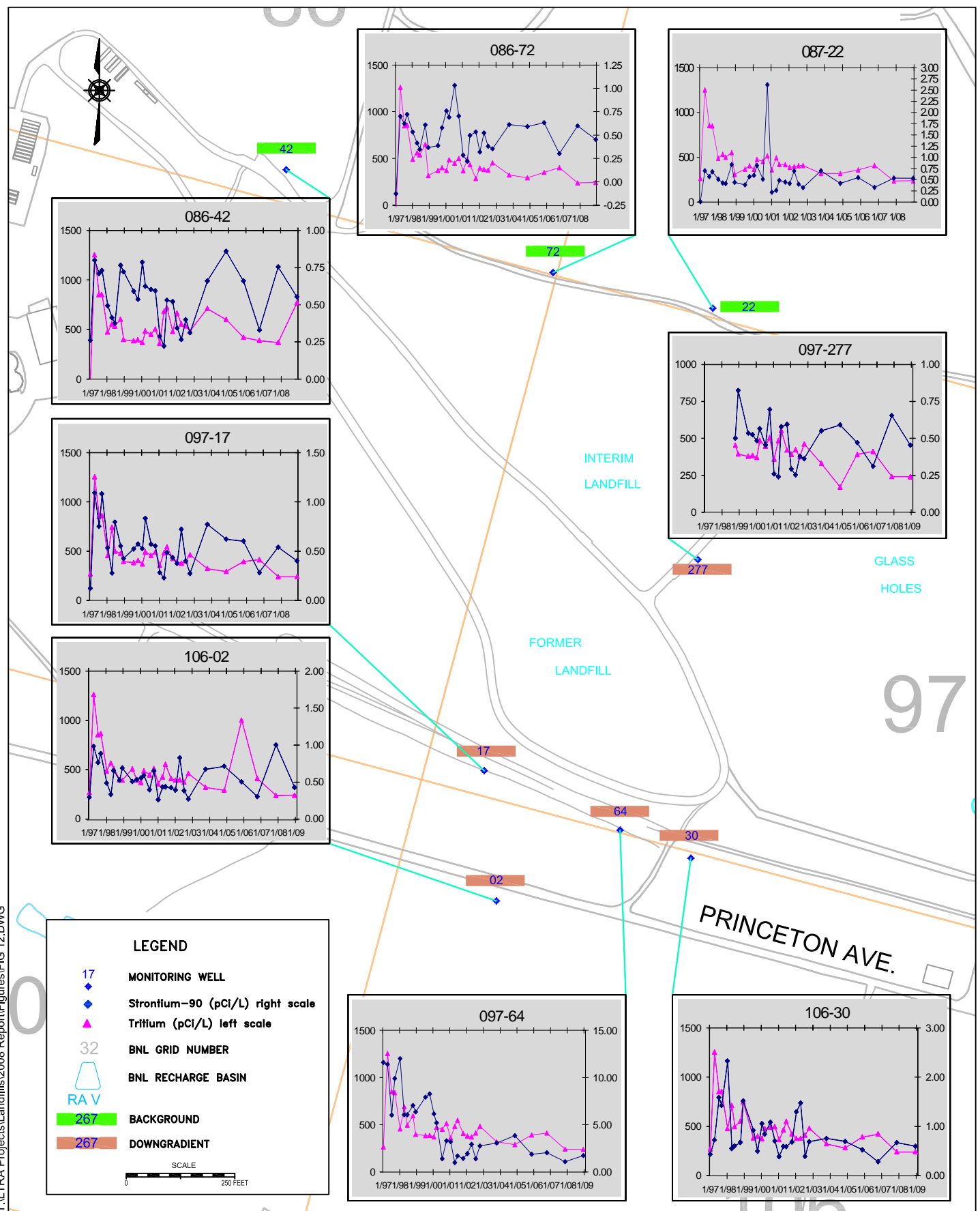
- 17 MONITORING WELL
- Alkalinity (as CaCO3) (mg/L)
- Chloride (mg/L)
- 32 BNL GRID NUMBER
- BNL RECHARGE BASIN
- RA V BACKGROUND
- 267 DOWNGRADIENT

SCALE  
0 250 FEET

T:\LTRA Projects\Landfills\2008 Report\Figures\FIG 11.DWG



T:\LTRA Projects\Landfills\2008 Report\Figures\FIG 12.DWG

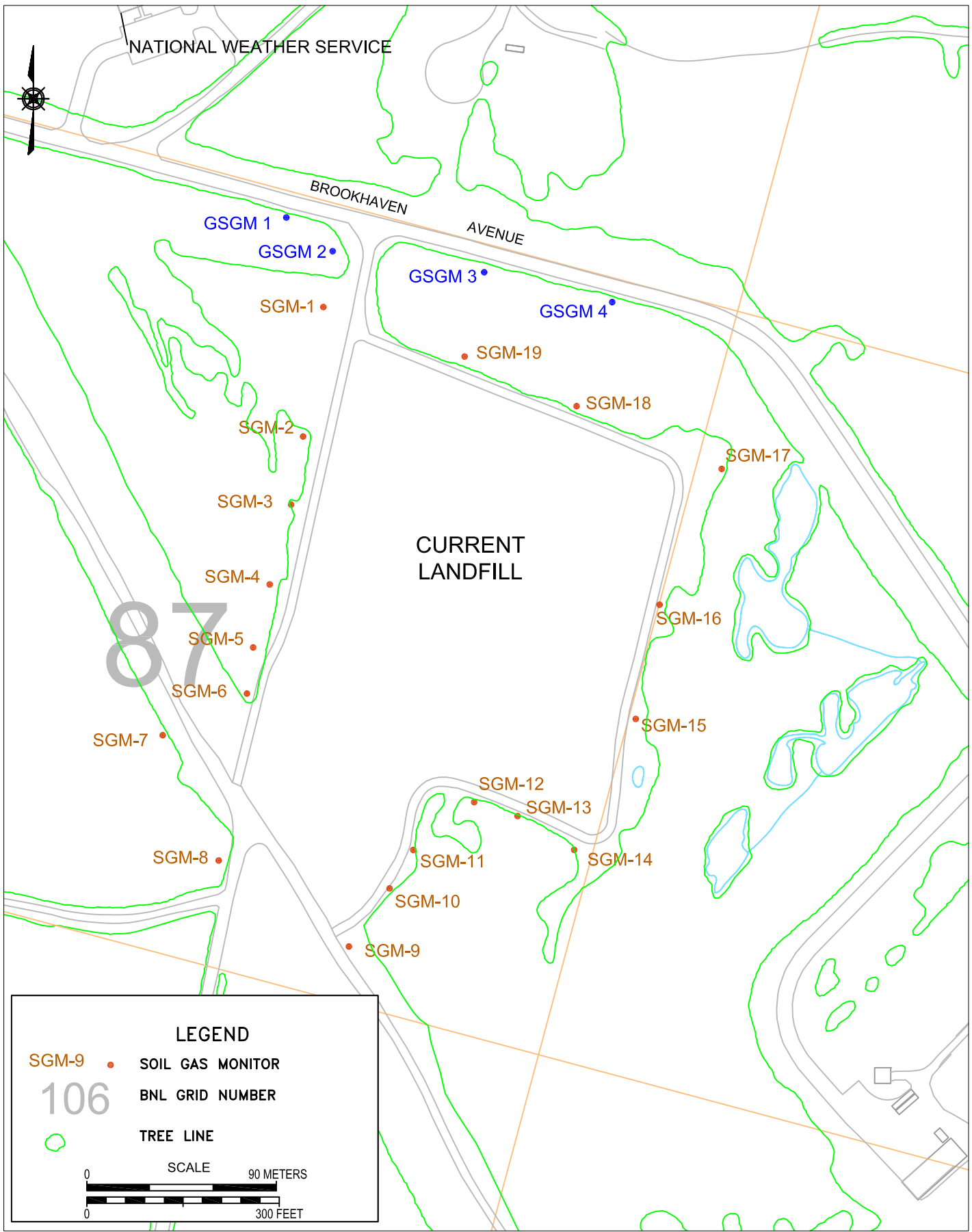


**LEGEND**

- 17 MONITORING WELL
- ◆ Strontium-90 (pCi/L) right scale
- ▲ Tritium (pCi/L) left scale
- 32 BNL GRID NUMBER
- △ BNL RECHARGE BASIN
- RA V
- 267 BACKGROUND
- 267 DOWNGRADIENT

SCALE  
0 250 FEET

R:\Gw\_projects\Landfills\2008 Report\Fig13.dwg



**LEGEND**

SGM-9 ● SOIL GAS MONITOR

106 BNL GRID NUMBER

○ TREE LINE

SCALE

0 90 METERS

0 300 FEET

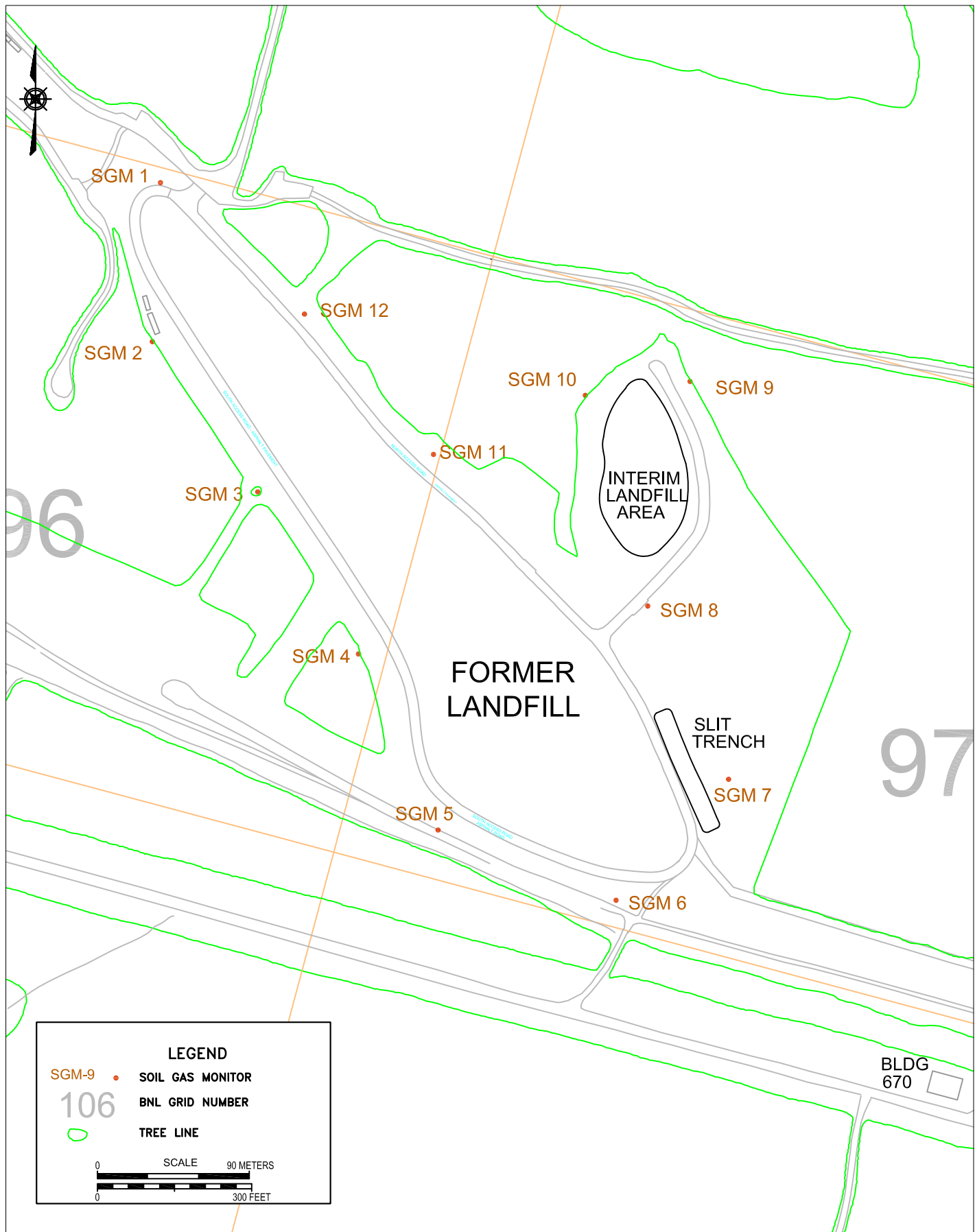


TITLE:

**CURRENT LANDFILL  
SOIL GAS MONITOR LOCATION MAP**

2008 ENVIRONMENTAL MONITORING REPORT  
CURRENT AND FORMER LANDFILL AREAS

DWN: AJZ	VT: HZ.: -	DATE: 02/02/09	PROJECT NO.: -
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:		13	



R:\Gw\_projects\Landfills\2008 Report\Fig14.dwg

Appendix A

Operable Unit 1  
Wooded Wetlands Supplemental Surface Water  
and  
Sediment Sampling and Analysis Report



# ANNUAL WOODED WETLAND REPORT 2008

## 1.0 INTRODUCTION

This report summarizes and evaluates the annual sediment and surface water sampling performed for Operable Unit I (OU I), Wooded Wetland area at Brookhaven National Laboratory, Upton, New York (BNL). The Wooded Wetland is located east of and adjacent to the Current Landfill and has the potential to receive leachate from the landfill. The wetland consists of a North and South pond. The annual sampling of the Wooded Wetland follows the recommendations of the *Focused Ecological Risk Assessment Operable Units I/VI* (CDM, 1999b). This report summarizes the results of the sampling conducted in accordance with the 1999 and 2000 *OU I Wooded Wetlands Supplemental Sampling and Analysis Plans* (BNL, 1999 and BNL, 2000). These plans were prepared as an addendum to the *Sampling and Analysis Plan for the Remedial Investigation/Feasibility Study for Operable Unit I* (SAIC, 1993).

The annual sampling focuses on analysis of metals in the sediment and surface water to evaluate their potential risks to the local tiger salamander population. Seven sediment and seven surface water samples were collected in May 2008 from two ponds (North and South), in the Wooded Wetland area.

## 1.1 Background

The Wooded Wetland is a two-acre area located between the Former Hazardous Waste Management Facility and the Current Landfill (Figure 1). The wetland receives surface runoff from the Current Landfill, which was capped in 1995, as well as land runoff from the south. The Wooded Wetland usually is flooded during the spring and early summer, and dry in late summer. In the Current Landfill area, the water table is located approximately 10 to 15 ft below the Wooded Wetlands; therefore, the wetland area does not receive groundwater recharge. High clay content of the near-surface soils allows for perching of water from precipitation and runoff.

An ecological review and assessment of the Wooded Wetland is provided in the *OU I/VI Preliminary Ecological Risk Screening Report* (CDM, 1996b). As part of the Feasibility Study for OU I, a Focused Ecological Risk Assessment was conducted for this area of concern (CDM, 1999b).

Two surface water samples (SW-4 and SW-5) and 14 sediment samples (SD-10 through SD-17) were collected from this area in 1994 during the OU I Remedial Investigation (CDM, 1996a). At six of the sediment locations, samples were collected from two intervals: 0 to 0.5 ft, and 1 to 1.5 ft. Samples were collected from the surface only at the remaining two locations (SD-10 and SD-11).

A gap was identified in the 1994 data set and supplemental sampling was carried out in December 1997 as part of the Ecological Risk Assessment. Only two surface water and two sediment samples were collected and analyzed for metals during this sampling event due to the dry conditions at that

time. Results from all four locations indicated lower concentrations of contaminants in both the surface water and sediment, compared to the May 1994 locations. Figure 1 shows the benchmark 1994 and 1997 surface water/sediment sample locations, respectively.

The results of the surface water samples from four of the locations (SW-17, SW-5S, SW-5N, and SW-E) indicated that the risk for larval salamanders was unlikely to low. At location SW-6, the concentration of metals in the surface water sample indicated a moderate risk. Sediment results from the five locations indicated that the risk to adult salamanders is unlikely. (See the Ecological Risk Assessment, CDM, 1999b.)

In August 2000, four surface water samples (two from each pond), and seven sediment samples (four from the South Pond, three from the North Pond) were collected from the Wooded Wetlands Area. The locations are shown in Figure 2. Background and maximum concentration benchmark values for sediment and water are presented in Tables 2A and 2B (CDM 1999a). From 2001 through 2008, eight annual surface water and sediment samples were taken from the ponds (Table 1). Analytical data for all years are provided in Tables 3 through 6. The following discussions focus on the findings of the 2008 sampling season.

## **2.0 GENERAL PROCEDURES**

### **2.1 Environmental Sampling Procedures**

Sampling was conducted by BNL on May 22, 2008, in accordance with the procedures and sampling locations outlined in the *OUI Sampling and Analysis Plan* (SAIC, 1993), supplementary Wooded Wetlands sampling plans (BNL 1999 and 2000) and BNL standard operating procedures for sampling surface water and sediments. Samples of surface water and sediment were collected at seven locations, as shown on Figure 2. These places were chosen based on the locations where samples were collected in 1994 and 1997. Locations SW/SD-5 and SW/SD-6 were near the two 1997 locations. SW/SD-17, SW/SD-12, and SW/SD-13 were close to three of the 1994 sediment sampling locations. Variability in sampling locations and number of samples were related primarily to seasonal drying of the ponds. Table 1 provides the sampling designation for comparison between samples taken each year since 1999 and 1994, and 1997.

Water and sediment samples were sent to an off-site certified laboratory for analysis. The samples were submitted for the EPA Target Analyte List (TAL) of total metals by EPA Methods 6010B, and mercury by EPA Methods 7470 for aqueous samples and 7471 for sediment samples. In accordance with the July 2000 Sampling and Analysis Plan, quality assurance/quality control samples included a blind duplicate (one per matrix), matrix spike/matrix spike duplicate (one per matrix), and one equipment blank.

## **2.2 Criteria**

To determine if sediment or surface water concentrations pose a risk to tiger salamanders, analytical data were compared to benchmark sediment concentrations and critical water concentrations (Tables 2A and 2B) that were calculated in the *Ecological Risk Assessment* (CDM, 1999b). A benchmark sediment dose is a dose above which an observable toxic effect may occur in adult tiger salamanders. Table 2A gives the benchmark sediment concentrations for five metals of concern. BNL background levels are higher than established Maximum Sediment Concentrations except for manganese. Critical water concentrations are surface water concentrations that have the potential to produce observable adverse effects to larval salamanders. The ten metals in the surface water that have an estimated critical concentration are summarized in Table 2B. Three of them have benchmark maximum concentrations greater than the critical levels.

## **2.3 Sample Locations**

Seven sediment and seven surface water samples were collected in May 2008 from the North and South Ponds. Four sediment and four surface water samples were taken from the South Pond, and three sediment and three surface water samples were collected from the North Pond. Table 1 lists 2008 samples with cross-references of the sampling locations to 1994, 1997, 1999, and 2000 through 2008. Figure 2 shows the sediment and surface water sampling locations.

## **3.0 SUMMARY OF ANALYTICAL RESULTS**

The results from the total metals sample analyses of sediment and surface water for each year are summarized in Tables 3 and 4, respectively. Tables 5 and 6 contain comparisons of average sediment and surface water sample results for contaminants of concern to maximum contaminant and background concentrations, for each year.

### **3.1 Sediment**

Table 5 summarizes the results for the contaminants of concern, specifically copper, lead, manganese, mercury, and zinc, for the North and South Ponds from 1994, 1997, and 1999 to 2008. These results are compared with the maximum and background sediment concentrations from Table 2A.

To evaluate sediment concentrations in the North and South Ponds for metals, annual averages were calculated from the samples collected. The averages were determined to evaluate trends, since the sediment samples were grab samples collected from a number of locations.

The 2008 results from three of the four South Pond locations, SD-6, SD-16, and SD-17, indicate that the concentrations and average concentrations of the metals of concern at these locations are below the maximum contaminant and background concentrations. For the remaining location, SD-5, only one metal, manganese, was above the maximum contaminant concentration but below the

background concentration.

The results from the three North Pond locations, SD-11, SD-12, and SD-2001, indicate that the concentrations of the metals of concern at these locations are below the maximum contaminant and background concentrations, with the exception of location SD-12. At this location, the concentrations of metals were above the maximum sediment concentration but below the background concentration for all metals except manganese and zinc. The manganese result of 148 mg/kg was below the maximum sediment concentration of 541 mg/kg but above the background concentration of 84.3 mg/kg. The zinc concentration of 179 mg/kg was above the maximum sediment concentration of 122 mg/kg and above the background concentration of 158 mg/kg.

This analysis indicates that no significant change has occurred since 1994.

### **3.2 Surface-Water**

Table 6 presents the results of the 10 metals of concern for each of the seven surface water samples collected during 2008. Also shown in Table 6, for comparison, are the surface water results from previous monitoring, along with the critical and benchmark water concentrations from Table 2B. Four surface water samples came from the South Pond (SW-5S, SW-6, SW-16 and SW-17) and three samples were collected from the North Pond (SW-4, SW-5N and SW-2001).

The South Pond samples from 2008 show that concentrations of iron exceeded the critical concentration value at two of four locations (SW-5S, and SW17). Comparison of average values for 2008 indicated that iron was the only metal of concern that was above the critical concentration value. However, these values are below the BNL background concentration of 1,990 µg/L.

The North Pond samples from 2008 indicate concentrations of iron below the critical concentration values at two of the three locations. The concentration of iron at location SW-4 was 1,100 µg/L which is above the critical concentration value of 1,000 µg/L. The average iron concentration was below the BNL background (see Table 2B) . The average 2008 concentrations for all metals are similar to those in previous years.

Since metals in water are the primary source of absorption by tiger salamanders, no significant change in dissolved metals indicates that the wooded wetland is not experiencing an increase in metals concentration.

## 4.0 CONCLUSIONS & RECOMMENDATIONS

The results of the May 2008 sediment and surface water sampling program indicate no elevated risk to adult salamanders from sediments in the South or the North Ponds when compared to the maximum benchmark concentrations (Table 2A). The average sediment sample concentrations for both ponds were lower than the maximum and/or background concentrations that would result in an elevated hazard quotient as discussed in the *Final Focused Ecological Risk Assessment for OU I* (CDM, 1999b). This analysis indicates that no significant change has occurred.

Since metals in water are the primary source of absorption by tiger salamanders, no significant change in dissolved metals indicates that the wooded wetland is not experiencing an increase in metals concentration.

Surface water samples indicate an average iron concentration of 1,015 µg/l in the South Pond, which is higher than the 1,000 µg/l critical concentration. The average surface water concentration in the North Pond of 922 µg/L was below the critical concentration. No iron concentrations exceeded the background concentration (see Table 2B) in the seven samples in both ponds.

There is a considerable amount of uncertainty reflected in deriving the critical water concentrations established in the Ecological Risk Assessment (CDM, 1999). This is largely due to the limited number of published toxicity values for the tiger salamander related to the metal of concern. The critical water concentration for iron was taken from the *EPA National Recommended Water Quality Criteria for Non-Priority Pollutants* (EPA, April 1999). No maximum value is given under these criteria.

Overall, the results obtained from the May 2008 sampling indicate that metals in the sediment and the metals of concern in surface water are within the range of variability as compared to previous years' values. The number of sediment and water samples collected from the South Pond in 2008 was the same as those collected since 2001, so the averages can be directly compared for the parameters analyzed. No substantive effect due to leached metals from the landfill is evident in the sediments or surface water.

There is considerable uncertainty inherent in establishing the critical water concentrations for these metals and in assigning the actual risk posed to the tiger salamander larvae. This analysis indicates that no significant change has occurred. Since metals in water are the primary source of absorption by tiger salamanders, no significant change in dissolved metals provides indication that the wooded wetland is not experiencing an increase in metals concentration.

Ten years of data from both surface water and sediment sampling within the wooded wetlands indicate a stable pattern in the concentration of metals. Because of this stability BNL is recommending that sampling of both surface waters and sediments within the wooded wetland complex be reduced to once every two years.

## 5.0 REFERENCES

CDM, 1996a. *Brookhaven National Laboratory Final Remedial Investigation/Risk Assessment Report Operable Unit I*. CDM Federal Programs Corp., June 14, 1996.

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# ***TABLES***

# ***FIGURES***



Table 1  
Sediment and Surface Sample Locations

Table 1. Crosswalk of sample designation between years for sediment and surface water sampling at the wooded wetland.

Sediment Sample Locations												
Pond Sampled	2008 Sample Designation	2007 Sample Designation	2006 Sample Designation	2005 Sample Designation	2004 Sample Designation	2003 Sample Designation	2002 Sample Designation	2001 Sample Designation	2000 Sample Designation	1999 Sample Designation	1997 Sample Designation	1994 Sample Designation
South	SD-5	SD-5	SD-5	SD-5	SD-5	SD-5	SD-5	SD-5	SD-5	SD-B	SD-5	NS
South	SD-6	SD-6	SD-6	SD-6	SD-6	SD-6	SD-6	SD-6	SD-6	SD-C	SD-6	NS
South	SD-16	SD-16	SD-16	SD-16	SD-16	SD-16	SD-16	SD-16	SD-16	NS	NS	SD-16
South	SD-17	SD-17	SD-17	SD-17	SD-17	SD-17	SD-17	SD-17	SD-17	SD-A	NS	SD-17
North	SD-11	SD-11	SD-11	SD-11	SD-11	SD-11	SD-11	SD-11	SD-11	NS	NS	SD-11
North	SD-12	SD-12	SD-12	SD-12	SD-12	SD-12	SD-12	SD-12	SD-12	SD-D	NS	SD-12
North	NS	NS	NS	NS	NS	NS	NS	NS	SD-13	SD-E	NS	SD-13
North	SD-2001	SD-2001	SD-2001	SD-2001	SD-2001	SD-2001	SD-2001	SD-2001	NS	NS	NS	NS

Surface-Water Sample Locations												
Pond Sampled	2008 Sample Designation	2007 Sample Designation	2006 Sample Designation	2005 Sample Designation	2004 Sample Designation	2003 Sample Designation	2002 Sample Designation	2001 Sample Designation	2000 Sample Designation	1999 Sample Designation	1997 Sample Designation	1994 Sample Designation
South	SW-5 S	SW-5 S	SW-5 S	SW-5 S	SW-5 S	SW-5 S	SW-5 S	SW-5 S	SW-5	SW-B	SW-5	SW-5
South	SW-6	SW-6	SW-6	SW-6	SW-6	SW-6	SW-6	SW-6	SW-6	SW-C	SW-6	NS
South	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	NS	NS	NS	NS
South	SW-17	SW-17	SW-17	SW-17	SW-17	SW-17	SW-17	SW-17	NS	SW-A	NS	NS
North	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	NS	NS	SW-4
North	SW-5N	SW-5N	SW-5N	SW-5N	SW-5N	SW-5 N	SW-5 N	SW-5 N	SW-5	SW-D	NS	NS
North	NS	NS	NS	NS	NS	NS	NS	NS	NS	SW-E	NS	NS
North	SW-2001	SW-2001	SW-2001	SW-2001	SW-2001	SW-2001	SW-2001	SW-2001	NS	NS	NS	NS

NS Not Sampled

**Table 2A**  
**Benchmark Sediment Concentrations for Adult Salamanders\***

Contaminants of Concern	BNL** Background Concentration (mg/kg)	Benchmark Maximum Sediment Concentration (mg/kg)	Maximum Dose (mg/kg/day)	Benchmark Dose (mg/kg/day)	Hazard Quotient***
Copper	52.5	29.0	0.00903	0.232	0.0389
Lead	97.6	82.9	3.86	151	0.0255
Manganese	84.3	541	0.168	556	0.000302
Mercury	0.41	0.17	0.0000529	0.00958	0.00552
Zinc	158	122	6.49	105	0.0618

**NOTES:**

\*OU I Feasibility Study, Appendix L, Final Focused Ecological Risk Assessment for Operable Unit I/VI, 3/31/99.

\*\* Off-site stream sediment concentrations from the upper Peconic River. OU V Remedial Investigation Report, IT Corp. 1996.

\*\*\* Contaminants with hazard quotients greater than 0.0001.

**Table 2B**  
**Critical Benchmark Water Concentrations for Larval Salamanders\***

Contaminants of Concern	BNL Background Concentration (ug/l) **	Benchmark Maximum Concentration* (ug/l)	Critical Concentration (ug/l) ***
Aluminum	820	762	525
Cadmium	3.5	0.3	12.8
Copper	10.1	8.1	15.0
Cobalt	ND	18.7	50.0
Iron	1,990	4,400	1,000
Lead	ND	4.4	14.6
Mercury	0.18	0.24	2.7
Nickel	ND	3.5	420
Silver	ND	ND	2.4
Zinc	62.9	64.9	23.8

**NOTES:**

\*OU I Feasibility Study, Appendix L, Final Focused Ecological Risk Assessment for Operable Unit I/VI, 3/31/99.

\*\* Based on OU V Remedial Investigation Report, IT Corp., 1996 and OU I/VI Remedial Investigation Report, CDM Federal Corp., 1996.

\*\*\*The critical concentration for contaminants of concern in water represents the reported toxic concentration most applicable to salamanders which is adjusted, where necessary, to the equivalent of the No Observable Adverse Effects Levels (NOAEL).

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-5 (SD-B)	Aluminum	NS	4,470	11,600	11,000	8,490	10,200	11,300 *	9,200 *	NS	12,600	8450 *N	9850
	Antimony	NS	1.4 U	0.27 U	0.26 U	0.481 B	0.719 UN	0.485 B	0.632 UN	NS	1 U	2.7	0.485 *
	Arsenic	NS	1.1 B	1.4	1.81	1.39 B	1.66	1.8	1.79	NS	2 B	2.2 B	1.4 U
	Barium	NS	18.4 B	19.4	24.4	25.1 B	26.6	28	26.9	NS	31	19.3 *	23.4 B
	Beryllium	NS	0.15 B	0.23 B	0.364 B	0.34 B	0.327 B	0.406 B	0.401 B	NS	0 B	0.22 B	0.34 *
	Cadmium	NS	0.15 B	0.05 B	0.396 B	0.145 B	0.154 B	0.091 U	0.196 B	NS	0 B	0.164 U	0.156 B
	Calcium	NS	915 B	343 B	432 B	554 B	727 *	394 *N	1110 N	NS	459	294	205 U
	Chromium	NS	6.1	9.9	13.9	11.7	11.6	14	10.6 *	NS	16	10.3 *	11.8 N
	Cobalt	NS	1.3 B	1.7 B	3.15 B	3.36 B	1.97	3.53	1.91	NS	3	2	3.2 *
	Copper	NS	4.8 B	8.1	9.59	9.03	9.65	11.7	10.5	NS	10 *	7.2 *	11.8
	Iron	NS	2,560	7,490	7,590	8,670	6,130	8,820 *N	5,700	NS	6,070 EN	5680 N	9550
	Lead	NS	28	19.4	13.4	13.0	21.1 N	12.7	30.1 *	NS	16 *	22.2 *	13.1 *N
	Magnesium	NS	487 B	1150	1890	2,240	1,420	2,080 *N	1,310 *	NS	2,110 *	1320	2330 *EN
	Manganese	NS	41.5	45.1	82.4	123	78.7 *	88.3 *N	109 *	NS	89 *	54.4	93.8 *
	Mercury	NS	0.11 U	0.05	0.098	0.053	0.053	0.021	0.052	0.0512	0.047 BN	0.04 B	0.04 *
	Nickel	NS	4.1 B	5.7	8.02	9.25	6.74	8.17	7.31 *	NS	8 *	5.9	8.3 B*
	Potassium	NS	238 B	397 B	653 B	891	602	889 N	734 E*N	NS	956	409 *	715
	Selenium	NS	1.3 U	0.36 B	0.896	0.508 B	0.827	0.468 U	0.384 B	NS	1 U	0.985 U	0.789 *
	Silver	NS	0.44 U	0.29 B	0.151 U	0.126 U	0.172 U	0.235 U	0.166 U	NS	0 U	1.1	0.156 U
	Sodium	NS	42.2 B	27.2 B	33.6 B	50.2 B	40.8	44.9	34.5	NS	55	18.9 B	26.6 U
Thallium	NS	1 U	0.82 U	0.34 U	0.561 U	0.748 U	0.502 U	3.18	NS	1 U	0.821 U	0.09	
Vanadium	NS	15.6 B	17.4	24.1	20.4	21.8	22.5	22.3 *	NS	29 *	18.7 *	20 B	
Zinc	NS	22.3	25.1	31.4	29.8	31.9	29.5	26.3 *	NS	34 *	23.1 *	27.6 *	
Cyanide	NS	NA	0.489	NA	NA	NA	NA	NA	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-6 (SD-C)	Aluminum	NS	4,920	9,780	1,670	10,500	1,900	1,390 *	2,000 *	NS	2830	1630 *N	1330 *
	Antimony	NS	1.1 U	0.93 U	0.247 U	0.338 U	0.645 UN	0.417 B	0.481 UN	NS	0.523 U	0.63 B	0.442 U
	Arsenic	NS	0.47 U	1.3 U	0.556 B	1.34	0.535 U	0.372 U	0.366 B	NS	0.785 U	0.785 U	0.433 U
	Barium	NS	15.2 B	21.5	3.57	26.2	4.74	3.27	5	NS	7.1	2.8 *	3.4 *
	Beryllium	NS	0.11 B	0.08 B	0.07 U	0.336	0.045 B	0.033 B	0.082 B	NS	0.131 U	0.131 U	0.142 U
	Cadmium	NS	0.2 B	0.17 U	0.105 U	0.057 B	0.064 B	0.074 U	0.067 U	NS	0.131 U	0.131 U	0.142 U
	Calcium	NS	487 B	774 B	88.3 B	279 B	136 *	51.5 *N	133 N	NS	150	51	95.6 N
	Chromium	NS	6.1	6.5	1.87	13	2.31	1.47	2.33 *	NS	3.6	1.7 *	1.6 *
	Cobalt	NS	1.4 B	0.81 B	0.344 B	3.68 B	0.308 B	0.397 B	0.393 B	NS	0.65 B	0.32 B	0.31 B
	Copper	NS	4.8 B	7.8	0.72 B	7.27	1.85	0.549 B	1.37	NS	1.7 *	0.73 B*	0.78 B
	Iron	NS	2,620	5,710	1,040	8,050	1,060	816 *N	1,280	NS	2080 EN	885 N	961 *N
	Lead	NS	19.8	63.5	4.62 B	5.28	9.74 N	1.6	10.3 *	NS	5 *	4.5 *	5.9 *EN
	Magnesium	NS	596 B	568 B	250	2,750	245	214 *N	300 *	NS	503 *	192	218 *
	Manganese	NS	29.3	39.3	10.4	144	13.4 *	9.87 *N	15 *	NS	24 *	8	9.7 *
	Mercury	NS	0.1 U	0.18	0.049	0.004 U	0.011 B	0.006 U	0.019	0.0122 B	0.014 BN	0.026 B	0.017 B*
	Nickel	NS	4.1 B	5.3	1.28	9.9	1.51	1.05	1.84 *	NS	2.1 *	1.1	1.2
	Potassium	NS	273 B	268	103 B	1,240	94	100 N	137 E*N	NS	243	61 *	50.1 *
	Selenium	NS	1 U	0.95 B	0.328 U	0.374 U	0.359 U	0.381 U	0.227 U	NS	0.785 U	0.785 U	0.722 U
	Silver	NS	0.34 U	0.44 U	0.143 U	0.111 U	0.155 U	0.191 U	0.126 U	NS	0.131 U	0.2 B	0.142 U
	Sodium	NS	35.1 B	96.9 U	11.5 B	50.9 B	18.6	13.9	11 B	NS	21.2	6.5 B	8.8 B
Thallium	NS	0.8 U	2.8 B	0.324 U	0.495 U	0.671 U	0.409 U	1.4 U	NS	0.654 U	0.654 U	0.0578 U	
Vanadium	NS	11.5 B	20.2 U	3.35 B	16 B	4.85	2.35	4.96 *	NS	5.6 *	2.8 *	3.1 *	
Zinc	NS	19.7	26 B	5.86	27.6	6.45	3.98	6.67 *	NS	9.5 *	4.6 *	4.8	
Cyanide	NS	NA	1.27	NA	NA	NA	NA	NA	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-16	Aluminum	5,110 *	NS	NS	1,780	1,240	2,660	716 *	6,120 *	NS	2310	6620 *N	3910 *
	Antimony	8.7 U	NS	NS	0.226 U	0.302 U	0.702 UN	0.568 B	0.859 BN	NS	0.685 U	2 B	0.549 U
	Arsenic	0.59 B	NS	NS	0.566 B	0.377 B	0.582 U	0.357 U	0.411 U	NS	1.03 U	2.3 B	0.74 B
	Barium	7.1 B	NS	NS	5.25	3.6 B	9.13	1.89	28.5	NS	7.7	17.6 *	12.6 *
	Beryllium	0.25 U	NS	NS	0.064 U	0.036 B	0.071 B	0.023 U	0.23 B	NS	0.171 U	0.28 B	0.177 U
	Cadmium	1.2 U	NS	NS	0.096 U	0.031 U	0.132 B	0.071 U	0.292 B	NS	0.171 U	0.233 U	0.38 B
	Calcium	125 B	NS	NS	216 B	137 B	451 *	62 *N	2160 N	NS	144	619	616 N
	Chromium	5.5	NS	NS	2.41	1.63	3.21	1.44	5.7 *	NS	3.6	6.9 *	3.9 *
	Cobalt	1.2 U	NS	NS	0.347 B	0.248 B	0.372 B	0.197 B	1	NS	0.42 B	1.5	0.72 B
	Copper	1 B	NS	NS	1.48	0.904 B	3.78	0.389 B	8.14	NS	2.2 *	9.5 *	8
	Iron	1,730 *	NS	NS	1,120	817	1320	569 *N	2960	NS	1520 EN	3810 N	2000 *N
	Lead	4.4 NJ	NS	NS	9.99	3.19	16.1 N	1.7	39.5 *	NS	8.8 *	15 *	15.7 *EN
	Magnesium	259 B	NS	NS	239 B	185 B	293	109 *N	580 *	NS	357 *	837	378 *
	Manganese	11.5 *	NS	NS	12.4	9.68	17.7 *	8.07 *N	45 *	NS	16.7 *	41.5	25.8 *
	Mercury	0.01 B	NS	NS	0.064	0.003 U	0.033	0.005 U	0.028	0.0336	0.027 BN	0.038 B	0.05 B*
	Nickel	7.5 U	NS	NS	1.43	1.2 B	2.01	0.78	4.74 *	NS	1.6 *	4.5	3.2
	Potassium	138 U	NS	NS	113 B	114 B	133	54.5 N	414 E*N	NS	225	240 *	131 *
	Selenium	0.25 U,	NS	NS	0.365 B	0.334 U	0.391 U	0.366 U	0.323 U	NS	1.03 U	1.4 U	0.891 U
	Silver	1 U	NS	NS	0.131 U	0.099 U	0.168 U	0.183 U	0.18 U	NS	0.171 U	0.78 B	0.177 U
	Sodium	39 B	NS	NS	14.4 B	17 B	22.9	11.5	17 B	NS	26.5	16.7 B	17.9 B
Thallium	0.25 U,	NS	NS	0.295 U	0.442 U	0.73 U	0.393 U	2.03	NS	0.856 U	1.16 U	0.0712 U	
Vanadium	5.1 B	NS	NS	5.26 B	2.39 B	6.58	1.6	15.1 *	NS	6.2 *	15.8 *	11.4 *	
Zinc	4.7 B	NS	NS	7.34	6.48	12.9	2.58	29.1 *	NS	7.3 *	29.9 *	33.5	
Cyanide	3.1 U	NS	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-17 (SD-A)	Aluminum	3,550	NS	3,500	2,840	1,440	1,870	2,870 *	1,080 *	NS	11100	4390 *N	2280 *
	Antimony	8.8 U	NS	0.26 U	0.198 U	0.312 U	0.614 UN	0.415 B	0.492 UN	NS	0.577 U	1.7 B	0.569 U
	Arsenic	0.25 U	NS	1.1	0.397 B	0.424 B	0.51 U	0.435 B	0.296 U	NS	1.2 B	1.3 B	0.55 B
	Barium	8.8 B	NS	21.6	6.32	5.34 B	4.96	5.63	2.96	NS	29.4	15.9 *	11.4 *
	Beryllium	0.25 U	NS	0.17 B	0.056 U	0.037 B	0.042 B	0.052 B	0.072 U	NS	0.29 B	0.204 U	0.183 U
	Cadmium	1.3 U	NS	0.11 B	0.092 B	0.075 B	0.055 B	0.077 U	0.069 U	NS	0.28 B	0.27 B	0.3 B
	Calcium	80.4 B	NS	785	240 B	136 B	183 *	137 *N	107 N	NS	636	878	1030 N
	Chromium	4.4	NS	7.4	2.54	1.98	1.99	2.68	1.21 *	NS	13	4.3 *	2.6 *
	Cobalt	1.3 U	NS	1.1 B	0.209 B	0.196 B	0.166 B	0.504 B	0.114 U	NS	1.8	0.85 B	0.62 B
	Copper	2.9 B	NS	8.2	1.64	1.41 B	1.42	12.6	1.39	NS	7.1 *	8.9 *	5.9
	Iron	1,590	NS	1,750	757	740	742	1210 *N	614	NS	3580 EN	2260 N	1580 *N
	Lead	4.1 NJ	NS	21.3	6.98	6.15	5.29 N	4.71	2.49 *	NS	16.1 *	26 *	23.2 *EN
	Magnesium	389 B	NS	665 B	157 B	162 B	169	280 *N	128 *	NS	1190 *	379	301 *
	Manganese	14.8	NS	40.1	10.9	12.3	9.72 *	16 *N	9.49 *	NS	54.6 *	31.3	27 *
	Mercury	0.02 B	NS	0.028 U	0.038	0.003 U	0.014	0.012 B	0.012 B	0.0618	0.037 BN	0.064 B	0.067 B*
	Nickel	7.6 U	NS	4.3	1.13	1.25 B	1	3.34	0.792 *	NS	5.8 *	3.3	2.7
	Potassium	140 U	NS	216 B	88.7 B	91.6 B	83.2	117 N	69.4 E*N	NS	566	146 *	95 *
	Selenium	0.25 U	NS	0.57 B	0.412 B	0.482 B	0.342 U	0.396 U	0.232 U	NS	0.866 U	1.22 U	0.901 U
	Silver	1 U	NS	0.22 B	0.115 U	0.103 U	0.147 U	0.199 U	0.129 U	NS	0.144 U	0.51 B	0.183 U
	Sodium	16.5 B	NS	31.9 B	9.14 B	19.3 B	17	15.6	5.21 U	NS	42.9	15.8 B	20.8 B
Thallium	0.25 U	NS	0.79 U	0.259 U	0.457 U	0.639 U	0.425 U	1.43 U	NS	0.722 U	1.02 U	0.0721 U	
Vanadium	4.4 B	NS	12.6	4.52 B	2.99 B	3.19	4.09	1.62 *	NS	19.7 *	11.1 *	8.1 *	
Zinc	8.8	NS	27.5	7.37	4.6	6.37	6.24	3.4 *	NS	33.7 *	32 *	30.1	
Cyanide	3.2 U	NS	0.243	NA	NA	NA	NA	NA	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-11	Aluminum	4,030 *	NS	NS	5,070	12,800	11,400	6,920 *	7,570 *	NS	18500	2710 *N	9280 *
	Antimony	10.9 U	NS	NS	0.311 U	0.532 U	1.51 UN	0.688 U	0.761 UN	NS	1.49 U	1.19 U	1.17 U
	Arsenic	0.31 U	NS	NS	1.07	0.859 B	2.35	1.81	1.27	NS	3.8 B	1.78 U	2 B
	Barium	9.3 NB	NS	NS	27.1	53.4	61.1	35.4	34.6	NS	72.9	15 *	36 *
	Beryllium	0.31 U	NS	NS	0.134 B	0.291 B	0.342 B	0.232 B	0.281 B	NS	0.53 B	0.297 U	0.378 U
	Cadmium	1.6 U	NS	NS	0.135 B	0.06 B	0.232 B	0.144 B	0.152 B	NS	0.49 B	0.297 U	0.378 U
	Calcium	125 B	NS	NS	225 B	389	1750 *	551 *N	467 N	NS	2220	502	907 N
	Chromium	4.5	NS	NS	4.99	11.6	10.5	6.48	7.1 *	NS	18.5	1.8 *	8.7 *
	Cobalt	1.6 U	NS	NS	0.221 B	0.258 B	1.9	0.586 B	0.439 B	NS	2.7	0.593 U	1.1 B
	Copper	R	NS	NS	5.25	7.06	21.3	7.52	7.55	NS	35.8 *	4.9 *	14.5
	Iron	763 *	NS	NS	938	1,260 B	4,920	1,570 *N	1,660	NS	5190 EN	1100 N	2840 *N
	Lead	6.3 N	NS	NS	8.41	13.2	85.7 N	17.8	16.9 *	NS	122 *	16.6 *	44.5 *EN
	Magnesium	168 B	NS	NS	118 B	295 B	819	262 *N	293 *	NS	1270 *	112	548 *
	Manganese	6.6 *	NS	NS	3.74	9.41	33.9 *	10.5 *N	11.4 *	NS	43.1 *	5.3	21.8 *
	Mercury	0.03 B	NS	NS	0.074	0.12	0.198	0.056	0.044	0.0729	0.29 N	0.095 B	0.12 B*
	Nickel	9.3 U	NS	NS	2	2.77 B	7.51	3.13	3.3 *	NS	12.1 *	1.7	5.4
	Potassium	171 U	NS	NS	131 B	308 B	488	285 N	355 E*N	NS	917	90.2 *	285 *
	Selenium	0.31 B	NS	NS	1.43	2.68	1.59	0.993 B	0.817 B	NS	2.24 U	1.78 U	1.95 U
	Silver	1.2 U	NS	NS	0.198 B	0.175 U	0.363 U	0.338 U	0.2 U	NS	0.373 U	0.297 U	0.378 U
	Sodium	40.9 B	NS	NS	32.2 B	58.4 B	87.2	44.3	21 B	NS	115	19.5 B	52.2 B
Thallium	0.31 U	NS	NS	0.723 B	0.779 U	1.57 U	0.724 U	2.22 U	NS	1.86 U	1.48 U	0.32 B	
Vanadium	4.2 B	NS	NS	4.27 B	8.33 B	35.8	9.46	10.3 *	NS	53.3 *	5.9 *	19.8 *	
Zinc	R	NS	NS	15.4	16.5	61.7	22.3	20.4 *	NS	83 *	13.3 *	32.3	
Cyanide	3.9 U	NS	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-12 (SD-D)	Aluminum	7,220 *	NS	30,300	4,420	27,900	20,600	13,600 *	10,500 *	NS	9750	31900 *N	37500 *
	Antimony	8.7 U	NS	0.6 U	0.247 U	0.734 B	1.34 BN	1.61 B	1.03 BN	NS	0.804 U	7.2	0.96 U
	Arsenic	0.76 B,	NS	5	0.981	6.58 B	4.46	4.17	2.17	NS	1.9 B	7.8	5.8
	Barium	17.4 B	NS	85.9	32	77.5	68.2	49.5	46.5	NS	49.8	85.9 *	107 *
	Beryllium	0.25 U	NS	0.73 B	0.129 B	0.82 B	0.546 B	0.348 B	0.399 B	NS	0.29 B	0.81 B	1.1 B
	Cadmium	1.2 U	NS	0.54 B	0.148 B	0.724 B	0.241 B	0.199 B	0.096 U	NS	0.43 B	0.31 B	0.48 B
	Calcium	379 B	NS	1,820	964	2,780	2,020 *	2,260 *N	1,870 N	NS	1500	2310	2170 N
	Chromium	7.8	NS	22.1	4.7	27.8	20.3	13.3	10.9 *	NS	10.7	30.3 *	36.1 *
	Cobalt	2.5 B	NS	5.3 B	0.428 B	6.59 B	3.82	3.09	1.65	NS	1.3	7	8.8
	Copper	R	NS	44.6	7.41	36.6	26.4	20.2	13.6	NS	11.5 *	38.1 *	48.9
	Iron	5,150	NS	22,000	1,840	18,700	11,700	8,940 *N	5,960	NS	5370 EN	21800 N	26800 *N
	Lead	10.4 NJ	NS	86.3	6.11	71.1	59.8 N	42.3	25.5 *	NS	21.8 *	93.6 *	83.4 *EN
	Magnesium	943 B	NS	2220	207 B	3,020	1,610	885 *N	672 *	NS	630 *	3530	3970 *
	Manganese	56 *	NS	125	4.12	147	73.3 *	48.4 *N	33.4 *	NS	23 *	134	148 *
	Mercury	0.03 B	NS	0.37	0.074	0.272	0.215	0.214	0.079	0.203	0.3 N	0.2 B	0.32 *
	Nickel	7.5 U	NS	16.5	2.04	19.6	11.6	7.9	5.5 *	NS	5.1 *	20.2	25.1
	Potassium	292 B	NS	766 B	130 B	1,300 B	774	611 N	570 E*N	NS	551	1000 *	881 *
	Selenium	0.25 U	NS	2.2	1.22	2.01	1.74	1.44	1.23	NS	1.21 U	8.08 U	1.53 U
	Silver	1 U	NS	1.3 B	0.146 B	0.441 U	0.284 U	0.47 U	0.18 U	NS	0.201 U	4.7	0.31 U
	Sodium	29.8 B	NS	106 B	31.4 B	133 B	81.1	69.4	26.5	NS	57.7	81.4	95.4
Thallium	0.25 U	NS	1.8 U	0.323 U	1.03 U	1.23 U	1.01 U	2.46	NS	1.01 U	1.4 B	0.37 B	
Vanadium	10.8 B	NS	54.5	3.49 B	59.9	45.7	31.1	18.7 *	NS	17.2 *	64.7 *	80.6 *	
Zinc	R	NS	123	5.91	137	70.3	38.4	22.3 *	NS	23.4 *	127 *	179	
Cyanide	3.1 U	NS	0.708	NA	NA	NA	NA	NA	NS	NS	NS	NS	



Table 3  
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Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-13 (SD-E)	Aluminum	9,100 *	NS	8,360	2,090	NS	NS	NS	NS	NS	NS	NS	NS
	Antimony	9.2 U	NS	0.51 U	0.194 U	NS	NS	NS	NS	NS	NS	NS	NS
	Arsenic	1.2 B,	NS	1 B	0.46 B	NS	NS	NS	NS	NS	NS	NS	NS
	Barium	22.7 B	NS	21.7	10.2	NS	NS	NS	NS	NS	NS	NS	NS
	Beryllium	0.26 U	NS	0.08 B	0.055 U	NS	NS	NS	NS	NS	NS	NS	NS
	Cadmium	1.3 U	NS	0.18 B	0.083 U	NS	NS	NS	NS	NS	NS	NS	NS
	Calcium	640 B	NS	993 B	264 B	NS	NS	NS	NS	NS	NS	NS	NS
	Chromium	9.1	NS	5.3	2.58	NS	NS	NS	NS	NS	NS	NS	NS
	Cobalt	2.7 B	NS	0.64 B	0.124 B	NS	NS	NS	NS	NS	NS	NS	NS
	Copper	8.1	NS	9.5	1.42	NS	NS	NS	NS	NS	NS	NS	NS
	Iron	7,040 *	NS	3,340	781	NS	NS	NS	NS	NS	NS	NS	NS
	Lead	15.8 NJ	NS	39.9 B	5.14	NS	NS	NS	NS	NS	NS	NS	NS
	Magnesium	1190 B	NS	312	108 B	NS	NS	NS	NS	NS	NS	NS	NS
	Manganese	85 *	NS	16	3.96	NS	NS	NS	NS	NS	NS	NS	NS
	Mercury	0.06 B	NS	0.13	0.054	NS	NS	NS	NS	NS	NS	NS	NS
	Nickel	7.9 U	NS	3.2	0.848	NS	NS	NS	NS	NS	NS	NS	NS
	Potassium	300 B	NS	209 B	113 B	NS	NS	NS	NS	NS	NS	NS	NS
	Selenium	0.26 U	NS	0.89 B	0.502 B	NS	NS	NS	NS	NS	NS	NS	NS
	Silver	1.1 U	NS	0.35 B	0.113 U	NS	NS	NS	NS	NS	NS	NS	NS
	Sodium	48.4 B	NS	76.1 B	14.1 B	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	0.26 U	NS	1.5 U	0.254 U	NS	NS	NS	NS	NS	NS	NS	NS	
Vanadium	16.3	NS	14.9	2.99 B	NS	NS	NS	NS	NS	NS	NS	NS	
Zinc	27.9	NS	17.3	4.35	NS	NS	NS	NS	NS	NS	NS	NS	
Cyanide	3.3 U	NS	0.847	NA	NS	NS	NS	NS	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SD-2001	Aluminum	NS	NS	NS	1,780	46,900	15,800	14,900 *	11,600 *	NS	7030	16300 *N	11800 *
	Antimony	NS	NS	NS	0.226 U	0.821 U	1.32 UN	1.44 B	0.953 BN	NS	0.87 U	4	0.932 U
	Arsenic	NS	NS	NS	0.566 B	9.03	4.21	4.4	2.23	NS	1.5 B	5.3	3.8
	Barium	NS	NS	NS	5.25	118	52.9	52.1	45.4	NS	56.9	59.1 *	42.7 *
	Beryllium	NS	NS	NS	0.064 U	1.23 B	0.434 B	0.359 B	0.397 B	NS	0.28 B	0.46 B	0.36 B
	Cadmium	NS	NS	NS	0.096 U	1.07 B	0.277 B	0.249 B	0.102 U	NS	0.27 B	0.242 U	0.301 U
	Calcium	NS	NS	NS	216 B	2,310 B	1,900 *	1,720 *N	1,430 N	NS	1370	1910	1840 N
	Chromium	NS	NS	NS	2.41	45.5	15.7	15.1	11.4 *	NS	7.8	15.3 *	11.2 *
	Cobalt	NS	NS	NS	0.347 B	8.87 B	2.98	3.16	1.7	NS	0.93 B	2.9	2.2
	Copper	NS	NS	NS	1.48	52.9	23.3	21.2	11.6	NS	8.5 *	22.4 *	20.1
	Iron	NS	NS	NS	1,120	25,600	8,720	7,180 *N	5,690	NS	2540 EN	9510 N	7130 *N
	Lead	NS	NS	NS	9.99	145	57 N	60.8	29.7 *	NS	9 *	59.3 *	76.9 *EN
	Magnesium	NS	NS	NS	239 B	3,940	1,210	853 *N	675 *	NS	315 *	1180	837 *
	Manganese	NS	NS	NS	12.4	158	69.3 *	41.2 *N	40.4 *	NS	21.3 *	57.9	41 *
	Mercury	NS	NS	NS	0.064	0.727	0.192	0.18	0.098	0.116	0.13 BN	0.14 B	0.23 *
	Nickel	NS	NS	NS	1.43	28	10.1	9.12	5.73 *	NS	3.6 *	9.5	7.8
	Potassium	NS	NS	NS	113 B	1,780	603	599 N	570 E*N	NS	354	457 *	327 *
	Selenium	NS	NS	NS	0.365 B	2.42	1.4	1.31	0.623 B	NS	1.31 U	1.45 U	1.55 U
	Silver	NS	NS	NS	0.131 U	0.689 B	0.316 U	0.441 U	0.192 U	NS	0.218 U	2.1	0.301 U
	Sodium	NS	NS	NS	14.4 B	149 B	74.7	74.9	21.8	NS	51.1	37.5	42.8 B
	Thallium	NS	NS	NS	0.295 U	1.2 U	1.37 U	0.943 U	3.05	NS	1.09 U	1.6 B	0.27 B
Vanadium	NS	NS	NS	5.26 B	107	40	41.5	22.6 *	NS	7.9 *	34.7 *	34.5 *	
Zinc	NS	NS	NS	7.34	186	76.6	42.1	24.2 *	NS	17.7 *	57 *	49.9	
Cyanide	NS	NS	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	

Table 3  
Annual Wooded Wetland Report  
Sediment Sample Results - Metals Analysis

LOCATION	CONTAMINANT Units : mg/Kg	SAMPLES COLLECTED										
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07

**NOTES:**

1994 Samples were collected from 0.0' to 0.5'

Number in parenthesis ( ) indicates alternate identification for same location.

NA Not available

NS Not sampled

U Analyte was analyzed for but not detected.

N - Spike sample recovery was not within control limits

J - Estimated value; concentration below method detection limit.

\* - Duplicate precision is not within control limits.

B - Concentraion less than the contract required detection limit, but greater than or equal to the instrument detection limit.

Table 4  
Annual Wooded Wetland Report  
Surface Water Sample Results - Metals Analysis

Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW-5S (SWB)	Aluminum	38,600	304	1,240	253	385	445 E	429	434	210	301	305	278
	Antimony	35 U	2.5 U	1.9 U	4.14 U	2.65 U	4.79 U	3.46 U	5.08 U	4 U	0.5 U	0.5 U	0.5 U
	Arsenic	8.7 B	1.1 U	2.7 U	2.09 U	4.47 B	3.97 U	3.31 U	2.24 U	6 U	1.5 U	1.5 U	1.5 U
	Barium	136 B	11.7 B	19.6	5.32 B	7.7 B	6.32 B	6.91 B	10.2 B	5.1	5	7.8	6.1
	Beryllium	1.2 U	0.1 B	0.14 U	0.46 U	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	5 U	0.2 U	0.44 B	0.69 U	0.274 B	0.21 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
	Calcium	29,700	8,860	5,520	2,360 B	3,170 B	3,590 B	2,450 B	2,720 B	2,960	2,170	3090	3270
	Chromium	32.1 U	0.7 U	2.8 B	1.03 B	0.774 B	0.781 B	1.69 U	0.892 B	1.3 B	1 U	1.3 B	1 U
	Cobalt	18.7 B	1.3 U	1.1 B	0.91 U	0.679 B	0.581 U	1.71 B	0.918 B	1 U	0.46 B	0.53 B	0.52 B
	Copper	56.2	0.9 U	13.4	1.63 U	2.24 B	1.52 B	2.58 B	1.39 U	3 U	1.8	2.8	1.2
	Iron	44,000	347	3,740	1,120	1,100	890	779	1,210	832	757	1220	1170
	Lead	NA	2.2 B	5.3	1.38 U	1.47 U	2.16 B	2.4 U	1.72 U	2.5 U	1.1 B	0.89 B	0.95 B
	Magnesium	12,500	2,460 B	1,560 B	985 B	1,060 B	1,230 B	774 B	848 B	939	768	996 E	1030 E
	Manganese	1,410	96.1	383	181	339	227	153	176	21	171	215	217
	Mercury	0.25 B	0.1 U	0.13 B	0.05 B	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
	Nickel	30 U	1.6 U	7.6	1.29 U	1.91 B	2.09 B	1.64 U	1.19 B	3.8 B	1.8 B	2	1.8 B
	Potassium	5,720 B	2,430 B	4,790 B	2,340 B	3,470 B	2,700 B	2,010 B	1,860 B	2,240	2,070	2350	2700
	Selenium	1 U	2.4 U	2.6 B	3.66 U	2.93 U	2.67 U	3.39 U	2.81 U	6 U	2.5 U	2.5 U	1 U
	Silver	4 U	0.8 U	0.89 U	0.94 U	0.871 U	1.15 U	1.7 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U
	Sodium	7,200	3,500 B	4,250 B	1,840 B	2,670 B	2,620 B	2,290 BE	2,530 B	3,020	2,550	3200	3580 N
Thallium	1 U	1.9 U	5.6 U	2.11 U	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	74.9 B	3.4 B	9.2 B	1.94 B	2.84 B	2.32 B	4.13 B	2.83 B	1.3 B	2 U	2 U	2 U	
Zinc	252	47.5	65.8	8.12 B	12.4 B	13.7 B	34.4	15.4 B	12.2	15.1	28.6	13.6	

Table 4  
Annual Wooded Wetland Report  
Surface Water Sample Results - Metals Analysis

Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW- 6 (SW-C)	Aluminum	NS	762	110,000	503	523	541 E	413	346	539	405	284	372
	Antimony	NS	2.5 U	3.7 U	4.14 U	2.65 U	4.79 U	3.46 U	5.08 U	4 U	0.5 U	0.5 U	0.5 U
	Arsenic	NS	1.1 U	19.8	2.09 U	2.33 U	3.97 U	3.31 U	2.24 U	6 U	2.4 B	1.5 U	1.5 U
	Barium	NS	13.8 B	507	9.62 B	7.9 B	7.37 B	5.89 B	5.74 B	8	6.5	4.8	6.2
	Beryllium	NS	0.1 B	3.3 B	0.46 U	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	NS	0.1 B	7.4 B	0.69 U	0.272 U	0.21 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
	Calcium	NS	7,000	28,400	2,660 B	2150 B	2450 B	1540 B	1450 B	2520	1700	1280	2060
	Chromium	NS	0.7 U	99.4	1.41 B	0.779 B	0.533 B	1.69 U	0.643 B	1.2 B	1.3 B	1 U	1 U
	Cobalt	NS	1.3 U	22.7 B	0.91 U	0.419 U	0.581 U	1.33 B	0.738 B	1 U	0.58 B	0.46 B	0.57 B
	Copper	NS	8.1 B	165	1.92 B	2.48 B	1.55 B	1.91 B	1.39 U	3 U	1.8	1	2.9
	Iron	NS	692	77,500	2,140	1,250	725	522	595	1,470	890	928	885
	Lead	NS	4.4	887	1.38 U	1.47 U	1.24 U	2.4 U	1.72 U	2.5 U	0.89 B	0.51 B	0.81 B
	Magnesium	NS	2,690 B	13200	860 B	810 B	982 B	642 B	624 B	883	717	626 E	710 E
	Manganese	NS	256	1,280	107	106	133	78.1	71.6	124	89.3	62.4	92.1
	Mercury	NS	0.1 U	1	0.085 B	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
	Nickel	NS	3.4 B	121	1.93 B	2.07 B	2.07 B	1.64 U	1.07 B	2.5 B	2.3	1.6 B	4.1
	Potassium	NS	2,610 B	9,990 B	1,940 B	2,360 B	1,920 B	1,180 B	1,270 B	2,240	1,380	1880	2010
	Selenium	NS	2.4 U	10 B	3.66 U	3.46 B	2.67 U	3.61 B	3.5 B	6 U	2.5 U	2.5 U	1 U
	Silver	NS	0.8 U	2.3 B	0.94 U	0.871 U	1.15 U	1.7 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U
	Sodium	NS	3,330 B	4,350 B	2,070 B	2,920 B	3,180 B	2,270 BE	2,560 B	3,390	2,660	3430	3750 N
Thallium	NS	1.9 U	11.3 U	2.11 U	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	NS	9.1 B	348	3.19 B	2.94 B	3.33 B	4.71 B	1.51 B	2 B	2 U	2 U	2 U	
Zinc	NS	53.2	699	16.8 B	14.1 B	14.4 B	29.9	11.5 B	20.4	14	9.8 B	15.2	

Table 4  
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Surface Water Sample Results - Metals Analysis

Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW- 16	Aluminum	NS	NS	NS	NS	928	521 E	446	543	618	1110	208	245
	Antimony	NS	NS	NS	NS	2.65 U	4.79 U	3.46 U	5.08 U	4 U	0.5 U	0.5 U	0.5 U
	Arsenic	NS	NS	NS	NS	2.33 U	3.97 U	3.31 U	2.24 U	6 U	1.5 U	1.5 U	1.5 U
	Barium	NS	NS	NS	NS	27.3 B	11.2 B	8.81 B	11.7 B	9.8	11.6	5.4	7
	Beryllium	NS	NS	NS	NS	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	NS	NS	NS	NS	0.272 U	0.21 U	0.66 U	0.313 U	1 U	0.11 B	0.1 U	0.1 U
	Calcium	NS	NS	NS	NS	5,480	6,040	4,200 B	3,150 B	3,790	3,880	2250	3100
	Chromium	NS	NS	NS	NS	1.31 B	0.723 B	2.07 B	1.26 B	1.5 B	1.9 B	1.1 B	1.1 B
	Cobalt	NS	NS	NS	NS	0.627 B	0.581 U	1.69 B	0.812 B	1 U	0.88 B	0.41 B	0.41 B
	Copper	NS	NS	NS	NS	3.3 B	2.21 B	3.09 B	1.39 U	3 U	3.7	0.94 B	1.1
	Iron	NS	NS	NS	NS	2,320	1,330	1,430	1,480	1,820	2,200	1010	985
	Lead	NS	NS	NS	NS	3.86	1.39 B	2.4 U	1.72 U	2.5 U	3.7	0.52 B	0.85 B
	Magnesium	NS	NS	NS	NS	1,420 B	1,580 B	1,120 B	922 B	1,000	1,180	790 E	839 E
	Manganese	NS	NS	NS	NS	156	158	116	83.6	120	136	69	76.3
	Mercury	NS	NS	NS	NS	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
	Nickel	NS	NS	NS	NS	2.81 B	2.23 B	1.64 U	1.03 B	2.1 B	3.2	1.5 B	1.4 B
	Potassium	NS	NS	NS	NS	2,730 B	2,270 B	1,730 B	1,590 B	1,830	1,990	1620	1580
	Selenium	NS	NS	NS	NS	2.93 U	2.67 U	3.39 U	2.81 U	6 U	2.5 U	2.5 U	1 U
	Silver	NS	NS	NS	NS	0.871 U	1.15 U	1.7 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U
	Sodium	NS	NS	NS	NS	2,520 B	2,680 B	2,170 BE	2,400 B	2,700	2,620	3040	2840 N
Thallium	NS	NS	NS	NS	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	NS	NS	NS	NS	4.61 B	2.96 B	5.02 B	3.44 B	4 B	3 B	2 U	2.3 B	
Zinc	NS	NS	NS	NS	15.5 B	14.6 B	34	14.8 B	17.1	28	20.3	10.6	

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Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW-17 (SW-A)	Aluminum	NS	NS	1,260	NS	612	441 E	490	485	357	310	163	166
	Antimony	NS	NS	2 U	NS	2.65 U	4.79 U	3.46 U	5.08 U	4 U	0.5 U	0.5 U	0.5 U
	Arsenic	NS	NS	2.7 U	NS	3.21 B	3.97 U	3.31 U	2.24 U	6 U	1.5 U	1.5 U	1.5 U
	Barium	NS	NS	21.6	NS	36 B	14.6 B	10.3 B	13 B	8.3	6.6	8	8.8
	Beryllium	NS	NS	0.14 U	NS	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	NS	NS	0.34 U	NS	0.272 U	0.21 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
	Calcium	NS	NS	8,570	NS	9,120	7,900	6,930	3,920 B	4,820	3,420	3030	4650
	Chromium	NS	NS	3 B	NS	1.73 B	1.16 B	1.69 U	0.984 B	10	1 U	1 U	1 B
	Cobalt	NS	NS	1.1 B	NS	1.49 B	0.759 B	1.82 B	0.754 B	1 U	0.54 B	0.39 B	0.37 B
	Copper	NS	NS	5	NS	4.2 B	2.21 B	3.26 B	1.39 U	17.6	1.5	0.7 B	0.95 B
	Iron	NS	NS	5,410	NS	5430	1650	1120	1170	2320	1130	1010	1020
	Lead	NS	NS	6	NS	3.31	2.04 B	2.4 U	1.72 U	2.5 U	1.1 B	0.5 U	0.72 B
	Magnesium	NS	NS	1,950 B	NS	1,950 B	1,780 B	1,530 B	1,050 B	1,130	964	980 E	1120 E
	Manganese	NS	NS	240	NS	469	150	157	102	136	110	71.3	77.9
	Mercury	NS	NS	0.12 U	NS	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
	Nickel	NS	NS	6	NS	3.28 B	2.27 B	1.64 U	1.04 B	6.7	1.8 B	1.5 B	1.1 B
	Potassium	NS	NS	2,480 B	NS	3,310 B	2,400 B	1,960 B	1,550 B	1,910	1,810	1600	1520
	Selenium	NS	NS	2.1 B	NS	3 U	3 U	3 U	3 U	6 U	3 U	2.5 U	1 U
	Silver	NS	NS	0.89 U	NS	0.871 U	1.15 U	1.7 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U
	Sodium	NS	NS	3,610 B	NS	2,560 B	2,470 B	2,050 BE	2,220 B	2,580	2,260	2880	2640 N
Thallium	NS	NS	6 U	NS	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	NS	NS	6.5 B	NS	7.54 B	4.11 B	4.25 B	2.63 B	3.4 B	2 U	2 U	2.1 B	
Zinc	NS	NS	31.5	NS	24	14.2 B	30.1	16.6 B	14	17.5	7 B	11.5	

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Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW- 4	Aluminum	829	NS	NS	179 B	1,500	1,320 E	326	258	356	461	198	315
	Antimony	35 U	NS	NS	4.14 U	2.65 U	4.79 U	3.46 U	5.08 U	5.1 B	0.5 U	0.5 U	0.5 U
	Arsenic	1.3 B	NS	NS	2.09 U	2.33 U	3.97 U	3.31 U	2.24 U	6 U	1.7 B	1.5 U	1.5 U
	Barium	21.9 B	NS	NS	17.4 B	77.9 B	15.1 B	6.39 B	8.11 B	9.9	16.2	8.4	10
	Beryllium	1 U	NS	NS	0.46 U	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	5 U	NS	NS	0.69 U	0.272 U	0.21 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
	Calcium	8,150	NS	NS	16,400	7,230	5,350	3,630 B	4,300 B	4,290	4,000	5180	4880
	Chromium	5 JUE	NS	NS	0.87 U	1.62 B	1.62 B	1.99 B	0.795 B	4.4 B	1 U	1 U	1.1 B
	Cobalt	5	NS	NS	0.91 U	1.84 B	0.581 U	1.68 B	0.903 B	1 U	0.48 B	0.46 B	0.4 B
	Copper	8.5 B	NS	NS	1.63 U	5.79 B	3.79 B	2.59 B	1.39 U	10.4	3.5	2.7	1.8
	Iron	3930	NS	NS	2,600	3,670	1,760	499	996	1,640	702	1190	1100
	Lead	NA	NS	NS	1.38 U	5.61	3.53	2.4 U	1.72 U	4.9 B	1.5 B	0.78 B	1.2 B
	Magnesium	4,260 B	NS	NS	2,780 B	2,170 B	1,930 B	1,340 B	1,560 B	1,520	1,490	1850 E	1860 E
	Manganese	146	NS	NS	135	312	69.5	39.6	112	47.2	23.1	36.6	35
	Mercury	0.2 B	NS	NS	0.109 B	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.081 B
	Nickel	30 U	NS	NS	1.29 U	3.5 b	2.14 B	1.64 U	0.69 U	2.2 B	1.3 B	1.8 B	1.4 B
	Potassium	2,130 B	NS	NS	3,350 B	2,980 B	2,200 B	1,380 B	1,560 B	1,920	1,260	1690	1770
	Selenium	1 U	NS	NS	3.66 U	2.93 U	2.67 U	3.84 B	2.81 U	6 U	2.5 U	2.5 U	1 U
	Silver	4 U	NS	NS	0.94 U	0.871 U	1.15 U	1.8 B	0.835 U	1 U	0.2 U	0.2 U	0.2 U
	Sodium	6,850	NS	NS	2,410 B	2,860 B	2,960 B	2,390 BE	2,570 B	2,970	2,320	3920	3690 N
Thallium	1 U	NS	NS	2.48 B	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	9 U	NS	NS	2.05 B	6.95 B	4.03 B	4.06 B	1.38 B	2.6 B	2 U	2 U	2.5 B	
Zinc	33.3	NS	NS	2.19 U	28	22	55.8	12.2 B	10.7	183	9.9 B	9.4 B	



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Surface Water Sample Results - Metals Analysis

Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW- 5N (SW-D)	Aluminum	NS	NS	945	179 B	575	238 E	1180	133 B	449	394	186	300
	Antimony	NS	NS	1.9 U	4.14 U	2.89 B	4.79 U	3.46 U	5.08 U	4 U	0.5 U	0.5 U	0.5 U
	Arsenic	NS	NS	2.7 U	2.09 U	2.33 U	3.97 U	3.31 U	2.24 U	6 U	1.5 U	1.5 U	1.5 U
	Barium	NS	NS	22.8	17.4 B	25.6 B	9.22 B	9.58 B	6.4 B	9.3	6.9	9	9.2
	Beryllium	NS	NS	0.14 U	0.46 U	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	NS	NS	0.34 U	0.69 U	0.272 U	0.21 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
	Calcium	NS	NS	7,990	16,400	15,700	11,000	10,500	9,730	11,300	7,220	11100	14100
	Chromium	NS	NS	1.4 B	0.87 U	1.06 B	0.532 U	2.12 B	0.558 B	1.7 B	1 U	1 U	1 U
	Cobalt	NS	NS	1.1 B	0.91 U	0.515 B	0.581 U	1.78 B	0.541 U	1 U	0.3 B	0.74 B	0.23 B
	Copper	NS	NS	3.2 B	1.63 U	2.28 B	1.3 U	4.09 B	1.39 U	3 U	3.1	1.9	1.4
	Iron	NS	NS	6,900	2,600	1,290	598	1,070	564	2,000	776	2030	942
	Lead	NS	NS	3.6 B	1.38 U	2.27 B	1.24 U	2.4 U	1.72 U	2.5 U	0.72 B	0.88 B	1.1 B
	Magnesium	NS	NS	2,560 B	2,780 B	2,850 B	2,110 B	2,010 B	2,010 B	2,000	1,760	2580 E	2560 E
	Manganese	NS	NS	146	135	103	33.2	35.2	18	60	33.8	145	32.2
	Mercury	NS	NS	0.12 U	0.109 B	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
	Nickel	NS	NS	5 B	1.29 U	1.09 B	0.837 U	1.64 U	0.69 U	1 U	1.1 B	1.5 B	0.9 B
	Potassium	NS	NS	3,910 B	3,350 B	3,160 B	2,210 B	1,600 B	1,370 B	770	1,200	1920	807
	Selenium	NS	NS	1.9 U	3.66 U	2.93 U	2.67 U	3.39 U	2.81 U	6 U	2.5 U	2.5 U	1 U
	Silver	NS	NS	0.89 U	0.94 U	0.871 U	1.15 U	2 B	0.835 U	1.1 B	0.2 U	0.2 U	0.2 U
	Sodium	NS	NS	3,870 B	2,410 B	2,280 B	2,160 B	1,650 BE	1,830 B	2,080	2,090	2680	2330 N
Thallium	NS	NS	5.6 U	2.48 B	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	NS	NS	4.6 B	2.05 B	2.56 B	1.27 B	4.4 B	1.06 B	4.1 B	2 U	2 U	2.6 B	
Zinc	NS	NS	21.9	2.19 U	4.96 B	4.54 B	25.4	7.02 B	5.9 B	8.4 B	6.6 B	3.3 B	

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Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW- E	Aluminum	NS	NS	1,170	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Antimony	NS	NS	1.9 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Arsenic	NS	NS	2.7 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Barium	NS	NS	30.4	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Beryllium	NS	NS	0.14 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Cadmium	NS	NS	0.34 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Calcium	NS	NS	8,410	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Chromium	NS	NS	3.9 B	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Cobalt	NS	NS	2.3 B	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Cooper	NS	NS	6.4	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Iron	NS	NS	6,970	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Lead	NS	NS	4.5 B	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Magnesium	NS	NS	2,610 B	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Manganese	NS	NS	323	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Mercury	NS	NS	0.12 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Nickel	NS	NS	6.7	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Potassium	NS	NS	4,140 B	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Selenium	NS	NS	1.9 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Silver	NS	NS	0.89 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sodium	NS	NS	3,990 B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	NS	NS	5.6 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Vanadium	NS	NS	7.5 B	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Zinc	NS	NS	38.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	

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Surface Water Sample Results - Metals Analysis

Location	Contaminant UNITS ug/L	SAMPLES COLLECTED											
		1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
SW- 2001	Aluminum	NS	NS	NS	NS	466	427 E	4090	119 B	412	1720	1230	85.7
	Antimony	NS	NS	NS	NS	2.65 U	4.79 U	3.46 U	5.08 U	4 U	0.5 U	0.5 U	0.5 U
	Arsenic	NS	NS	NS	NS	2.33 U	3.97 U	3.31 U	2.24 U	6 U	1.5 U	1.5 U	1.5 U
	Barium	NS	NS	NS	NS	42.9 B	11.2 B	20.9 B	6.54 B	8.3	16.2	12.4	8.9
	Beryllium	NS	NS	NS	NS	0.158 U	0.185 U	0.21 U	0.158 U	1 U	0.1 U	0.1 U	0.1 U
	Cadmium	NS	NS	NS	NS	0.272 U	0.21 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
	Calcium	NS	NS	NS	NS	15,300	11,700	10,400	9,780	10,300	11,000	11200	11200
	Chromium	NS	NS	NS	NS	0.977 B	0.532 U	4.52 B	0.503 U	1.6 B	1 U	1.6 B	1 U
	Cobalt	NS	NS	NS	NS	0.518 B	0.581 U	2.86 B	0.541 U	1 U	1.4	0.7 B	0.19 B
	Copper	NS	NS	NS	NS	1.94 B	2.74 B	7.14 B	1.39 U	3 U	6.4	3	1.2
	Iron	NS	NS	NS	NS	1,190	753	3,420	558	1,850	1,990	2080	724
	Lead	NS	NS	NS	NS	1.66 B	1.24 U	8.68	1.72 U	2.5 U	3.2	4	0.5 U
	Magnesium	NS	NS	NS	NS	2,760 B	2,180 B	2,320 B	2,020 B	1,940	2,030	2460 E	2190 E
	Manganese	NS	NS	NS	NS	130	103	105	18.9	60.4	328	98.8	27
	Mercury	NS	NS	NS	NS	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.088 B
	Nickel	NS	NS	NS	NS	0.815 U	1.08 B	1.64 U	0.69 U	1.9 B	1.8 B	1.9 B	0.89 B
	Potassium	NS	NS	NS	NS	3,050 B	2,130 B	1,960 B	1,360 B	811	1,580	1660	1160
	Selenium	NS	NS	NS	NS	2.93 U	2.67 U	3.39 U	2.81 U	6 U	2.5 U	2.5 U	1 U
	Silver	NS	NS	NS	NS	0.871 U	1.15 U	1.7 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U
	Sodium	NS	NS	NS	NS	2,270 B	2,230 B	1,800 BE	1,830 B	2,010	1,430	2380	2400 N
Thallium	NS	NS	NS	NS	3.88 U	4.99 U	3.64 U	10 U	5 U	0.4 U	0.4 U	0.3 U	
Vanadium	NS	NS	NS	NS	2.32 B	2.13 B	12 B	1.03 B	2.9 B	5.1 B	3 B	2 U	
Zinc	NS	NS	NS	NS	4.25 B	5.91 B	72.6	7.05 B	7.7 B	72.5	11.4	8.2 B	

**NOTES:**

1994 Samples were collected from 0.0' to 0.5'

Number in parenthesis ( ) indicates alternate identification for same location.

NA Not available

NS Not sampled

U Analyte was analyzed for but not detected.

N - Spike sample recovery was not within control limits

J - Estimated value; concentration below method detection limit.

\* - Duplicate precision is not within control limits.

B - Concentraion less than the contract required detection limit, but greater than or equal to the instrument detection limit.

**Table 5**  
**Wooded Wetlands-Sediment Results and Benchmark Concentrations**  
**Brookhaven National Laboratory, Upton, New York**

**South Pond**

Contaminant units mg/Kg	SD-5 (SD-B)												SD-6 (SD-C)											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Copper	NS	4.8 B	8.1	9.59	9.03	9.65	11.7	10.5	NS	10 *	7.2 *	11.8	NS	4.8 B	7.8	0.72 B	7.27	1.85	0.55 B	1.37	NS	1.7 *	0.73 B*	0.78 B
Lead	NS	28	19.4	13.4	13	21.1 N	12.7	30.1 *	NS	16 *	22.2 *	13.1 *N	NS	19.8	63.5	4.62	5.28	9.74 N	1.6	10.3 *	NS	5 *	4.5 *	5.9 *EN
Manganese	NS	41.5	45.1	82.4	123	78.7	88.3 *N	109 *	NS	89 *	54.4	93.8 *N	NS	29.3	39.3	10.4	144	13.4	9.87 *N	15 *	NS	24 *	8	9.7 *
Mercury	NS	0.11 U	0.05	0.098	0.053	0.053	0.021	0.052	0.0512	0.047 BN	0.04 B	0.04 *	NS	0.1 U	0.18	0.049	0.004	0.011 B	0.01 U	0.019	0.012	0.014 BN	0.026 B	0.017 B*
Zinc	NS	22.3	25.1	31.4	29.8	31.9	29.5	26.3 *	NS	34 *	23.1 *	27.6 *	NS	19.7	26	5.86	27.6	6.45	3.98	6.67 *	NS	9.5 *	4.6 *	4.8

Contaminant units mg/Kg	SD-16												SD-17 (SD-A)											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Copper	1 B	NS	NS	1.48	0.904	3.78	0.389 B	8.14	NS	2.2 *	9.5 *	8	2.9 B	NS	8.2	1.64	1.41	1.42	12.6	1.39	NS	7.1 *	8.9 *	5.9
Lead	4.4 NJ	NS	NS	9.99	3.19	16.1 N	1.7	39.5 *	NS	8.8 *	15 *	15.7 *EN	4.1 NJ	NS	21.3	6.98	6.15	5.29 N	4.71	2.49 *	NS	16.1 *	26 *	23.2 *EN
Manganese	11.5	NS	NS	12.4	9.68	17.7	8.07 *N	45 *	NS	16.7 *	41.5	25.8 *	14.8	NS	40.1	10.9	12.3	9.72	16 *N	NS	54.6 *	31.3	27 *	
Mercury	0.001 B	NS	NS	0.064	0.003	0.033	0.005 U	0.028	0.0336	0.027 *	0.038 B	0.05 B	0.02 B	NS	0.03 U	0.038	0.003	0.014	0.01 B	0.012 B	0.06	0.037 BN	0.064 B	0.067 B*
Zinc	4.7 B	NS	NS	7.34	6.48	12.9	2.58	29.1 *	NS	7.3 *	29.9 *	33.5	8.8	NS	27.5	7.37	4.6	6.37	6.24	3.4 *	NS	33.7 *	32 *	30.1

**South Pond Averages**

Contaminant units mg/Kg											Maximum Sediment Conc. <sup>1</sup>	Bkg. Sediment Conc.
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Copper	8.03	3.36	4.7	4.2	6.3	5.4	NS	5.3	6.6	6.62	29	52.5
Lead	34.73	8.75	6.9	13.1	5.2	20.6	NS	11.5	16.9	14.5	82.9	97.6
Manganese	41.50	29.03	72.2	29.9	30.6	44.6	NS	46.1	33.8	39.08	541	84.3
Mercury	0.09	0.06	0.02	0.03	0.01	0.03	0.04	0.03	0.04	0.04	0.17	0.41
Zinc	26.20	12.99	17.1	14.4	10.6	16.4	NS	21.1	22.4	24	122	158

**North Pond**

Contaminant units mg/Kg	SD-11												SD-12 (SD-D)											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Copper	NA	NS	NS	5.25	7.06	21.3	7.52	7.55	NS	35.8 *	4.9 *	14.5	NA	NS	45	7.41	37	26.4	20.2	13.6	NS	11.5 *	38.1 *	48.9
Lead	6.3 N	NS	NS	8.41	13.2	85.7 N	17.8	16.9 *	NS	122 *	16.6 *	44.5 *EN	10.4 NJ	NS	86	6.11	71.1	59.8 N	42.3	25.5 *	NS	21.8 *	93.6 *	83.4 *EN
Manganese	6.6	NS	NS	3.74	9.41	33.9	10.5 *N	11.4 *	NS	43.1 *	5.3	21.8 *	56	NS	125	4.12	147	73.3	48.4 *N	33.4 *	NS	23 *	134	148 *
Mercury	0.030 B	NS	NS	0.074	0.120	0.198	0.056	0.044	0.0729	0.29 N	0.095 B	0.12 B*	0.03 B	NS	0.370	0.074	0.272	0.215	0.21	0.079	0.203	0.3 N	0.2 B	0.32 *
Zinc	NA	NS	NS	15.4	16.5	61.7	22.3	20.4 *	NS	83 *	13.3	32.3	NA	NS	123	5.91	137	70.3	38.4	22.3 *	NS	23.4 *	127 *	179

Contaminant units mg/Kg	SD-13 (SD-E)												SD-2001											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Copper	8.1	NS	9.5	1.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	53	23.3	21.2	11.6	NS	8.5 *	22.4 *	20.1
Lead	15.8 NJ	NS	39.9	5.14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	145	57 N	60.8	29.7 *	NS	9 *	59.3 *	76.9 *EN
Manganese	85	NS	16.0	4.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	158	69.3	41.2 *N	40.4 *	NS	21.3 *	57.9	41 *
Mercury	0.08 B	NS	0.13	0.054	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.727	0.192	0.18	0.098	0.116	0.13 BN	0.14 B	0.23 *
Zinc	27.9	NS	17.3	4.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	186	76.6	42.1	24.2 *	NS	17.7 *	57 *	49.9

**North Pond Averages**

Contaminant units mg/Kg											Maximum Sediment Conc. <sup>1</sup>	Bkg. Sediment Conc.
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Copper	27.1	4.7	32.2	23.7	16.3	10.9	NS	18.6	21.8	27.8	29	52.5
Lead	63.1	6.6	76.4	67.5	40.3	24.0	NS	50.9	56.5	68.3	82.9	97.6
Manganese	70.5	3.9	104.8	58.8	33.4	28.4	NS	29.1	65.7	70.3	541	84.3
Mercury	0.25	0.07	0.37	0.20	0.15	0.07	0.13	0.24	0.15	0.22	0.17	0.41
Zinc	70.2	8.6	113.2	69.5	34.3	22.3	NS	41.4	65.8	87.1	122	158

NOTES:

<sup>1</sup> Final Focused Ecological Risk Assessment for Operable Unit I/VI (CDM 1999)

1994 Samples were collected from 0.0' to 0.5'

Number in parenthesis ( ) indicates alternate identification for same location.

NA Not available

NS Not sampled

N Analyte was analyzed for but not detected.

N - Spike sample recovery was not within control limits

J - Estimated value; concentration below method detection limit.

\* - Duplicate precision is not within control limits.

B - Concentration less than the contract required detection limit, but greater than or equal to the instrument detection limit.

E - Exceeded ICP serial dilution.

Table 6  
Wooded Wetlands-Surface Water Results and Critical Water Concentrations  
Brookhaven National Laboratory, Upton, New York

South Pond

Contaminant units ug/L	SW-5S (SW-B)												SW-6 (SW-C)											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Aluminum	NS	304	1,240	253	385	445 E	429	434	210	301	305	278	NS	762	110,000	503	523	541 E	413	346	539	405	284	372
Cadmium	NS	0.2 B	0.44 B	0.69 U	0.274 B	0.210 U	0.660 U	0.313 U	1,000 U	0.1 U	0.1 U	0.1 U	NS	NA	7.4 B	0.69 U	0.272 U	0.210 U	0.660 U	0.313 U	1,000 U	0.100 U	0.1 U	0.1 U
Cobalt	NS	1.3 U	1.1 B	0.91 U	0.679 B	0.581 U	1.710 B	0.918 B	1,000 U	0.46 B	0.53 B	0.52 B	NS	1.4 B	22.7 B	0.91 U	0.419 U	0.581 U	1.330 B	0.738 B	1,000 U	0.580 B	0.46 B	0.57 B
Copper	NS	0.9 U	13.4	1.63 U	2.24 B	1.52 B	2.58 B	1.39 U	3 U	1.8	2.8	1.2	NS	8.1 B	165	1.92 B	2.48 B	1.55 B	1.91 B	1.39 U	3 U	1.8	1	2.9
Iron	NS	347	3,740	1,120	1,100	890	779	1,210	832	757	1,220	1,170	NS	692	77,500	2,140	1,250	725	522	595	1,470	890	928	885
Lead	NS	2.2 B	5.3	1.38 U	1.47 U	2.16 B	2.4 U	1.72 U	2.5 U	1.1 B	0.89 B	0.95 B	NS	4.4	887	1.38 U	1.47 U	1.24 U	2.4 U	1.72 U	2.5 U	0.89 B	0.51 B	0.81 B
Mercury	NS	0.1 B	0.13 B	0.05 B	0.057 U	0.04 U	0.10 U	0.05 U	0.05 U	0.06 U	0.06 U	0.03 U	NS	NA	1	0.085 B	0.057 U	0.04 U	0.10 U	0.05 B	0.05 U	0.06 U	0.06 U	0.03 U
Nickel	NS	1.6 U	7.6	1.29 U	1.91 B	2.09 B	1.64 U	1.19 B	3.8 B	1.8 B	2	1.8 B	NS	NA	121	1.93 B	2.07 B	2.07 B	1.64 U	1.07 B	2.5 B	2.3	1.6 B	4.1
Silver	NS	0.8 U	0.89 U	0.94 U	0.871 U	1.15 U	1.70 U	0.84 U	1.00 U	0.2 U	0.2 U	0.2 U	NS	NA	2.3 B	0.94 U	0.871 U	1.15 U	1.70 U	0.84 U	1.00 U	0.20 U	0.2 U	0.2 U
Zinc	NS	47.5	65.8	8.12 B	12.4 B	13.7 B	34.4	15.4 B	12.2	15.1	28.6	13.8	NS	53.2	699	16.8 B	14.1 B	14.4 B	29.9	11.5 B	20.4	14	9.8 B	15.2

	SW-16												SW-17 (SW-A)											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Aluminum	NS	NS	NS	NS	928	521 E	446	543	618	1110	208	245	NS	NS	1,260	NS	612	441 E	490	485	357	310	163	166
Cadmium	NS	NS	NS	NS	0.272 U	0.210 U	0.660 U	0.313 U	1 U	0.11 B	0.1 U	0.1 U	NS	NS	0.34 U	NS	0.272 U	0.210 U	0.660 U	0.313 U	1 U	0.100 U	0.1 U	0.1 U
Cobalt	NS	NS	NS	NS	0.627 B	0.581 U	1.690 B	0.812 B	1 U	0.88 B	0.41 B	0.41 B	NS	NS	1.1 B	NS	1.49 B	0.759 B	1.820 B	0.754 B	1 U	0.540 B	0.39 B	0.37 B
Copper	NS	NS	NS	NS	3.3 B	2.21 B	3.09 B	1.39 U	3 U	3.7	0.94 B	1.1	NS	NS	5	NS	4.2 B	2.21 B	3.26 B	1.39 U	17.6	1.5	0.7 B	0.95 B
Iron	NS	NS	NS	NS	2,320	1,330	1,430	1,480	1,820	2,200	1,010	985	NS	NS	5,410	NS	5,430	1,650	1,120	1,170	2,320	1,130	1,010	1,020
Lead	NS	NS	NS	NS	3.86	1.39 B	2.4 U	1.72 U	2.5 U	3.7	0.52 B	0.85 B	NS	NS	5.7	NS	3.31	2.04 B	2.4 U	1.72 U	2.5 U	1.1 B	0.5 U	0.72 B
Mercury	NS	NS	NS	NS	0.057 U	0.04 U	0.10 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U	NS	NS	0.12 U	NS	0.057 U	0.04 U	0.10 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
Nickel	NS	NS	NS	NS	2.81 B	2.23 B	1.64 U	1.03 B	2.1 B	3.2	1.5 B	1.4 B	NS	NS	5.5	NS	3.28 B	2.27 B	1.64 U	1.04 B	6.7	1.8 B	1.5 B	1.1 B
Silver	NS	NS	NS	NS	0.871 U	1.15 U	1.70 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U	NS	NS	0.89 U	NS	0.871 U	1.15 U	1.70 U	0.835 U	1 U	0.20 U	0.2 U	0.2 U
Zinc	NS	NS	NS	NS	15.5 B	14.6 B	34	14.8 B	17.1	28	20.3	10.6	NS	NS	32	NS	24	14.2 B	30.1	16.6 B	14	17.5	7 B	11.5

South Pond Averages

Contaminant units ug/L	Bench- mark <sup>1</sup>											Critical Conc. <sup>1</sup>
	1994/97	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Aluminum	762	37,500	378	612	487	445	452	431	532	240	265	525
Cadmium	0.3	2.73	0.69	0.27	0.21	0.66	0.31	1.00	0.10	0.10	0.10	12.8
Cobalt	8.1	8.30	0.91	0.80	0.63	1.64	0.81	1.00	0.62	0.45	0.47	15
Copper	18.7	61.13	1.78	3.06	1.87	2.71	1.39	6.65	2.20	1.36	1.54	50
Iron	4,400	28,883	1,630	2,525	1148.75	963	1,114	1,611	1,244	1,042	1,015	1,000
Lead	4.4	299	1.38	2.53	1.71	2.40	1.72	2.50	1.70	0.61	0.83	14.6
Mercury	0.24	0.42	0.07	0.06	0.04	0.10	0.05	0.05	0.06	0.06	0.03	27
Nickel	3.5	44.70	1.61	2.52	2.17	1.64	1.08	3.78	2.28	1.65	2.10	420
Silver	ND	1.36	0.94	0.87	1.15	1.70	0.84	1.00	0.20	0.20	0.20	2.4
Zinc	64.9	265.4	12.5	16.5	14.23	32.10	14.6	15.9	18.7	16.4	12.8	23.8

Table 6  
Wooded Wetlands-Surface Water Results and Critical Water Concentrations  
Brookhaven National Laboratory, Upton, New York

North Pond

Contaminant units ug/L	SW-4												SW-5N (SW-D)											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Aluminum	829	NS	NS	193 B	1,500	1320 E	326	258	356	461	198	315	38,600	NS	945	179 B	575	238 E	1180	133 B	449	394	186	300
Cadmium	5 U	NS	NS	0.69 U	0.272 U	0.210 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U	NA	NS	0.34 U	0.69 U	0.272 U	0.210 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
Cobalt	5 U	NS	NS	0.91 U	1.84 B	0.581 U	1.68 B	0.903 B	1 U	0.48 B	0.46 B	0.4 B	18.7 B	NS	1.1 B	0.91 U	0.515 B	0.581 U	1.78 B	0.541 U	1 U	0.3 B	0.74 B	0.23 B
Copper	8.5 B	NS	NS	1.63 U	5.79 B	3.79 B	2.59 B	1.39 U	3 U	3.5	2.7	1.8	56.2	NS	3.2 B	1.63 U	2.28 B	1.3 U	4.09 B	1.39 U	3 U	3.1	1.9	1.4
Iron	3,930	NS	NS	2,790	3,670	1,760	499	996	1640	702	1190	1100	4,400	NS	6,900	2,600	1,290	598	1070	564	2000	776	2030	942
Lead	NA	NS	NS	1.38 U	5.61	3.53	2.4 U	1.72 U	4.9 B	1.5 B	0.78 B	1.2 B	NA	NS	3.6 B	1.38 U	2.27	1.24 U	2.4 U	1.72 U	2.5 U	0.72 B	0.88 B	1.1 B
Mercury	0.2 B	NS	NS	0.106 B	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.081 B	0.24 B	NS	0.12 U	0.109 B	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.03 U
Nickel	30 U	NS	NS	1.29 U	3.5 B	2.14 B	1.64 U	0.69 U	2.2 B	1.3 B	1.8 B	1.4 B	3.5 B	NS	5 B	1.29 U	1.09 B	0.837 U	1.64 U	0.69 U	1 U	1.1 B	1.5 B	0.9 B
Silver	4 U	NS	NS	0.94 U	0.871 U	1.15 U	1.8 B	0.835 U	1 U	0.2 U	0.2 U	0.2 U	NA	NS	0.89 U	0.94 U	0.871 U	1.15 U	2 B	0.835 U	1.1 B	0.2 U	0.2 U	0.2 U
Zinc	33	NS	NS	2.19 U	28	22	55.8	12.2 B	10.7	183	9.9 B	9.4 B	252	NS	21.9	2.19 U	4.96 B	4.54 B	25.4	7.02 B	5.9 B	8.4 B	6.6 B	3.3 B

Contaminant units ug/L	SW-E												SW-2001											
	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08	1994	1997	Jun-99	Aug-00	Jun-01	May-02	May-03	May-04	May-05	May-06	May-07	May-08
Aluminum	NS	NS	1,170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	466	427 E	4090	119 B	412	1720	1230	85.7
Cadmium	NS	NS	0.34 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.272 U	0.210 U	0.66 U	0.313 U	1 U	0.1 U	0.1 U	0.1 U
Cobalt	NS	NS	2.3 B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.518 B	0.581 U	2.86 B	0.541 U	1 U	1.4	0.7 B	0.19 B
Copper	NS	NS	6.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.94 B	2.74 B	7.14 B	1.39 U	3 U	6.4	3	1.2
Iron	NS	NS	6,970	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,190	753	3,420	558	1,850	1,990	2,080	724
Lead	NS	NS	4.5 B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.66 B	1.24 U	8.68	1.72 U	2.5 U	3.2	4	0.5 U
Mercury	NS	NS	0.12 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.057 U	0.04 U	0.095 U	0.047 U	0.05 U	0.06 U	0.06 U	0.088 B
Nickel	NS	NS	6.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.815 U	1.08 B	1.64 U	0.69 U	1.9 B	1.8 B	1.9 B	0.89 B
Silver	NS	NS	0.89 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.871 U	1.15 U	1.7 U	0.835 U	1 U	0.2 U	0.2 U	0.2 U
Zinc	NS	NS	38.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.25 B	5.91 B	72.6	7.05 B	7.7 B	72.5	11.4	8.2 B

North Pond Averages

Contaminant units ug/L	Bench- mark <sup>1</sup> 1994/97											Critical Conc. <sup>1</sup>
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Aluminum	762	945	186	847	662	1,865	170	406	858	538	234	525
Cadmium	0.3	0.34	0.69	0.27	0.21	0.66	0.31	1.00	0.10	0.10	0.10	12.8
Cobalt	8.1	1.10	0.91	0.96	0.58	2.11	0.66	1.00	0.73	0.63	0.27	15
Copper	18.7	3.20	1.63	3.34	2.61	4.61	1.39	3	4.3	2.5	1.5	50
Iron	4,400	6,900	2,695	2,050	1,037	1,663	706	1,830	1,156	1,767	922	1,000
Lead	4.4	3.60	1.38	3.18	2.00	4.49	1.72	3.3	1.81	1.89	0.93	14.6
Mercury	0.24	0.12	0.11	0.06	0.04	0.10	0.05	0.05	0.06	0.06	0.07	27
Nickel	3.5	5.00	1.29	1.80	1.35	1.64	0.69	1.7	1.4	1.73	1.06	420
Silver	ND	0.89	0.94	0.87	1.15	1.83	0.84	1.03	0.20	0.20	0.20	2.4
Zinc	64.9	21.9	2.2	12.40	10.82	51.27	8.76	8.10	87.97	9.30	6.97	23.8

NOTES:

<sup>1</sup> Final Focused Ecological Risk Assessment (FERA) for Operable Unit I/VI (CDM 8/98)

Number in parenthesis ( ) indicates alternate identification for same location.

NA Not available

NS Not sampled

U Analyte was analyzed for but not detected.

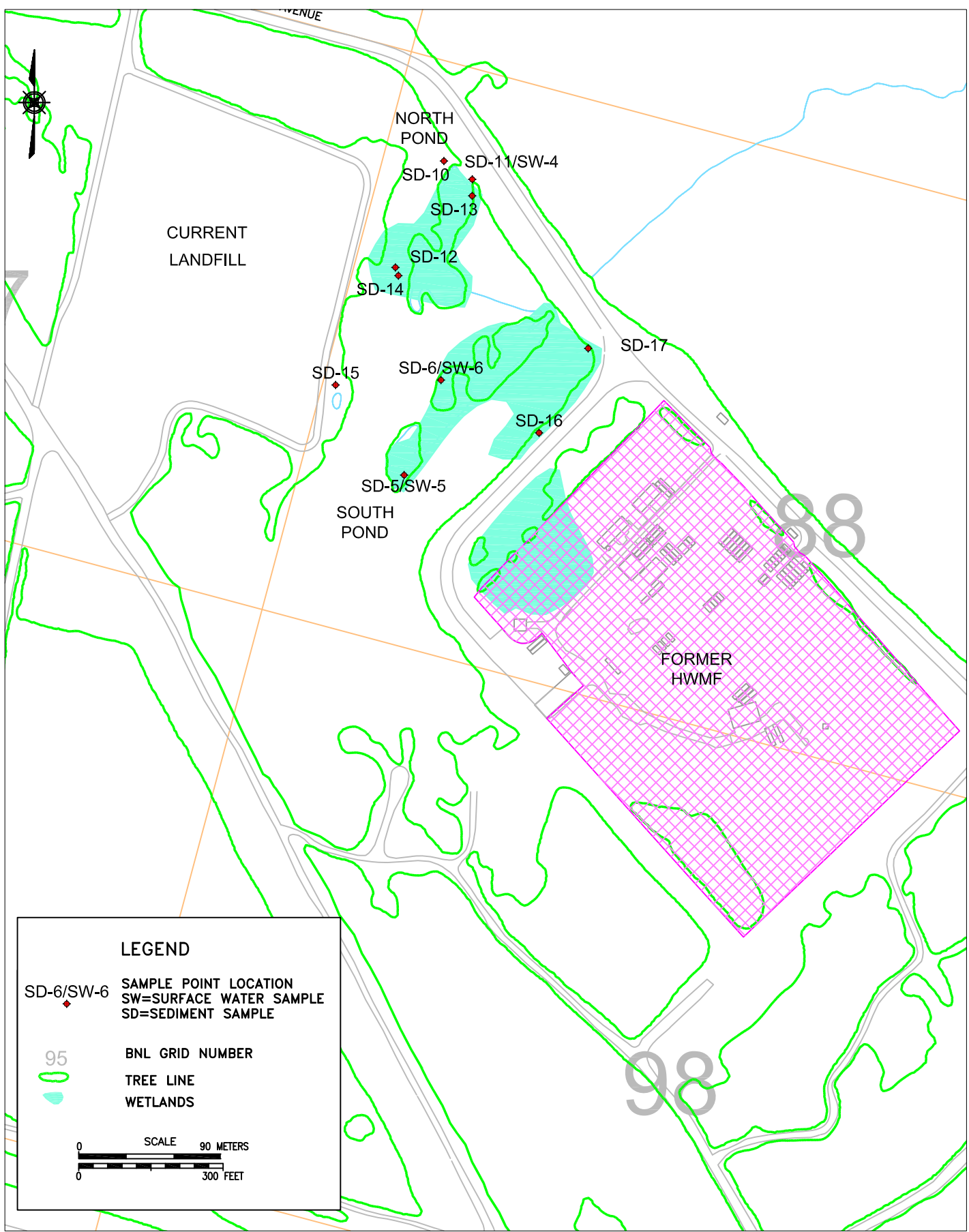
N - Spike sample recovery was not within control limits

J - Estimated value; concentration below method detection limit.

\* - Duplicate precision is not within control limits.

B - Concentration less than the contract required detection limit, but greater than or equal to the instrument detection limit.

R:\Gw\_projects\Landfills\2007 Report\wooded wetlands Fig1.dwg



**LEGEND**

SD-6/SW-6 SAMPLE POINT LOCATION  
 SW=SURFACE WATER SAMPLE  
 SD=SEDIMENT SAMPLE

95 BNL GRID NUMBER

TREE LINE

WETLANDS

SCALE 90 METERS  
 0 300 FEET

**BROOKHAVEN**  
 NATIONAL LABORATORY

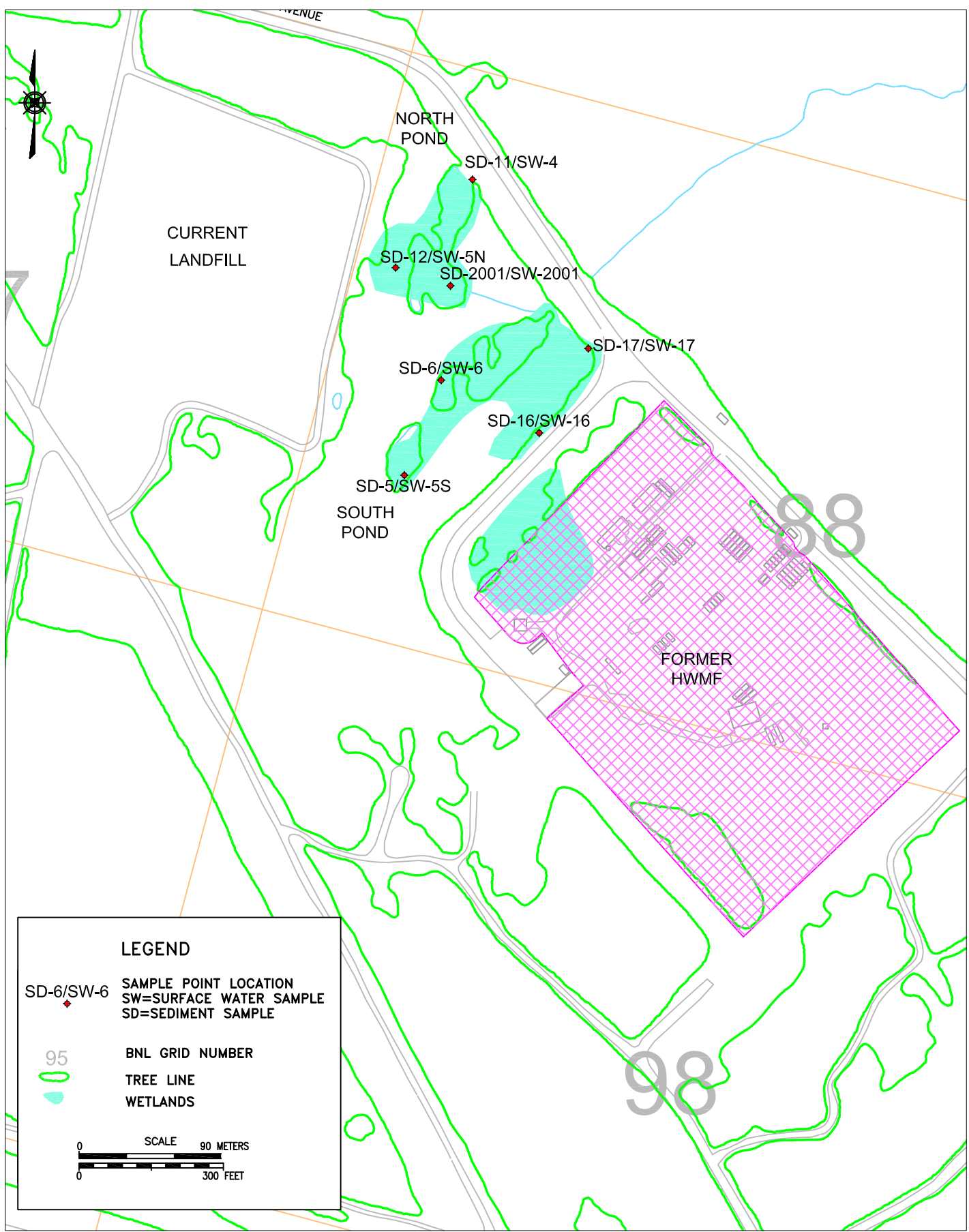
ENVIRONMENTAL PROTECTION  
 DIVISION

TITLE: **WOODED WETLANDS  
 BENCHMARK SURFACE AND SEDIMENT  
 SAMPLE LOCATIONS FROM ECOLOGICAL RISK  
 ASSESSMENT 1994 - 1997**

2007 ENVIRONMENTAL MONITORING REPORT  
 CURRENT AND FORMER LANDFILL AREAS

DWN: KCK	VT:HZ.: -	DATE: 02/18/04	PROJECT NO.: 07928
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:		1	

R:\Gw\_projects\Landfills\2007 Report\wooded wetlands Fig2.dwg



**LEGEND**

SD-6/SW-6 SAMPLE POINT LOCATION  
 SW=SURFACE WATER SAMPLE  
 SD=SEDIMENT SAMPLE

95 BNL GRID NUMBER

TREE LINE  
 WETLANDS

SCALE 90 METERS  
 0 300 FEET

**BROOKHAVEN**  
 NATIONAL LABORATORY

ENVIRONMENTAL PROTECTION  
 DIVISION

TITLE: **WOODED WETLANDS  
 SEDIMENT AND SURFACE WATER  
 SAMPLING LOCATIONS**  
 2007 ENVIRONMENTAL MONITORING REPORT  
 CURRENT AND FORMER LANDFILL AREAS

DWN: KCK	VT:HZ.: -	DATE: 02/18/04	PROJECT NO.: 07928
CHKD: JEB	APPD: WRD	REV.: -	NOTES: -
FIGURE NO.:			2



## Appendix B

### Soil-gas Sampling Field Notes

R Metz  
 3/24/08  
 Clear  
 40°F  
 Laminated GA 90 #690 w/H2S prod  
 on time 1030-1800  
 Current Landfill

Location	Well ID	CH4%	LEL%	H2S ppm	Comment
SGM 1A	087-62	10.8%	23.0%	3.0	1030
B	087-78	9.9%	17.8%	0.0	1035
C	087-79	9.9%	19.0%	0.0	1040
SGM 2A	087-63	34.7%	68.0%	11.0	<del>1080</del> 1015
B	087-80	3.0%	62%	1.0	1080
C	087-81	3.2%	64%	1.0	1055
SGM 3A	087-64	13.2	26.4%	1.0	1100
B	087-82	55.5	110%	15.0	9/11/08
C	087-83	48.5	97.0%	1.0	1180
SGM 4A	087-65	14.5	29.0%	1.0	17M8
B	087-84	40.6	81.2%	5.0	1130
C	087-85	32.7	65.7%	2.0	1185
SGM 5A	087-66	30.0	60.0%	4.0	1130
B	087-86	30.7	61.4%	3.0	1135
C	087-87	24.0	78.0%	3.0	1140
SGM 6A	087-67	18.9	37.8%	0.0	1145
B	087-88	30.9	61.8%	1.0	1150
C	087-87	28.0	56.0%	3.0	<del>1155</del> 1155
SGM 7A	087-68	0.0	0.0	0.0	1100
B	087-89	0.0	0.0	0.0	1808

R Metz  
 3/24/08  
 Clear  
 40°F  
 on time 1330 →  
 Current Landfill

Location	Well ID	CH4%	LEL%	H2S ppm	Comment
SGM 7C	087-91	0.0	0.0	0.0	<del>1330</del>
SGM 8A	087-69	0.0	0.0	0.0	1335
B	087-92	0.0	0.0	0.0	1340
C	087-93	0.0	0.0	0.0	1345
SGM 9A	087-70	0.0	0.0	0.0	1350
SGM 9B	087-94	0.0	0.0	0.0	1355
SGM 9C	087-95	0.0	0.0	0.0	1400
SGM 10A	087-71	0.0	0.0	0.0	1808
B	087-96	0.0	0.0	0.0	1410
C	087-97	0.0	0.0	0.0	1415
SGM 11A	087-72	4.0	80.0%	5.0	1420
B	087-98	2.3	46.0	0.0	1425
C					
SGM 12A	087-73	32.1	64.2	39.0	1430
B	087-99	30.6	61.2	0.0	1435
C					
SGM 13A	087-74	0.0	0.0	0.0	1440
B	087-100	0.0	0.0	0.0	1445
C					
SGM 14A	087-75	0.0	0.0	0.0	1450
B	087-101	0.0	0.0	0.0	1455

5% Meth = 100% LEL

J. Milligan  
 Landfill 6A90  
 Current Landfill

R-Atch  
 offsite 1615  
 Current Landfill

1108  
 1109  
 1110

Station	Well ID	CH4 %	LEL %	H2S ppm	COMMIT	Location	Well ID	CH4 %	LEL %	H2S ppm	Comment
15A	088-111	0.0	0.0	0.0	1500	SGM1A	087-62	3.0	96.0	2.0	0930
15B	088-114	0.0	0.0	0.0	1505	1B	087-78	2.9	58	0.0	0940
16A	088-112	0.0	0.0	1.0	1510	1C	087-79	5.7	112	0.0	0950
16B	088-115	0.0	0.0	0.0	1515	SGM 2A	087-63	39.1	78.8	16	0959
17A	088-113	0.0	0.0	1.0	1520	2B	087-80	47.2	944	17	1000
17B	088-116	0.0	0.0	0.0	1525	2C	087-81	49.9	998	0	1021
18A	087-100	0.0	0.0	0.0	1530	3A	087-64	49.1	960	11	1025
18B	087-100	0.0	0.0	0.0	1535	3B	087-82	53.6	799 <sup>0.12</sup>	23	1033
19A	087-77	11.5 %	0.0	11.0	1540	3C	087-83	51.6	799 <sup>0.12</sup>	13	1048
19B	087-105	11.5 %	0.0	8.0	1545	4A	087-65	43.8	882	5	047
21A	NOE D	0.0	0.0	0.0	1550	4B	087-84	43.4	870	16	1055
1B		0.0	0.0	0.0	1555	4C	087-85	40.1	756	0	1105
1C		0.0	0.0	0.0	1600	5A	087-66	36.5	728	12	1108
2A		0.0	0.0	0.0	1602	5B	087-86	35.8	708	2	1113
2B		0.0	0.0	0.0	1604	5C	087-87	24.6	502	0	1135
2C		0.0	0.0	0.0	1606	6A	087-67	25.3	510	0	1126
3A		0.0	0.0	0.0	1608	6B	087-88	36.4	724	2	1135
3B		0.0	0.0	0.0	1610	6C	087-89	33.7	670	0	1145
4A		0.0	0.0	0.0	1612	7A	087-68	0.2	4	0	1308
4B		0.0	0.0	0.0	1614	7B	087-90	0.2	4	0	1313
						7C	087-91	0.3	6	0	1323

1103/14/08

6  
2/29/08  
88° Sunny

J. Miligan

Current Lead II

Location	Well ID	CH4 %	LEL %	H2S ppm	Comment
8A	087-69	0.3	6	0	1326
8B	087-92	0.3	6	0	1332
8C	087-93	0.2	4	0	1341
9A	087-70	0.3	6	0	1348
9B	087-94	0.4	8	0	1354
9C	087-95	0.3	6	0	1404
10A	087-71	0.2	244	9	1408
10B	087-96	0.9	200	0	1413
10C	087-97	0.4	92	0	1423
11A	087-92	0.9	300	23	1438
11B	087-98	1.3	274	3	1445
12A	087-73	43.4	868	65	1600
12B	087-99	32.9	658	1	1608
13A	087-74	0.5	10	2	1612
13B	087-100	31.9	648	2	1622
14A	087-75	0.7	14	0	1510
14B	087-101	0.3	6	0	1516
15A	088-111	0.2	4	0	1522
15B	088-114	0.2	4	0	1530
16A	088-112	0.2	4	0	1535
16B	088-115	0.5	10	0	1540

17  
7/6/08 / 7/30  
88°  
J. Miligan  
Current Lead II

Location	Well ID	CH4 %	LEL %	H2S ppm	Comment
50M	17A	0.0	0	0	1544
	17B	0.4	8	0	1549
	18A	0.2	4	0	1630
	18B	0.2	4	0	1635
	19A	7.5	154	3	1640
	19B	8.2	164	2	1650
656m	1A	0.0	0	0	730/01 1100
	1B	0.0	0	0	1110
	1C	0	0	0	1125
	2A	0.0	0	0	1030
	2B	0.0	0	0	1043
	2C	0.0	0	0	1052
	3A	0.0	0	0	1000
	3B	0.0	0	0	1020
	4A	0.0	0	0	1000
656m	4B	0.0	0	0	1000

18  
of 30/2  
G80 current

Current Landfill

Locatin	Well ID	CH4%	CO2	LEL %	H <sub>2</sub> S PPM	Comment
8A	087-69	0.0	0	0	0	1400
8B	087-92	0.0	0	0	0	1405
8C	087-93	0.0	0	0	0	1415
9A	087-70	0.0	0	0	0	1339
9B	087-94	0.0	0	0	0	1345
9C	087-95	0.0	0	0	0	1355
10A	087-71	22.5	>100	40%	19	1433
10B	087-96	19.1	>100	38%	9	1439
10C	087-97	15.7	>100	34%	13	1449
11A	087-22	22.5	>100	45%	2	1455
11B	087-98	21.6	>100	43%	20	1458
12A	087-23	52.5	>100	100%	92	1502
12B	087-99	43.7	>100	87%	10	1506
13A	087-29	0.6	13%	0	0	1508
13B	087-100	42.8	>100	85%	29	1512
14A	087-75	2.1	42%	0	0	1817
14B	087-101	3.0	61%	0	0	1522
15A	088-111	2.2	45%	0	0	1524
15B	088-114	0.0	0	0	0	1529
16A	088-112	0.0	0	0	0	1531
16B	088-115	0.0	0	0	0	1535

19  
of 31/2  
29.75 Hg

Current Landfill

Location	Well ID	CH4%	LEL %	H <sub>2</sub> S PPM	Comment
17A	088-113	0.0	0	0	1538
17B	088-116	0.0	0	0	1545
18A	087-76	0.0	0	0	1550 <sup>1542</sup>
18B	087-102	0.0	0	0	1553
19A	087-77	32.4	7100 <sup>648</sup>	30	1600
19B	087-103	28.0	>100 <sup>560</sup>	0	1610
20A	087-78	0.0	0	0	0926
20B	087-79	0.0	0	0	0933
21A	087-80	0.0	0	0	0943
21B	087-81	0.0	0	0	0900
21C	087-82	0.0	0	0	0906
21D	087-83	0.0	0	0	0915
22A	087-84	0.0	0	0	0847
22B	087-85	0.0	0	0	0853
22C	087-86	0.0	0	0	0825
22D	087-87	0.0	0	0	0937

20  
9/30/08  
Jim Milligan  
Current Lead 114  
Gen 2000

10/9/08  
12/10/08  
Jim Milligan  
Current Lead 114  
Gen 2000

Location	Well ID	CHK %	LCL %	H <sub>2</sub> S ppm	Count
SGM 1A	087-62	8.8	>100 <sup>176</sup>	2	0951
1B	087-79	6.5	>100 <sup>130</sup>	0	0958
1C	087-79	6.2	>100 <sup>124</sup>	0	1008
2A	087-63	42.5	>100 <sup>850</sup>	0	1013
2B	087-80	45.0	>100 <sup>900</sup>	20	1020
2C	087-81	52.5	>100 <sup>1050</sup>	1	1028
3A	087-64	44.0	>100 <sup>890</sup>	6	1035
3B	087-82	57.8	>100 <sup>156</sup>	36	1056
3C	087-83	55.9	>100 <sup>1119</sup>	26	1105
4A	087-65	50.6	>100 <sup>1012</sup>	8	1110
4B	087-84	50.2	>100 <sup>1044</sup>	20	1118
4C	087-85	45.9	>100 <sup>916</sup>	1	1126
5A	087-66	43.7	>100 <sup>874</sup>	5	1132
5B	087-86	39.7	>100 <sup>794</sup>	6	1138
5C	087-87	31.8	>100 <sup>630</sup>	3	1148
6A	087-67	39.9	>100 <sup>748</sup>	7	1305
6B	087-88	39.9	>100 <sup>819</sup>	5	1312
6C	087-89	37.7	>100 <sup>744</sup>	1	1325
7A	087-68	0.0	0	0	1415
7B	087-90	0.0	0	0	1420
7C	087-91	0.0	0	0	1430

Location	Well ID	CHK %	LCL %	H <sub>2</sub> S ppm	Count
SGM 1A	087-62	11.2	>100 <sup>224</sup>	0	1105
1B	087-78	11.7	>100 <sup>234</sup>	4	1112
1C	087-79	9.8	>100 <sup>196</sup>	0	1120
2A	087-63	37.3	>100 <sup>714</sup>	0	1124
2B	087-80	44.3	>100 <sup>808</sup>	19	1130
2C	087-81	53.3	>100 <sup>1006</sup>	3	1139
3A	087-64	30.0	>100 <sup>600</sup>	1	1143
3B	087-82	60.6	>100 <sup>1210</sup>	14	1150
3C	087-83	57.3	>100 <sup>1144</sup>	63	1200
4A	087-65	44.5	>100 <sup>890</sup>	0	1310
4B	087-84	44.1	>100 <sup>880</sup>	6	1317
4C	087-85	36.1	>100 <sup>724</sup>	3	1327
5A	087-66	38.8	>100 <sup>776</sup>	4	1335
5B	087-86	36.1	>100 <sup>722</sup>	3	1345
5C	087-87	29.3	>100 <sup>566</sup>	2	1355
6A	087-67	40.4	>100 <sup>288</sup>	0	1404
6B	087-88	40.2	>100 <sup>304</sup>	7	1410
6C	087-89	37.3	>100 <sup>746</sup>	3	1420
7A	087-68	0.0	0	0	1540
7B	087-90	0.0	0	0	1545
7C	087-91	0.0	0	0	1555

22

J. Williams  
Current Lease PU

12/10/08  
Point 60'

Location	Well ID	CH4 %	LEL %	H <sub>2</sub> ppm	Comment
8A	087-69	0.0	0	0	1427
8B	087-92	0.0	0	0	1433
9C	087-93	0.0	0	0	1440
9A	087-70	0.0	0	0	1458
9B	087-94	0.0	0	0	1500
9C	087-95	0.0	0	0	1510
10A	087-71	8.14	> 100 <sup>162</sup>	1	1544
10B	087-96	10.5	> 100 <sup>206</sup>	2	1520
10C	087-97	8.3	> 100 <sup>166</sup>	7	1530
11A	087-72	11.9	> 100 <sup>238</sup>	4	1533
11B	087-98	6.9	> 100 <sup>188</sup>	0	1539
12A	087-73	47.1	> 100 <sup>244</sup>	3	1542
12B	087-99	41.3	> 100 <sup>826</sup>	0	1548
13A	087-74	0.2	4	0	1550
13B	087-100	36.7	> 100 <sup>734</sup>	4	1556
14A	087-75	0.4	10	0	1559
14B	087-101	0.5	11	0	1506
15A	087-111	0.0	0	0	1609
15B	087-114	0.0	0	0	1617
16A	087-112	0.0	0	0	1620
16B	087-115	0.0	0	0	1626

23

J. Williams  
Current Lease PU

12/10/08

Location	Well ID	CH4 %	LEL %	H <sub>2</sub> ppm	Comment
17A		0.0	0	0	1629
17B		0.0	0	0	w/pt. of lease #635
18A		0.0	0	0	1643
18B		0.0	0	0	1649
19A		15.6	> 100 <sup>312</sup>	1	1658
19B		0.0	0	0	1516
20A		0.0	0	0	1522
20B		0.0	0	0	1535
21A		0.0	0	0	1453
21B		0.0	0	0	1500
22C		0.0	0	0	1509
3A		0.0	0	0	1434
3B		0.0	0	0	144B
4A		0.0	0	0	1420
4B		0.0	0	0	1427

Handwritten signature or mark.

S

3/17/08

40°F

Clear

Former Landfill  
entire 1400

\$1690

Ca check Cantec GA 90

W/H2S probe Prior to sampling

Location Well ID CH4% LEL% H2Sppm Comment

SGM1A 096-41 0.0 0.0 0.0

SGM1B 096-42 0.0 0.0 0.0

SGM2A 096-43 0.0 0.0 0.0

SGM2B 096-44 0.0 0.0 0.0

SGM3A 096-45 0.0 0.0 0.0

SGM3B 096-46 0.0 0.0 0.0

SGM4A 096-47 0.0 0.0 0.0

SGM4B 096-48 0.0 0.0 0.0

SGM5A 097-50 0.0 0.0 -0.0

SGM5B 097-51 0.0 0.0 0.0

SGM6A 097-52 0.0 0.0 0.0

SGM6B 097-53 0.0 0.0 0.0

SGM7A 097-54 0.0 0.0 0.0

SGM7B 097-55 0.0 0.0 0.0

SGM8A 097-56 0.0 0.0 0.0

SGM8B 097-57 0.0 0.0 0.0

SGM9A 097-58 0.0 0.0 0.0

SGM9B 097-59 0.0 0.0 0.0

R Metz

Former Landfill

entire 1400

Ca check Cantec GA 90

W/H2S probe Prior to sampling

Location Well ID CH4% LEL% H2Sppm Comment

SGM1A 096-41 0.0 0.0 0.0

SGM1B 096-42 0.0 0.0 0.0

SGM2A 096-43 0.0 0.0 0.0

SGM2B 096-44 0.0 0.0 0.0

SGM3A 096-45 0.0 0.0 0.0

SGM3B 096-46 0.0 0.0 0.0

SGM4A 096-47 0.0 0.0 0.0

SGM4B 096-48 0.0 0.0 0.0

SGM5A 097-50 0.0 0.0 -0.0

SGM5B 097-51 0.0 0.0 0.0

SGM6A 097-52 0.0 0.0 0.0

SGM6B 097-53 0.0 0.0 0.0

SGM7A 097-54 0.0 0.0 0.0

SGM7B 097-55 0.0 0.0 0.0

SGM8A 097-56 0.0 0.0 0.0

SGM8B 097-57 0.0 0.0 0.0

SGM9A 097-58 0.0 0.0 0.0

SGM9B 097-59 0.0 0.0 0.0

6

3/17/08

40°F

Clear

Former Landfill

offsite 1510

Location Well ID CH4% LEL% H2Sppm Comment

SGM10A 097-60 0.0 0.0 0.0

SGM10B 097-61 0.0 0.0 0.0

SGM11A 097-62 0.0 0.0 0.0

SGM11B 097-63 0.0 0.0 0.0

SGM12A 096-49 0.0 0.0 0.0

SGM12B 096-50 0.0 0.0 0.0

R Metz 3/17/08



7

7/30/68  
85 sunny

J. Milligan  
Former

Landfill  
Glen 2000

CHALK

Location	Well ID	CH4 %	LEL %	H2S ppm	Comment
SGM 1A	096-41	0.0	0.0	0.0	1645
SGM 1B	096-42	0.0	0.0	0.0	1660
SGM 2A	096-43	0.0	0.0	0.0	1652
SGM 2B	096-44	0.0	0.0	0.0	1657
SGM 3A	096-45	0.0	0.0	0.0	1705
SGM 3B	096-46	0.0	0.0	0.0	1710
SGM 4A	096-47	0.0	0.0	0.0	1715
SGM 4B	096-48	0.0	0.0	0.0	1724
SGM 5A	097-50	0.0	0.0	0.0	1729
SGM 5B	097-51	0.0	0.0	0.0	1738
SGM 6A	097-52	0.0	0.0	0.0	1744
SGM 6B	097-53	0.0	0.0	0.0	1759
SGM 7A	097-54	0.0	0.0	0.0	1805
SGM 7B	097-55	0.0	0.0	0.0	1810
SGM 8A	097-56	0.0	0.0	0.0	1815
SGM 8B	097-57	0.0	0.0	0.0	1821
SGM 9A	097-58	0.0	0.0	0.0	1825
SGM 9B	097-59	0.0	0.0	0.0	1830

8

7/31/68  
95 sunny

J. Milligan  
Former Landfill

Location	Well ID	CH4 %	LEL %	H2S ppm	Count
SGM 10A	097-60	0.0	0.0	0.0	1837
SGM 10B	097-61	0.0	0.0	0.0	1844
SGM 11A	097-62	0.0	0.0	0.0	1852
SGM 11B	097-63	0.0	0.0	0.0	1859
SGM 12A	096-49	0.0	0.0	0.0	1910
SGM 12B	096-50	0.0	0.0	0.0	1920

*(Large handwritten scribble/initials)*

9  
9/29/07  
70°  
overcast  
29.77 Hg

J. Millin

Former Landfill

Col Clock from 2000 with RAE  
Span GMS

Location	Well ID	CH <sub>4</sub> %	LeL %	H <sub>2</sub> S PPM	Comment
SGM 1A	096-41	0.0	0	0	1430
SGM 1B	096-42	0.0	0	0	1439
SGM 2A	096-43	0.0	0	0	1445
SGM 2B	096-44	0.0	0	0	1500
3A	096-45	0.0	0	0	1506
3B	096-46	0.0	0	0	1510
4A	096-47	0.0	0	0	1514
4B	096-48	0.0	0	0	1520
5A	097-50	0.0	0	0	1524
5B	097-51	0.0	0	0	1530
6A	097-52	0.0	0	0	1534
6B	097-53	0.0	0	0	1541
7A	097-54	0.0	0	0	1547
7B	097-55	0.0	0	0	1556
8A	097-56	0.0	0	0	1603
8B	097-57	0.0	0	0	1609
9A	097-58	0.0	0	0	1614
9B	097-59	0.0	0	0	1620

10  
9/29/07  
70°  
overcast

J. Millin  
Former Landfill

Location	Well ID	CH <sub>4</sub> %	LeL %	H <sub>2</sub> S PPM	Comment
SGM 10A	097-60	0.0	0	0	1625
10B	097-61	0.0	0	0	1632
11A	097-62	0.0	0	0	1640
11B	097-63	0.0	0	0	1649
12A	096-49	0.0	0	0	1650
12B	096-50	0.0	0	0	1655

②

J. Milligan  
Former Landfill

Cal check of GEM 2000 SPIN GAS

12/19/28  
overcast  
46°

30.24" Hg

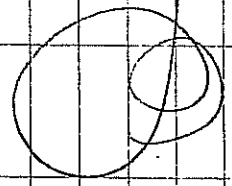
Location	Well ID	CH4 %	LeL %	H2S (ppm)	Comment
SGM 1A	096-41	0.0	0	0	1053
SGM 1B	096-42	0.0	0	0	1058
2A	096-43	0.0	0	0	1105
2B	096-44	0.0	0	0	1110
3A	096-45	0.0	0	0	1116
3B	096-46	0.0	0	0	1121
4A	096-47	0.0	0	0	1126
4B	096-48	0.0	0	0	1132
5A	097-50	0.0	0	0	1138
5B	097-51	0.0	0	0	1144
6A	097-52	0.0	0	0	1148
6B	097-53	0.0	0	0	1155
7A	097-54	0.0	0	0	1305
7B	097-55	0.0	0	0	1302
8A	097-56	0.0	0	0	1319
8B	097-57	0.0	0	0	1328
9A	097-58	0.0	0	0	1335
9B	097-59	0.0	0	0	1342

J. Milligan

Former Landfill

12/19/28  
overcast  
46°

Location	Well ID	CH4 %	LeL %	H2S (ppm)	Comment
SGM 10A	0.0	0	0	0	1350
10B	0.0	0	0	0	1356
11A	0.0	0	0	0	1359
11B	0.0	0	0	0	1405
12A	0.0	0	0	0	1410
12B	0.0	0	0	0	1420



## Appendix C

### Monthly Landfill Site Inspection Forms

**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer  
 Date of Inspection: 1-9-08  
 Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident  
 Time on Site: \_\_\_\_\_  
 Time off Site: \_\_\_\_\_  
 Weather Conditions: \_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap:					
Vegetation	/				
Cap	/				/
Gas Vents	/				/
2.0 Drainage Structures:					
Toe Drain	/				/
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
Monitoring System:					
Soil Gas Wells	/				/
Groundwater Wells	/				/
4.0 Site Access:					
Asphalt Access Road		/			
Crushed-Concrete Access Road	/			/	

**B. Description of Further Action Requirements:**

**C. Location:** \_\_\_\_\_

**D. Observed Conditions:** Cracks in Asphalt

**E. Recommendations:**

**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): ERIC KRAMER  
 Date of Inspection: 2-13-08  
 Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident  
 Time on Site: \_\_\_\_\_  
 Time off Site: \_\_\_\_\_  
 Weather Conditions: \_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	/				/
Cap	/				/
Gas Vents	/				/
<b>2.0 Drainage Structures:</b>					
Toe Drain	/				/
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
<b>Monitoring System:</b>					
Soil Gas Wells	/				/
Groundwater Wells	/				/
<b>4.0 Site Access:</b>					
Asphalt Access Road		/			/
Crushed-Concrete Access Road	/				/

**B. Description of Further Action Requirements:**

**I. Location:**

Observed Conditions: Cracks in Asphalt

**II. Recommendations:**



**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s):

Eric Kramer

Date of Inspection:

4-8-08

Purpose of Inspection:

Routine     Heavy Rainfall     Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

**A. Inspection Checklist**

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	<b>Landfill Cap:</b>					
	Vegetation	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Cap	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Gas Vents	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
2.0	<b>Drainage Structures:</b>					
	Toe Drain	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Drainage Channels	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	French Drains/Outfalls	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Subsurface Drainage Pipes/Outfalls	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Manholes	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Recharge Areas	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<b>Monitoring System:</b>					
	Soil Gas Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	Groundwater Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
4.0	<b>Site Access:</b>					
	Asphalt Access Road		<input checked="" type="checkbox"/>			
	Crushed-Concrete Access Road	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

**B. Description of Further Action Requirements:**

**I. Location:**

**Observed Conditions:**

**Recommendations:**







**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Krane  
 Date of Inspection: 7-23-08  
 Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident  
 Time on Site: \_\_\_\_\_  
 Time off Site: \_\_\_\_\_  
 Weather Conditions: \_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Cap	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Gas Vents	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
<b>2.0 Drainage Structures:</b>					
Toe Drain	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Drainage Channels	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
French Drains/Outfalls	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Subsurface Drainage Pipes/Outfalls	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Manholes	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Recharge Areas	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
<b>Monitoring System:</b>					
Soil Gas Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Groundwater Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
<b>4.0 Site Access:</b>					
Asphalt Access Road		<input checked="" type="checkbox"/>			
Crushed-Concrete Access Road	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

**B. Description of Further Action Requirements:**

**C. Location:**

**D. Observed Conditions:**

**E. Recommendations:**

**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s):

Eric Kramer

Date of Inspection:

8-7-88

Purpose of Inspection:

Routine     Heavy Rainfall     Reported Incident

Time on Site:

\_\_\_\_\_

Time off Site:

\_\_\_\_\_

Weather Conditions:

\_\_\_\_\_

**A. Inspection Checklist**

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	<b>Landfill Cap:</b>					
	Vegetation	✓				
	Cap	✓				
	Gas Vents	✓				✓
2.0	<b>Drainage Structures:</b>					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	✓				✓
	Recharge Areas	✓				✓
	<b>Monitoring System:</b>					
	Soil Gas Wells	✓				✓
	Groundwater Wells	✓				✓
4.0	<b>Site Access:</b>					
	Asphalt Access Road		✓			
	Crushed-Concrete Access Road	✓				

**B. Description of Further Action Requirements:**

1. Location:

Observed Conditions:

Recommendations:



**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Krumer  
 Date of Inspection: 10-22-08  
 Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident  
 Time on Site: \_\_\_\_\_  
 Time off Site: \_\_\_\_\_  
 Weather Conditions: Clear

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	✓				
Cap	✓				✓
Gas Vents	✓				✓
<b>2.0 Drainage Structures:</b>					
Toe Drain	✓				✓
Drainage Channels	✓				✓
French Drains/Outfalls	✓				✓
Subsurface Drainage Pipes/Outfalls	✓				✓
Manholes	✓				✓
Recharge Areas	✓				✓
<b>Monitoring System:</b>					
Soil Gas Wells	✓				✓
Groundwater Wells	✓				✓
<b>4.0 Site Access:</b>					
Asphalt Access Road		✓			
Crushed-Concrete Access Road	✓			✓	

**B. Description of Further Action Requirements:**

**1.** Location: Asphalt  
**O**bserved Conditions: Cracks

**R**ecommendations: Repair in Spring

**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kemmer

Date of Inspection: 11-18-08

Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident

Time on Site: \_\_\_\_\_

Time off Site: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
\_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	/				/
Cap	/				/
Gas Vents	/				/
<b>2.0 Drainage Structures:</b>					
Toe Drain	/				/
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
<b>Monitoring System:</b>					
Soil Gas Wells	/				/
Groundwater Wells	/				/
<b>4.0 Site Access:</b>					
Asphalt Access Road					
Crushed-Concrete Access Road	/	✓		/	✓

**B. Description of Further Action Requirements:**

I. Location: Asphalt  
 Observed Conditions: Cracks There were several small animal burrows  
that were noted during a inspection.

Recommendations: Repair in Spring. A work order has been put in to repair and  
fill animal burrows

**BROOKHAVEN NATIONAL LABORATORY  
CURRENT LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Keener  
 Date of Inspection: 12-17-08  
 Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident  
 Time on Site: \_\_\_\_\_  
 Time off Site: \_\_\_\_\_  
 Weather Conditions: \_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap: Vegetation Cap Gas Vents	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
2.0 Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Monitoring System: Soil Gas Wells Groundwater Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
4.0 Site Access: Asphalt Access Road Crushed-Concrete Access Road	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>

**B. Description of Further Action Requirements:**

**H. Location:** Asphalt  
**Observed Conditions:** Cracks

**Recommendations:** Repair in Spring





**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 2-13-08

Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident

Time on Site: \_\_\_\_\_

Time off Site: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
\_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	✓				
Cap	✓				✓
Gas Vents					✓
<b>2.0 Drainage Structures:</b>					
Toe Drain	✓				✓
Drainage Channels					✓
French Drains/Outfalls	✓				✓
Subsurface Drainage Pipes/Outfalls	✓				✓
Manholes	✓				✓
Recharge Areas	✓				✓
<b>3.0 Monitoring System:</b>					
Soil Gas Wells	✓				
Groundwater Wells	✓				✓
<b>4.0 Site Access:</b>					
Asphalt Access Road	✓				
Crushed-Concrete Access Road	✓				✓

**B. Description of Further Action Requirements:**

1. Location: \_\_\_\_\_  
Observed Conditions: \_\_\_\_\_

Recommendations: \_\_\_\_\_  
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\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Krauer

Date of Inspection: 4-8-08

Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident

Time on Site: \_\_\_\_\_

Time off Site: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
\_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	/				
Cap	/				/
Gas Vents	/				/
<b>2.0 Drainage Structures:</b>					
Toe Drain	/				/
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
<b>3.0 Monitoring System:</b>					
Soil Gas Wells	/				/
Groundwater Wells	/				/
<b>4.0 Site Access:</b>					
Asphalt Access Road	/				
Crushed-Concrete Access Road	/				/

**B. Description of Further Action Requirements:**

1. Location: \_\_\_\_\_  
Observed Conditions: \_\_\_\_\_

Recommendations: \_\_\_\_\_  
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\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_

**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 5-14-08

Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident

Time on Site: \_\_\_\_\_

Time off Site: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap:					
Vegetation	/				
Cap	/				/
Gas Vents	/				/
2.0 Drainage Structures:					
Toe Drain	/				/
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
3.0 Monitoring System:					
Soil Gas Wells	/				/
Groundwater Wells	/				/
4.0 Site Access:					
Asphalt Access Road	/				/
Crushed-Concrete Access Road	/				/

**B. Description of Further Action Requirements:**

1. Location: \_\_\_\_\_  
Observed Conditions: \_\_\_\_\_

\_\_\_\_\_

Recommendations: \_\_\_\_\_

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\_\_\_\_\_



**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 7-23-08

Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident

Time on Site: \_\_\_\_\_

Time off Site: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
\_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
<b>1.0 Landfill Cap:</b>					
Vegetation	/				/
Cap	/				/
Gas Vents	/				/
<b>2.0 Drainage Structures:</b>					
Toe Drain	/				
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
<b>3.0 Monitoring System:</b>					
Soil Gas Wells	/				
Groundwater Wells	/				/
<b>4.0 Site Access:</b>					
Asphalt Access Road	/				
Crushed-Concrete Access Road	/				/

**B. Description of Further Action Requirements:**

1. Location: \_\_\_\_\_  
Observed Conditions: \_\_\_\_\_

Recommendations: \_\_\_\_\_  
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\_\_\_\_\_





**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s):

Eric Kramer

Date of Inspection:

9-17-08

Purpose of Inspection:

Routine  Heavy Rainfall  Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap:					
Vegetation	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Cap	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Gas Vents	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
2.0 Drainage Structures:					
Toe Drain	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Drainage Channels	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
French Drains/Outfalls	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Subsurface Drainage Pipes/Outfalls	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Manholes	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Recharge Areas	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
3.0 Monitoring System:					
Soil Gas Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Groundwater Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
4.0 Site Access:					
Asphalt Access Road	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Crushed-Concrete Access Road	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>

**B. Description of Further Action Requirements:**

1. Location:

Observed Conditions:

Recommendations:



**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s):

ERIC KRAMER

Date of Inspection:

11-18-08

Purpose of Inspection:

Routine  Heavy Rainfall  Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap: Vegetation Cap Gas Vents	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
2.0 Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
Monitoring System: Soil Gas Wells Groundwater Wells	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
4.0 Site Access: Asphalt Access Road Crushed-Concrete Access Road	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>

**B. Description of Further Action Requirements:**

1. Location:

Observed Conditions:

Recommendations:

**BROOKHAVEN NATIONAL LABORATORY  
FORMER LANDFILL AREA  
SITE INSPECTION FORM**

Name of Inspector(s): Eric Krane

Date of Inspection: 12-17-08

Purpose of Inspection:  Routine  Heavy Rainfall  Reported Incident

Time on Site: \_\_\_\_\_

Time off Site: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
\_\_\_\_\_

**A. Inspection Checklist**

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap:					
Vegetation	/				/
Cap	/				/
Gas Vents	/				/
2.0 Drainage Structures:					
Toe Drain	/				/
Drainage Channels	/				/
French Drains/Outfalls	/				/
Subsurface Drainage Pipes/Outfalls	/				/
Manholes	/				/
Recharge Areas	/				/
3.0 Monitoring System:					
Soil Gas Wells	/				/
Groundwater Wells	/				/
4.0 Site Access:					
Asphalt Access Road	/				/
Crushed-Concrete Access Road	/				/

**B. Description of Further Action Requirements:**

1. Location: \_\_\_\_\_  
Observed Conditions: \_\_\_\_\_

\_\_\_\_\_

Recommendations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# BROOKHAVEN NATIONAL LABORATORY LTRA SITE INSPECTION FORM

Location (AOC): Current Landfill and Wooded Wetland \_\_\_\_\_  
 Date of Inspection: 4/14/08 \_\_\_\_\_  
 Name of Inspector(s): R. Howe, T. Green \_\_\_\_\_  
 Purpose of Inspection:  Routine (Scheduled Frequency of 2x/yr)  Heavy Rainfall  Reported Incident

**A. Inspection Checklist**

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
<b>1. Landfill Cap/Soil Covers/Wetlands:</b>						
Vegetation (e.g. grass)	X					X
Soil (Cap/Cover/Fill)		X			Repair burrow areas	
Other: _____						
<b>2. Drainage Structures:</b>						
Standing Water	X				Water in W. Wetland	X
Toe Drain	X					X
Drainage Channels	X				Remove small trees	
French Drains/Outfalls				X		X
Subsurface Drainage Pipes/Outfalls	X					X
Manholes				X		X
Berms				X		X
Roof Drains				X		X
Recharge Areas	X				No water in rech. basin	X
Other: _____						
<b>3. Monitoring System:</b>						
Soil Gas Wells	X				Weed whack NE well	X
Groundwater Wells	X					X
Gas Vents	X					X
Other: _____						
<b>4. Site Access:</b>						
Asphalt Access Road		X			Seal cracks in roads	
Crushed-concrete Access Road	X					X
Fence	X					X
Gates/locks	X					X
Radiological Postings				X		X
Other: _____						X
<b>5. Evidence of unauthorized work activities and/or unauthorized access has occurred?</b>						
If yes, describe evidence: _____					<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

**B. Description of Other Observations**

Observed Conditions/Recommendations: Several animal burrows were identified on the south, east and north slopes, some up to 12" deep. They penetrated past the top soil and into the 24" protective soil layer, but not near the liner. Grass cutting on slopes should continue to be suspended until further notice due to tire ruts. Monitor vegetation growth. PE to remove weeds and seal the cracks in the asphalt road, remove small trees in the toe drain and drainage channels, and repair animal burrows. Wooded wetlands look fine. LUIIC Factsheet Changes: Wooded Wetlands, Under Administrative Controls, last bullet, change to, Details on required monitoring can be obtained from the OU I Soils and OU V Long Term Monitoring and Maintenance Plan. See photos.

**BROOKHAVEN NATIONAL LABORATORY  
LTRA SITE INSPECTION FORM**

Location (AOC): Current Landfill and Wooded Wetland \_\_\_\_\_  
 Date of Inspection: 11/18/08 \_\_\_\_\_  
 Name of Inspector(s): R. Howe, T. Green, W. Dorsch, V. Racaniello, D. Paquette, J. Burke, R. Lee  
 Purpose of Inspection:  Routine (Scheduled Frequency of 2x/yr)  Heavy Rainfall  Reported Incident

**A. Inspection Checklist**

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
<b>1. Landfill Cap/Soil Covers/Wetlands:</b>						
Vegetation (e.g. grass)	X					X
Soil (Cap/Cover/Fill)		X			Repair burrow areas	
Other: _____						
<b>2. Drainage Structures:</b>						
Standing Water	X				Water in Wood Wetland	X
Toe Drain	X					X
Drainage Channels	X				Remove few small trees	
French Drains/Outfalls				X		X
Subsurface Drainage Pipes/Outfalls	X					X
Manholes				X		X
Berms				X		X
Roof Drains				X		X
Recharge Areas	X					X
Other: _____						
<b>3. Monitoring System:</b>						
Soil Gas Wells	X				Good access to wells	X
Groundwater Wells	X				Good access to wells	X
Gas Vents	X					X
Other: _____						
<b>4. Site Access:</b>						
Asphalt Access Road		X			Seal cracks in roads	
Crushed-concrete Access Road	X					X
Fence	X					X
Gates/locks	X					X
Radiological Postings				X		X
Other: Access to cap			X		Make stairs over rip rap	
<b>5. Evidence of unauthorized work activities and/or unauthorized access has occurred?</b>						
If yes, describe evidence: _____						

**B. Description of Other Observations**

Observed Conditions/Recommendations: Several small animal burrows were identified on the south, east and west slopes, some up to 12" deep. They did not penetrate past the 24" protective soil layer. Grass cutting on slopes should continue to be suspended (except for path along outer edge near rip rap) until further notice due to tire ruts. PE to remove weeds and seal the cracks in the asphalt road, remove small trees in the toe drain/cap edge, and drainage channels, and repair animal burrows. Build stairs over rip rap to access cap safely. Wooded wetlands look fine. LUIC Factsheet Changes: Wooded Wetlands, Under References, update web link for EMP. Add photo of Wooded Wetlands.

## Appendix D

### Historical Soil-gas Monitoring Data

# 1996 CURRENT LANDFILL SOIL GAS MONITORING SUMMARY TABLE

1998 Environmental Monitoring Report  
Current and Former Landfills - Brookhaven National Laboratory

Soil Gas Monitoring Well	Methane (% By Volume)			
	April-96	June-96	July-96	December-96
SGMW-01A	21.6	0	16.5	29.8
SGMW-01B	23.2	0	11	28.9
SGMW-01C	24.1	0	11.4	26.8
SGMW-02A	55.1	53	49.5	64.8
SGMW-02B	55.5	52.7	51.4	59
SGMW-02C	55.6	56.4	43.8	58
SGMW-03A	66	61.2	54	62.8
SGMW-03B	62	59.5	45	61.6
SGMW-03C	57.8	58.1	54	57.9
SGMW-04A	49.7	0	48.9	52.4
SGMW-04B	53	0	49.4	54.3
SGMW-04C	52.8	0	48.6	55.9
SGMW-05A	50.1	49.4	46.5	52
SGMW-05B	50.9	47.5	42	53.7
SGMW-05C	48.7	46.9	30.4	51.6
SGMW-06A	40.1	44.2	0.8	0
SGMW-06B	44	46	41.9	0
SGMW-06C	45.2	46.7	42	0
SGMW-07A	8.6	10.4	14.5	6.2
SGMW-07B	76	11.6	0.2	0.8
SGMW-07C	8.4	11.7	3.2	8.7
SGMW-08A	0	0	0.7	0
SGMW-08B	0	0	0	0
SGMW-08C	0	0	0	0
SGMW-09A	0.3	0	0	2.8
SGMW-09B	1.2	0	0	6.7
SGMW-09C	2.5	0.3	0	5.8
SGMW-10A	16.7	22.8	23	22.7
SGMW-10B	16.6	14.3	15.8	32.5
SGMW-10C	14	18.2	11.4	29.2
SGMW-11A	16.4	26.8	23.5	39.3
SGMW-11B	15.7	25.6	25	29.6
SGMW-12A	57.5	0	36.9	57.2
SGMW-12B	51.3	0	32.3	55.7
SGMW-13A	46.3	0	18.7	0
SGMW-13B	47.5	0	26	0
SGMW-14A	34.9	0	18.2	38.6
SGMW-14B	41.4	44.2	16	0
SGMW-15A	0	0.6	3.6	3.4
SGMW-15B	12.7	0	0	0
SGMW-16A	0	0	0	0
SGMW-16B	0	0	0.7	0
SGMW-17A	0	0	0	0
SGMW-17B	0	0	0	0
SGMW-18A	8.6	0	0	7.1
SGMW-18B	0.6	0	0	0
SGMW-19A	40.8	29	16	52.5
SGMW-19B	36.7	30.1	6.9	46.5
GSGM-1A	NA	◇	0	◇
GSGM-1B	NA	◇	0	◇
GSGM-1C	NA	◇	0	◇
GSGM-2A	NA	0	0	◇
GSGM-2B	NA	0	0	◇
GSGM-2C	NA	0	0	◇
GSGM-3A	NA	0	◇	◇
GSGM-3B	NA	0	0	◇
GSGM-4A	NA	0	0	◇
GSGM-4B	NA	0	0	◇

◇ No measurement was recorded.

NA Well was not yet installed.



# 1997 CURRENT LANDFILL SOIL GAS MONITORING SUMMARY TABLE

1998 Environmental Monitoring Report

Current and Former Landfills - Brookhaven National Laboratory

Soil Gas Monitoring Well	Methane (% By Volume)			Hydrogen sulfide (ppm By Volume)		
	March-97	August-97	November-97	March-97	August-97	November-97
SGMW-01A	33.4	17.1	16.4	5	5	8
SGMW-01B	32.5	17.2	15.8	1	4	7
SGMW-01C	34.2	15.9	14.5	1	0	1
SGMW-02A	62.4	47.7	53.2	40	39	137
SGMW-02B	64.7	57	56.7	9	17	43
SGMW-02C	62.6	56.6	55.6	2	0	0
SGMW-03A	65.2	55.7	52.2	3	24	15
SGMW-03B	67.5	55.8	57	7	5	9
SGMW-03C	62.5	55.8	57	3	6	7
SGMW-04A	57.6	53.9	52.5	6	52	6
SGMW-04B	58.2	52.5	55.8	7	29	25
SGMW-04C	58.2	52.5	54.5	6	14	15
SGMW-05A	55.2	47.5	50.5	6	44	29
SGMW-05B	54.4	43.3	45.5	10	21	20
SGMW-05C	53.6	37.5	38.7	3	1	2
SGMW-06A	42.6	44	42.9	7	33	3
SGMW-06B	45	43.5	44.4	10	16	17
SGMW-06C	46	42	43.1	7	13	15
SGMW-07A	10.1	2.3	0	3	0	0
SGMW-07B	8.8	0	0	5	0	6
SGMW-07C	9.9	4.1	0.2	3	0	9
SGMW-08A	0	0	0	1	0	5
SGMW-08B	0	0	0	0	0	9
SGMW-08C	0	0	0	0	0	10
SGMW-09A	0.3	0	0	0	0	15
SGMW-09B	3.4	0	0	0	0	14
SGMW-09C	4.6	0.8	1	0	0	12
SGMW-10A	20.5	28	19	1	19	13
SGMW-10B	19.8	24.5	24	1	0	5
SGMW-10C	0	21.7	20.6	0	0	18
SGMW-11A	24.3	27.6	25.2	20	60	56
SGMW-11B	0	27.8	20.5	0	74	32
SGMW-12A	55.9	48	42	21	89	98
SGMW-12B	0	46.5	44.3	0	0	25
SGMW-13A	28.7	45.2	0.7	2	16	19
SGMW-13B	0	0.4	38.9	0	0	27
SGMW-14A	39.1	20.1	5.2	6	10	24
SGMW-14B	0	0	13.5	0	0	13
SGMW-15A	1.8	0.2	2.5	0	0	14
SGMW-15B	0	0	2.6	0	0	14
SGMW-16A	0	31.7	1.1	0	0	14
SGMW-16B	0	◇	0	0	◇	9
SGMW-17A	0	0	0	0	0	0
SGMW-17B	0	0	0	0	0	20
SGMW-18A	0	0	0	0	0	0
SGMW-18B	0	0	0	0	0	14
SGMW-19A	35.1	22	10.6	41	51	42
SGMW-19B	0	29	17.3	0	30	12
GSGM-1A	0	◇	0	4	◇	0
GSGM-1B	0	◇	0	5	◇	1
GSGM-1C	0	◇	0	6	◇	0
GSGM-2A	0	◇	0	6	◇	0
GSGM-2B	0	◇	0	6	◇	0
GSGM-2C	0	◇	0	6	◇	4
GSGM-3A	0	◇	0	5	◇	0
GSGM-3B	0	◇	0	4	◇	0
GSGM-4A	0	◇	0	5	◇	0
GSGM-4B	0	◇	0	5	◇	8
						0

\* Values are calculated, not measured.

◇ No measurement was recorded.

# Brookhaven National Laboratory

## 1998 Landfills Environmental Monitoring Report

### 1998 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)			Methane (% By Volume)			Methane (% By Volume)			Hydrogen sulfide (ppm By Volume)			Hydrogen sulfide (ppm By Volume)			Soil Gas Monitoring Well
	February-98	May-98	August-98	February-98	May-98	August-98	February-98	May-98	August-98	February-98	May-98	August-98	December-98			
SGMW-01A	25.3	29.1	24.2	20.4	6	0	0	0	0	0	0	0	0	SGMW-01A		
SGMW-01B	25.1	30.1	28	18.7	4	0	0	0	0	0	0	0	4	SGMW-01B		
SGMW-01C	24	29	25	17.7	1	2	2	1	1	2	1	2	4	SGMW-01C		
SGMW-02A	87.8	85.3	70.4	51.1	82	3	3	4	4	3	4	6	8	SGMW-02A		
SGMW-02B	84.1	68	68	54.8	66	6	6	6	6	6	6	4	6	SGMW-02B		
SGMW-02C	81.5	64.7	65	53.1	11	0	0	0	0	0	0	0	0	SGMW-02C		
SGMW-03A	20.4	80	78.8	2.5	10	3	3	2	2	3	2	1	1	SGMW-03A		
SGMW-03B	78.8	74	74	51.1	23	0	0	0	0	0	0	0	1	SGMW-03B		
SGMW-03C	85.3	65.5	65.3	41.5	4	3	3	4	4	3	4	0	0	SGMW-03C		
SGMW-04A	11.3	54.2	65	0.4	9	4	4	6	4	7	3	0	0	SGMW-04A		
SGMW-04B	50.9	55.8	58	36.1	17	5	5	6	4	3	2	0	0	SGMW-04B		
SGMW-04C	48.1	87.5	57.5	0	3	3	3	3	2	2	2	0	0	SGMW-04C		
SGMW-04C	54	62.4	50	48.9	3	5	5	5	5	5	5	2	2	SGMW-04C		
SGMW-05A	49	52.1	55.4	47.7	0	4	4	3	3	3	3	3	3	SGMW-05A		
SGMW-05B	27.3	50.3	48	41.5	2	7	7	7	7	7	7	0	0	SGMW-05B		
SGMW-05C	44.8	44.1	30.3	17.5	15	0	0	0	0	0	0	0	0	SGMW-05C		
SGMW-06A	46.3	46.5	7.8	47.2	0	0	0	0	0	0	0	0	1	SGMW-06A		
SGMW-06B	2.2	8.9	7.2	0	0	0	0	0	0	0	0	0	0	SGMW-06B		
SGMW-06C	0	8.5	7	0	0	0	0	0	0	0	0	0	0	SGMW-06C		
SGMW-07A	0	8.5	0.6	0	0	0	0	0	0	0	0	0	0	SGMW-07A		
SGMW-07B	0	0	0.6	0	0	0	0	0	0	0	0	0	0	SGMW-07B		
SGMW-07C	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-07C		
SGMW-08A	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08A		
SGMW-08B	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08B		
SGMW-08C	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08C		
SGMW-08A	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08A		
SGMW-08B	0.7	1.4	1.3	0	2	0	0	0	0	0	0	0	0	SGMW-08B		
SGMW-09C	3	2.7	2.5	0.7	5	2	2	2	2	2	1	0	0	SGMW-09C		
SGMW-10A	17.9	29.7	30	29.2	0	0	0	0	0	0	0	0	0	SGMW-10A		
SGMW-10B	23.5	28.4	28.3	28	2	2	2	2	2	2	0	0	0	SGMW-10B		
SGMW-10C	20.7	24	23	23.7	0	0	0	0	0	0	0	0	0	SGMW-10C		
SGMW-11A	22.8	31	29.4	17.8	18	0	0	0	0	0	0	0	0	SGMW-11A		
SGMW-11B	18.8	29	25.3	26.4	9	0	0	0	0	0	0	0	0	SGMW-11B		
SGMW-12A	53.7	67.2	50.4	33.9	37	11	11	11	11	11	11	3	3	SGMW-12A		
SGMW-12B	60.3	0.2	3	38.2	11	3	3	3	3	3	3	0	0	SGMW-12B		
SGMW-13A	7	61.5	59	0	9	0	0	0	0	0	0	0	0	SGMW-13A		
SGMW-13B	0.1	0.1	0	0	9	0	0	0	0	0	0	0	0	SGMW-13B		
SGMW-14A	17.1	21	20	1.2	0	0	0	0	0	0	0	0	0	SGMW-14A		
SGMW-14B	0	0	15	0	0	0	0	0	0	0	0	0	0	SGMW-14B		
SGMW-15A	4	1.2	0	0	6	0	0	0	0	0	0	0	0	SGMW-15A		
SGMW-15B	0	0	0.7	0	0	0	0	0	0	0	0	0	0	SGMW-15B		
SGMW-16A	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-16A		
SGMW-16B	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-16B		
SGMW-17A	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-17A		
SGMW-17B	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-17B		
SGMW-18A	0.2	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-18A		
SGMW-18B	37.4	47.2	30.4	8.7	0	0	0	0	0	0	0	0	0	SGMW-18B		
SGMW-19A	36.7	4	4	12	69	0	0	0	0	0	0	0	1	SGMW-19A		
SGMW-19B					5	1	1	1	1	1	1	1	4	SGMW-19B		

Soil Gas Monitoring Well	Methane (% By Volume)				Hydrogen sulfide (ppm By Volume)			
	February-99	May-99	August-99	December-99	February-99	May-99	August-99	December-99
GSGM-1A	0	0	0	0	0	0	0	0
GSGM-1B	0	0	0	0	1	0	0	0
GSGM-1C	0	0	0	0	0	0	0	0
GSGM-2A	0	0	0	0	0	0	0	0
GSGM-2B	0	0	20.1	0	0	0	1	0
GSGM-2C	0	0	0	0	2	0	0	0
GSGM-3A	0	0	0	0	0	0	0	0
GSGM-3B	0	0	0	0	0	0	0	0
GSGM-4A	0	0	0	0	0	0	0	0
GSGM-4B	0	0	0	0	2	0	0	0

\* Values are calculated, not measured.  
 <-> No measurement was recorded.

Brookhaven National Laboratory  
 1999 Landfills Environmental Monitoring Report  
 1999 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) June-99	Methane (% By Volume) October-99	Methane (% By Volume) December-99	LEL (% By Volume) June-99	LEL (% By Volume) October-99	LEL (% By Volume) December-99	Hydrogen sulfide (ppm By Volume) June-99	Hydrogen sulfide (ppm By Volume) October-99	Hydrogen sulfide (ppm By Volume) December-99	Soil Gas Monitoring Well
SGMW-01A	19.5	17.9	19.9	390	380	384	0	<<	2	SGMW-01A
SGMW-01B	18.6	18.1	18.6	370	352	372	0	<<	3	SGMW-01B
SGMW-01C	17.2	14.2	16.7	344	288	334	0	<<	1	SGMW-01C
SGMW-02A	52.4	52.6	55.0	1048	1052	1116	13	<<	25	SGMW-02A
SGMW-02B	54.4	55	58.7	1108	1100	1134	3	<<	11	SGMW-02B
SGMW-02C	55.3	55.2	57.5	1108	1104	1150	0	<<	3	SGMW-02C
SGMW-03A	59.6	41.5	2.3	1192	830	60	3	<<	1	SGMW-03A
SGMW-03B	61.4	50.3	61.3	1228	1168	1228	0	<<	4	SGMW-03B
SGMW-03C	59.9	53.3	59.5	1189	1080	1190	0	<<	3	SGMW-03C
SGMW-04A	53.8	0	39.1	1076	0	782	0	<<	2	SGMW-04A
SGMW-04B	53.5	63.6	62.0	1070	1070	1056	0	<<	7	SGMW-04B
SGMW-04C	52.4	55.2	48.7	1040	1104	874	2	<<	9	SGMW-04C
SGMW-05A	47.0	51.1	47.4	940	1022	944	0	<<	8	SGMW-05A
SGMW-05B	45	51.5	48	900	1030	964	0	<<	4	SGMW-05B
SGMW-05C	39.7	35	38.3	784	762	760	0	<<	4	SGMW-05C
SGMW-06A	41.1	0.1	0.1	826	2	784	0	<<	2	SGMW-06A
SGMW-06B	43.2	43.2	46.0	882	862	834	0	<<	7	SGMW-06B
SGMW-06C	43.1	0	46.0	882	0	828	0	<<	6	SGMW-06C
SGMW-07A	3.3	0.1	0.1	66	2	0	0	<<	2	SGMW-07A
SGMW-07B	0.9	0	0	18	0	0	0	<<	2	SGMW-07B
SGMW-07C	4.4	0.17	1.3	88	34	28	0	<<	2	SGMW-07C
SGMW-08A	0	0	0	0	0	0	0	<<	2	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	<<	2	SGMW-08B
SGMW-08C	0	0	0	0	0	0	0	<<	3	SGMW-08C
SGMW-09A	0	0	0	0	0	0	0	<<	3	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	<<	3	SGMW-09B
SGMW-09C	0	0	0	0	0	2	<>	<>	3	SGMW-09C
SGMW-10A	21.4	15.7	0.1	428	314	400	1	<<	2	SGMW-10A
SGMW-10B	18.8	28.7	21.1	396	532	420	0	<<	3	SGMW-10B
SGMW-10C	17.0	22.0	16.1	360	454	324	0	<<	3	SGMW-10C
SGMW-11A	19.3	31.2	19.9	388	824	388	9	<<	3	SGMW-11A
SGMW-11B	19.2	25.6	14.8	394	512	284	10	<<	3	SGMW-11B
SGMW-12A	48.8	45.1	47.1	856	802	842	30	<<	8	SGMW-12A
SGMW-12B	44.2	48.6	47.6	884	830	954	5	<<	3	SGMW-12B
SGMW-13A	53.1	0.1	0	1082	2	0	12	<<	0	SGMW-13A
SGMW-13B	0.2	0.2	24.5	4	4	492	0	<<	2	SGMW-13B
SGMW-14A	7.6	5.9	7.1	152	115	142	0	<<	5	SGMW-14A
SGMW-14B	0	22.0	3.4	0	452	68	0	<<	2	SGMW-14B
SGMW-15A	0	1.8	2.9	0	32	68	0	<<	3	SGMW-15A
SGMW-15B	0	0.1	0	0	2	0	0	<<	2	SGMW-15B
SGMW-18A	0	0.1	0	0	2	0	0	<<	2	SGMW-18A
SGMW-16B	0	0.1	0	0	2	0	0	<<	2	SGMW-16B
SGMW-17A	screen in water table	0.1	0	<>	2	0	<>	<>	2	SGMW-17A
SGMW-17B	screen in water table	0.1	0	<>	2	0	<>	<>	2	SGMW-17B
SGMW-18A	0	0.1	0	0	2	0	0	<<	2	SGMW-18A
SGMW-18B	0	0.1	0.4	0	20	8	0	<<	1	SGMW-18B
SGMW-19A	25.1	23	20.3	502	480	408	16	<<	15	SGMW-19A
SGMW-19B	30.1	27.3	20.5	602	544	410	8	<>	12	SGMW-19B

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Soil Gas Monitoring Well	Methane (% By Volume)		Methane (% By Volume)		Methane (% By Volume)		LEL (% By Volume)		Hydrogen sulfide (ppm By Volume)		Hydrogen sulfide (ppm By Volume)		Soil Gas Monitoring Well
	June-89	October-89	October-89	December-89	June-89	December-89	October-89	December-89	June-89	October-89	December-89	December-89	
GSGM-1A	0	0	0	0	0	0	0	0	0	<>	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	<>	0	0	GSGM-1B
GSGM-1C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	<>	2	2	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	<>	1	1	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	<>	1	1	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	<>	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	<>	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	<>	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	<>	0	0	GSGM-4B

<> No measurement was recorded.

Brookhaven Laboratory  
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2000 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)		Methane (% By Volume)		Methane (% By Volume)		Hydrogen Sulfide (ppm by volume)		Hydrogen Sulfide (ppm by volume)		Hydrogen Sulfide (ppm by volume)	
	February-00	June-00	September-00	December-00	February-00	June-00	September-00	December-00	February-00	June-00	September-00	December-00
SGMW-01A	20.0	20.6	21.0	10.8	402	410	422	388	0	0	4	0
SGMW-01B	18.3	20.3	11.2	14.3	388	408	222	290	1	0	1	0
SGMW-01C	13.5	11.6	11.6	13.0	350	278	230	280	0	0	1	0
SGMW-02A	49.5	64.0	50	54.4	990	1090	1090	(1080)	1	3	2	18
SGMW-02B	55.1	57.1	68.3	68.2	(1102)	(1142)	(1080)	(1124)	2	20	8	11
SGMW-02C	58.0	40.3	58.0	68.0	(1120)	88	(1120)	(1120)	4	0	4	5
SGMW-03A	49.3	62.8	60.2	57.0	888	(1250)	(1280)	(1182)	0	0	0	3
SGMW-03B	57.0	67.0	62.0	57.4	(1146)	(1340)	(1280)	(1148)	1	4	0	2
SGMW-03C	57.3	61.2	62.0	58.7	(1146)	(1194)	(1240)	(1194)	1	4	0	4
SGMW-04A	38.7	51.9	2.8	51.5	814	(1000)	62	(1193)	2	2	1	1
SGMW-04B	48.9	52.9	48.0	50.0	878	(1042)	822	(1050)	4	4	0	2
SGMW-04C	43.0	52.1	43.0	45.2	800	888	858	900	4	0	1	0
SGMW-05A	47.7	49.4	47.2	47.2	854	888	950	844	0	0	8	8
SGMW-05B	44.8	50.0	48.2	43.8	892	(1090)	804	878	1	0	5	5
SGMW-05C	38.7	43.7	40.7	38.7	800	874	820	738	2	1	0	6
SGMW-06A	33.0	41.7	18.0	44.0	880	810	800	880	0	4	2	2
SGMW-06B	44.3	45.3	33.7	46.8	888	908	874	810	0	1	1	3
SGMW-07A	0.3	6.8	0.9	0.0	8	110	18	0	0	0	1	1
SGMW-07B	2.8	0.8	0.0	0.0	52	80	88	10	0	0	1	2
SGMW-07C	0	0	0	0.0	0	0	0	0	1	0	2	2
SGMW-08A	0	0	0	0.0	0	0	0	0	1	0	0	3
SGMW-08B	0	0	0	0.0	0	0	0	0	1	0	0	3
SGMW-08C	0	0	0	0.0	0	0	0	0	1	0	0	3
SGMW-09A	0	0	0	0.0	0	0	0	0	1	0	1	3
SGMW-09B	0	0	0	0.0	0	0	0	0	1	0	3	3
SGMW-10A	9.3	28.1	23.7	17.0	188	522	474	340	0	3	2	3
SGMW-10B	13.5	21.2	20.1	15.6	270	424	522	310	1	0	2	2
SGMW-10C	10.8	18.5	22.2	12.8	212	380	444	258	0	0	2	3
SGMW-11A	18.1	27.1	54.9	13.8	202	342	(1080)	272	2	10	7	7
SGMW-11B	43.9	28.4	54.3	8.2	138	528	(1088)	184	2	2	2	8
SGMW-12A	42.8	60.0	64.4	48.5	852	(1200)	852	830	1	0	0	5
SGMW-12B	45.1	57.9	83.8	40.8	880	988	862	840	1	0	2	2
SGMW-13A	2.7	20.2	16.0	40.2	802	0	(1152)	884	1	0	0	67
SGMW-14A	0	0	0	22.3	64	404	316	242	1	0	0	7
SGMW-15A	2.0	0	1.0	0.0	40	0	32	440	2	0	2	31
SGMW-15B	0	0	0	0.0	0	0	0	0	2	0	0	4
SGMW-16A	0	0	0	0.0	0	0	0	0	2	0	0	5
SGMW-16B	0	0	0	0.0	0	0	0	0	0	0	0	3
SGMW-17A	0	0	0	0.0	0	0	0	0	0	0	0	2
SGMW-17B	0	0	0	0.0	0	0	0	0	1	0	0	0
SGMW-18A	0	0	0	0.0	0	0	0	0	0	0	0	3
SGMW-18B	0	0	0	0.0	0	0	0	0	0	0	0	0
SGMW-19A	12.8	38.9	34.9	14.2	258	778	880	234	0	0	10	4
SGMW-19B	18.7	34.8	32.8	10.0	334	892	858	200	4	0	4	13
GSGM-1A	0	0	0	0.0	0	0	0	0	0	0	0	4
GSGM-1B	0	0	0	0.0	0	0	0	0	0	0	0	1
GSGM-1C	0	0	0	0.0	0	0	0	0	0	0	0	1
GSGM-2A	0	0	0	0.0	0	0	0	0	0	0	0	1
GSGM-2B	0	0	0	0.0	0	0	0	0	0	0	0	0
GSGM-2C	0	0	0	0.0	0	0	0	0	0	0	0	0
GSGM-3A	0	0	0	0.0	0	0	0	0	0	0	0	0
GSGM-3B	0	0	0	0.0	0	0	0	0	0	0	0	0
GSGM-4A	0	0	0	0.0	0	0	0	0	0	0	0	4
GSGM-4B	0	0	0	0.0	0	0	0	0	0	0	0	3

<> No Measurement was collected due to either work in the area. Measurements in ( ) are calculated, not measured.



2002 Current Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume)			Methane (% By Volume)			Methane (% By Volume)			Hydrogen Sulfide (ppm by volume)			Hydrogen Sulfide (ppm by volume)			Hydrogen Sulfide (ppm by volume)		
	March-02	June-02	Sept-02	March-02	June-02	Sept-02	March-02	June-02	Sept-02	March-02	June-02	Sept-02	March-02	June-02	Sept-02	March-02	June-02	Sept-02
SGMW-01A	13.8	14.1	8.8	10.2	10.2	10.2	384	384	384	0	7	10	0	7	10	0	7	10
SGMW-01B	13.7	11.5	8.2	13.8	13.8	13.8	334	334	334	0	1	2	0	1	2	0	1	2
SGMW-01C	10.8	8.6	5.6	11.0	11.0	11.0	234	234	234	0	1	1	0	1	1	0	1	1
SGMW-02A	48.0	49.8	48.2	56.5	56.5	56.5	1130	1130	1130	54	2	141	54	2	141	54	2	141
SGMW-02B	17.1	29.5	34.6	43.2	43.2	43.2	864	864	864	0	24	60	0	24	60	0	24	60
SGMW-02C	37.6	43.8	52.0	61.7	61.7	61.7	1034	1034	1034	0	8	148	0	8	148	0	8	148
SGMW-03A	36.5	53.6	54.1	65.9	65.9	65.9	828	828	828	13	10	34	13	10	34	13	10	34
SGMW-03B	57.0	62.4	69.0	112.4	112.4	112.4	1200	1200	1200	0	6	26	0	6	26	0	6	26
SGMW-03C	54.1	58.6	58.1	60.0	60.0	60.0	960	960	960	0	1	20	0	1	20	0	1	20
SGMW-04A	40.8	45.9	50.8	48.1	48.1	48.1	862	862	862	2	11	76	2	11	76	2	11	76
SGMW-04B	44.9	48.0	51.3	42.6	42.6	42.6	844	844	844	26	38	32	26	38	32	26	38	32
SGMW-04C	35.5	38.5	44.4	35.5	35.5	35.5	950	950	950	0	44	2	0	44	2	0	44	2
SGMW-04E	38.4	38.4	39.8	42.6	42.6	42.6	838	838	838	1	13	53	1	13	53	1	13	53
SGMW-05A	37.4	31.0	31.8	41.2	41.2	41.2	684	684	684	0	10	13	0	10	13	0	10	13
SGMW-05B	28.0	33.6	40.0	34.2	34.2	34.2	832	832	832	2	3	37	2	3	37	2	3	37
SGMW-05C	30.7	35.8	40.0	41.5	41.5	41.5	684	684	684	11	22	62	11	22	62	11	22	62
SGMW-06A	38.1	35.2	38.1	42.0	42.0	42.0	846	846	846	8	10	21	8	10	21	8	10	21
SGMW-06C	36.3	0.4	0.0	0.0	0.0	0.0	0	0	0	0	1	2	0	1	2	0	1	2
SGMW-07A	0.2	0.0	0.0	0.0	0.0	0.0	0	0	0	0	1	0	0	1	0	0	1	0
SGMW-07B	0.2	0.0	0.0	0.0	0.0	0.0	0	0	0	0	1	0	0	1	0	0	1	0
SGMW-07C	0.2	1.2	0.0	0.0	0.0	0.0	0	0	0	0	3	0	0	3	0	0	3	0
SGMW-07E	0.2	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0
SGMW-08A	0.2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0
SGMW-08B	0.2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0
SGMW-08C	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09A	0.1	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09B	0.2	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09C	0.2	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-10A	10.6	15.0	25.6	16.6	16.6	16.6	330	330	330	4	13	1	4	13	1	4	13	1
SGMW-10B	10.7	14.2	20.0	14.8	14.8	14.8	282	282	282	0	3	5	0	3	5	0	3	5
SGMW-10C	9.0	12.2	17.1	12.2	12.2	12.2	246	246	246	0	68	125	0	68	125	0	68	125
SGMW-11A	9.2	14.9	20.7	17.0	17.0	17.0	338	338	338	0	48	162	0	48	162	0	48	162
SGMW-11B	6.1	14.5	24.7	10.4	10.4	10.4	208	208	208	1	0	0	1	0	0	1	0	0
SGMW-12A	37.6	45.0	50.4	48.0	48.0	48.0	976	976	976	15	13	32	15	13	32	15	13	32
SGMW-12B	35.8	36.0	48.0	47.9	47.9	47.9	864	864	864	83	156	78	83	156	78	83	156	78
SGMW-13A	35.5	43.5	47.3	45.2	45.2	45.2	846	846	846	2	4	22	2	4	22	2	4	22
SGMW-13B	33.7	42.3	46.2	47.1	47.1	47.1	942	942	942	2	2	0	2	2	0	2	2	0
SGMW-14A	5.6	11.0	10.4	14.8	14.8	14.8	268	268	268	0	3	4	0	3	4	0	3	4
SGMW-14B	0.1	0	4.0	8.3	8.3	8.3	370	370	370	0	4	0	0	4	0	0	4	0
SGMW-15A	0.1	0	44.5	10.1	10.1	10.1	0	0	0	0	3	0	0	3	0	0	3	0
SGMW-15B	0.1	0	0.1	0.0	0.0	0.0	0	0	0	0	4	0	0	4	0	0	4	0
SGMW-16A	0.1	0	0.1	0.0	0.0	0.0	0	0	0	0	3	0	0	3	0	0	3	0
SGMW-16B	0.1	0	0.2	0.0	0.0	0.0	0	0	0	0	4	0	0	4	0	0	4	0
SGMW-17A	0.1	0	0.2	0.0	0.0	0.0	0	0	0	0	2	0	0	2	0	0	2	0
SGMW-17B	0.1	0	0.1	0.0	0.0	0.0	0	0	0	0	4	0	0	4	0	0	4	0
SGMW-18A	0.2	0	0.1	0.0	0.0	0.0	0	0	0	0	3	0	0	3	0	0	3	0
SGMW-18B	0.2	0	0.2	0.0	0.0	0.0	0	0	0	0	2	0	0	2	0	0	2	0
SGMW-19A	5.0	15.0	26.5	0.0	0.0	0.0	570	570	570	0	121	19	0	121	19	0	121	19
SGMW-19B	8.5	19.6	31.2	0.0	0.0	0.0	624	624	624	2	32	38	2	32	38	2	32	38
GSGM-1A	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	3	0
GSGM-1B	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0
GSGM-1C	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	3	0
GSGM-2A	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0
GSGM-2B	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	3	0
GSGM-2C	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0
GSGM-3A	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	3	0
GSGM-3B	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0
GSGM-4A	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	4	0
GSGM-4B	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0

Measurements in ( ) are calculated, not measured



2003 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)		Methane (% By Volume)		Methane (% By Volume)		Methane (% By Volume)		LEL (% By Volume) April-03	LEL (% By Volume) July-03	LEL (% By Volume) October-03	LEL (% By Volume) December-03	Hydrogen Sulfide (ppm by volume)		Hydrogen Sulfide (ppm by volume)		Hydrogen Sulfide (ppm by volume)		Soil Gas Monitoring Well
	April-03	July-03	October-03	December-03	April-03	July-03	October-03	December-03					April-03	July-03	October-03	December-03	April-03	July-03	
SGMW-01A	17.5	22.1	21.1	21.5	352	444	422	438	2	-	0	-	-	-	-	-	-	SGMW-01A	
SGMW-01B	18.6	18.2	18.7	18.8	372	374	394	399	3	-	81	-	-	-	-	-	-	SGMW-01B	
SGMW-01C	18.0	13.9	20.0	17.3	360	282	490	348	3	-	80	-	-	-	-	-	-	SGMW-01C	
SGMW-02A	58.2	41.2	5.0	22.2	(1140)	324	180	442	14	-	60	-	-	-	-	-	-	SGMW-02A	
SGMW-02B	55.7	0.0	0.1	0.0	0	0	0	0	32	-	0	-	-	-	-	-	-	SGMW-02B	
SGMW-02C	59.1	0.0	0	42.7	536	(1159)	0	0	8	-	0	-	-	-	-	-	-	SGMW-02C	
SGMW-03A	26.8	57.8	55.0	0.6	(1182)	0	(1100)	234	10	-	185	-	-	-	-	-	-	SGMW-03A	
SGMW-03B	59.1	9.6	54.2	11.7	(1078)	0	(1084)	820	23	-	169	-	-	-	-	-	-	SGMW-03B	
SGMW-03C	63.9	0.0	0.2	41.0	(1052)	0	0	186	7	-	77	-	-	-	-	-	-	SGMW-03C	
SGMW-04A	54.1	0.0	0.5	9.4	838	0	0	0	15	-	6	-	-	-	-	-	-	SGMW-04A	
SGMW-04B	53.0	0.0	0.2	47.0	882	0	2	832	15	-	163	-	-	-	-	-	-	SGMW-04B	
SGMW-04C	52.6	0.0	0.1	41.5	882	860	(1058)	0	2	-	0	-	-	-	-	-	-	SGMW-04C	
SGMW-05A	48.3	48.0	54.9	23.4	968	875	(1070)	775	3	-	0	-	-	-	-	-	-	SGMW-05A	
SGMW-05B	46.9	0.0	0.0	39.6	802	0	0	848	3	-	0	-	-	-	-	-	-	SGMW-05B	
SGMW-05C	43.1	0.0	0.0	41.8	806	116	310	420	1	-	0	-	-	-	-	-	-	SGMW-05C	
SGMW-06A	40.3	5.8	15.5	20.7	853	0	0	890	2	-	0	-	-	-	-	-	-	SGMW-06A	
SGMW-06B	42.9	0.0	0.1	44.8	872	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-06B	
SGMW-06C	43.6	0.0	0.0	45.1	16	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-06C	
SGMW-07A	6.9	0.0	0.1	0.0	60	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-07A	
SGMW-07C	4.0	0.0	0.1	0.0	0	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-07C	
SGMW-08A	0.0	0	0	0.0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-08A	
SGMW-08B	0.0	0	0	0.0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-08B	
SGMW-08C	0.0	0	0	0.0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-08C	
SGMW-09A	0	0	0	0.1	0	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-09A	
SGMW-09B	0	0	0	0.0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-09B	
SGMW-09C	0	0	0	0.0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-09C	
SGMW-09E	0.1	0	0.1	0.0	2	0	2	0	0	-	0	-	-	-	-	-	-	SGMW-09E	
SGMW-10A	18.0	22.0	22.0	5.8	350	440	550	112	1	-	0	-	-	-	-	-	-	SGMW-10A	
SGMW-10B	15.0	17.7	22.0	8.8	310	384	440	0	2	-	0	-	-	-	-	-	-	SGMW-10B	
SGMW-10C	14.0	16.0	19.2	0.0	280	332	384	0	2	-	0	-	-	-	-	-	-	SGMW-10C	
SGMW-11A	15.8	29.3	0.4	17.7	312	520	8	350	1	-	0	-	-	-	-	-	-	SGMW-11A	
SGMW-11B	13.7	26.0	0.1	0.0	274	92	0	0	13	-	0	-	-	-	-	-	-	SGMW-11B	
SGMW-12A	60.0	47.0	64.7	0.0	(1200)	0	(1254)	36	0	-	0	-	-	-	-	-	-	SGMW-12A	
SGMW-12B	30.5	0.0	0.5	1.8	(1016)	0	(1344)	132B	1	-	153	-	-	-	-	-	-	SGMW-12B	
SGMW-13A	0.0	0.8	0.1	0.0	0	0	0	0	1	-	0	-	-	-	-	-	-	SGMW-13A	
SGMW-13B	0.0	0.8	0.3	0.0	0	0	0	0	10	-	0	-	-	-	-	-	-	SGMW-13B	
SGMW-14A	29.4	0.8	0.1	0.1	500	100	2	0	1	-	0	-	-	-	-	-	-	SGMW-14A	
SGMW-14B	0.2	0	0.1	0.1	2	0	2	2	1	-	0	-	-	-	-	-	-	SGMW-14B	
SGMW-15A	0	0	0.1	0.0	0	0	0	0	1	-	0	-	-	-	-	-	-	SGMW-15A	
SGMW-15B	0	0	0.1	0.0	0	0	0	0	1	-	0	-	-	-	-	-	-	SGMW-15B	
SGMW-16A	0.1	0	0	0.0	0	0	0	0	1	-	0	-	-	-	-	-	-	SGMW-16A	
SGMW-16B	0	0	0	0.0	0	0	0	0	3	-	0	-	-	-	-	-	-	SGMW-16B	
SGMW-17A	0	0	0	0.0	0	0	0	0	3	-	0	-	-	-	-	-	-	SGMW-17A	
SGMW-17B	0	0	0	0.0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-17B	
SGMW-18A	0.1	0	0.1	0.0	2	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-18A	
SGMW-18B	0	0	0	0.0	0	0	0	0	2	-	0	-	-	-	-	-	-	SGMW-18B	
SGMW-18C	41.9	29.1	48.0	0.0	800	552	960	540	0	-	0	-	-	-	-	-	-	SGMW-18C	
SGMW-19A	44.0	0.7	33.2	27.0	664	14	664	592	39	-	181	-	-	-	-	-	-	SGMW-19A	
SGMW-19B	0.1	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	SGMW-19B	
GGSM-1A	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-1A	
GGSM-1B	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-1B	
GGSM-1C	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-1C	
GGSM-2A	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-2A	
GGSM-2B	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-2B	
GGSM-2C	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-2C	
GGSM-3A	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-3A	
GGSM-3B	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-3B	
GGSM-4A	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-4A	
GGSM-4B	0	0	0	0	0	0	0	0	0	-	0	-	-	-	-	-	-	GGSM-4B	

Measurements in ( ) are calculated, not measured.  
 - H2S red was not operating correctly.  
 July measurements taken with a Landtec GEIA 500.

2004 Current Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume) 3/10/04	Methane (% By Volume) 6/25/04	Methane (% By Volume) 10/7/04	Methane (% By Volume) 11/30/04	LEL (% By Volume) 3/10/04	LEL (% By Volume) 6/25/04	LEL (% By Volume) 10/7/04	LEL (% By Volume) 11/30/04	Hydrogen Sulfide (ppm by volume) 3/10/04	Hydrogen Sulfide (ppm by volume) 6/25/04	Hydrogen Sulfide (ppm by volume) 10/7/04	Hydrogen Sulfide (ppm by volume) 11/30/04	Soil Gas Monitoring Well
SGMW-01A	156	141.4	6.8	6.8	332	288	136	150	2	3	1	1	SGMW-01A
SGMW-01B	156	86	0.0	2.5	312	172	120	50	0	0	0	0	SGMW-01B
SGMW-01C	14.0	4.2	4.2	6.3	780	4	136	34	0	0	0	0	SGMW-01C
SGMW-02A	34.5	39.7	3.1	2.1	682	172	794	191	0	11	0	0	SGMW-02A
SGMW-02B	22.7	0.6	12.7	0.0	454	12	254	0	0	0	0	0	SGMW-02B
SGMW-02C	44.4	0.0	2	4.6	886	0	92	0	0	0	0	0	SGMW-02C
SGMW-03A	25.4	15.2	4.1	0.0	508	364	0	0	0	0	0	0	SGMW-03A
SGMW-03B	52.1	28.0	14.0	0.1	(1042)	589	280	2	0	0	0	0	SGMW-03B
SGMW-03C	51.3	7.3	1.8	0.0	748	148	36	0	0	0	0	0	SGMW-03C
SGMW-04A	37.5	49.1	3.5	1.8	(1014)	982	70	36	0	0	0	0	SGMW-04A
SGMW-04B	43.0	50.7	21.2	14.4	850	818	290	290	0	0	0	0	SGMW-04B
SGMW-04C	36.7	40.9	13.6	14.5	724	800	424	290	0	0	0	0	SGMW-04C
SGMW-05A	38.1	41.4	25.2	3.7	722	672	74	150	0	0	0	0	SGMW-05A
SGMW-05B	38.1	41.4	25.2	13.6	594	672	272	272	0	0	0	0	SGMW-05B
SGMW-05C	29.0	34.0	18.6	13.6	590	480	372	372	0	0	0	0	SGMW-05C
SGMW-06A	31.0	5.7	3.9	1.8	636	184	78	36	0	0	0	0	SGMW-06A
SGMW-06B	40.4	27.4	20.5	0.3	809	548	412	6	0	0	0	0	SGMW-06B
SGMW-06C	42.1	29.6	4.7	13.2	842	596	264	264	0	0	0	0	SGMW-06C
SGMW-07A	0.2	0.1	0.0	0.0	4	2	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0.5	0.1	0.0	0.0	10	2	0	0	0	0	0	0	SGMW-07B
SGMW-07C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-07C
SGMW-08A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-08C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-08C
SGMW-09A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09C
SGMW-10A	0.2	0.0	0.0	0.0	4	0	0	0	0	0	0	0	SGMW-10A
SGMW-10B	1.9	16.4	2.0	0.0	36	329	49	0	1	0	0	0	SGMW-10B
SGMW-10C	3.4	16.1	12.0	3.9	48	240	78	0	2	0	0	0	SGMW-10C
SGMW-11A	0.0	14.5	10.0	2.4	0	280	200	48	0	0	0	0	SGMW-11A
SGMW-11B	0.0	16.0	6.5	0.0	0	320	110	0	2	0	0	0	SGMW-11B
SGMW-12A	14.7	10.1	0.1	0.3	284	284	202	6	109	0	0	0	SGMW-12A
SGMW-12B	22.5	48.5	9.9	0.0	450	970	144	0	21	0	0	0	SGMW-12B
SGMW-13A	0.0	0.2	7.2	0.0	0	4	0	0	0	0	0	0	SGMW-13A
SGMW-13B	0.0	0.5	1.0	0.0	0	12	22	0	0	0	0	0	SGMW-13B
SGMW-14A	0.0	0.1	0.0	0.0	0	2	0	0	0	0	0	0	SGMW-14A
SGMW-14B	0.0	0.1	0.0	0.0	0	2	0	0	0	0	0	0	SGMW-14B
SGMW-15A	0.0	0.1	0.0	0.0	0	3	0	0	0	0	0	0	SGMW-15A
SGMW-15B	0.0	0.1	0.0	0.0	0	2	0	0	0	0	0	0	SGMW-15B
SGMW-16A	0.0	0.1	0.0	0.0	0	2	0	0	0	0	0	0	SGMW-16A
SGMW-16B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-16B
SGMW-17A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18A
SGMW-18B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18B
SGMW-19A	6.0	28.7	25.9	13.0	120	534	519	280	0	0	0	0	SGMW-19A
SGMW-19B	5.8	39.0	27.7	9.2	116	600	554	184	0	0	0	0	SGMW-19B
GSCM-1A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-1A
GSCM-1B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-1B
GSCM-1C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-1C
GSCM-2A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-2A
GSCM-2B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-2B
GSCM-2C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-2C
GSCM-3A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-3A
GSCM-3B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-3B
GSCM-4A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-4A
GSCM-4B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	GSCM-4B

Measurements in {} are calculated, not measured.  
 H<sub>2</sub>S pod suspected of not operating correctly in March

2005 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 3/3/05	Methane (% By Volume) 7/2/05	Methane (% By Volume) 10/2/05	LEL (% By Volume) 3/3/05	LEL (% By Volume) 7/2/05	LEL (% By Volume) 10/2/05	LEL (% By Volume) 12/28/05	Hydrogen Sulfide (ppm by volume) 3/3/05	Hydrogen Sulfide (ppm by volume) 7/2/05	Hydrogen Sulfide (ppm by volume) 10/2/05	Hydrogen Sulfide (ppm by volume) 12/28/05	Soil Gas Monitoring Well
SGMW-01A	8.8	5.4	176	103	100	134	1	3	2	2	2	SGMW-01A
SGMW-01B	3.0	2.9	60	56	50	76	0	0	0	0	0	SGMW-01B
SGMW-01C	7.5	5.6	150	112	110	122	0	0	0	0	0	SGMW-01C
SGMW-02A	8.3	13.7	6	274	34	69	0	0	0	0	0	SGMW-02A
SGMW-02B	0.2	0.7	6	14	544	248	1	0	6	3	3	SGMW-02B
SGMW-02C	0.3	0.1	6	2	6	484	0	0	0	0	0	SGMW-02C
SGMW-03A	0.7	0.3	14	736	14	0	0	0	0	0	0	SGMW-03A
SGMW-03B	0.5	0.2	36.8	0.7	952	220	1	0	2	1	1	SGMW-03B
SGMW-03C	0.1	0.2	798	10	0	0	0	0	1	0	0	SGMW-03C
SGMW-04A	0.2	10.7	39.9	0.0	0	0	0	0	0	0	0	SGMW-04A
SGMW-04B	6.5	0.2	130	502	848	360	0	0	0	0	0	SGMW-04B
SGMW-04C	6.3	0.2	126	764	204	202	0	0	1	0	0	SGMW-04C
SGMW-05A	0.7	14.3	268	286	732	456	0	1	0	0	0	SGMW-05A
SGMW-05B	13.4	21.1	36.6	422	692	546	0	1	0	0	0	SGMW-05B
SGMW-05C	6.2	25.1	184	48	386	386	0	1	0	0	0	SGMW-05C
SGMW-06A	0.2	2.4	154	48	594	162	1	1	0	0	0	SGMW-06A
SGMW-06B	8.6	24.4	7.7	489	298	298	1	1	0	0	0	SGMW-06B
SGMW-06C	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-06C
SGMW-07A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-07B
SGMW-07C	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-07C
SGMW-08A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-08C	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-08C
SGMW-09A	6.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-09C
SGMW-10A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-10A
SGMW-10B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-10C	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-10C
SGMW-11A	0.1	1.6	2	32	32	24	1	1	20	4	1	SGMW-11A
SGMW-11B	0.2	6.0	4	120	344	0	0	0	4	0	0	SGMW-11B
SGMW-11C	0.2	13.2	4	264	382	60	0	0	51	0	0	SGMW-11C
SGMW-12A	0.2	3.9	4	78	302	0	0	0	0	0	0	SGMW-12A
SGMW-12B	0.1	0.6	2	16	514	0	0	0	0	0	0	SGMW-12B
SGMW-13A	0.1	6.2	2	124	2	4	0	0	1	1	0	SGMW-13A
SGMW-13B	0.1	4	4	8	4	0	0	0	2	1	0	SGMW-13B
SGMW-14A	0.3	0.1	6	112	2	2	0	0	1	1	0	SGMW-14A
SGMW-14B	0.0	0.2	0	4	4	0	0	0	0	0	0	SGMW-14B
SGMW-15A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-15A
SGMW-15B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-15B
SGMW-16A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-16A
SGMW-16B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-16B
SGMW-17A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-18A
SGMW-18B	5.6	6.3	112	126	584	314	0	0	20	1	0	SGMW-18B
SGMW-19A	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-19A
SGMW-19B	0.0	0.0	0	0	0	0	0	0	0	0	0	SGMW-19B
GSSGA-1A	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-1A
GSSGA-1B	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-1B
GSSGA-2A	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-2A
GSSGA-2B	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-2B
GSSGA-2C	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-2C
GSSGA-3A	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-3A
GSSGA-3B	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-3B
GSSGA-4A	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-4A
GSSGA-4B	0.0	0.0	0	0	0	0	0	0	0	0	0	GSSGA-4B

Measurements in ( ) are calculated, not measured.

Table 12

2005 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 2/24/05	Methane (% By Volume) 5/23/05	Methane (% By Volume) 9/28/05	Methane (% By Volume) 12/27/05	LEL (% By Volume) 2/24/05	LEL (% By Volume) 5/23/05	LEL (% By Volume) 9/28/05	LEL (% By Volume) 12/27/05	Hydrogen Sulfide (ppm by volume) 2/24/05	Hydrogen Sulfide (ppm by volume) 5/23/05	Hydrogen Sulfide (ppm by volume) 9/28/05	Hydrogen Sulfide (ppm by volume) 12/27/05	Soil Gas Monitoring Well
SGMW-01A	8.6	11.9	12.5	11.3	174.0	238	250	225	0	0	6	0	SGMW-01A
SGMW-01B	0.0	0.0	11.0	3.1	0	0	220	62	0	0	1	0	SGMW-01B
SGMW-01C	0.0	0.0	10.5	0.2	0	0	210	4	0	0	5	0	SGMW-01C
SGMW-02A	13.9	18.1	45.9	1.4	282.0	338	338	26	0	0	9	0	SGMW-02A
SGMW-02B	6.8	12.8	33.4	0.2	142.0	255	888	27	0	0	27	0	SGMW-02B
SGMW-02C	0.0	0.6	30.5	0.3	16	610	610	6	0	0	8	0	SGMW-02C
SGMW-03A	19.3	25.8	27.0	0.2	365.0	536	970	4	0	0	8	0	SGMW-03A
SGMW-03B	0.0	11.9	48.5	0.1	238	238	900	2	0	0	7	0	SGMW-03B
SGMW-03C	0.0	1.5	45.0	0.3	30	30	900	6	0	0	12	0	SGMW-03C
SGMW-04A	0.0	16.4	52.1	0.2	329	329	1040	4	0	0	1	0	SGMW-04A
SGMW-04B	10.0	31.5	46.8	0.0	200.0	532	976	0	0	0	2	0	SGMW-04B
SGMW-04C	0.0	22.2	42.1	0.0	444	444	842	0	0	0	0	0	SGMW-04C
SGMW-05A	0.9	16.5	44.8	0.0	20.0	325	895	0	0	0	0	0	SGMW-05A
SGMW-05B	1.4	26.3	41.3	0.0	89.0	525	826	0	0	0	3	3	SGMW-05B
SGMW-05C	0.0	20.7	33.6	0.0	0	414	676	0	0	0	0	0	SGMW-05C
SGMW-06A	0.0	11.5	40.3	0.0	0	230	830	0	0	0	2	0	SGMW-06A
SGMW-06B	0.0	21.3	37.3	0.0	0	426	805	0	0	0	0	0	SGMW-06B
SGMW-06C	0.0	21.7	37.3	0.0	0	434	746	0	0	0	0	0	SGMW-06C
SGMW-07A	0.0	0.0	0.3	0.0	0	0	6	0	0	0	0	0	SGMW-07A
SGMW-07B	0.0	0.0	0.3	0.0	0	0	6	0	0	0	0	0	SGMW-07B
SGMW-07C	0.0	0.0	0.3	0.0	0	0	6	0	0	0	0	0	SGMW-07C
SGMW-08A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	2	0	SGMW-08B
SGMW-08C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	2	0	SGMW-08C
SGMW-09A	0.0	0.1	0.9	0.0	0	2	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09C
SGMW-10A	0.0	9.8	15.4	0.0	0	0	303	0	0	0	0	0	SGMW-10A
SGMW-10B	0.0	9.8	18.0	0.0	196	240	360	0	0	0	2	0	SGMW-10B
SGMW-10C	0.0	10.6	18.2	0.0	212	324	360	0	0	0	2	0	SGMW-10C
SGMW-11A	0.0	7.6	13.3	0.0	132	305	305	0	0	0	25	0	SGMW-11A
SGMW-11B	0.0	9.8	14.9	0.0	186	288	288	0	0	0	18	0	SGMW-11B
SGMW-12A	0.0	16.7	41.3	0.0	355	355	626	0	0	0	0	0	SGMW-12A
SGMW-12B	1.1	2.0	0.0	0.0	22	40	4	0	0	0	0	0	SGMW-12B
SGMW-13A	0.0	0.0	0.2	0.0	0	0	4	0	0	0	0	0	SGMW-13A
SGMW-13B	0.0	0.0	0.2	0.0	0	0	4	0	0	0	0	0	SGMW-13B
SGMW-14A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-14A
SGMW-14B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-14B
SGMW-15A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-15A
SGMW-15B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-15B
SGMW-16A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1	0	SGMW-16A
SGMW-16B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1	0	SGMW-16B
SGMW-17A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18A
SGMW-18B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18B
SGMW-19A	16.7	17.3	16.6	23.9	340	348	323	478	0	0	2	5	SGMW-19A
SGMW-19B	1.7	9.4	18.0	0	32	186	380	0	0	0	1	0	SGMW-19B
SGMW-20A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-1A
SGMW-20B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-1B
SGMW-20C	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-1C
SGMW-21A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-2A
SGMW-21B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-2B
SGMW-21C	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-2C
SGMW-22A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-3A
SGMW-22B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-3B
SGMW-22C	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-3C
SGMW-4A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-4A
SGMW-4B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-4B

Measurements in ( ) are calculated, not measured.

2007 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 2/24/07	Methane (% By Volume) 5/17/07	Methane (% By Volume) 9/20/07	Methane (% By Volume) 12/20/07	LEL (% By Volume) 2/24/07	LEL (% By Volume) 5/17/07	LEL (% By Volume) 9/20/07	LEL (% By Volume) 12/20/07	Hydrogen Sulfide (ppm by volume) 2/24/07	Hydrogen Sulfide (ppm by volume) 5/17/07	Hydrogen Sulfide (ppm by volume) 9/20/07	Hydrogen Sulfide (ppm by volume) 12/20/07	Soil Gas Monitoring Well
SGMW-01A	10.0	12.2	5.7	3.1	200.0	244	116.0	62	0.0	1.0	0.0	3.0	SGMW-01A
SGMW-01B	6.4	4.5	6.0	1.6	128	90	118.0	32	0.0	1.0	1.0	0.0	SGMW-01B
SGMW-01C	5.9	0.3	5.5	2.0	118	6	110.0	40	0.0	0.0	1.0	0.0	SGMW-01C
SGMW-02A	0.2	0.4	37.5	17.4	4.0	8	750.0	348	0.0	1.0	1.0	0.0	SGMW-02A
SGMW-02B	0.0	17.6	30.8	10.5	0.0	352	616.0	210	0.0	1.0	1.0	0.0	SGMW-02B
SGMW-02C	0.0	0.4	27.0	1.1	0.0	8	540.0	22	0.0	1.0	1.0	0.0	SGMW-02C
SGMW-03A	0.0	25.1	22.4	0.0	0.0	502	448.0	0.0	0.0	1.0	0.0	0.0	SGMW-03A
SGMW-03B	0.9	0.7	40.0	0.0	18	14	800.0	0.0	0.0	2.0	0.0	0.0	SGMW-03B
SGMW-03C	0.2	0.6	39.7	0.0	4	12	794.0	0.0	0.0	2.0	0.0	0.0	SGMW-03C
SGMW-04A	8.4	0.7	43.7	1.0	168	14	874.0	20	0.0	0.0	3.0	0.0	SGMW-04A
SGMW-04B	17.0	0.7	38.5	3.0	340.0	14	760.0	60	0.0	0.0	1.0	0.0	SGMW-04B
SGMW-04C	12.0	0.7	31.5	0.0	240	14	630.0	0.0	0.0	0.0	1.0	0.0	SGMW-04C
SGMW-05A	10.5	0.6	32.6	0.0	210.0	12	652	0.0	0.0	1.0	0.0	0.0	SGMW-05A
SGMW-05B	17.0	0.7	29.4	1.2	340.0	13	588.0	24	0.0	2.0	1.0	0.0	SGMW-05B
SGMW-05C	13.5	0.7	22.4	0.0	270	13	444.0	0.0	0.0	2.0	1.0	0.0	SGMW-05C
SGMW-06A	11.5	0.8	30.7	0.0	230	16	614	0.0	0.0	1.0	1.0	0.0	SGMW-06A
SGMW-06B	14.3	0.6	29.9	0.0	286	12	598	0.0	0.0	1.0	1.0	0.0	SGMW-06B
SGMW-06C	12.9	0.0	26.4	0.0	258	0.0	528	0.0	0.0	0.0	1.0	0.0	SGMW-06C
SGMW-07A	0.0	0.0	0.1	0.1	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	SGMW-07A
SGMW-07B	0.0	0.0	0.1	0.1	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	SGMW-07B
SGMW-07C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-07C
SGMW-08A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	SGMW-08A
SGMW-08B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-08B
SGMW-08C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	SGMW-08C
SGMW-09A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-09A
SGMW-09B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-09B
SGMW-09C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	SGMW-09C
SGMW-10A	0.4	0.0	8.7	0.0	8	0.0	174	0.0	0.0	0.0	2.0	0.0	SGMW-10A
SGMW-10B	0.0	0.0	10.5	0.0	0.0	0.0	210	0.0	0.0	0.0	1.0	0.0	SGMW-10B
SGMW-10C	0.0	0.0	9.0	0.0	0.0	0.0	180	0.0	0.0	0.0	8.0	0.0	SGMW-10C
SGMW-11A	0.0	0.0	8.5	0.0	0.0	0.0	170	0.0	0.0	0.0	2.0	0.0	SGMW-11A
SGMW-11B	0.0	0.0	8.7	0.0	0.0	0.0	174	0.0	0.0	0.0	22.0	0.0	SGMW-11B
SGMW-12A	0.0	0.0	8.1	27.5	0.0	0.0	162	550	0.0	0.0	2.0	39.0	SGMW-12A
SGMW-12B	0.0	0.0	6.1	27.5	0.0	0.0	172	550	0.0	0.0	2.0	0.0	SGMW-12B
SGMW-13A	0.0	0.3	6.0	0.0	0.0	0.0	120	0.0	0.0	0.0	1.0	0.0	SGMW-13A
SGMW-13B	0.0	0.0	4.0	0.0	0.0	0.0	80	0.0	0.0	0.0	1.0	0.0	SGMW-13B
SGMW-14A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-14A
SGMW-14B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-14B
SGMW-15A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-15A
SGMW-15B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-15B
SGMW-16A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-16A
SGMW-16B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-16B
SGMW-17A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-17A
SGMW-17B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-17B
SGMW-18A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-18A
SGMW-18B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-18B
SGMW-19A	2.5	4.0	27.0	0.0	50	80	540	0.0	0.0	1.0	29.0	0.0	SGMW-19A
SGMW-19B	0.0	0.0	19.2	0.0	0.0	0.0	384	0.0	0.0	0.0	17.0	0.0	SGMW-19B
GSGM-1A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-1A
GSGM-1B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-1B
GSGM-1C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-1C
GSGM-2A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-2A
GSGM-2B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-2B
GSGM-2C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-2C
GSGM-3A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-3A
GSGM-3B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-3B
GSGM-4A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-4A
GSGM-4B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-4B

Measurements in ( ) are calculated, not measured.

# 1996/97 FORMER LANDFILL AREA SOIL GAS MONITORING SUMMARY TABLE

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Current and Former Landfills Brookhaven National Laboratory

Soil Gas Monitoring Well	Methane (% By Volume)				Hydrogen Sulfide (ppm by volume)			
	Aug-96	Mar-97	Aug-97	Nov-97	Aug-96	Mar-97	Aug-97	Nov-97
SGMW-01A	0	0	0.3	0	◇	6	-5	0
SGMW-01B	0	0	0.3	0	◇	4	-5	0
SGMW-02A	0	0	0	0	◇	6	-2	0
SGMW-02B	0	0	0	0	◇	3	-2	0
SGMW-03A	0	0	0	0	◇	1	-4	0
SGMW-03B	0	0	0	0	◇	5	-4	0
SGMW-04A	0	0	0.2	0.1	◇	7	-5	8
SGMW-04B	0	0	0.2	0.1	◇	7	-5	9
SGMW-05A	0	0	0	0	◇	7	-2	12
SGMW-05B	0	0	0	0	◇	4	-2	0
SGMW-06A	0	0	0	0	◇	7	-4	0
SGMW-06B	0	0	0.1	0	◇	4	-4	0
SGMW-07A	0	0	◇	◇	◇	7	◇	◇
SGMW-07B	0	0	◇	◇	◇	7	◇	◇
SGMW-08A	0	0	0.1	0	◇	6	-5	0
SGMW-08B	0	0	0.1	0	◇	6	-1	0
SGMW-09A	0	0	0	0	◇	5	-2	1
SGMW-09B	0	0	0	0	◇	4	-2	0
SGMW-10A	0	0	0	0	◇	7	-1	1
SGMW-10B	0	0	0	0	◇	5	-2	0
SGMW-11A	0	0	0.3	0	◇	9	-5	0
SGMW-11B	0	0	0	0	◇	4	-1	2
SGMW-12A	0	0	0.3	0	◇	9	-5	0
SGMW-12B	0	0	0.3	0	◇	5	-5	0

◇ No measurement taken.

Negative numbers reported are due to equipment problems.

# Brookhaven National Laboratory

## 1998 Landfills Environmental Monitoring Report

### 1998 Former Landfill Area Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)				Hydrogen sulfide (ppm By Volume)				Soil Gas Monitoring Well
	February-98	May-98	August-98	December-98	February-98	May-98	August-98	December-98	
SGMW-01A	0	0	0	0	1	0	1	0	SGMW-01A
SGMW-01B	0.1	0	0	0	1	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	6	0	0	0	SGMW-02A
SGMW-02B	0.1	0	0	0	0	1	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	1	1	SGMW-03A
SGMW-03B	0	0	0	0	3	0	2	0	SGMW-03B
SGMW-04A	0	0.1	0	0.1	0	2	0	1	SGMW-04A
SGMW-04B	0	0	0	0	1	0	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	3	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	4	0	SGMW-05B
SGMW-06A	0	0	0	0	2	0	0	1	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-07A	<>	<>	<>	<>	<>	<>	<>	<>	SGMW-07A
SGMW-07B	<>	<>	<>	<>	<>	<>	<>	<>	SGMW-07B
SGMW-08A	0	0	0	0	1	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	4	0	SGMW-08B
SGMW-09A	0	0	0	0	1	0	1	1	SGMW-09A
SGMW-09B	0	0	0	0	0	0	3	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	4	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	3	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	2	SGMW-11A
SGMW-11B	0	0	0	0	1	0	1	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	2	1	SGMW-12A
SGMW-12B	0	0	0	0	0	0	4	0	SGMW-12B

<> Well SGM07 was not accessible

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 1999 Landfill Environmental Monitoring Report  
 1999 Former Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)			Methane (% By Volume)			Methane (% By Volume)			Hydrogen sulfide (ppm By Volume)			Hydrogen sulfide (ppm By Volume)			Soil Gas Monitoring Well
	June-99	October-99	December-99	June-99	October-99	December-99	June-99	October-99	December-99	June-99	October-99	December-99	June-99	October-99	December-99	
SGMW-01A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-01A
SGMW-01B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-03A
SGMW-03B	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-03B
SGMW-04A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-04A
SGMW-04B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-07A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-07B
SGMW-08A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-09A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11A
SGMW-11B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-12A
SGMW-12B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-12B

<-> No measurement was recorded.



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2000 Landfill Environmental Monitoring Report  
2000 Former Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)				Methane (% By Volume)				Methane (% By Volume)				Hydrogen Sulfide (ppm by volume)				Soil Gas Monitoring Well
	February-00	June-00	September-00	December-00	February-00	June-00	September-00	December-00	February-00	June-00	September-00	December-00	February-00	June-00	September-00	December-00	
SGMW-01A	0	0	0	0	0	0	0	0	2	5	1	1	0	0	1	1	SGMW-01A
SGMW-01B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	0	0	0	0	2	0	2	2	0	0	2	2	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	0	1	2	2	0	0	2	2	SGMW-03A
SGMW-03B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-03B
SGMW-04A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-04A
SGMW-04B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-07A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-07B
SGMW-08A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-09A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11A
SGMW-11B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	0	0	2	1	1	1	0	0	1	1	SGMW-12A
SGMW-12B	0	0	0	0	0	0	0	0	2	0	1	1	0	0	1	1	SGMW-12B

<- No Measurement was collected due to other work in the area.

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 2001 Landfills Environmental Monitoring Report  
 2001 Former Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)			LEL (% By Volume)			Hydrogen Sulfide (ppm by volume)		
	March-01	June-01	September-01	March-01	June-01	September-01	March-01	June-01	September-01
SGMW-01A	0	0	0	0	0	0	3	N/A	1
SGMW-01B	0	0	0	0	0	0	3	N/A	1
SGMW-02A	0	0	0.1	0	0	0.2	4	N/A	2
SGMW-02B	0	0	0	0	0	0	5	N/A	2
SGMW-03A	0	0	0.1	0	0	0.2	4	N/A	3
SGMW-03B	0	0	0.1	0	0	0.2	4	N/A	2
SGMW-04A	0	0	0	0	0	0	5	N/A	0
SGMW-04B	0	0	0	0	0	0	5	N/A	0
SGMW-05A	0	0	0	0	0	0	6	N/A	0
SGMW-05B	0	0	0	0	0	0	5	N/A	0
SGMW-06A	0	0	0	0	0	0	6	N/A	0
SGMW-06B	0	0	0	0	0	0	5	N/A	0
SGMW-07A	0	0	0	0	0	0	5	N/A	0
SGMW-07B	0	0	0	0	0	0	6	N/A	0
SGMW-08A	0	0	0	0	0	0	7	N/A	0
SGMW-08B	0	0	0	0	0	0	6	N/A	0
SGMW-09A	0	0	0	0	0	0	3	N/A	0
SGMW-09B	0	0	0	0	0	0	6	N/A	0
SGMW-10A	0	0	0	0	0	0	6	N/A	0
SGMW-10B	0	0	0	0	0	0	7	N/A	0
SGMW-11A	0	0	0	0	0	0	4	N/A	0
SGMW-11B	0	0	0	0	0	0	6	N/A	0
SGMW-12A	0	0	0	0	0	0	7	N/A	0
SGMW-12B	0	0	0	0	0	0	6	N/A	0

> No Measurement was collected due to other work in the area.

2002 Former Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume)				Hydrogen Sulfide (ppm by volume)				LEL (% By Volume)				Soil Gas Monitoring Well
	March-01	June-02	October-02	December-02	March-02	June-02	October-02	December-02	March-02	June-02	October-02	December-02	
SGMW-01A	0	0	0	0	2	0	0	0	0	0	0	0	SGMW-01A
SGMW-01B	0	0	0	0	0	0	0	0	0	0	1	0	SGMW-01B
SGMW-02A	0	0	0	0	3	0	0	0	0	0	0	2	SGMW-02A
SGMW-02B	0	0	0	0	1	0	0	0	0	0	1	2	SGMW-02B
SGMW-03A	0	0	0	0	3	0	0	0	0	0	1	6	SGMW-03A
SGMW-03B	0	0	0	0	3	0	0	0	0	0	0	5	SGMW-03B
SGMW-04A	0	0	0	0	2	0	0	0	0	0	0	5	SGMW-04A
SGMW-04B	0	0	0	0	2	0	0	0	0	0	0	4	SGMW-04B
SGMW-05A	0	0	0	0	2	0	0	0	0	0	1	7	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	0	1	6	SGMW-05B
SGMW-06A	0	0	0	0	1	0	0	0	0	0	0	7	SGMW-06A
SGMW-06B	0	0	0	0	1	0	0	0	0	0	1	5	SGMW-06B
SGMW-07A	0	0	0	0	2	0	0	0	0	0	0	3	SGMW-07A
SGMW-07B	0	0	0	0	3	0	0	0	0	0	0	2	SGMW-07B
SGMW-08A	0	0	0	0	2	0	0	0	0	0	4	6	SGMW-08A
SGMW-08B	0	0	0	0	2	0	0	0	0	0	1	6	SGMW-08B
SGMW-09A	0	0	0	0	2	0	0	0	0	0	2	9	SGMW-09A
SGMW-09B	0	0.2	0	0.1	2	0.4	0	0.2	0.3	0	3	8	SGMW-09B
SGMW-10A	0	0.2	0	0.1	2	0.2	0	0.2	0.3	0	0	7	SGMW-10A
SGMW-10B	0	-0.2	0	0.1	2	-0.2	0	0.2	0.3	0	0	7	SGMW-10B
SGMW-11A	0	0.2	0	0.1	2	0.2	0	0.2	0.3	0	1	7	SGMW-11A
SGMW-11B	0	0	0	0.1	2	0	0	0.2	0.3	0	0	6	SGMW-11B
SGMW-12A	0	0	0	0.1	2	0	0	0.2	0.3	0	0	6	SGMW-12A
SGMW-12B	0	0	0	0.1	2	0	0	0.2	0.3	0	0	9	SGMW-12B

2003 Farmer Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume)		Methane (% By Volume)		Methane (% By Volume)		LEL (% By Volume)		LEL (% By Volume)		LEL (% By Volume)		Hydrogen Sulfide (ppm by volume)		Hydrogen Sulfide (ppm by volume)		Soil Gas Monitoring Well
	March-03	July-03	October-03	December-03	March-03	July-03	October-03	December-03	March-03	July-03	October-03	December-03	March-03	July-03	October-03	December-03	
SGMW-01A	0	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-01A
SGMW-01B	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-01B
SGMW-02A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-03A
SGMW-03B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-03B
SGMW-04A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-04A
SGMW-04B	0.2	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0.1	0	0.2	0	0	0	4	0	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-06B	0.1	0	0.2	0	0	0	4	0	0	0	0	0	0	0	0	0	SGMW-07A
SGMW-07A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-07B
SGMW-07B	0.2	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-08B	0.2	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09A	0.2	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09B	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-10A
SGMW-10A	0.2	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-10B	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11A
SGMW-11A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-11B
SGMW-11B	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-12A
SGMW-12A	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	SGMW-12B
SGMW-12B	0.1	0	0.1	0	0	0	2	0	0	0	0	0	0	0	0	0	

July measurements taken with a Landtec GEM 500

- H2S not operational.

2004 Former Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume)				Hydrogen Sulfide (ppm by volume)				Soil Gas Monitoring Well
	3/11/04	6/25/04	10/20/04	11/30/04	3/11/04	6/25/04	10/20/04	11/30/04	
SGMW-01A	0.1	0	0	0.1	150	0	0	0	SGMW-01A
SGMW-01B	0	0	0	0	63	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	0	0	0	0	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	109	0	0	0	SGMW-03A
SGMW-03B	0	0.1	0	0	0	2	0	0	SGMW-03B
SGMW-04A	0.1	0.1	0	0	0	2	0	0	SGMW-04A
SGMW-04B	0	0.1	0	0	0	2	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	0	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0	0	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-07A	0	0	0	NR	0	0	0	NR	SGMW-07A
SGMW-07B	0	0	0	NR	0	0	0	NR	SGMW-07B
SGMW-08A	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-09A	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	0	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	0	SGMW-11A
SGMW-11B	0	0	0	0	0	0	0	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	0	0	SGMW-12A
SGMW-12B	0	0	0	0	0	0	0	0	SGMW-12B

NR = Not read, access to well was not possible due to construction.  
H2S odor suspected or not operating correctly in March.









