



177975

0000003

**QUARTERLY MONITORING REPORT  
MAY 2001 - JULY 2001**

**TOMAH MUNICIPAL SANITARY LANDFILL SUPERFUND SITE  
TOMAH, WISCONSIN**

**PRINTED ON  
AUG 22 2001**



**QUARTERLY MONITORING REPORT  
MAY 2001 - JULY 2001**

**TOMAH MUNICIPAL SANITARY LANDFILL SUPERFUND SITE  
TOMAH, WISCONSIN**

**Prepared By:**

**AUGUST 2001  
REF. NO. 12865 (22)**  
This report is printed on recycled paper.

**Conestoga-Rovers & Associates**  
1801 Old Highway 8 N.W., Suite 114  
St. Paul, Minnesota 55112  
Office: (651) 639-0913 Fax: (651) 639-0923

## TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION.....	1
1.1 PURPOSE.....	1
1.2 SITE BACKGROUND.....	2
1.3 SITE LOCATION.....	3
2.0 GROUNDWATER MONITORING.....	4
2.1 SUMMARY OF GROUNDWATER MONITORING PROGRAM.....	4
2.2 GROUNDWATER HYDROLOGY.....	4
2.3 GROUNDWATER SAMPLING RESULTS.....	5
2.3.1 CHLORIDE EXTENT.....	6
2.3.2 VOC EXTENT.....	6
2.3.3 METALS EXTENT.....	7
2.3.4 NATURAL ATTENUATION.....	7
3.0 GAS EXTRACTION SYSTEM MONITORING RESULTS.....	9
3.1 SUMMARY OF GAS EXTRACTION SYSTEM MONITORING PROGRAM.....	9
3.2 GAS PROBE MONITORING.....	9
3.3 GAS EXTRACTION WELLS MONITORING.....	9
3.4 BLOWER DISCHARGE SAMPLING.....	10
3.5 CONDENSATE TANK.....	10
4.0 REVISED MONITORING PLAN.....	11
4.1 REVISED GROUNDWATER MONITORING PLAN.....	11
4.2 REVISED GAS EXTRACTION SYSTEM MONITORING PLAN.....	11
5.0 CONCLUSIONS AND RECOMMENDATIONS.....	13
5.1 CONCLUSIONS.....	13
5.2 RECOMMENDATIONS.....	14

LIST OF FIGURES  
(Following Report)

FIGURE 1.1	SITE LOCATION
FIGURE 1.2	GROUNDWATER MONITORING LOCATIONS
FIGURE 1.3	GAS EXTRACTION SYSTEM MONITORING LOCATIONS
FIGURE 2.1	GROUNDWATER CONTOURS A-WELLS (5/22/01)
FIGURE 2.2	GROUNDWATER CONTOURS B-WELLS (5/22/01)
FIGURE 2.3	GROUNDWATER CONTOURS C-WELLS (5/22/01)
FIGURE 2.4	LOCATION OF CROSS SECTIONS
FIGURE 2.5	GEOLOGIC CROSS SECTION A-A'
FIGURE 2.6	GEOLOGIC CROSS SECTION B-B'
FIGURE 2.7	CHLORIDE CONCENTRATIONS IN GROUNDWATER - MAY 2001
FIGURE 2.8	VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER - MAY 2001
FIGURE 2.9	BENZENE CONCENTRATIONS IN GROUNDWATER - MAY 2001
FIGURE 2.10	EVIDENCE OF NATURAL ATTENUATION



## 1.0 INTRODUCTION

This report presents the results of the long-term groundwater and landfill gas monitoring plan at the Tomah Municipal Sanitary Landfill (Site) in Tomah, Wisconsin for the period May 1 to July 31, 2001. Conestoga-Rovers & Associates (CRA) completed this report on behalf of International Paper.

Groundwater sampling activities were conducted in accordance with the approved Groundwater Field Sampling Plan (GW-FSP) (CRA, February 2000). Landfill gas monitoring was conducted in accordance with the approved Gas Extraction System Field Sampling Plan (GES-FSP) (CRA, February 2000).

### 1.1 PURPOSE

The objective of the monitoring program is to ensure ongoing protection of human health and the environment by monitoring potential contaminant migration pathways.

The scope of the monitoring program includes:

- Water level monitoring at wells and Deer Creek;
- Groundwater quality sampling of the upper, middle, and lower portions of the unconfined aquifer from on-Site and off-Site monitoring wells and at selected residential wells;
- Methane, oxygen, and pressure measuring in perimeter gas probes;
- Methane, oxygen, and pressure measuring in gas extraction wells;
- Methane, oxygen, volatile organic compounds (VOCs), pressure, temperature, and flow rate monitoring at the gas extraction system blower discharge; and
- Water quality sampling of condensate collection tank.

The long term monitoring program began in November 2000, following final submittal of the Groundwater Quality Assurance Project Plan (GW-QAPP) (CRA, September 2000) and Gas Extraction System Quality Assurance Project Plan (GES-QAPP) (CRA, September 2000).

This report provides an evaluation of field monitoring data and laboratory results for the fourth quarterly sampling event.

## 1.2 SITE BACKGROUND

The Tomah Municipal Sanitary Landfill (TMSL) was operated by the City of Tomah from 1959 to 1979. The TMSL accepted both municipal and industrial wastes. Wastes were placed in shallow, unlined trenches along the southern 18 acres of the property, then covered with native soils. Wisconsin Department of Natural Resources (WDNR) ordered the Site closed in August 1975, because of potential degradation of local groundwater quality. The City of Tomah closed the Site in 1979 with a soil cap and planted grass and trees.

In December 1993, WDNR conducted a Potential Hazardous Waste Site Preliminary Assessment. Results of the assessment found the landfill represented a potential hazard to groundwater and surface water. Additional studies were conducted in June 1984. Based on the evaluation of these investigations, WDNR nominated the Site for inclusion onto the United States Environmental Protection Agency's (USEPA's) National Priorities List (NPL). The Site was placed on the NPL on March 31, 1989.

After placement on the NPL, various studies were conducted and culminated with the Remedial Investigation Report and Feasibility Study Report, which were released to the public in July 1996 and April 1997, respectively. An interim gas extraction system was installed during 1996 to reduce potential off-Site migration of landfill gas.

USEPA issued a Record of Decision (ROD) to address on-Site source control on September 25, 1997. The ROD outlined that the source control remedy for the Site would be the installation of a low permeability geomembrane, with a geosynthetic clay liner, and the operation of an active gas extraction system.

International Paper (formerly Union Camp Corporation) and USEPA entered into an Administrative Order on Consent (AOC) for Remedial Design (effective October 12, 1998). CRA, on behalf of International Paper, developed the USEPA approved design and associated plans for the source control remedy.

USEPA issued the Unilateral Administrative Order (UAO) for Remedial Action, effective November 1, 1999. Under the UAO, International Paper implemented the remedial action set forth in the ROD, in accordance with the design approved by USEPA. Construction of the remedy began in April 2000 and was completed in August 2000. Long term monitoring of the source control remedy began in July 2000.

### 1.3 SITE LOCATION

The TMSL is located on 40 acres in the SW ¼ of the NE ¼ of Section 32, Township 18 North, Range 1 West, Monroe County, Wisconsin. The Site is bordered on the north by wetlands, scrub, and forested land; on the east by Noth Avenue; on the South by the Sunnyvale Residential Development; and on the west by agricultural fields and wetlands. The location of the Site is presented on Figure 1.1. The landfill is located on the southern 18 acres of the 40-acre parcel. Figure 1.2 shows the post-construction groundwater monitoring locations. Figure 1.3 shows the post-construction gas extraction system monitoring locations.

## 2.0 GROUNDWATER MONITORING

### 2.1 SUMMARY OF GROUNDWATER MONITORING PROGRAM

Figure 1.2 presents the network of wells identified for groundwater monitoring, which includes monitoring wells and residential wells. The groundwater monitoring well network consists of 38 wells. These wells are screened in the upper, middle, and lower portions of the unconfined aquifer. The residential well network consists of 11 residential wells.

Monitoring wells closest to the landfill Site monitor immediate effects of the landfill cap and provide information for the long term database for the Site.

Wells located downgradient from the landfill monitor off-Site to develop a more detailed groundwater quality database. This database notes changes, both chemical and areal extent, of the plume, and confirms the stability of the plume. These off-Site wells serve as sentry wells for monitoring potential plume expansion towards nearby residential wells.

The residential well network consists of key residential wells immediately down gradient and cross gradient of the plume. These wells were sampled quarterly for the first year of the monitoring plan following completion of cap construction. The residential well monitoring confirms that there are no potential impacts to the residents down gradient of the Site. All residential wells with the exception of the Hanson and Ripp wells, are used for potable supply.

### 2.2 GROUNDWATER HYDROLOGY

A complete round of water level measurements was collected from each monitoring well prior to groundwater sampling. Groundwater elevations are provided in Table 2.1. Groundwater contours for the upper (A), middle (B), and lower (C) horizon wells are depicted on Figure 2.1, Figure 2.2, and Figure 2.3, respectively.

Groundwater flow direction for the "A", "B", and "C" horizon wells is to the northeast, which is consistent with the direction of historical groundwater flow. Groundwater elevations increased this past quarter by 0.2-3.0 feet since the February 2001 sampling event, which is a typical seasonal expectation. Groundwater elevations are relatively consistent within the three horizons. At several locations, there is a slight upward to

almost neutral hydraulic gradient from the "C" horizon to the "A" horizon. The upward gradients inhibit downward contaminant migration. However, the low vertical gradients indicate that groundwater flow is predominantly horizontal with minimal vertical movement.

To show the hydraulic relationship between the three horizons, two geologic cross sections are presented. The locations of the cross sections are shown on Figure 2.4 and the two cross sections are presented on Figure 2.5 and Figure 2.6.

### 2.3 GROUNDWATER SAMPLING RESULTS

Round 4 of the quarterly monitoring program was conducted the week of May 21, 2001. Groundwater sampling was conducted using low-flow sampling procedures. Stabilization of the purged groundwater was conducted prior to sampling to ensure that the samples obtained were representative of the groundwater. Each sample location was sampled in accordance with the GW-FSP and GW-QAPP. Table 2.2 and Table 2.3 summarize the May monitoring well and residential well sampling events, respectively.

As noted on Table 2.2, 36 of the 38 monitoring wells were sampled. Sampling was conducted as soon as possible after purging. Sampling parameters at the Site include VOCs (EPA Method 8260 B), chloride, and total metals to monitor the landfill cap performance. Twenty two wells that exhibited total metals concentrations for iron and manganese above the Wisconsin Enforcement Standards (ES's) during the February 2001 sampling event were also analyzed for total dissolved solids (TDS), total suspended solids (TSS) and dissolved (filtered) iron and manganese. Samples were placed in iced coolers and shipped within 48 hours to Severn Trent Laboratories (STL) via commercial courier under standard chain of custody procedures.

Residential well sampling was conducted on May 23 and 25, 2001. Ten of the eleven residential wells were sampled. The Kenworthy location was not sampled, as the water supply to the home had been turned off due to construction. Five residential wells that exhibited total metal concentrations for iron and manganese above the Wisconsin ES's during the February 2001 sampling event were also analyzed for TDS, TSS, and dissolved iron and manganese.

Table 2.4 provides a summary of detected compounds in groundwater monitoring wells sampled during May 2001. Appendix A contains the laboratory reports for the

groundwater samples. The groundwater data validation memo is provided in Appendix B.

Table 2.5 presents a historical summary of the compounds that have exceeded the Wisconsin ES. For each chemical that has exceeded a standard, the number of exceedences and the date of the most recent exceedence are presented. As Table 2.5 shows, there have been exceedences for 34 chemicals throughout the history of the Site. The ES's were exceeded for seven chemicals during the July 2000 sampling event, eight during the November 2000 sampling event, eleven during February 2001 sampling event, and nine from the May 2001 sampling event.

### **2.3.1 CHLORIDE EXTENT**

Chloride can be a good indicator of landfill affects to an aquifer. Because chloride acts as a non-reactive tracer, it can help determine the down gradient extent of a landfill affected groundwater. Figure 2.7 presents the chloride data from the May 2001 sampling event. Concentrations above 100 mg/L reflect possible landfill affects. The non-health based enforcement standard for chloride is 250 mg/L. There were no exceedences of that standard from samples collected during the May 2001 sampling event.

As the figure shows, the chloride plume above 100 mg/L extends approximately 1,200 feet in the upper (A) groundwater horizon downgradient from the landfill, which is consistent with the groundwater flow direction. Overall, the chloride plume illustrates that the plume extends to the east-northeast, consistent with the groundwater flow direction and velocity. This confirms that the monitoring locations were placed in areas where contamination would be expected.

None of the residential wells samples exhibited elevated chloride concentrations. With the exception of the John Pleuss sample, chloride concentrations were typically 10 mg/L or less.

### **2.3.2 VOC EXTENT**

Vinyl chloride and benzene data from the May 2001 sampling event are presented in Figure 2.8 and Figure 2.9, respectively. The vinyl chloride plume extends approximately 1,600 feet from the landfill boundary. The high vinyl chloride concentrations at MW-13A (73 µg/L) and MW-12B (74 µg/L) are unique when compared to the

underlying MW-13B (18 µg/L), MW-12C (6.1 µg/L) and other nearby monitoring wells, which show substantially lower concentrations. These discreet areas of high concentration imply a narrow plume with minimal dispersion. Vinyl chloride is not detected north of Deer Creek.

The benzene plume lies within the vinyl chloride plume. The benzene plume (10 µg/L) extends 1,100 feet from the landfill. Benzene is not detected north of Deer Creek.

Based on the groundwater sampling data, the VOC plume is restrictive both horizontally and vertically and does not undergo much dispersion as it travels from the landfill.

### 2.3.3 METALS EXTENT

Table 2.5 shows the Summary of Exceedence for metal concentrations in groundwater. A total of 15 metals have exhibited exceedences of either MCLs or ESs over the history of monitoring. In May 2001, only three metals, iron, manganese, and thallium, exhibited ES exceedences. Iron and manganese are considered naturally occurring metals and their standards are based on aesthetic concerns. Dissolved (filtered) metal concentrations showed similar values as the total (unfiltered) metal samples. Thallium was detected at two locations. However, thallium is a difficult metal to analyze, as it is prone to false detections due to matrix interference and equipment calibration errors in the laboratory.

Arsenic, chromium, and cadmium are specific metals discussed in the UAO, due to their historic exceedences. However, these metals were not detected above the MCL or ES in any samples collected during the long term quarterly monitoring starting in July 2000.

### 2.3.4 NATURAL ATTENUATION

Groundwater sampling results for May 2001 continue to show preliminary evidence of natural attenuation at several monitoring well locations. Evidence for natural attenuation, particularly reductive dechlorination, includes low dissolved oxygen (<1 mg/L) levels, negative Eh values, and the presence of dehalogenated daughter by-products (e.g. chloroethane). The low levels of dissolved oxygen and negative Eh values are indicative of anaerobic groundwater conditions, which is important for reductive dechlorination. The presence of chloroethane is attributed to the breakdown

of vinyl chloride under anaerobic conditions. Figure 2.10 identifies locations where there is evidence of potential natural attenuation.

As shown on Figure 2.10, 15 locations show some evidence of natural attenuation. The majority of these locations are near the landfill where anaerobic groundwater conditions exist. However, similar conditions are observed downgradient of the landfill as far as the MW-13 well nest. Further down gradient of these wells at MW-14 and MW-15, the groundwater shows elevated dissolved oxygen and positive Eh values, thus becoming aerobic. Under aerobic conditions, chlorinated compounds, such as vinyl chloride, may continue to break down to non-toxic compounds such as ethene. Overall, these indicators imply that the chlorinated VOCs emanating from the landfill may be intrinsically bioremediated within a relative short distance from the landfill.



### 3.0 GAS EXTRACTION SYSTEM MONITORING RESULTS

#### 3.1 SUMMARY OF GAS EXTRACTION SYSTEM MONITORING PROGRAM

Figure 1.3 presents the network of gas extraction wells and gas probes identified for monitoring. The gas extraction well network consists of 20 extraction wells and the blower discharge, designed to ensure landfill gas (LFG) collection across the entire landfill. The gas probe network consists of 5 on-Site probes and 11 off-Site probes. The gas probe locations were selected to establish sentry points between the landfill and nearby homes with basements to the south. Additionally, gas probes have been placed along the north, west and east sides of the landfill to monitor potential off-Site gas migration.

Methane and oxygen monitoring at the Site is conducted using a direct-read instrument. The selected instrument for the Site is a Landtec GEM 500 gas monitor. The instrument is equipped with a quick-connect fitting that connects to the gas probe, gas extraction well, blower inlet, and blower discharge so that readings can be taken in a closed (e.g. not open to the air) system. A Landtec GEM 500 gas monitor is capable of measuring percent methane by volume, percent carbon monoxide by volume, percent oxygen by volume, flow rate, temperature, and pressure.

#### 3.2 GAS PROBE MONITORING

Gas probes located on-site and on the adjacent properties were monitored on a weekly basis during May and June 2001. Per USEPA approval, the frequency of gas probe monitoring was reduced from weekly to quarterly, beginning in July 2001. Section 4.2 details the revised gas monitoring plan. Readings recorded by the Landtec GEM 500 are summarized in Table 3.1. During the reporting period (May 2001 through July 2001), methane was not detected in any of the off-Site probes or at any probe adjacent to the landfill. Given the negative pressure readings at some of these wells and the absence of methane, the operation of the active gas extraction system has prevented migration of the landfill gases off-Site.

#### 3.3 GAS EXTRACTION WELLS MONITORING

Gas extraction wells, located within the limits of the landfill, were monitored on a weekly basis during May and June 2001. Per USEPA approval, the frequency of gas

extraction well monitoring was reduced from weekly to quarterly. Section 4.2 details the revised gas monitoring plan. The blower operation was monitored before and after the blower unit. Table 3.1 summarizes weekly readings, as recorded by the Landtec GEM 500. During the reporting period (May 2001 through July 2001), methane concentrations continued to show a gradual decline, but at a slower rate than was seen after initial system start-up and liner installation. Declining methane concentrations measured at the gas extraction wells, since cap construction, are depicted on graphs provided in Appendix C.

### **3.4 BLOWER DISCHARGE SAMPLING**

The blower discharge sample was collected on May 9, 2001. Laboratory data results are provided in Appendix D. The blower discharge data validation memo is provided in Appendix E.

Vinyl chloride and benzene are the contaminants of concern in the blower discharge. Acceptable ambient concentrations for vinyl chloride and benzene are 300 pounds per year each (WDNR NR 445). Blower discharge thresholds and mass loading calculations are provided in Tables 3.2 and 3.3, respectively. Based on the blower discharge sample results, the estimated total discharge of benzene and vinyl chloride are below the ambient discharge concentrations. Hence, no off-gas treatment is necessary.

### **3.5 CONDENSATE TANK**

Condensate generated is collected in sumps #1 and #2. The condensate is pumped from the sumps to the on-site underground condensate storage tank (UST). The tank has a capacity of 5,000 gallons. Appendix F presents the water levels measured in the tank and the cumulative water generation since November 1999. Currently, the tank contains approximately 3,600 gallons. When the tank is full, a sample of the contents will be analyzed for waste characterization to determine proper disposal. It was not necessary to empty the tank during the reporting period, therefore, no samples were collected.

#### 4.0 **REVISED MONITORING PLAN**

On June 18, 2001, the USEPA, CRA, and the WDNR met to evaluate the first four quarters of monitoring at the TMSL following cap construction. Based on the collected data, a plan for the next two years of monitoring was developed. International Paper presented the revised monitoring plan to the USEPA in a letter dated June 19, 2001. The revisions to the monitoring plan were approved by the USEPA in a letter to International Paper dated July 2, 2001, and are summarized in the following sections.

##### 4.1 **REVISED GROUNDWATER MONITORING PLAN**

The groundwater monitoring plan revisions involved reducing the sampling frequency of the monitoring wells and residential wells to quarterly, semi-annually (spring/fall) or annually (spring) monitoring. Groundwater sampling locations were assessed by their location and chemical database. Table 4.1 details the revised groundwater sampling and analysis program.

Core wells monitor the contaminants that emanate from the TMSL. These wells will be monitored on a quarterly basis. Boundary wells will be monitored semi-annually (spring and fall) to monitor the periphery of the VOC contaminant plume. Sentry wells include background wells and will monitor regional groundwater quality annually in the spring of each year.

Residential wells will be monitored annually (spring) to identify potential impacts to downgradient groundwater consumers.

The groundwater elevations of all monitoring wells will continue to be measured quarterly. The water elevation of Deer Creek will be measured quarterly.

##### 4.2 **REVISED GAS EXTRACTION SYSTEM MONITORING PLAN**

The gas extraction system monitoring plan revisions involved reducing the monitoring frequency of the gas extraction wells, gas probes, condensate tank, and blower building monitored from weekly to quarterly. The USEPA approved reducing the monitoring frequency of these locations to quarterly, however International Paper has chosen a more conservative frequency and they will be monitoring monthly to ensure protection of the neighboring homes. International Paper may further reduce monitoring to

quarterly (as approved by USEPA) at their discretion. Table 4.2 details the revised gas extraction system monitoring plan.

The perimeter gas probes and gas extraction wells will be monitored monthly to assess landfill gas removal and assist in gas extraction system balancing.

The gas extraction system blower discharge will be sampled semi-annually (summer and winter) for VOC analysis to assess the performance of remedy and determine the need for off-gas treatment.

The condensate tank will continue to be sampled, as needed, prior to discharge.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 CONCLUSIONS

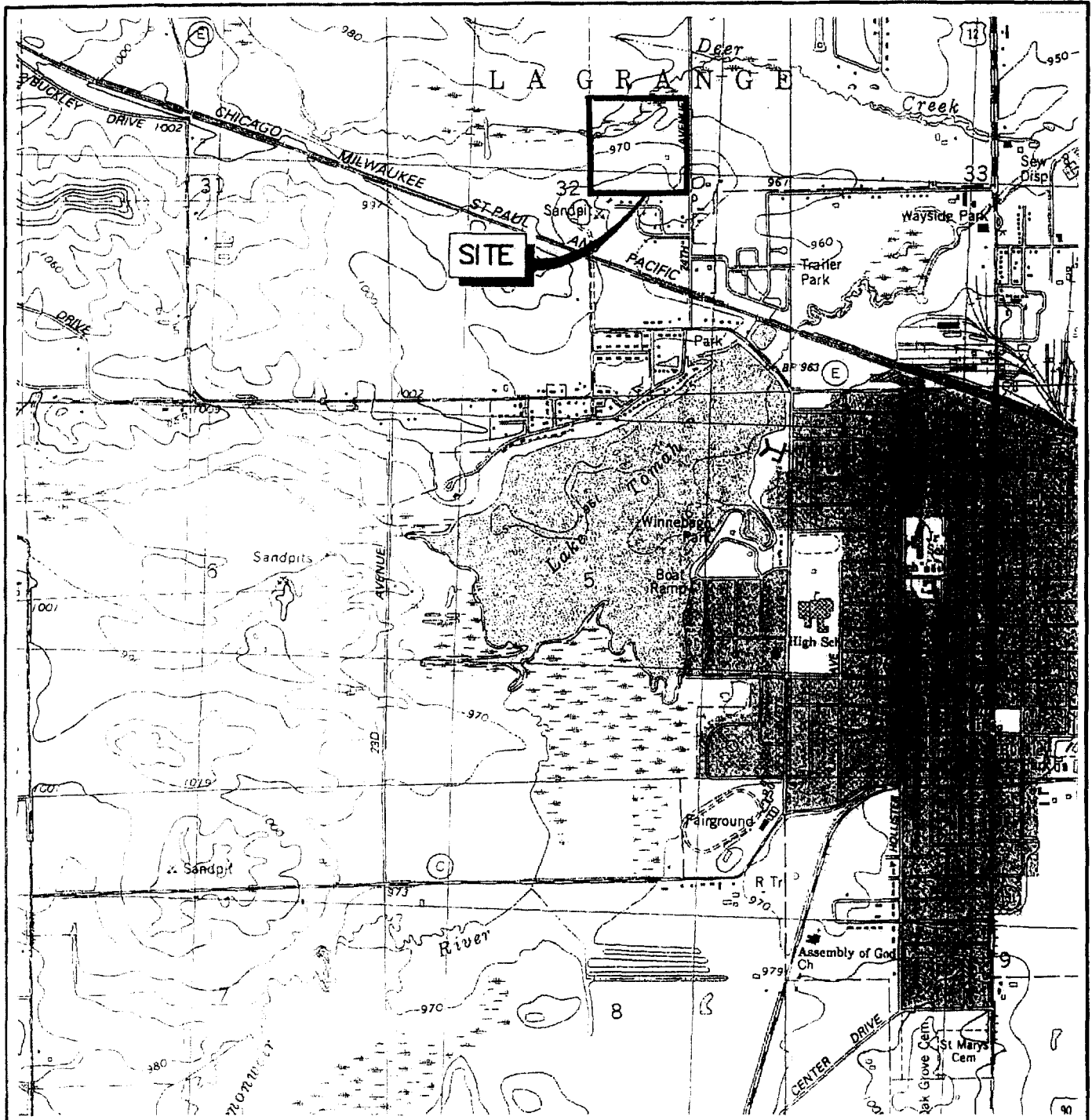
CRA presents the following conclusions, based on the review of historical data and data collected during the May 2001 sampling events:

1. The primary contaminants of concern in groundwater continue to be VOCs. The number of VOCs exceeding criteria remained unchanged in May 2001 with vinyl chloride and benzene being the most frequently detected compounds.
2. The number of metals exceeding criteria remained unchanged in May 2001 with only three metals exhibiting exceedences at more than one location, the metals being manganese, iron, and thallium. The ES for manganese and iron are public welfare standards and are based on taste, odor, and appearance rather than on detrimental health effect. Thallium is prone to false detections due to matrix interference and equipment calibration errors in the laboratory.
3. The 100 mg/L chloride contour from the landfill indicates that landfill associated groundwater has migrated approximately 1,200 feet east-northeast from the landfill boundary.
4. The overall dimensions of the VOC plume remained unchanged indicating stabilized conditions.
5. Levels of compounds detected in residential wells are protective of human health-based on Wisconsin ES's with no reported exceedences, other than iron and manganese, which are based on aesthetics.
6. Gas extraction system monitoring at the extraction wells indicate methane and VOCs are being removed from the landfill. The percentage of methane gas has decreased more since last quarter sampling.
7. Monitoring of the off-Site gas probes indicate the residential homes south of the landfill are not affected by off-Site migration of landfill gases.
8. Analysis of the blower discharge continue to show that benzene and vinyl chloride emissions remain below the maximum allowable by WDNR air quality standards.
9. No significant air emissions from this site have occurred that could adversely impact the human health or the environment.

## 5.2 RECOMMENDATIONS

- Groundwater and gas extraction system will be monitored in accordance with the approved revised monitoring program presented in Section 4.0. Samples will be collected in accordance with the GW-FSP and GES-FSP.

## FIGURES



SOURCE: USGS TOPOGRAPHIC MAP  
TOMAH, WIS. QUADRANGLE



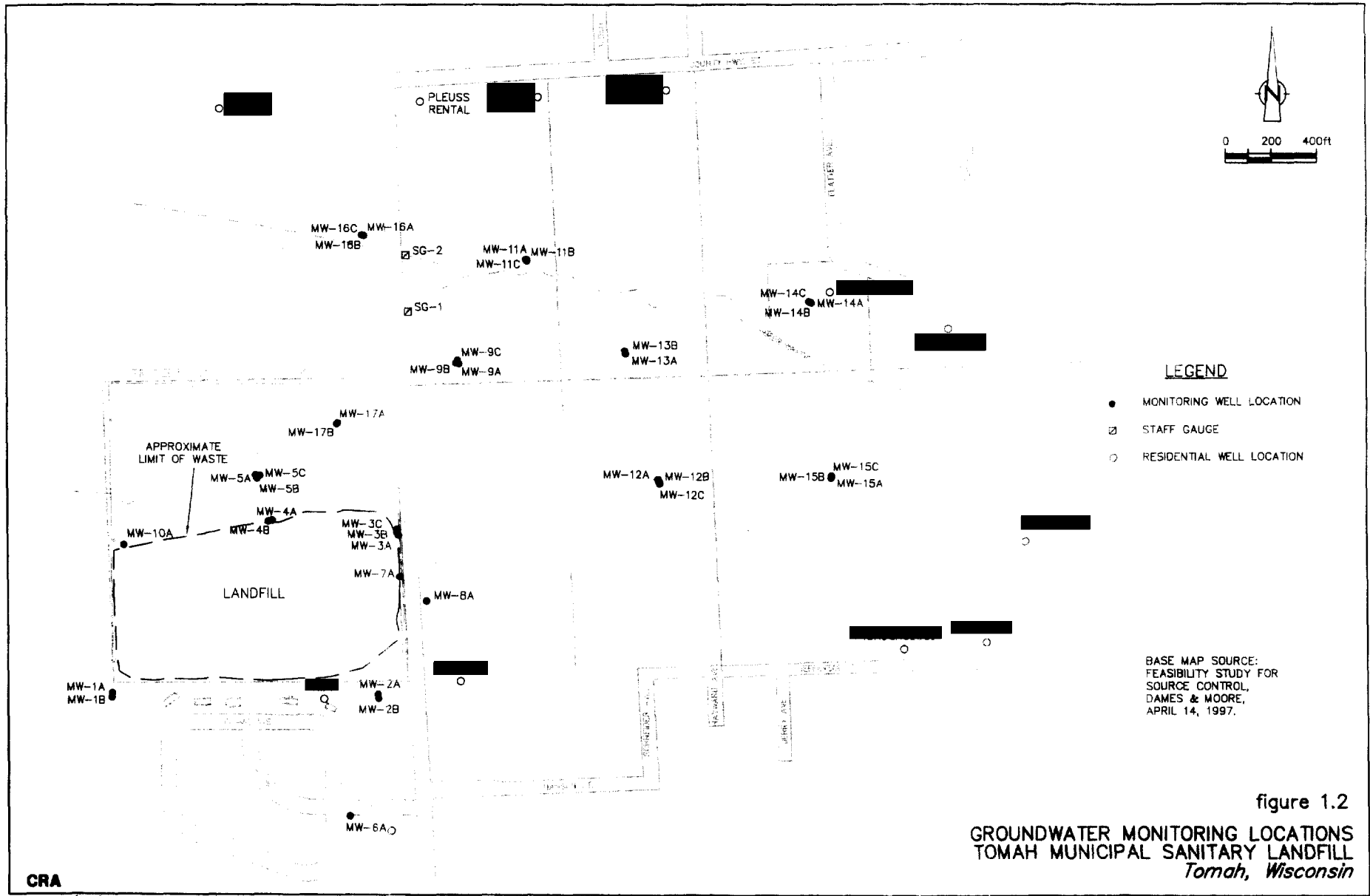
0 1000 2000ft

figure 1.1

**SITE LOCATION**  
**TOMAH MUNICIPAL SANITARY LANDFILL**  
*Tomah, Wisconsin*







CRA

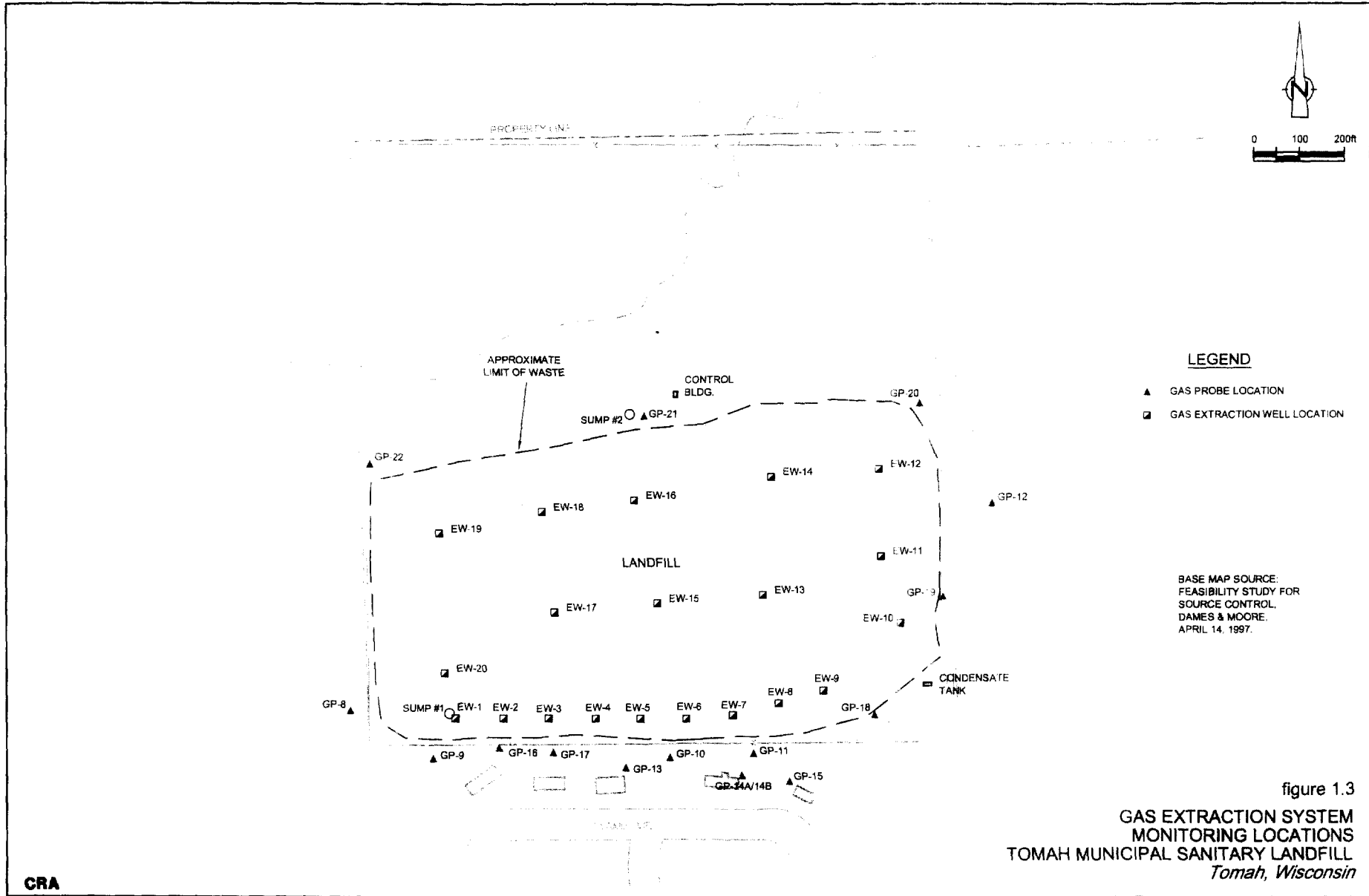
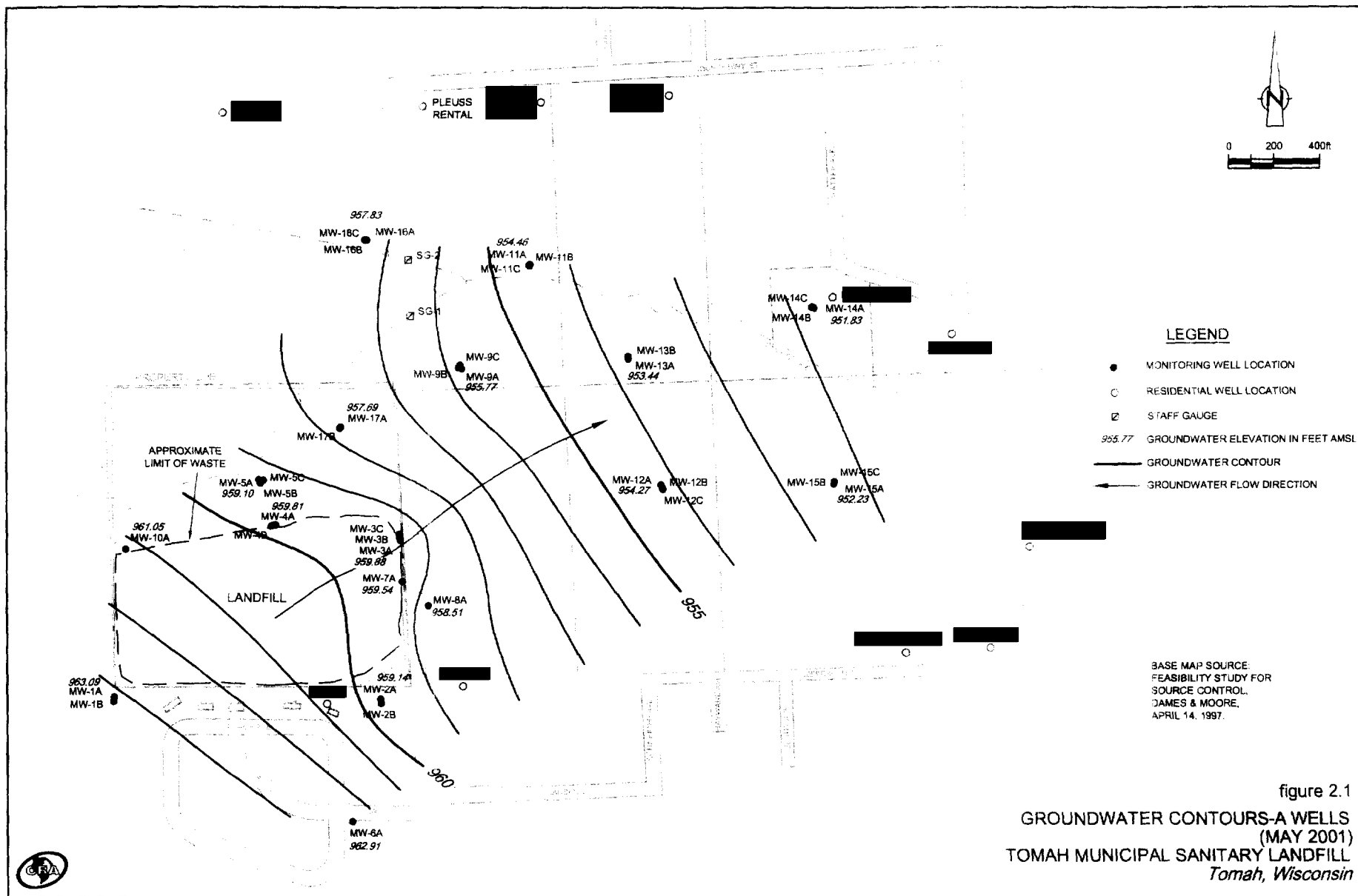
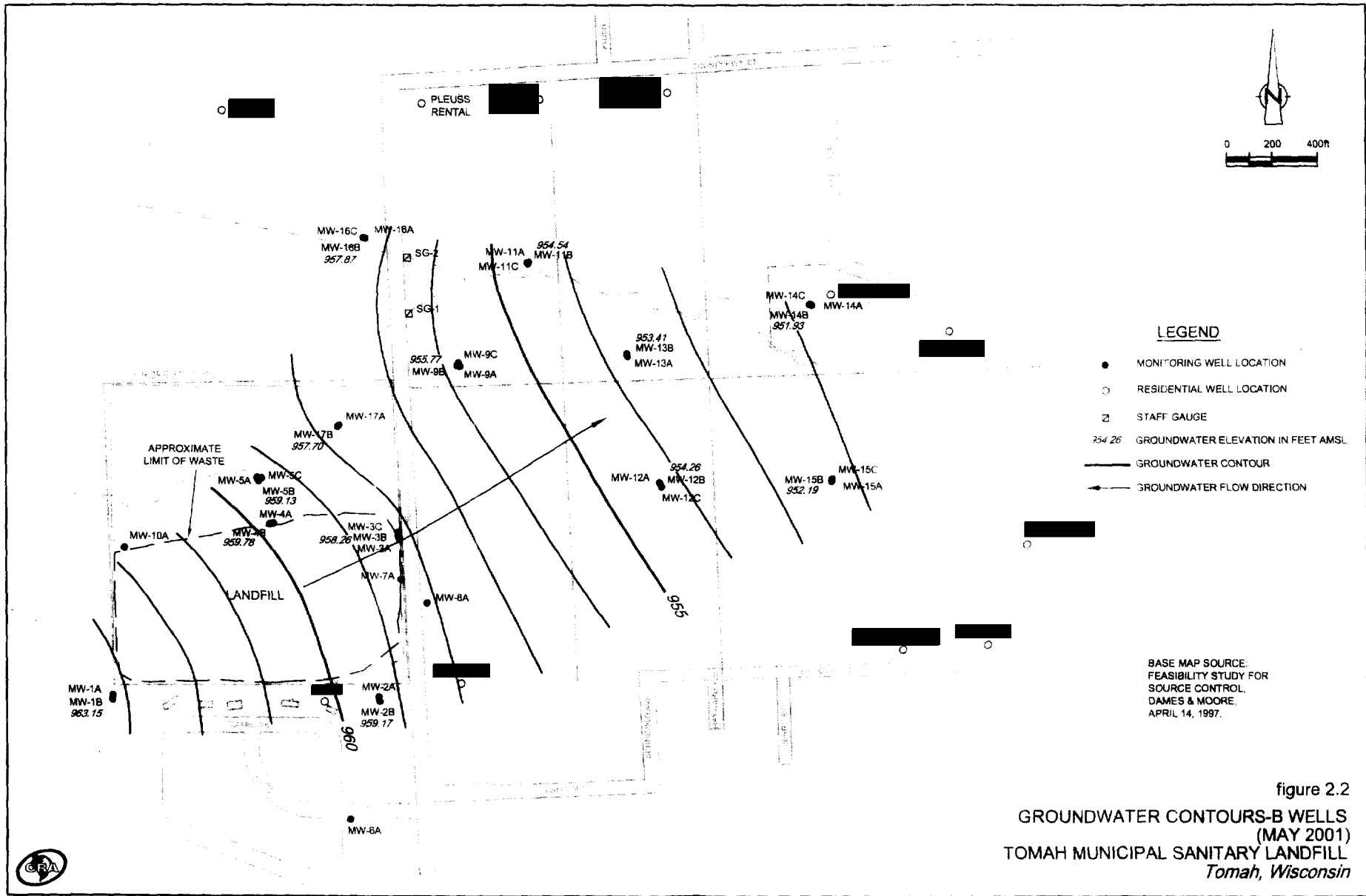
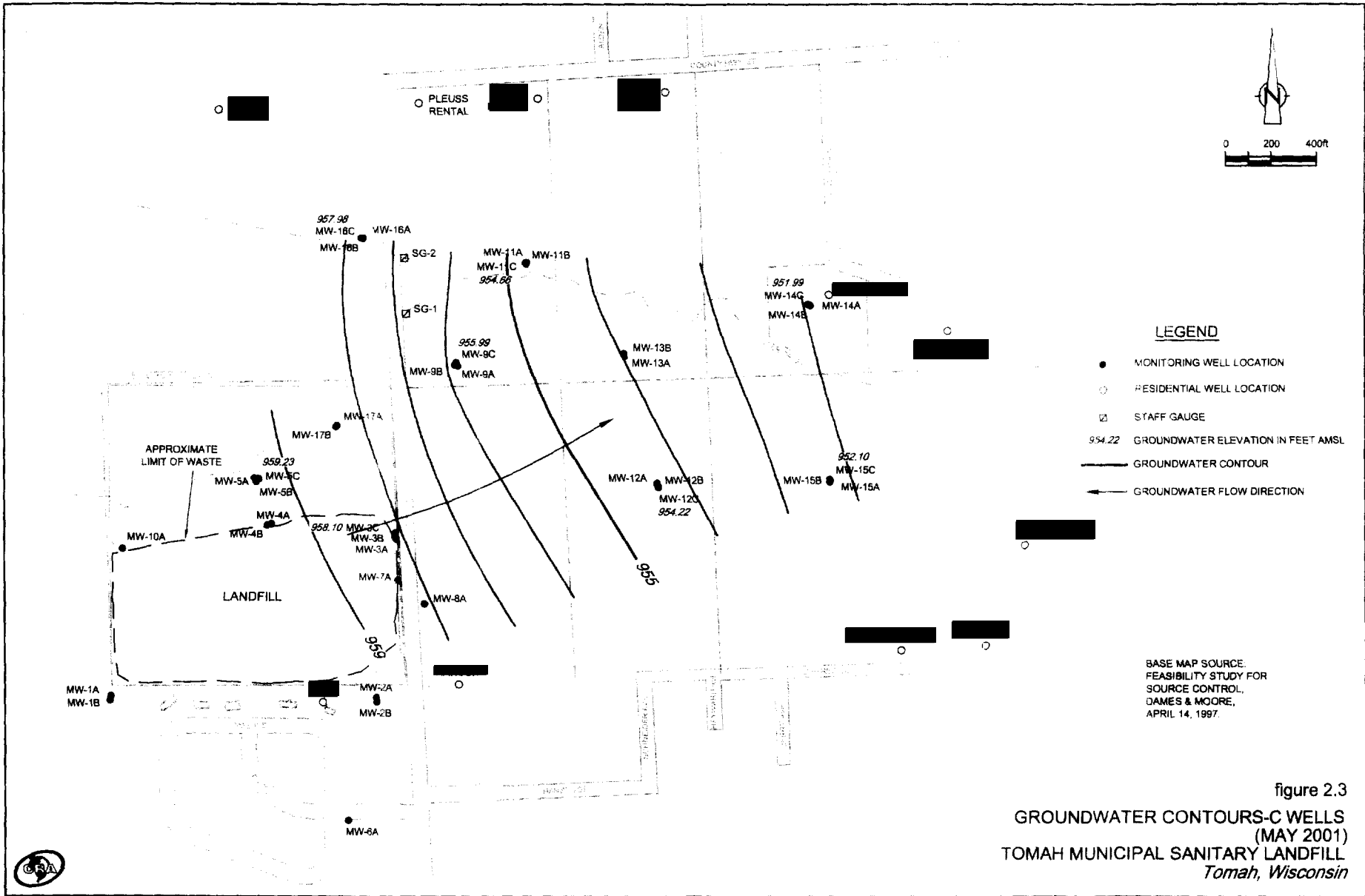
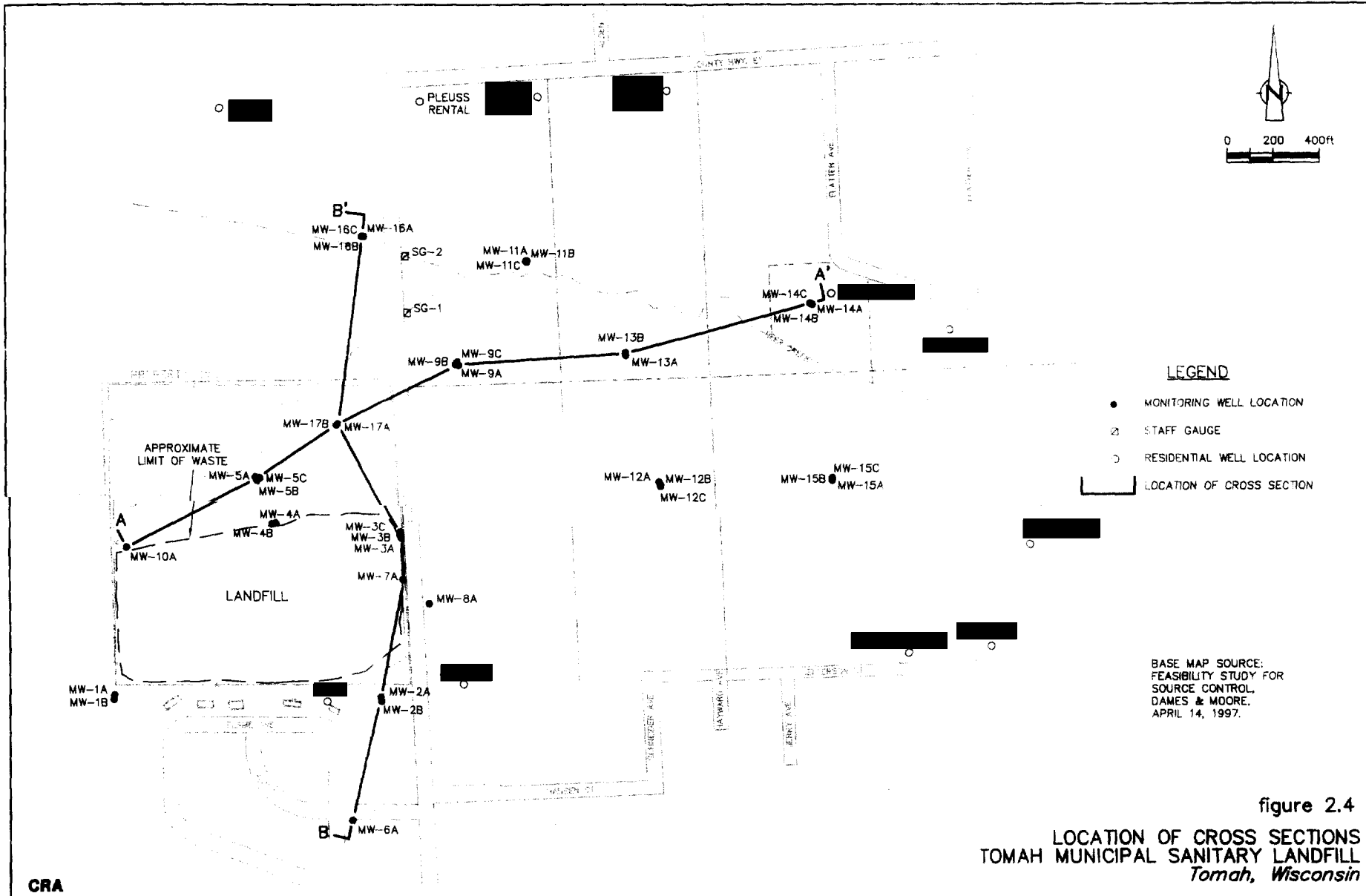


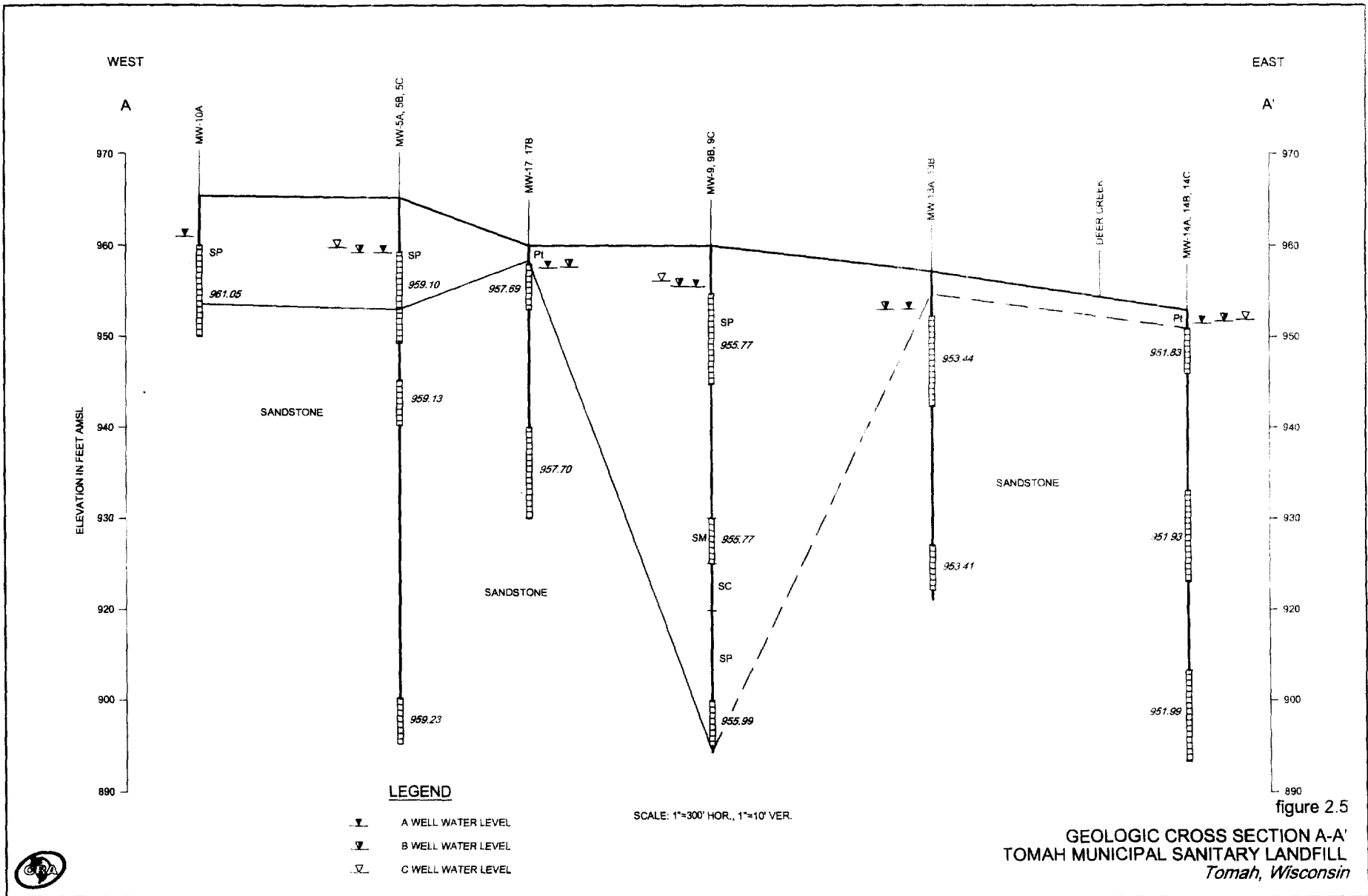
figure 1.3  
**GAS EXTRACTION SYSTEM  
 MONITORING LOCATIONS  
 TOMAH MUNICIPAL SANITARY LANDFILL  
 Tomah, Wisconsin**

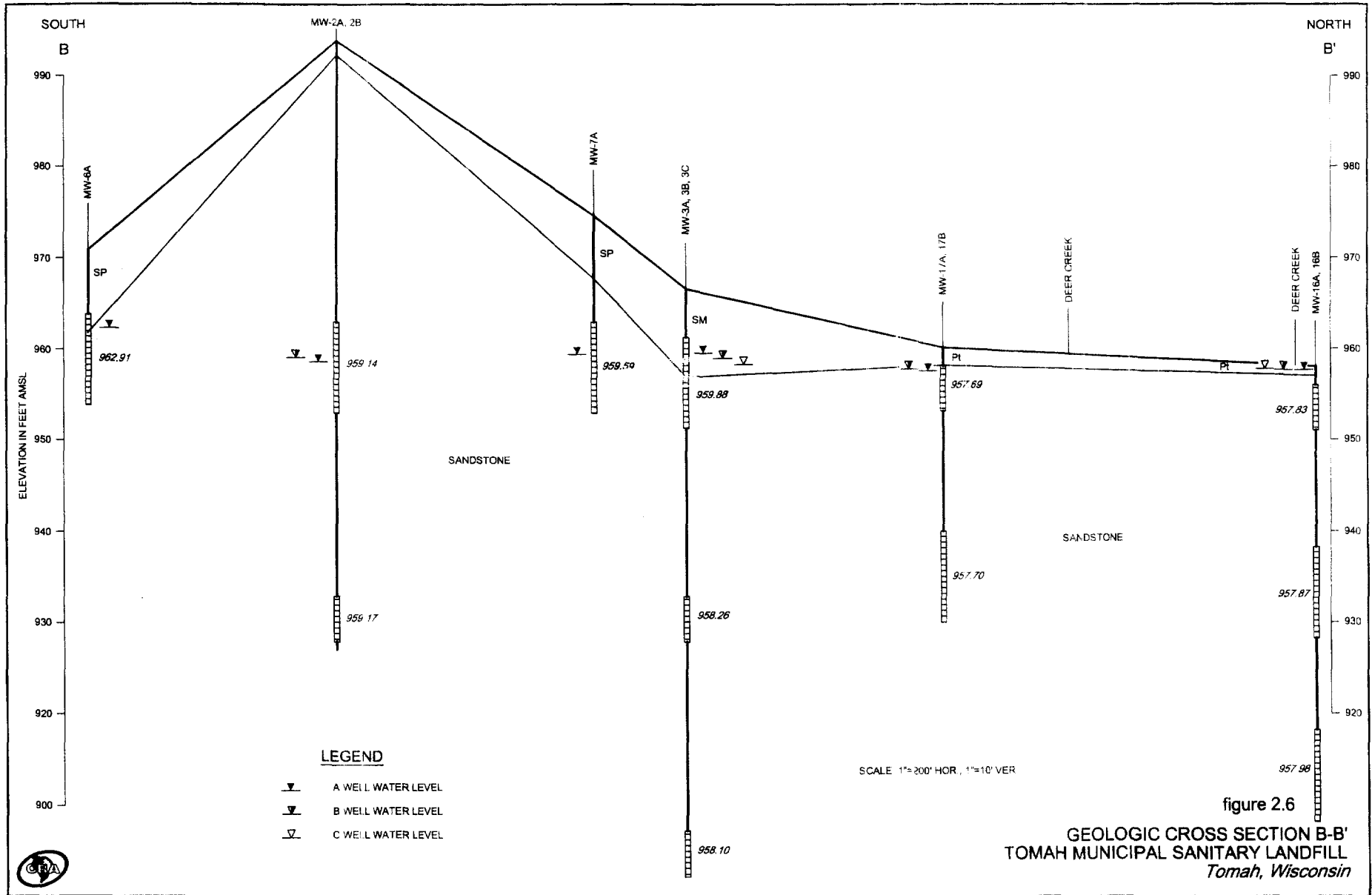




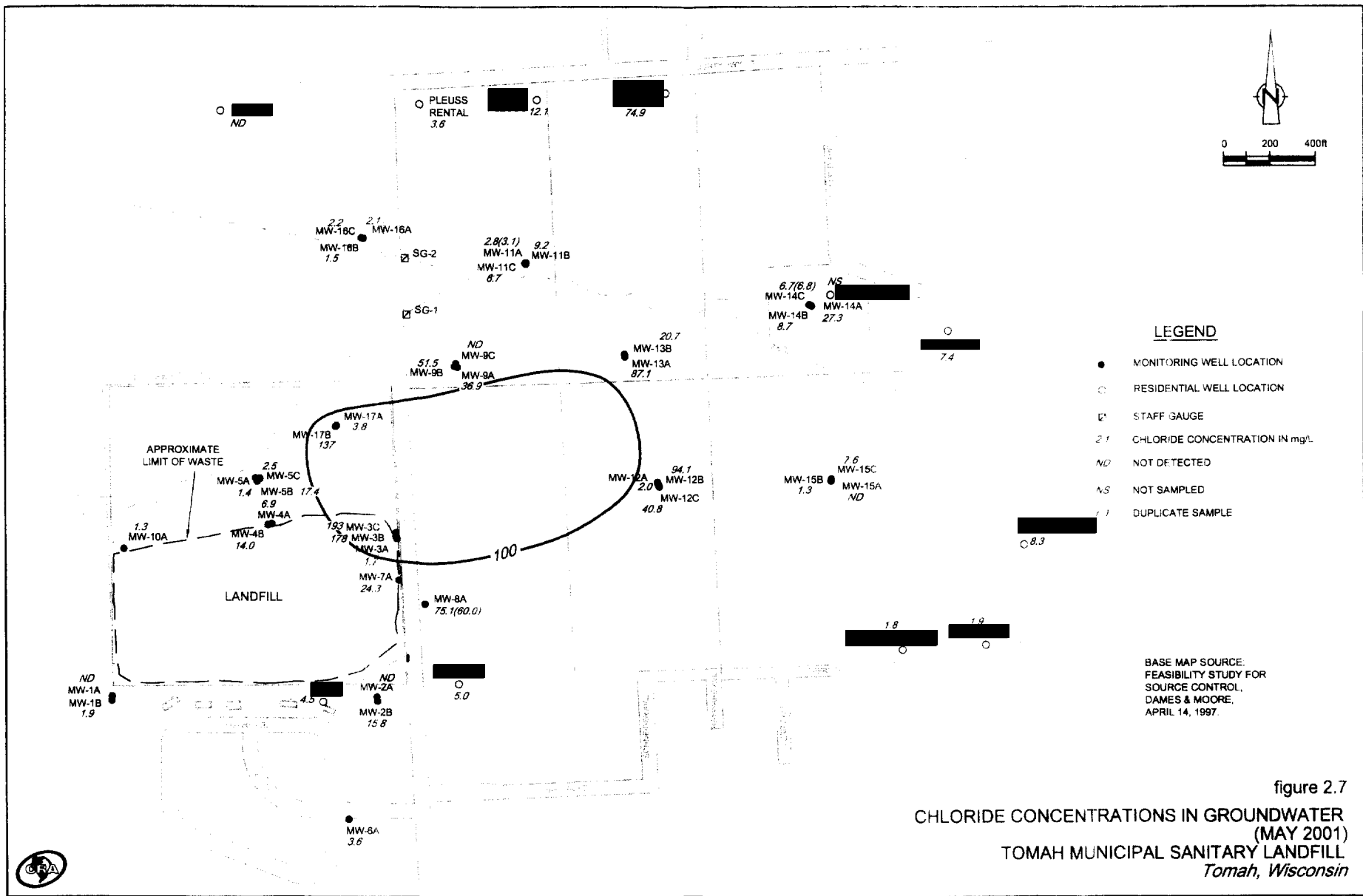












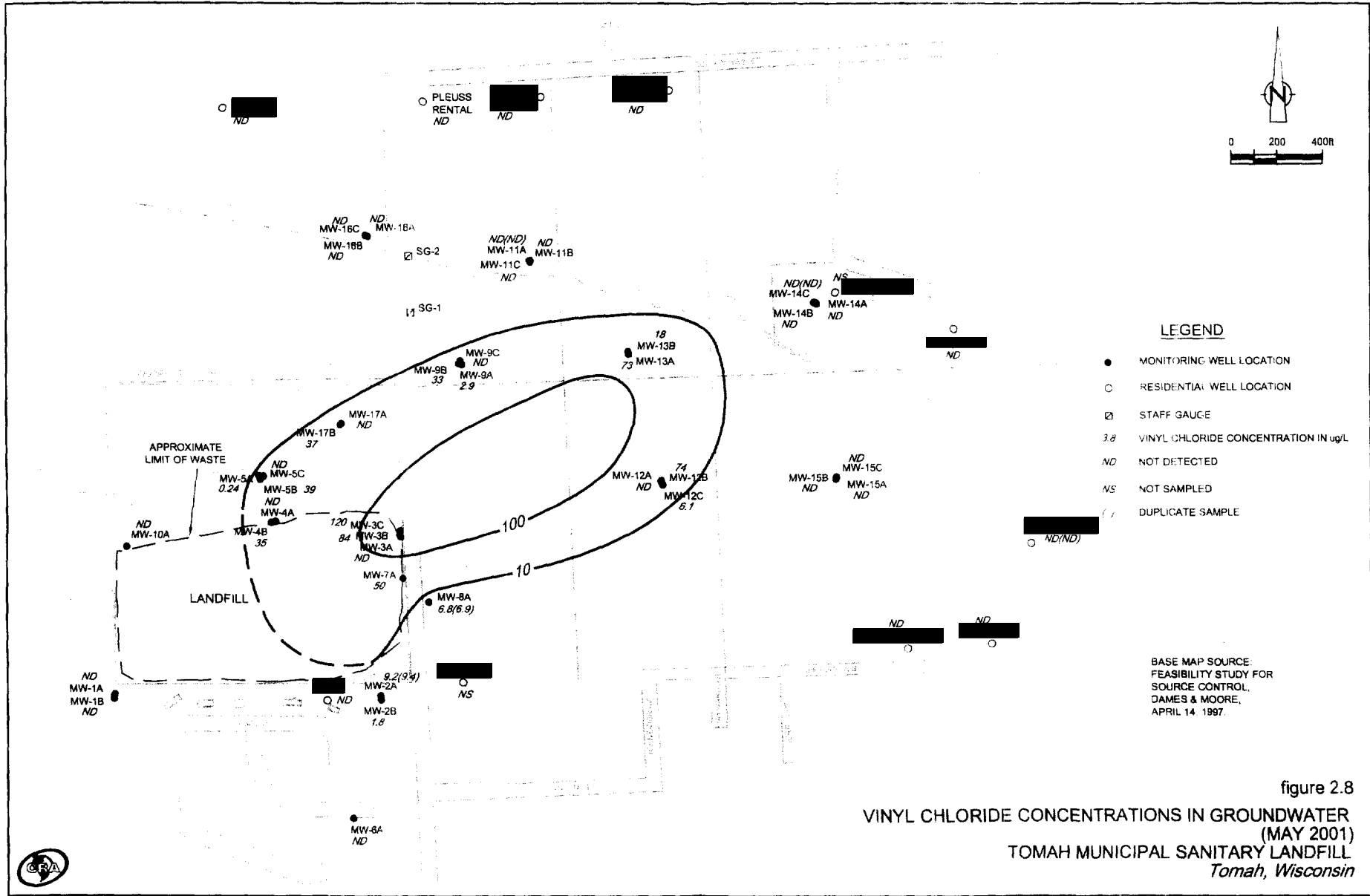


figure 2.8  
 VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER  
 (MAY 2001)  
 TOMAH MUNICIPAL SANITARY LANDFILL  
 Tomah, Wisconsin



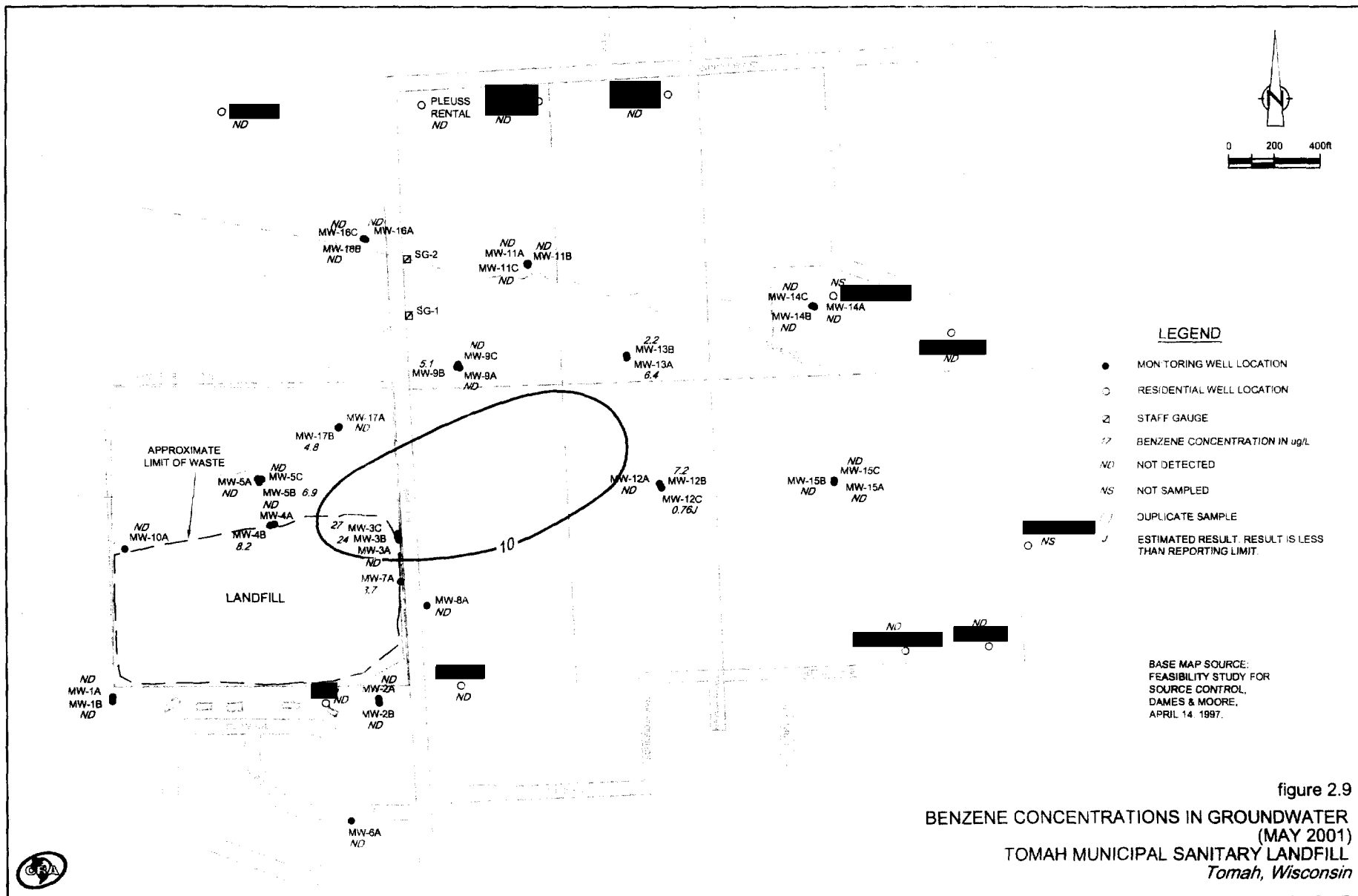
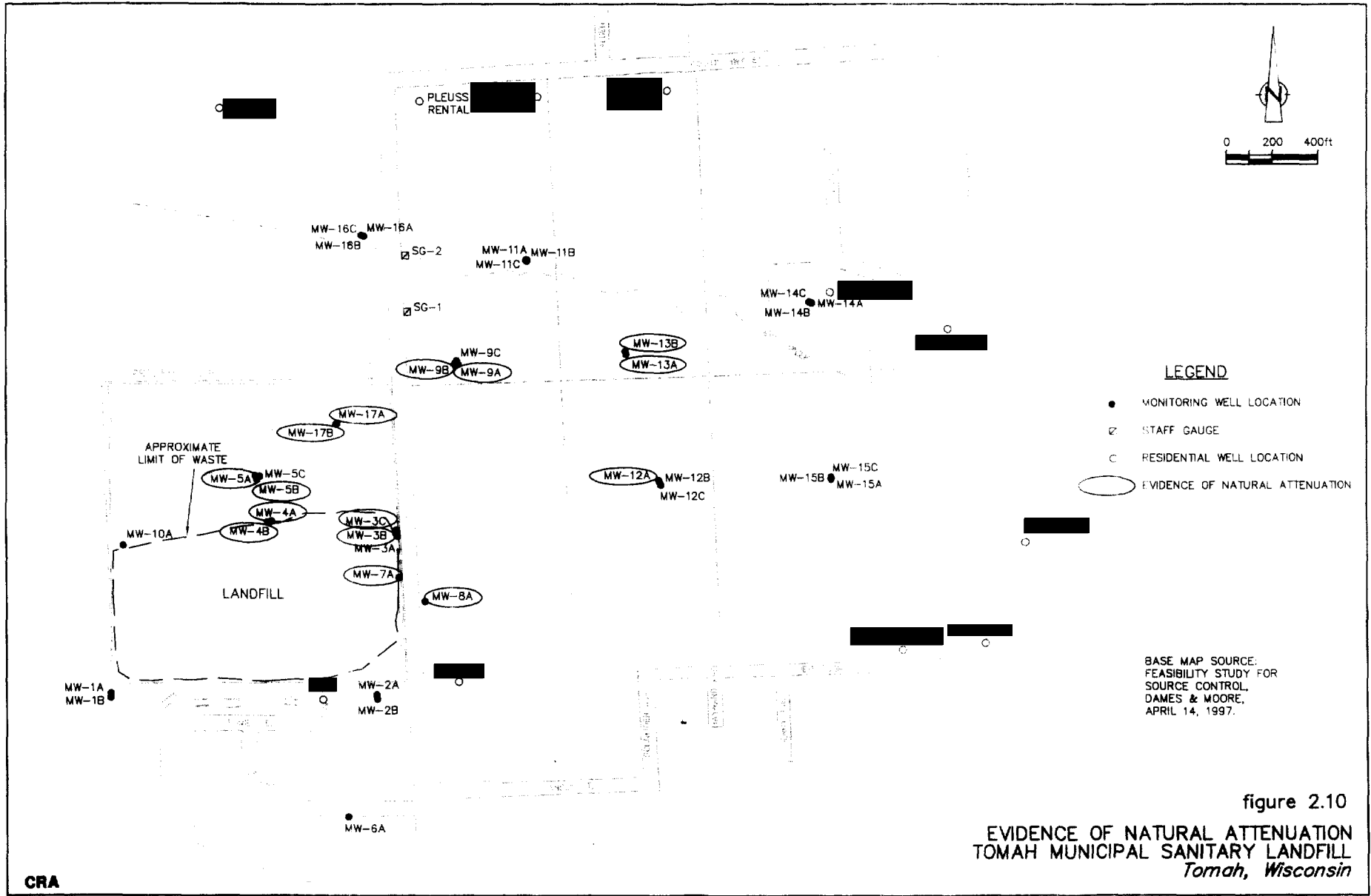


figure 2.9  
 BENZENE CONCENTRATIONS IN GROUNDWATER  
 (MAY 2001)  
 TOMAH MUNICIPAL SANITARY LANDFILL  
 Tomah, Wisconsin





## TABLES

TABLE 2.1

GROUNDWATER ELEVATION SUMMARY  
TOMAH MUNICIPAL SANITARY LANDFILL

<i>Monitoring Well</i>	<i>Top of Casing Elevation (AMSL)</i>	<i>7/12/00</i>	<i>11/13/00</i>	<i>2/19/01</i>	<i>5/22/01</i>
MW-1A	990.64	964.15	962.63	961.87	963.09
MW-1B	990.60	964.22	962.71	962.04	963.15
MW-2A	997.39	959.88	958.51	957.81	959.14
MW-2B	997.38	959.88	958.52	957.82	959.17
MW-3A	969.17	960.16	958.03	957.68	959.88
MW-3B	969.70	958.71	957.54	957.18	958.26
MW-3C	968.73	958.43	957.43	957.06	958.10
MW-4A	971.02	960.14	959.30	958.98	959.81
MW-4B	970.79	960.12	959.32	958.99	959.78
MW-5A	962.67	959.21	958.91	958.65	959.10
MW-5B	962.14	959.23	958.90	958.64	959.13
MW-5C	962.58	959.36	958.97	958.69	959.23
MW-6A	973.21	963.98	961.14	959.84	962.91
MW-7A	976.84	959.80	958.34	957.75	959.54
MW-8A	977.38	958.77	957.70	957.20	958.51
MW-9A	961.25	955.79	955.55	955.30	955.77
MW-9B	961.24	955.78	955.55	955.30	955.77
MW-9C	961.30	956.07	955.75	955.49	955.99
MW-10A	967.33	961.30	960.77	960.47	961.05
MW-11A	958.02	954.62	954.44	954.19	954.46
MW-11B	957.97	954.60	954.50	954.26	954.54
MW-11C	957.84	954.73	954.56	954.30	954.66
MW-12A	958.14	954.28	953.61	953.29	954.27
MW-12B	958.03	954.29	953.53	953.28	954.26
MW-12C	958.17	954.39	953.67	954.04	954.22
MW-13A	959.81	953.44	953.23	953.04	953.44
MW-13B	959.78	953.41	953.22	953.03	953.41
MW-14A	956.23	951.99	951.66	951.33	951.83
MW-14B	956.22	951.99	951.65	951.42	951.93
MW-14C	955.70	952.07	951.67	951.42	951.99
MW-15A	955.21	952.27	951.59	951.40	952.23
MW-15B	955.08	952.27	951.58	951.39	952.19
MW-15C	955.04	952.21	951.52	951.36	952.10
MW-16A	960.25	957.94	957.65	Frozen	957.83
MW-16B	960.32	958.02	957.67	957.24	957.87
MW-16C	960.46	958.09	957.77	957.40	957.98
MW-17A	961.50	957.76	957.17	956.90	957.69
MW-17B	961.75	957.77	957.21	957.17	957.70
SG-#1	957.92	956.22	956.22	Frozen	956.18
SG-#2	958.89		956.28	Frozen	956.34

Note:

Staff Gauges #1 and #2 are located on east side of Noth Road.

SG #1 is the south culvert and SG#2 in the north culvert.

**TABLE 2.2**  
**MONITORING WELL SAMPLE SUMMARY - MAY 2001**  
**TOMAH MUNICIPAL SANITARY LANDFILL**  
**TOMAH, WISCONSIN**

<i>Well Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Specific Conductivity (uS)</i>	<i>Temperature (°C)</i>	<i>Eh (mV)</i>	<i>Dissolved Oxygen (mg/l)</i>	<i>Turbidity (NTU)</i>	<i>Clarity</i>	<i>Volume Removed (gallons)</i>
MW-15A	W-010522-DN-01	4.72	61	10.9	45	1.51	18	Clear	3
		4.73	62	10.9	42	1.50	16	Clear	4
		4.73	62	10.9	40	1.49	15	Clear	5
MW-15B	W-010522-DN-02	5.03	78	7.9	100	2.55	24	Clear	14
		5.06	78	7.9	125	2.57	12	Clear	18.5
		5.08	78	7.9	134	2.60	9.7	Clear	23
MW-15C *	W-010522-DN-03	4.43	229	9.2	260	2.10	19	Clear	8
		4.43	228	9.3	266	2.14	17	Clear	16
		4.43	227	9.3	270	2.13	10	Clear	24
MW-12A *	W-010522-DN-04	4.76	55	8.2	205	0.98	6.1	Clear	6
		4.78	55	8.2	204	0.83	4.2	Clear	8
		4.78	55	8.2	204	0.78	3.7	Clear	10
MW-12B	W-010522-DN-05	5.74	444	8.5	136	0.16	3.3	Clear	5.5
		5.78	450	8.5	149	0.13	3.0	Clear	11
		5.79	456	8.5	155	0.13	2.8	Clear	16.5
MW-12C *	W-010522-DN-06	4.70	197	8.9	265	0.30	0.1	Clear	9
		4.70	196	8.9	270	0.29	0.1	Clear	18
		4.67	197	8.9	273	0.28	0.1	Clear	27
MW-14A *	W-010522-DN-07	5.79	281	10.7	-40	0.50	17	Opaque	3
	W-010522-DN-08 (R.B.)	5.78	277	10.6	-35	0.40	14	Opaque	4
		5.78	277	10.5	-36	0.30	12	Opaque	5
MW-14B	W-010522-DN-09	5.19	176	7.8	130	2.60	90	Silty	4.5
		5.19	175	7.8	153	2.61	16	Clear	9
		5.19	175	7.8	160	2.62	14	Clear	13.5
MW-14C	W-010522-DN-10	5.12	144	9.5	207	8.44	55	Sl. Silty	8
	W-010522-DN-11 (Dup.)	5.11	144	9.5	220	8.45	26	Sl. Silty	16
		5.10	144	9.5	226	8.42	23	Clear	24
MW-9A *	W-010523-DN-12	5.63	268	8.0	-2	0.42	6.6	Clear	6
		5.65	265	8.0	-1	0.37	6.0	Clear	8
		5.64	265	8.0	-1	0.37	5.5	Clear	10
MW-9B *	W-010523-DN-13	5.92	503	8.3	-100	0.12	3.6	Clear	5.5
		5.93	504	8.4	-103	0.10	3.2	Clear	10.5
		5.93	512	8.4	-104	0.09	2.9	Clear	15.5
MW-9C	W-010523-DN-14 (MS/MSD)	5.39	24	9.0	5	11.33	15.0	Clear	8.5
		5.32	24	9.0	50	11.26	9.5	Clear	17
		5.28	24	9.0	80	11.25	6.2	Clear	26
		5.23	24	9.0	96	11.26	5.0	Clear	35
		5.21	24	9.0	110	11.29	4.5	Clear	44
MW-13A *	W-010523-DN-15	4.91	373	7.9	178	1.56	4.7	Clear	6
		4.92	375	7.9	186	1.51	3.9	Clear	8
		4.93	376	7.9	191	1.47	3.3	Clear	10
MW-13B	W-010523-DN-16	5.21	162	8.2	178	0.29	5.5	Clear	5
		5.18	167	8.2	180	0.28	3.8	Clear	10
		5.17	169	8.2	185	0.28	3.7	Clear	15

TABLE 2.2  
 MONITORING WELL SAMPLE SUMMARY - MAY 2001  
 TOMAH MUNICIPAL SANITARY LANDFILL  
 TOMAH, WISCONSIN

Well Location	Sample Number	pH	Specific Conductivity (uS)	Temperature		Dissolved Oxygen (mg/l)	Turbidity (NTU)	Clarity	Volume Removed (gallons)
				(°C)	Eh (mV)				
MW-11A	W-010523-DN-17	5.24	59	7.8	169	7.93	4.8	Clear	7
	W-010523-DN-18 (Dup.)	5.22	60	7.8	179	7.85	4.0	Clear	9
		5.21	61	7.8	190	7.85	3.4	Clear	11
MW-11B	W-010523-DN-19	4.90	145	8.9	255	3.35	2.80	Clear	5
		4.91	143	8.9	263	3.39	2.60	Clear	10
		4.91	141	8.9	265	3.34	2.50	Clear	15
MW-11C	W-010523-DN-20	4.99	122	9.2	278	5.29	5.8	Clear	8.5
		4.98	121	9.2	277	5.39	5.0	Clear	17
		4.98	121	9.2	278	5.55	4.5	Clear	25.5
MW-16A	W-010523-DN-21	5.65	84	8.2	55	2.10	11	Clear	3
	W-010523-DN-22 (R.B.)	5.64	84	8.1	55	2.09	9.4	Clear	4
		5.64	84	8.1	55	2.08	7.2	Clear	5.5
MW-16B	W-010523-DN-23	5.18	41.0	7.4	180	7.47	8	Clear	5
		5.17	41.0	7.4	200	7.45	5	Clear	10
		5.17	41.0	7.4	208	7.42	4	Clear	15
MW-16C	W-010523-DN-24	5.14	43	8.6	207	3.64	32	Clear	8
		5.13	44	8.6	214	3.86	15	Clear	16
		5.13	45	8.6	220	4.02	4.8	Clear	24
MW-1A	W-010523-DN-25	5.03	38	8.7	266	10.23	2.2	Clear	4.5
		5.03	38	8.7	268	10.11	2.5	Clear	6
		5.03	38	8.7	271	9.88	2.3	Clear	7.5
MW-1B *	W-010523-DN-26	4.64	99	9.8	360	9.77	1.9	Clear	10
		4.65	98	9.8	364	9.58	1.1	Clear	15
		4.66	99	9.8	367	9.56	0.9	Clear	20
MW-5A *	W-010524-DN-27	6.32	471	7.3	-85	0.81	3.86	Clear	4.5
		6.32	469	7.3	-86	0.76	3.10	Clear	6
		6.32	469	7.3	-87	0.67	3.24	Clear	7.5
MW-5B *	W-010524-DN-28	6.43	1428	7.4	-112	0.18	11.0	Clear	4
		6.42	1424	7.4	-115	0.17	9.7	Clear	8
		6.42	1421	7.4	-116	0.15	7.6	Clear	12
MW-5C *	W-010524-DN-29	5.28	100	8.9	90	4.68	2.4	Clear	9.5
		5.28	100	8.9	107	4.61	2.0	Clear	19
		5.28	99	8.9	121	4.52	2.2	Clear	28.5
		5.29	98	8.9	153	4.47	1.9	Clear	38
		5.30	97	8.9	169	4.39	1.4	Clear	47.5
MW-17A *	W-010524-DN-30	5.91	121	10.9	-39	0.13	7.3	Clear	3
	W-010524-DN-31 (R.B.)	5.91	121	10.9	-40	0.12	7.0	Clear	4
		5.91	121	10.9	-41	0.11	6.7	Clear	5
MW-17B *	W-010524-DN-32	5.99	783	8.1	-33	0.47	6.3	Clear	4.5
		6.08	892	7.8	-22	0.48	3.0	Clear	9
		6.09	909	7.8	-20	0.46	3.1	Clear	13.5
		6.10	910	7.8	-19	0.46	3.2	Clear	18
MW-6A	W-010524-DN-33	6.78	85	11	35	9.22	456	Silty	3.5
		6.60	85	11	46	9.16	161	Sl. Silty	4.5
		6.52	85	11	56	9.14	111	Sl. Silty	5.5



TABLE 2.2  
MONITORING WELL SAMPLE SUMMARY - MAY 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN

Well Location	Sample Number	pH	Specific Conductivity ( $\mu$ S)	Temperature ( $^{\circ}$ C)	Eh (mV)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Clarity	Volume Removed (gallons)
MW-2A *	W-010524-DN-34	5.11	47	9.7	145	0.25	2.8	Clear	3
	W-010524-DN-35 (Dup.)	5.08	47	9.7	144	0.25	2.9	Clear	4
		5.06	46	9.7	147	0.23	2.2	Clear	5
MW-2B *	W-010524-DN-36	4.74	132	10.4	276	0.17	1.91	Clear	5
		4.74	132	10.4	277	0.17	1.81	Clear	10
		4.74	131	10.4	286	0.16	1.82	Clear	15
MW-10A *	W-010524-DN-37 (MS/MSD)	5.60	60	9.0	189	1.31	4.69	Clear	6
		5.61	61	9.0	185	1.27	3.99	Clear	8
		5.62	62	9.1	176	1.24	3.01	Clear	10
MW-8A *	W-010524-DN-38 W-010524-DN-39 (Dup.)	4.88	215	9.2	250	1.25	4.18	Clear	4.5
		4.86	234	9.2	258	1.08	3.30	Clear	6
		4.83	264	9.2	272	0.96	3.03	Clear	7.5
MW-4A *	W-010524-DN-40	6.21	518	10.1	8	0.17	14.2	Clear	3
		6.23	540	10.1	7	0.15	5.11	Clear	4
		6.26	550	10.1	6	0.13	3.54	Clear	5
MW-4B *	W-010524-DN-41 W-010524-DN-42 (R.B.)	6.42	1556	10.2	-79	0.09	18.3	Clear	3.5
		6.43	1653	10.3	-92	0.08	7.14	Clear	7
		6.45	1687	10.3	-100	0.07	6.61	Clear	10.5
		6.45	1696	10.3	-103	0.07	6.60	Clear	14
MW-7A *	W-010524-DN-43	6.51	718	10.1	-61	2.11	10.30	Cldy - Fe	2 P.D.
Insufficient amount of water to collect full field parameters. Waterlevel recovered sufficiently to collect sample.									
MW-3A *	W-010524-DN-44	5.51	104	9.6	120	6.82	3.8	Clear	4.5
		5.46	107	9.6	144	6.62	3.5	Clear	6
		5.45	107	9.6	153	6.52	3.4	Clear	7.5
MW-3B *	W-010524-DN-45	6.53	2654	9.9	-77	0.12	5.2	Sl. Cldy	5
		6.54	2682	9.9	-86	0.09	3.4	Clear	10
		6.54	2697	9.9	-89	0.08	3.1	Clear	15
		6.54	2699.0	9.9	-90	0.08	3.0	Clear	20
MW-3C	W-010524-DN-46	6.57	2688	10.3	-77	0.07	4.3	Clear	9.5
		6.58	2672	10.3	-82	0.06	2.6	Clear	19
		6.58	2665	10.3	-85	0.05	2.1	Clear	28.5

Notes: \* = These locations had extra parameters taken due to previous rounds analytical results. An additional metals (filtered), TDS and TSS were collected.

TABLE 2.3

**RESIDENTIAL SAMPLE SUMMARY - MAY 2001**  
**TOMAH MUNICIPAL SANITARY LANDFILL**  
**TOMAH, WISCONSIN**

<i>Residential Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Specific Conductivity (uS)</i>	<i>Temperature (°C)</i>	<i>Eh (mV)</i>	<i>Dissolved Oxygen (mg/l)</i>	<i>Turbidity (NTU)</i>	<i>Clarity</i>	<i>Volume Removed (gallons)</i>
Boehm *	W-010523-DN-100	5.07	40	10.8	220	5.25	5.00	Clear	15
		5.06	40	10.8	216	5.07	5.14	Clear	20
		5.04	40	10.8	219	5.16	5.11	Clear	25
Thundercloud *	W-010523-DN-101	5.55	64	10.8	200	8.25	7.95	Clear	100
		5.58	64	10.9	189	8.25	5.86	Clear	110
		5.51	63	10.8	188	8.75	4.11	Clear	120
Schleicher *	W-010525-DN-102 W-010525-DN-103 (Dup)	5.60	106	10.8	176	1.50	2.27	Clear	25
		5.62	106	10.8	173	1.50	2.01	Clear	50
		5.63	106	10.8	173	1.49	2.09	Clear	75
Thompson *	W-010525-DN-104	5.12	67	11.5	226	3.66	1.43	Clear	15
		5.10	67	11.4	230	3.59	1.50	Clear	30
		5.08	67	11.4	236	3.56	1.60	Clear	45
Hanson	W-010525-DN-105 W-010525-DN-106 (F.B.)	6.02	253	9.2	156	6.28	1.50	Clear	10
		6.02	253	9.2	159	6.41	1.60	Clear	20
		6.00	254	9.3	157	6.46	1.40	Clear	30
Zdrojowy	W-010525-DN-107	5.44	197	10.9	184	4.94	3.80	Clear	50
		5.42	196	10.9	193	4.91	3.40	Clear	100
		5.42	197	10.9	202	4.95	2.90	Clear	150
John Pluess *	W-010525-DN-108 (MS/MSD)	5.42	399	11.3	225	5.12	2.42	Clear	30
		5.39	393	11.2	230	5.55	1.81	Clear	60
		5.39	384	11.2	234	5.68	2.34	Clear	90
		5.39	385	11.2	234	5.66	1.92	Clear	120
Tom Pluess	W-010525-DN-109	5.15	240	10.2	238	10.02	1.92	Clear	25
		5.14	239	10.2	240	10.10	1.93	Clear	50
		5.13	243	10.2	243	10.04	2.02	Clear	75
		5.13	245	10.2	244	10.03	1.90	Clear	100
Pluess Rental	W-010525-DN-110	5.19	104	10.5	244	9.26	1.50	Clear	35
		5.18	89	10.6	250	9.56	2.00	Clear	70
		5.18	89	10.6	253	9.70	2.10	Clear	105
Ripp	W-010614-DN-111	7.50	194	9.6	106		26.8	Brownish	257
		6.50	161	9.5	180		32.6	Sl. Cldy	514
Pumping Well		6.50	159	9.4	181		5.5	Clear	771
		6.50	159	9.4	182		5.0	Clear	1028
Kenworthy	No Sample - See note								

**Note:**

Field parameters were taken after the initial 5 minutes since purging began. Readings taken in 5 minute intervals.

Each sample location was taken at the outside spigot except Thundercloud and Ripp. Thundercloud sample was taken at the kitchen sink and the Ripp sample was collected at the well via 2" submersible pump after 5 standing well volumes had been purged from the well.

\* These locations had additional parameters taken due to previous rounds analytical results. The additional samples were metals (filtered), TDS and TSS.

Kenworthy location was not sampled due to the remodeling construction throughout the home and the water supply had been turned off as new plumbing was being installed at this time.

SUMMARY OF DETECTED COMPOUNDS  
TOMAH MUNICIPAL LANDFILL  
TOMAH, WISCONSIN

LOCATION	DATE	DUPLICATE	Chloride mg/L	Solids, Total Dissolved mg/L	Solids, Total Suspended mg/L	Aluminum mg/L	Arsenic mg/L	Iron, Dissolved mg/L	Iron mg/L	Manganese, Dissolved mg/L	Manganese mg/L	Thallium mg/L	1,1,1-Trichloroethane ug/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	1,2-Dichloropropane ug/L	Benzene ug/L	Carbon disulfide ug/L	Chlorobenzene ug/L
Wisconsin Enforcement Standards			250				0.05	0.3	0.3	0.05	0.05	0.002	200	850	7	5	5	5	1000	
MW-10A	5/24/01		1.3	35 J	4	< 0.2	< 0.01	1.1	1.1	0.18	0.18	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-11A	5/23/01		2.8			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-11A	5/23/01	D	3.1			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-11B	5/23/01		9.2			< 0.2	< 0.01		< 0.1		0.051	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-11C	5/23/01		6.7			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-12A	5/22/01		2	62 J	< 4	< 0.27	< 0.01	0.13	0.67	0.038	0.041	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-12B	5/22/01		94.1			< 0.2	< 0.01		< 0.1		0.39	< 0.01	< 2.5	32	< 2.5	< 2.5	0.54 J	7.2	< 2.5	< 2.5
MW-12C	5/22/01		40.8	130 J	< 4	< 0.2	< 0.01		< 0.1	0.4	0.41	< 0.01	17	8.5	3.3	< 1.2	0.68 J	0.76 J	< 1.2	< 1.2
MW-13A	5/23/01		87.1	250	< 4	< 0.2	< 0.01	0.1 J	< 0.1	0.43	0.42	< 0.01	< 2.5	25	< 2.5	< 2.5	1.4 J	6.4	< 2.5	0.4 J
MW-13B	5/23/01		20.7			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	0.22 J	< 1	3.3	0.66 J	2.2	< 1	< 1
MW-14A	5/22/01		27.3	220 J	< 4	0.69	< 0.01	15.6	14.9	0.3	0.3	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-14B	5/22/01		8.7			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1
MW-14C	5/22/01		6.7			0.21	< 0.01		0.17		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1
MW-14C	5/22/01	D	6.8			< 0.2	< 0.01		0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1
MW-15A	5/22/01		< 1			0.29	< 0.01		0.25		0.02	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-15B	5/22/01		1.3			< 0.2	< 0.01		0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-15C	5/22/01		7.6	180 J	12	0.22	< 0.01		0.12	0.47	0.48	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-16A	5/23/01		2.1			< 0.2	< 0.01		2.6 E		0.081	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-16B	5/23/01		1.5			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-16C	5/23/01		2.2			< 0.2	< 0.01		0.14 J		0.026	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-17A	5/24/01		3.8	85	33	0.54	< 0.01	14.4	14.8	0.8	0.74	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-17B	5/24/01		137	550 J	17	< 0.2	< 0.01	45.3	46.7	3.8	3.9	0.011	< 1.7	2.2	< 1.7	< 1.7	0.36 J	4.8	< 1.7	0.42 J
MW-1A	5/23/01		< 1			< 0.2	< 0.01		< 0.1		0.033	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-1B	5/23/01		1.9	73	< 4	0.31	< 0.01		< 0.1	0.54	0.52	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-2A	5/24/01		< 1	39 J	< 4	< 0.2	< 0.01	2.3	2	0.71	0.7	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-2A	5/24/01	D	< 1	22 J	< 4	< 0.2	< 0.01	2	2.6	0.77	0.68	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-2B	5/24/01		15.8	81 J	< 4	0.3	< 0.01		< 0.1	1.8	1.8	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-3A	5/24/01		1.7	96 J	< 4	< 0.2	< 0.01	< 0.1	< 0.1	0.17	0.24	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-3B	5/24/01		178	1400 J	70	< 0.2	0.021	45.8	44	0.063	0.061	< 0.01	< 3.3	< 3.3	< 3.3	< 3.3	1.9 J	24	< 3.3	4.1
MW-3C	5/24/01		193			< 0.2	0.023		29.4		0.034	< 0.01	< 5	1.6 J	< 5	< 5	2.9 J	27	< 5	2.8 J
MW-4A	5/24/01		6.9	410 J	31	< 0.2	< 0.01	36	36	3	3	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-4B	5/24/01		14	800 J	160	< 0.2	0.02	124	124	0.52	0.53	< 0.01	< 1	< 1	< 1	< 1	0.77 J	8.2	< 1	1
MW-5A	5/24/01		1.4	220	35	< 0.2	< 0.01	49.3 J	46.7 J	15.8	16.3	0.019	< 1	< 1	0.82 J	< 1	< 1	< 1 U	< 1	1.2

SUMMARY OF DETECTED COMPOUNDS  
TOMAH MUNICIPAL LANDFILL  
TOMAH, WISCONSIN

Wisconsin Enforcement Standards			Chloride	Solids, Total Dissolved	Solids, Total Suspended	Aluminum	Arsenic	Iron, Dissolved	Iron	Manganese, Dissolved	Manganese	Thallium	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichloropropane	Benzene	Carbon disulfide	Chlorobenzene
LOCATION	DATE	DUP	mg/l 250	mg/l	mg/l	mg/l	mg/L 0.05	mg/L 0.3	mg/l 0.3	mg/L 0.05	mg/L 0.05	mg/l 0.002	ug/l 200	ug/l 850	ug/l 7	ug/l 5	ug/l 5	ug/L 5	ug/L 1000	ug/L
MW-5B	5/24/01		17.4	640	54	< 0.2	< 0.01	80.8	99.7	5.9	6.1	< 0.01	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	6.9	< 1.2	5.2
MW-5C	5/24/01		2.5	76	4	< 0.2	< 0.01		< 0.1	1.9	2	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-6A	5/24/01		3.6			2.4	< 0.01		1.6		0.017	< 0.01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MW-7A	5/24/01		24.3	290 J	49	< 0.2	0.024	32.2	36	1.2	0.93	< 0.01	< 2.5	1.3 J	< 2.5	< 2.5	1.9 J	3.7	< 2.5	< 2.5
MW-8A	5/24/01		75.1	220 J	4	< 0.2	< 0.01		< 0.1	0.57	0.68	< 0.01	1.4	0.84 J	< 1	< 1	< 1	< 1	< 1	< 1
MW-8A	5/24/01	D	60	170 J	4	< 0.2	< 0.01		< 0.1	0.58	0.61	< 0.01	1.4	0.84 J	< 1	< 1	< 1	< 1	< 1	< 1
MW-9A	5/23/01		36.9	170	4	< 0.2	< 0.01	0.95	1.1	0.43	0.4	< 0.01	< 1	< 1	< 1	< 1	< 1	1 U	< 1	< 1
MW-9B	5/23/01		51.5	300	8	< 0.2	< 0.01	20.2	26.5	1.4	1.2	< 0.01	< 1	0.95 J	< 1	< 1	< 1	5.1	0.2 J	0.46 J
MW-9C	5/23/01		< 1			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	1 U	< 1	< 1
PLEUSS, JOHN	5/25/01		74.9	270 J	4	< 0.2	< 0.01		0.13		0.059	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
PLEUSS, TOM RENTAL	5/25/01		3.6			< 0.2	< 0.01		< 0.1		< 0.015	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
PLEUSS, TOM	5/25/01		12.1			< 0.2	< 0.01		0.15		0.024	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
RIPP WELL	6/14/01		4.5	110	9	< 0.2	< 0.01		5.8		0.4	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
SCHLEIDLER	5/25/01		8.3	78 J	4	< 0.2	< 0.01		7.1 J		0.033	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
SCHLEIDLER	5/25/01	D	8.3	79 J	4	< 0.2	< 0.01		0.34 J		0.033	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
THOMPSON	5/25/01		1.9	54 J	4	< 0.2	< 0.01		0.14		0.16	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
THUNDERCLOUD	5/23/01		1.8			< 0.2	< 0.01		0.44 J		0.098	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
ZDROJOUY	5/25/01		7.4			< 0.2	< 0.01		1		0.025	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
BOEHM, JULIE	5/23/01		< 1			< 0.2	< 0.01		0.6 J		0.023	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5
HANSON, RUTH	5/25/01		5			< 0.2	< 0.01		< 0.1		0.031	< 0.01	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5

SUMMARY OF DETECTED COMPOUNDS  
TOMAH MUNICIPAL LANDFILL  
TOMAH, WISCONSIN

Wisconsin Enforcement Standards			Chloroethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Xylenes, Total	VOCs, Total
LOCATION	DATE	DUP	ug/L 400	ug/L 6	ug/L 70	ug/L 1000	ug/L 700	ug/L 5	ug/L 5	ug/L 343	ug/L 100	ug/L 5	ug/L 3490	ug/L 0.2	ug/L 10000	ug/L
MW-10A	5/24/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-11A	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-11A	5/23/01	D	< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-11B	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-11C	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-12A	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-12B	5/22/01		9.6	< 2.5	15	0.93 J	< 2.5	5.5	1.1 J	< 2.5	< 1.2	0.62 J	< 2.5	74	< 2.5	146.49
MW-12C	5/22/01		0.92 J	0.34 J	36	7.5	< 1.2	5.5	13	< 1.2	0.38 J	2.8	3.5	6.1	0.76 J	107.04
MW-13A	5/23/01		2.9 J	< 2.5	17	< 2.5	< 2.5	2.7	< 2.5	< 2.5	< 1.2	0.4 J	< 2.5	73	< 2.5	106.7
MW-13B	5/23/01		< 2	< 1	6.9	< 1	< 1	1.6	0.23 J	< 1	< 0.5	0.27 J	< 1	18	0.54 J	33.92
MW-14A	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1 U	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-14B	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-14C	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-14C	5/22/01	D	< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-15A	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-15B	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-15C	5/22/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-16A	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-16B	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	0.2 J	< 0.5	< 1	< 1	< 0.5	< 1	0.2
MW-16C	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	0.3 J	< 0.5	< 1	< 1	< 0.5	< 1	0.3
MW-17A	5/24/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1 U	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-17B	5/24/01		1.4 J	< 1.7	15	< 1.7	< 1.7	2.4	< 1.7	< 1.7	< 0.84	0.92 J	< 1.7	37	< 1.7	64.5
MW-1A	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-1B	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-2A	5/24/01		< 2	< 1	< 0.5	2.9	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	9.2	< 1	12.1
MW-2A	5/24/01	D	< 2	< 1	< 0.5	3.1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	9.4	< 1	12.5
MW-2B	5/24/01		< 2	< 1	< 0.5	2.3	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	1.8	< 1	4.1
MW-3A	5/24/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-3B	5/24/01		1.7 J	< 3.3	< 1.7	< 3.3	31	< 3.3	< 3.3	14	< 1.7	< 3.3	< 3.3	84	88	248.7
MW-3C	5/24/01		< 10	< 5	< 2.5	< 5	14	< 5	< 5	11	< 2.5	< 5	< 5	120	32	211.3
MW-4A	5/24/01		< 2	< 1	< 0.5	< 1	0.13 J	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	0.13
MW-4B	5/24/01		1.4 J	< 1	0.23 J	< 1	0.25 J	0.53 J	< 1	< 1 U	< 0.5	< 1	< 1	35	0.66 J	48.04
MW-5A	5/24/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	0.24 J	< 1	2.26

**SUMMARY OF DETECTED COMPOUNDS  
TOMAH MUNICIPAL LANDFILL  
TOMAH, WISCONSIN**

LOCATION	DATE	DUP	Chloroethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Xylenes, Total	VOCs, Total
			ug/L 400	ug/L 6	ug/L 70	ug/L 1000	ug/L 700	ug/L 5	ug/L 5	ug/L 343	ug/L 100	ug/L 5	ug/L 3490	ug/L 0.2	ug/L 10000	ug/L
Wisconsin Enforcement Standards																
MW-5B	5/24/01		3.8	< 1.2	0.49 J	< 1.2	0.7 J	0.53 J	< 1.2	0.27 J	< 0.62	< 1.2	< 1.2	39	2.1	58.99
MW-5C	5/24/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-6A	5/24/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
MW-7A	5/24/01		1.1 J	< 2.5	< 1.2	< 2.5	6.7	< 2.5	< 2.5	5.1	< 1.2	< 2.5	< 2.5	50	14	83.8
MW-8A	5/24/01		< 2	< 1	< 0.5	0.34 J	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	6.8	< 1	9.38
MW-8A	5/24/01	D	< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	6.9	< 1	9.14
MW-9A	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	2.9	< 1	2.9
MW-9B	5/23/01		1.3 J	< 1	3.8	< 1	< 1	< 1	< 1	< 1	< 0.5	0.21 J	< 1	33	< 1	45.02
MW-9C	5/23/01		< 2	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 0.5	< 1	ND
PLEUSS, JOHN	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	1.2		< 0.5		< 0.5	< 0.5	< 0.5		1.2
PLEUSS, TOM RENTAL	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		< 0.5	< 0.5	< 0.5		ND
PLEUSS, TOM	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		< 0.5	< 0.5	< 0.5		ND
RIPP WELL	6/14/01		< 0.5	< 0.5		< 0.5	< 0.5	< 0.86 U		< 0.5		< 0.5	< 0.5	< 0.5		ND
SCHLEIDLER	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	0.93		< 0.5		< 0.5	< 0.5	< 0.5		0.93
SCHLEIDLER	5/25/01	D	< 0.5	< 0.5		< 0.5	< 0.5	0.68		< 0.5		< 0.5	< 0.5	< 0.5		0.68
THOMPSON	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	0.59		< 0.5		< 0.5	< 0.5	< 0.5		0.59
THUNDERCLOUD	5/23/01		< 0.5	< 0.5		0.86	< 0.5	< 0.5		< 0.5		< 0.5	< 0.5	< 0.5		0.86
ZDROJOUY	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		< 0.5	< 0.5	< 0.5		ND
BOEHM, JULIE	5/23/01		< 0.5	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		< 0.5	< 0.5	< 0.5		ND
HANSON, RUTH	5/25/01		< 0.5	< 0.5		< 0.5	< 0.5	< 0.68 U		< 0.5		< 0.5	< 0.5	< 0.5		ND

**Notes.**

D - Duplicate.

RB - Rinse blank.

FB - Field blank.

J - Estimated result. Result is less than reporting limit.

U - Analyte is non-detect with the associated value being the quantitation limit.

ND - Analyte was not detected.

Shaded - Exceedence of Wisconsin Enforcement Standard

TABLE 2.5

SUMMARY OF EXCEEDENCES  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN

Compound	ES	Units	Number of Exceedences					Date of Most Recent Exceedence
			1994-2000	Jul-00	Nov-00	Feb-01	May-01	
bis(2-ethylhexyl)phthalate	6	ug/L	19	0	0	0	0	10/30/98
Chloride	250	mg/L	18	1	0	1	0	2/19/01
Fluoride	4	mg/L	6	0	0	0	0	12/20/96
Nitrogen, Nitrate	10	mg/L	2	0	0	0	0	8/30/95
Sulfate	250	mg/L	1	0	0	0	0	9/22/94
Antimony	6	ug/L	3	0	0	0	0	10/27/98
Arsenic	50	ug/L	12	0	0	0	0	8/14/97
Barium	2	mg/L	5	0	0	0	0	10/29/98
Beryllium	4	ug/L	11	0	0	0	0	8/13/97
Boron	960	ug/L	7	0	0	0	0	10/29/98
Cadmium	0.005	mg/L	15	0	0	0	0	8/12/97
Chromium	0.1	mg/L	16	0	0	0	0	8/13/97
Cobalt	0.04	mg/L	26	0	0	0	0	10/27/98
Iron	0.3	mg/L	133	20	20	22	24	5/22/01
Iron, Dissolved	13	mg/L	NA	NA	NA	17	14	5/22/01
Lead	15	ug/L	33	0	0	0	0	10/30/98
Manganese	0.05	mg/L	134	30	30	27	30	5/22/01
Manganese, Dissolved	1.05	mg/L	NA	NA	NA	26	23	5/22/01
Mercury	2	ug/L	8	0	0	0	0	12/21/96
Nickel	0.1	mg/L	14	0	0	0	0	8/14/97
Thallium	2	ug/L	56	0	1	1	2	5/22/01
Vanadium	0.03	mg/L	29	0	0	0	0	10/30/98
1,2-Dichloroethane	5	ug/L	4	0	0	1	0	2/19/01
1,2-Dichloroethene, Total	70	ug/L	4	0	0	0	0	8/28/95
1,2-Dichloropropane	5	ug/L	14	0	1	0	0	11/15/00
1,2-Dichloroethene	5	ug/L	64	7	8	9	7	5/22/01
Bromodichloromethane	0.6	ug/L	7	0	0	0	0	12/20/96
cis-1,2-Dichloroethene	70	ug/L	4	0	0	0	0	8/28/95
Methylene chloride	5	ug/L	9	1	0	2	2	5/22/01
Tetrachloroethene	5	ug/L	2	1	1	1	1	5/22/01
Tetrahydrofuran	50	ug/L	1	0	0	0	0	9/21/94
Toluene	343	ug/L	5	0	0	0	0	12/20/96
Vinyl chloride	0.2	ug/L	136	16	23	24	18	5/22/01
1,1-Dichloroethene	7	ug/L	0	1	1	0	0	11/13/00

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
Blower Inlet	11:23	5/2/01	1.4	8.6	12	78	-8	7.8	--	--
Blower Inlet	12:38	5/9/01	2.1	9.3	11	77.6	-7.6	7.36	--	--
Blower Inlet	13:35	5/16/01	1.7	8.7	11.3	78.3	-7.9	7.71	--	--
Blower Inlet	10:58	5/23/01	2.6	10.2	9.6	77.6	-4.9	8.47	--	--
Blower Inlet	11:33	5/30/01	2.1	10.5	10.1	77.3	-7.5	7.32	--	--
Blower Inlet	10:59	6/6/01	2.1	9.8	10.3	77.8	-8.2	8.02	--	--
Blower Inlet	14:07	6/14/01	2.9	12.8	8.9	75.4	-8.7	8.39	--	--
Blower Inlet	11:01	6/22/01	2.9	11.2	9.8	76.1	-9.5	9.24	--	--
Blower Inlet	11:54	7/17/01	5	16.1	5.9	73	-8.8	8.72	--	--
Blower Outlet	11:25	5/2/01	1.5	8.9	11.7	77.9	-5.4	9.44	87	--
Blower Outlet	12:08	5/9/01	2.1	9.4	10.9	77.6	-4.6	9.35	92	--
Blower Outlet	13:37	5/16/01	2	9.5	10.4	78.1	-5	9.32	97	--
Blower Outlet	10:55	5/23/01	2.1	8.4	11.8	77.7	-7.8	7.63	79	--
Blower Outlet	11:36	5/30/01	2.1	10.1	10	77.8	-5.4	9.54	87	--
Blower Outlet	11:02	6/6/01	2.2	10.7	9.8	77.3	-4.6	9.2	85	--
Blower Outlet	14:10	6/14/01	3.2	13.5	8.2	75.1	-4.6	7.86	94	--
Blower Outlet	11:04	6/22/01	3.6	13.7	7.3	75.4	-4.9	9.2	93	--
Blower Outlet	11:57	7/17/01	4.9	16	5.7	73.4	-4.8	8.59	102	--
EW01	13:42	5/2/01	0	1.3	19.6	79.1	-6.4	0.16	45	14
EW01	15:10	5/9/01	0	1.1	20.2	78.7	-6.2	0.14	49	13
EW01	15:00	5/16/01	0	1.4	19.2	79.4	-5.6	0.12	52	12
EW01	13:43	5/23/01	0	1.8	19	79.2	-5.5	0.06	50	7
EW01	13:46	5/30/01	0	1.8	19.4	78.8	-5.9	0.14	53	13
EW01	13:35	6/6/01	0	1.7	18.6	79.7	-6.6	0.16	51	14
EW01	13:28	6/14/01	0	2.4	17.8	79.8	-5.8	0.09	56	10
EW01	13:08	6/22/01	0	2.8	18.1	79.1	-4.4	0.08	59	10
EW01	14:20	7/17/01	0	3.3	16.1	80.6	-5.1	0.09	65	10
EW02	13:40	5/2/01	0	1.8	19.1	79.1	-6.4	0.24	54	17
EW02	15:12	5/9/01	0	1.9	19.2	78.9	-6	0.24	56	17
EW02	14:57	5/16/01	0	1.8	18.7	79.5	-5.6	0.18	60	15
EW02	13:41	5/23/01	0	2.3	18.5	79.2	-5.7	0.16	58	13
EW02	13:48	5/30/01	0	2.2	18.7	79.1	-5.7	0.2	60	15
EW02	13:33	6/6/01	0	2.6	17.6	79.8	-6.6	0.25	59	18
EW02	13:25	6/14/01	0	2.7	17.6	79.7	-5.8	0.2	62	15
EW02	13:06	6/22/01	0	2.6	18.4	79	-4.9	0.14	64	12
EW02	14:17	7/17/01	0	0.3	19.4	80.3	-2	-0.01	100	0



TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
EW03	13:37	5/2/01	0	1.2	19.5	79.3	-6.6	0.08	52	10
EW03	15:14	5/9/01	0	1.2	19.9	78.9	-6.4	0.07	53	9
EW03	14:55	5/16/01	0	1.2	19.3	79.5	-5.8	0.06	58	8
EW03	13:38	5/23/01	0	1.8	19	79.2	-6	0.06	55	7
EW03	13:50	5/30/01	0	1.7	19.4	78.9	-6	0.06	58	7
EW03	13:31	6/6/01	0	1.9	18.4	79.7	-6.8	0.09	55	10
EW03	13:22	6/14/01	0	2.1	18.3	79.6	-6	0.09	60	10
EW03	13:03	6/22/01	0	2.2	18.6	79.2	-5.1	0.03	63	4
EW03	14:15	7/17/01	0	3	16.3	80.7	-5.3	0.07	69	8
EW04	13:35	5/2/01	0	1.3	19.3	79.4	-6.8	0.05	49	6
EW04	15:17	5/9/01	0	1.2	19.9	78.9	-6.4	0.06	52	7
EW04	14:53	5/16/01	0	1.5	18.9	79.6	-5.9	0.06	57	7
EW04	13:36	5/23/01	0	1.9	18.8	79.3	-6	0.05	52	6
EW04	13:53	5/30/01	0	1.8	19.2	79	-6.1	0.05	56	6
EW04	13:29	6/6/01	0	2	18.1	79.9	-6.9	0.06	51	8
EW04	13:20	6/14/01	0	2.2	17.9	79.9	-6.1	0.02	58	3
EW04	13:01	6/22/01	0	2.3	18.1	79.6	-4.9	0	61	0
EW04	14:12	7/17/01	0	0.4	19.3	80.3	-2.2	0	97	0
EW05	13:33	5/2/01	0	4.7	15.8	79.5	-6.9	0	57	0
EW05	15:20	5/9/01	0	4.5	15.8	79.7	-6.5	0.01	59	1
EW05	14:50	5/16/01	0	4.7	15.1	80.2	-6	0.02	68	2
EW05	13:34	5/23/01	0	5.2	14.7	80.1	-6	0.03	57	4
EW05	13:55	5/30/01	0.1	5.4	15.3	79.2	-6.2	0.03	64	4
EW05	13:27	6/6/01	0.1	6	14.1	79.8	-7.2	0.02	58	2
EW05	13:18	6/14/01	0.1	6.4	13.7	79.8	-6	0.03	67	4
EW05	12:58	6/22/01	0	6.3	14.1	79.6	-5.5	0.02	70	2
EW05	14:10	7/17/01	0.1	4.7	14.2	81	-5.6	0.04	78	5
EW06	13:30	5/2/01	0	4.6	15.5	79.9	-6.6	0.07	58	8
EW06	15:22	5/9/01	0.3	5	15.4	79.3	-6.2	0.06	61	8
EW06	14:47	5/16/01	0.4	5.1	14.7	79.8	-5.8	0.06	66	7
EW06	13:31	5/23/01	0.3	5.5	14.6	79.6	-5.7	0.04	62	5
EW06	13:58	5/30/01	0.2	5.2	15.3	79.3	-5.9	0.06	66	7
EW06	13:25	6/6/01	0.4	6	14.1	79.5	-6.6	0.08	64	9
EW06	13:15	6/14/01	0.3	6.3	13.9	79.5	-5.9	0.05	69	6
EW06	12:55	6/22/01	0	4.9	15.3	79.8	-4.8	0	70	0
EW06	14:07	7/17/01	0.8	5.6	13.2	80.4	-5.2	0.04	79	5

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
EW07	13:28	5/2/01	0.8	9.2	11.4	78.6	-7.2	0.02	61	2
EW07	15:24	5/9/01	0.8	8.3	12.1	78.8	-6.8	0.02	63	2
EW07	14:45	5/16/01	1.5	9.7	10.4	78.4	-6.9	0.02	68	3
EW07	13:29	5/23/01	1.7	8.8	10.8	78.7	-7.3	0.04	63	6
EW07	14:00	5/30/01	1	9.3	12.1	77.6	-6.4	0.03	68	3
EW07	13:21	6/6/01	1.3	10.7	9.8	78.2	-7.3	0.04	64	5
EW07	13:13	6/14/01	1.3	9.2	11.7	77.8	-7.6	0.1	69	10
EW07	12:53	6/22/01	1.5	10.8	10.8	76.9	-7.2	0.1	72	10
EW07	14:05	7/17/01	2.4	10.9	9.3	77.4	-6.9	0.04	77	5
EW08	13:26	5/2/01	0.3	14.3	3.9	81.5	-7.3	0	57	0
EW08	15:26	5/9/01	0.2	11.8	5.9	82.1	-6.9	0	61	0
EW08	14:42	5/16/01	0.6	13.9	4.1	81.4	-7	0	72	0
EW08	13:27	5/23/01	0.8	15	2.4	81.8	-7.4	-0.01	59	0
EW08	14:05	5/30/01	0.6	15.2	3.7	80.5	-6.5	0.02	67	2
EW08	13:18	6/6/01	0.7	16.2	2.2	80.9	-7.6	0.01	57	1
EW08	13:10	6/14/01	0.9	17.6	3	78.5	-8.1	-0.01	67	0
EW08	12:50	6/22/01	1.1	16.3	2.6	80	-7.7	0	68	0
EW08	14:02	7/17/01	0.2	2.2	16.9	80.7	-3.2	0	99	0
EW09	13:24	5/2/01	0.1	7.5	12.1	80.3	-6.4	0.08	53	9
EW09	15:29	5/9/01	0.1	8.8	9.8	81.3	-6.2	0.07	55	9
EW09	14:39	5/16/01	0.2	8.8	9.9	81.1	-6.2	0.09	62	10.87
EW09	13:24	5/23/01	0.2	9.3	10.4	80.1	-6.3	0.1	56	10
EW09	14:07	5/30/01	0.2	8.3	11.6	79.9	-5.6	0.1	60	10
EW09	13:16	6/6/01	0.2	10.6	8.6	80.6	-6.6	0.1	56	10
EW09	13:07	6/14/01	0.3	12.6	8.3	78.8	-7	0.1	62	10
EW09	12:44	6/22/01	0.4	10.9	9	79.7	-6.7	0.11	63	11
EW09	15:24	7/17/01	0.6	10.7	7.8	80.9	-6	0.12	73	10
EW10	14:44	5/2/01	0.4	11.4	8	80.2	-4.3	0.25	69	17
EW10	15:39	5/9/01	0.4	11.6	8.1	79.9	-4	0.2	72	15
EW10	14:18	5/16/01	0.7	14	5.5	79.8	-3.9	0.21	84	15
EW10	14:59	5/23/01	0.5	10.9	7.6	81	-3.9	0.3	54	19
EW10	14:19	5/30/01	0.5	13.1	7	79.4	-3.2	0.28	79	18
EW10	14:42	6/6/01	0.7	16.6	3	79.7	-4.5	0.24	64	16
EW10	14:19	6/14/01	0.9	17.1	4	78	-4.6	0.26	77	17
EW10	14:18	6/22/01	0.8	19	4.3	75.9	-4.2	0.41	77	22
EW10	15:21	7/17/01	1.3	15.7	3.1	79.9	-3.4	0.27	91	17

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
EW11	14:42	5/2/01	5.7	16.4	3.2	74.7	-7.4	0	65	0
EW11	14:29	5/9/01	5.3	13.6	6	75.1	-7	0.01	77	1
EW11		5/16/01	No readings - location was inadvertently missed							
EW11	14:54	5/23/01	7.1	16	2.1	74.8	-7.6	0.01	51	1
EW11	14:30	5/30/01	5.9	16.6	5	72.5	-6.6	0.01	69	1
EW11	14:40	6/6/01	7.3	17.7	2.7	72.3	-7.5	0	54	0
EW11	14:21	6/14/01	8.7	21.7	2	67.6	-7.8	0.02	67	2
EW11	14:15	6/22/01	8	18.3	3.9	69.8	-8.7	0.02	68	2
EW11	15:19	7/17/01	8.7	18.3	4.4	68.6	-7.8	0.03	85	3
EW12	14:39	5/2/01	3.6	13.3	8.6	74.5	-6.7	0.08	65	9
EW12	14:33	5/9/01	3.9	11.7	8.7	75.7	-6.4	0.09	77	9
EW12	15:52	5/16/01	4.5	13.7	7.1	74.7	-6.6	0.1	91	9
EW12	14:50	5/23/01	3.6	11.2	8.5	76.7	-6.9	0.14	50	13
EW12	14:33	5/30/01	4.1	14.9	6.5	74.5	-5.8	0.1	66	10
EW12	14:37	6/6/01	4.8	13.4	6	75.8	-6.9	0.12	56	11
EW12	14:24	6/14/01	5.4	15.6	6.8	72.2	-7.1	-0.13	66	0
EW12	14:13	6/22/01	5.6	15	6.9	72.5	-7.8	0.18	67	14
EW12	15:08	7/17/01	6	18.4	3.7	71.9	-6.7	0.19	80	14
EW13	14:04	5/2/01	1.9	2.9	0.6	51.4	-7.4	0	64	0
EW13	14:24	5/9/01	17.2	22.4	3.4	57	-7	0.01	78	1
EW13	14:13	5/16/01	17.3	21.8	4.4	56.5	-7.4	0.02	87	2
EW13	14:09	5/23/01	16.6	25.3	4.6	53.5	-7.6	0.02	55	3
EW13	13:23	5/30/01	14.7	17.7	7	60.6	-6.8	0.02	66	3
EW13	13:56	6/6/01	19.6	23.6	1.1	55.7	-7.6	0.02	54	3
EW13	14:16	6/14/01	19.8	23.5	5.7	51	-8.1	0	69	0
EW13	13:31	6/22/01	26.6	29.5	1.6	42.3	-8.9	0.02	70	2
EW13	13:58	7/17/01	27.9	32.1	1.7	38.3	-8.2	0	86	0
EW14	14:06	5/2/01	7.3	21.6	1.3	69.8	-7.1	0.02	64	2
EW14	14:36	5/9/01	8.4	17.9	2.2	71.5	-6.7	0.03	76	3
EW14	15:49	5/16/01	7.8	15.3	3.8	73.1	-7	0.02	91	2
EW14	14:47	5/23/01	7.5	17.5	1.6	73.4	-7.4	0.03	47	4
EW14	13:20	5/30/01	4.9	17.2	5.6	72.3	-6.4	0.03	64	3
EW14	13:59	6/6/01	8	21.4	1	69.6	-7.3	0.03	54	4
EW14	14:13	6/14/01	8.9	22.7	2.6	65.8	-7.8	0.03	65	4
EW14	13:34	6/22/01	8.9	21.3	1.6	68.2	-8.3	0.06	65	7
EW14	15:05	7/17/01	8.3	21.9	1.6	68.2	-7.3	0.06	80	6

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
EW15	14:01	5/2/01	8.4	19.5	2.8	69.3	-7.3	0.01	63	1
EW15	14:20	5/9/01	10.2	18.3	3.8	67.7	-7	0.02	77	2
EW15	14:09	5/16/01	12.6	19.9	3.1	64.4	-7.4	0.02	87	2
EW15	14:05	5/23/01	13.6	17.4	3.2	65.8	-7.6	0.03	55	4
EW15	13:26	5/30/01	11.4	20.9	3.1	64.6	-6.8	0.04	64	4
EW15	13:53	6/6/01	11.7	21	0.3	67	-7.6	0.01	53	1
EW15	13:56	6/14/01	16.6	25.6	1.4	56.4	-8.2	0.02	66	3
EW15	13:28	6/22/01	16.3	24.4	0.7	58.6	-8.9	0.05	68	6
EW15	13:55	7/17/01	14.5	20.4	5.3	59.8	-8.2	0.07	76	7
EW16	14:10	5/2/01	1.5	14.4	5.7	78.4	-7.4	0	66	0
EW16	14:04	5/9/01	2.9	17.3	2	77.8	-7.1	0	80	0
EW16	13:46	5/16/01	3.2	18.8	0.9	77.1	-7.5	0	86	0
EW16	14:42	5/23/01	3.6	17.1	0.3	79	-7.9	0.01	47	1
EW16	13:16	5/30/01	3.6	19.4	2	75	-6.9	0.03	67	3
EW16	14:02	6/6/01	4.4	18.1	2.1	75.4	-7.7	0	54	0
EW16	13:59	6/14/01	5.6	22.9	0.8	70.7	-8.5	0	69	0
EW16	13:37	6/22/01	5.5	23.3	0.6	70.6	-9.3	0.02	70	2
EW16	13:32	7/17/01	6.1	18.6	4.3	71	-8.3	0	85	0
EW17	13:58	5/2/01	2.8	17.4	2.4	77.4	-7.2	0	64	0
EW17	14:17	5/9/01	3	17.5	1.5	78	-6.9	0	80	0
EW17	14:05	5/16/01	3.9	18.6	1	76.5	-7.4	0.01	87	1
EW17	14:01	5/23/01	3.6	17.1	0.7	78.6	-7.7	0.01	54	1
EW17	13:29	5/30/01	3	16.5	6	74.5	-6.6	0.02	69	2
EW17	13:50	6/6/01	4.9	16.6	4.4	74.1	-7.6	0	55	0
EW17	13:53	6/14/01	9.9	24	1.3	64.8	-8.2	0.02	67	3
EW17	13:24	6/22/01	10.9	22.7	1.7	64.7	-8.9	0.07	66	7
EW17	13:51	7/17/01	10.4	23.7	1	64.9	-8.2	0.02	81	2
EW18	14:13	5/2/01	3.1	19.1	1	76.8	-6.4	0.04	65	5
EW18	14:08	5/9/01	2.8	13.9	5.3	78	-6	0.05	78	5
EW18	13:49	5/16/01	4.3	17.3	2	76.4	-6.5	0.06	85	6
EW18	14:38	5/23/01	4.9	16.6	1.2	77.3	-6.9	0.06	45	7
EW18	13:13	5/30/01	5.4	17.6	2.4	74.6	-6	0.07	63	8
EW18	14:05	6/6/01	6.2	20.7	0	73.1	-6.8	0.06	52	7
EW18	13:50	6/14/01	6.1	20.2	4	69.7	-7.2	0.07	67	8
EW18	13:40	6/22/01	6.5	19.1	3.4	71	-7.4	0.11	65	11
EW18	13:34	7/17/01	6.8	16.7	5.8	70.7	-6.6	0.04	77	5

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
EW19	14:16	5/2/01	0	1	19.8	79.2	-7	0	66	0
EW19	14:11	5/9/01	0	2	19.2	78.8	-6.8	0	81	0
EW19	13:52	5/16/01	0	1.5	18.5	80	-7	0	91	0
EW19	14:34	5/23/01	0	1.6	19.3	79.1	-7.6	0.04	45	6
EW19	13:10	5/30/01	0	1.8	19.4	78.8	-6.6	0	71	0
EW19	14:07	6/6/01	0	2.9	17.4	79.7	-7.3	0.01	56	1
EW19	13:43	6/14/01	0	6	13.9	80.1	-8	-0.02	62	0
EW19	13:43	6/22/01	0.2	6.2	14.6	79	-9.2	0.01	73	1
EW19	13:38	7/17/01	0.4	5.3	13.9	80.4	-8.2	0	90	0
EW20	13:55	5/2/01	0	12.5	7.3	80.2	-6.4	0.12	65	11
EW20	14:59	5/9/01	0	12.5	5.7	81.8	-6.1	0.12	75	11
EW20	15:16	5/16/01	0	14.5	4.2	81.3	-6.2	0.15	85	13.73
EW20	13:56	5/23/01	0	13	4.1	82.9	-6.7	0.17	54	14
EW20	13:32	5/30/01	0	13.4	6.4	80.2	-5.9	0.13	65	12
EW20	13:47	6/6/01	0	15.7	3.3	81	-6.6	0.18	55	14
EW20	13:39	6/14/01	0.1	17.7	2.8	79.4	-7.6	0.23	68	16
EW20	13:21	6/22/01	0.1	14	5.5	80.4	-8.1	0.3	66	19
EW20	14:37	7/17/01	0.5	18.2	0.9	80.4	-7.1	0.23	80	15
GP08	13:49	5/2/01	0	0.2	21	78.8	0	-0.04	66	--
GP08	15:05	5/9/01	0	0.3	21.2	78.5	0	0.01	76	--
GP08	15:10	5/16/01	0	0	21.2	78.8	0	-0.01	86	--
GP08	13:51	5/23/01	0	0.3	21	78.7	0	0	51	--
GP08	13:40	5/30/01	0	0.4	21.1	78.5	0	0	72	--
GP08	13:42	6/6/01	0	0.4	20.1	79.5	0	0.01	57	--
GP08	13:35	6/14/01	0	0.4	20.3	79.3	0	0.04	71	--
GP08	13:15	6/22/01	0	0.8	20.8	78.4	0	0.02	71	--
GP08	14:27	7/17/01	0	0.6	20.1	79.3	0	0	86	--
GP09	13:10	5/2/01	0	0.4	20.6	79	0	0.01	--	--
GP09	13:40	5/9/01	0	0.5	21	78.5	0	0	--	--
GP09	16:10	5/16/01	0	0.5	20.3	79.2	0	0	--	--
GP09	12:00	5/23/01	0	0.7	20.2	79.1	0	0	--	--
GP09	12:46	5/30/01	0	0.8	20.5	78.7	0	0	--	--
GP09	12:12	6/6/01	0	0.9	19.7	79.4	0	0	--	--
GP09	11:14	6/14/01	0	1	19.3	79.7	0	0.01	--	--
GP09	12:16	6/22/01	0	1.4	19.4	79.2	0	-0.02	--	--
GP09	13:10	7/17/01	0	1.2	19.2	79.6	0	0	--	--

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
GP10	12:45	5/2/01	0	0.8	20.3	78.9	0	0.04	64	--
GP10	13:16	5/9/01	0	1.1	20.4	78.5	0	0.01	82	--
GP10	16:31	5/16/01	0	1.1	19.7	79.2	0	0	83	--
GP10	11:32	5/23/01	0	1.6	19.5	78.9	0	0	49	--
GP10	12:19	5/30/01	0	1.6	19.6	78.8	0	0	67	--
GP10	11:47	6/6/01	0	1.8	19	79.2	0	0	54	--
GP10	10:52	6/14/01	0	0	20.8	79.2	0	0.02	70	--
GP10	11:48	6/22/01	0	3	17.8	79.2	0	0	63	--
GP10	12:42	7/17/01	0	1.3	19.6	79.1	0	-0.02	76	--
GP11	12:30	5/2/01	0	0.5	20.5	79	-0.9	0.95	--	--
GP11	13:00	5/9/01	0	0.4	21.1	78.5	-0.6	0.61	--	--
GP11	16:48	5/16/01	0	0.3	20.7	79	-0.9	0.9	--	--
GP11	11:17	5/23/01	0	0.4	20.4	79.2	-0.7	0.74	--	--
GP11	12:04	5/30/01	0	0.4	20.7	78.9	-0.6	0.67	--	--
GP11	11:32	6/6/01	0	0.9	19.7	79.4	-0.8	0.82	--	--
GP11	10:23	6/14/01	0	1.1	19.4	79.5	-0.9	0.96	--	--
GP11	11:28	6/22/01	0	0.8	20.2	79	-0.8	0.88	--	--
GP11	12:24	7/17/01	0	0.5	19.8	79.7	-0.6	0.59	--	--
GP12	15:08	5/2/01	0	0.6	20.5	78.9	0	0	62	--
GP12	16:00	5/9/01	0	0.7	20.6	78.7	0	-0.02	76	--
GP12	17:03	5/16/01	0	0.8	19.9	79.3	0	0	85	--
GP12	15:14	5/23/01	0	1	20.2	78.8	0	-0.01	55	--
GP12	14:49	5/30/01	0	1	20.3	78.7	0	-0.01	76	--
GP12	14:57	6/6/01	0	1.2	19.3	79.5	0	-0.02	55	--
GP12	14:42	6/14/01	0	1.4	18.9	79.7	0	0.05	68	--
GP12	14:32	6/22/01	0	1.8	19.2	79	0	-0.02	80	--
GP12	15:46	7/17/01	0	0.7	19.7	79.6	0	0	95	--
GP13	12:53	5/2/01	0	0.9	20.2	78.9	0	0	--	--
GP13	13:21	5/9/01	0	1.2	20.2	78.6	0	0.01	--	--
GP13	16:25	5/16/01	0	1.1	19.9	79	0	0	--	--
GP13	11:37	5/23/01	0	1.2	19.7	79.1	0	0	--	--
GP13	12:25	5/30/01	0	1.4	19.7	78.9	0	0	--	--
GP13	11:53	6/6/01	0	1.6	19	79.4	0	0	--	--
GP13	10:58	6/14/01	0	2.1	18.2	79.7	0	0.04	--	--
GP13	11:53	6/22/01	0	2.7	18	79.3	0	-0.01	--	--
GP13	12:47	7/17/01	0	1.4	19.2	79.4	0	-0.03	--	--

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
GP14A	12:33	5/2/01	0	0.8	20.4	78.8	0	0	--	--
GP14A	13:03	5/9/01	0	1.2	20.1	78.7	0	0	--	--
GP14A	16:37	5/16/01	0	1.3	19.8	78.9	0	0	--	--
GP14A	11:20	5/23/01	0	1.3	19.7	79	0	0	--	--
GP14A	12:07	5/30/01	0	1.5	19.7	78.8	0	0	--	--
GP14A	11:35	6/6/01	0	1.8	18.9	79.3	0	-0.01	--	--
GP14A	10:28	6/14/01	0	2.5	18.2	79.3	0	0	--	--
GP14A	11:33	6/22/01	0	3.1	18.1	78.8	0	-0.02	--	--
GP14A	12:28	7/17/01	0	1.1	19.6	79.3	0	0	--	--
GP14B	12:38	5/2/01	0	0.9	20.1	79	-0.4	0.52	--	--
GP14B	13:08	5/9/01	0	0.9	20.5	78.6	0	0.08	--	--
GP14B	16:42	5/16/01	0	0.8	20.2	79	-0.4	0.49	--	--
GP14B	11:26	5/23/01	0	1.1	19.9	79	-0.4	0.4	--	--
GP14B	12:12	5/30/01	0	1.1	19.9	79	-0.3	0.35	--	--
GP14B	11:41	6/6/01	0	1.2	19.3	79.5	-0.4	0.49	--	--
GP14B	10:32	6/14/01	0	1.1	19.6	79.3	-0.4	0.51	--	--
GP14B	11:37	6/22/01	0	1.1	20	78.9	-0.3	0.36	--	--
GP14B	12:33	7/17/01	0	1.5	18.8	79.7	-0.5	0.54	--	--
GP15	12:24	5/2/01	0	0.8	20.1	79.1	-0.4	0.47	--	--
GP15	12:54	5/9/01	0	1.1	19.7	79.2	0	0.08	--	--
GP15	16:55	5/16/01	0	1	20.3	78.7	-0.4	0.4	--	--
GP15	11:12	5/23/01	0	1	19.8	79.2	-0.1	0.21	--	--
GP15	11:55	5/30/01	0	0.9	19.9	79.2	-0.2	0.2	--	--
GP15	11:25	6/6/01	0	0.9	19.5	79.6	-0.3	0.45	--	--
GP15	10:14	6/14/01	0	1.4	17.9	80.7	-0.8	0.92	--	--
GP15	11:21	6/22/01	0	2.2	18.6	79.2	-0.4	0.43	--	--
GP15	12:17	7/17/01	0	0.8	19.7	79.5	-0.2	0.18	--	--
GP16	13:06	5/2/01	0	0	21.1	78.9	-0.3	0.33	--	--
GP16	13:35	5/9/01	0	0	21.9	78.1	-0.3	0.36	--	--
GP16		5/16/01		No readings - location was inadvertently missed						
GP16	11:55	5/23/01	0	0.1	20.9	79	-0.2	0.29	--	--
GP16	12:40	5/30/01	0	0	21.2	78.8	-0.3	0.27	--	--
GP16	12:07	6/6/01	0	0.1	20.6	79.3	-0.3	0.33	--	--
GP16	11:09	6/14/01	0	0	20.7	79.3	-0.4	0.46	--	--
GP16	12:10	6/22/01	0	0.1	21	78.9	-0.3	0.34	--	--
GP16	13:03	7/17/01	0	0.3	19.7	80	0	0.08	--	--

TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
GP17	12:59	5/2/01	0	0.3	20.8	78.9	-0.1	0.12	64	--
GP17	13:27	5/9/01	0	0.3	21.6	78.1	0	0.11	74	--
GP17	16:17	5/16/01	0	0	21.3	78.7	0	0.1	85	--
GP17	11:49	5/23/01	0	0.3	20.8	78.9	0	0.1	46	--
GP17	12:31	5/30/01	0	0.3	20.9	78.8	0	0.08	66	--
GP17	12:00	6/6/01	0	0.4	20.3	79.3	0	0	51	--
GP17	11:04	6/14/01	0	0.9	19.4	79.7	-0.2	0.26	67	--
GP17	12:01	6/22/01	0	1.2	19.8	79	-0.2	0.16	69	--
GP17	12:54	7/17/01	0	0.9	19.5	79.6	0	0.01	84	--
GP18	14:51	5/2/01	0	0.3	20.6	79.1	-1.2	1.23	62	--
GP18	15:35	5/9/01	0	0.5	20.1	79.4	-0.8	0.86	77	--
GP18	14:34	5/16/01	0	0.5	19.5	80	-1	1.06	88	--
GP18	13:20	5/23/01	0	0.6	19.8	79.6	-0.8	0.87	54	--
GP18	14:14	5/30/01	0	0.7	20.2	79.1	-0.6	0.58	82	--
GP18	13:12	6/6/01	0	0.9	19.2	79.9	-1.4	1.5	55	--
GP18	13:05	6/14/01	0	0	20.3	79.7	-1.4	1.47	74	--
GP18	12:40	6/22/01	0	1	19.5	79.5	-0.8	0.82	74	--
GP18	15:29	7/17/01	0	0.7	19.1	80.2	-0.5	0.52	95	--
GP19	15:00	5/2/01	0	0.7	19.9	79.4	-1.6	1.62	65	--
GP19	15:45	5/9/01	0	0.6	20.1	79.3	-1.4	1.46	76	--
GP19	14:25	5/16/01	0	0.8	19	80.2	-1.4	1.4	82	--
GP19	15:05	5/23/01	0	1.1	19.4	79.5	-1	0.98	52	--
GP19	14:26	5/30/01	0	1.1	19.5	79.4	-0.6	0.62	85	--
GP19	14:49	6/6/01	0	1.1	18.8	80.1	-1.8	1.84	60	--
GP19	14:36	6/14/01	0	0.9	18.9	80.2	-1.5	1.52	70	--
GP19	14:24	6/22/01	0	1.6	18.7	79.7	-1	1.08	73	--
GP19	15:38	7/17/01	0	1.5	18.2	80.3	-0.5	0.55	95	--
GP20	15:14	5/2/01	0	2.9	17.1	80	-1.3	1.4	64	--
GP20	15:53	5/9/01	0	2.2	19	78.8	-1.5	1.49	76	--
GP20	16:00	5/16/01	0	2.6	17.3	80.1	-1.3	1.36	82	--
GP20	15:20	5/23/01	0	4.3	15	80.7	-1.2	1.16	58	--
GP20	14:38	5/30/01	0	5	14.3	80.7	-0.7	0.76	82	--
GP20	14:33	6/6/01	0	3.9	16.1	80	-1.8	1.74	56	--
GP20	14:29	6/14/01	0	1	19.3	79.7	-1.8	1.8	73	--
GP20	14:09	6/22/01	0	4.1	16.1	79.8	-1.6	1.58	73	--
GP20	15:14	7/17/01	0	10.6	7.9	81.5	-0.3	0.38	91	--



TABLE 3.1

**GAS EXTRACTION SYSTEM SUMMARY  
MAY 2 THROUGH JULY 17, 2001  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Location</i>	<i>Time</i>	<i>Date</i>	<i>CH4</i>	<i>CO2</i>	<i>O2</i>	<i>Balance</i>	<i>Static Pressure</i>	<i>Diff Pressure</i>	<i>Temperature</i>	<i>Adj Flow</i>
GP21	14:33	5/2/01	0	0	21.1	78.9	-0.8	0.88	64	--
GP21	14:45	5/9/01	0	0	21.4	78.6	-0.9	0.99	75	--
GP21	13:42	5/16/01	0	0	20.1	79.9	-0.8	0.89	82	--
GP21	14:20	5/23/01	0	0	21.1	78.9	-0.6	0.58	51	--
GP21	12:57	5/30/01	0	0	21.4	78.6	-0.4	0.48	77	--
GP21	14:24	6/6/01	0	0	20.7	79.3	-1.7	1.75	60	--
GP21	14:04	6/14/01	0	0	20.5	79.5	-1.4	1.47	78	--
GP21	14:01	6/22/01	0	0	21.2	78.8	-0.6	0.62	75	--
GP21	13:25	7/17/01	0	1.3	18.3	80.4	-0.2	0.23	95	--
GP22	14:22	5/2/01	0	0	21.1	78.9	0	0	68	--
GP22	14:54	5/9/01	0	0	21.6	78.4	0	-0.01	76	--
GP22	13:59	5/16/01	0	0	20.5	79.5	0	0	85	--
GP22	14:28	5/23/01	0	0	21.3	78.7	0	0.07	47	--
GP22	13:06	5/30/01	0	0	21.7	78.3	0	0.03	76	--
GP22	14:15	6/6/01	0	0	20.5	79.5	0	0	59	--
GP22	13:47	6/14/01	0	0	20.6	79.4	0	0.06	73	--
GP22	13:51	6/22/01	0	0	21.7	78.3	0.4	-0.45	69	--
GP22	13:44	7/17/01	0	0	20.4	79.6	0	0	95	--

**TABLE 3.2**  
**BLOWER DISCHARGE THRESHOLD**  
**MAY 9, 2001**  
**TOMAH MUNICIPAL SANITARY LANDFILL**  
**TOMAH, WISCONSIN**

<i>ANALAND</i>	<i>5/9/01</i> <i>(ppbv)</i>	<i>Molecular</i> <i>Weight</i>	<i>Conversion</i> <i>Factor</i>	<i>Effluent</i> <i>(mg/m3)</i>	<i>Limit</i> <i>(lbs/hr)</i>	<i>Threshold</i> <i>CFM</i>
1,1-Dichloroethane	9.8	98.97	4.12	0.04	67.4568	446,499,890
1,1 Dichloroethene	5.9	96.95	4.03	0.02	1.6656	18,693,738
1,1,1-Trichloroethane	12	133.42	5.55	0.07	--	NA
1,2,4-Trimethylbenzene	140	120.19	5.00	0.70	10.4112	3,972,187
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	32	170.93	7.11	0.23	--	NA
1,3,5-Trimethylbenzene	61	120.19	5.00	0.30	10.4112	9,116,495
1,4-Dichlorobenzene	53	147.01	6.11	0.32	--	NA
2-Butanone (MEK)	10	72.11	3.00	0.03	--	NA
4-Ethyltoluene	110	120.2	5.00	0.55	--	NA
Acetone	19	58.08	2.42	0.05	--	NA
Benzene	78	48.11	2.00	0.16	--	NA
Chlorobenzene	11	112.56	4.68	0.05	29.1480	151,132,288
Chloroethane	47	64.52	2.68	0.13	--	NA
cis-1,2-Dichloroethene	120	96.95	4.03	0.48	65.7912	36,304,797
Dichlorodifluoromethane (Freon 12)	550	120.92	5.03	2.77	--	NA
Ethylbenzene	250	106.16	4.42	1.10	--	NA
Methylene chloride	12.0	84.94	3.53	0.04	29.1480	183,586,408
Tetrachloroethene	55	165.85	6.90	0.38	27.9000	19,635,922
Toluene	340	92.13	3.83	1.30	31.2312	6,400,795
Trichloroethene	36	131.40	5.47	0.20	22.4856	30,516,300
Trichlorofluoromethane (Freon 11)	150	137.38	5.71	0.86	--	NA
Vinyl chloride	1200	62.5	2.60	3.12	--	NA
Xylenes	650	106.16	4.42	2.87	36.2280	3,370,508

**TABLE 3.3**  
**MASS LOADING CALCULATIONS**  
**MAY 9, 2001**  
**TOMAH MUNICIPAL SANITARY LANDFILL**  
**TOMAH, WISCONSIN**

ANALAND	5/9/01 (ppbv)	Molecular Weight	Conversion Factor	Effluent (mg/m3)	Blower Discharge (cfm)	Effluent Max		WDNR Limit	
						(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
1,1-Dichloroethane	9.8	98.97	4.12	0.04	168.6	0.0000	0.2	67.4568	--
1,1 Dichloroethene	5.9	96.95	4.03	0.02	168.6	0.0000	0.1	1.6656	--
1,1,1-Trichloroethane	12	133.42	5.55	0.07	168.6	0.0000	0.4	--	--
1,2,4-Trimethylbenzene	140	120.19	5.00	0.70	168.6	0.0004	3.9	10.4112	--
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	32	170.93	7.11	0.23	168.6	0.0001	1.3	--	--
1,3,5-Trimethylbenzene	61	120.19	5.00	0.30	168.6	0.0002	1.7	10.4112	--
1,4-Dichlorobenzene	53	147.01	6.11	0.32	168.6	0.0002	1.8	--	--
2-Butanone (MEK)	10	72.11	3.00	0.03	168.6	0.0000	0.2	--	--
4-Ethyltoluene	110	120.2	5.00	0.55	168.6	0.0003	3.0	--	--
Acetone	19	58.08	2.42	0.05	168.6	0.0000	0.3	--	--
Benzene	78	48.11	2.00	0.16	168.6	0.0001	0.9	--	300
Chlorobenzene	11	112.56	4.68	0.05	168.6	0.0000	0.3	29.148	--
Chloroethane	47	64.52	2.68	0.13	168.6	0.0001	0.7	--	2,103,914
cis-1,2-Dichloroethene	120	96.95	4.03	0.48	168.6	0.0003	2.7	65.7912	--
Dichlorodifluoromethane (Freon 12)	550	120.92	5.03	2.77	168.6	0.0017	15.3	--	--
Ethylbenzene	250	106.16	4.42	1.10	168.6	0.0007	6.1	--	210,391
Methylene chloride	12.0	84.94	3.53	0.04	168.6	0.0000	0.2	29.148	--
Tetrachloroethene	55	165.85	6.90	0.38	168.6	0.0002	2.1	27.9	--
Toluene	340	92.13	3.83	1.30	168.6	0.0008	7.2	31.2312	84,157
Trichloroethene	36	131.40	5.47	0.20	168.6	0.0001	1.1	22.4856	--
Trichlorofluoromethane (Freon 11)	150	137.38	5.71	0.86	168.6	0.0005	4.7	--	--
Vinyl chloride	1200	62.5	2.60	3.12	168.6	0.0020	17.3	--	300
Xylenes	650	106.16	4.42	2.87	168.6	0.0018	15.9	36.228	--

TABLE 4.1

**SUMMARY OF REVISED GROUNDWATER SAMPLING AND ANALYSIS PROGRAM  
POST-CONSTRUCTION MONITORING PLAN  
TOMAH MUNICIPAL SANITARY LANDFILL  
TOMAH, WISCONSIN**

<i>Sample Location</i>	<i>Field Parameters <sup>(1)</sup></i>	<i>Laboratory Parameters <sup>(2,3)</sup></i>	<i>Intended Data Usage</i>	<i>Frequency</i>
<u>Core Wells</u> MW-9A, MW-9B, MW-9C, MW-12A, MW-12B, MW-12C, MW-13A, MW-13B, MW-15A, MW-15B, MW-15C	• water level, pH, conductivity, temperature, Eh, DO, turbidity	• VOCs	• Monitor impact of cap, monitor plume expansion/reduction, establish long-term database.	Quarterly
<u>Boundary Wells</u> MW-2A, MW-2B, MW-3A, MW-3B, MW-3C, MW-4B, MW-5B, MW-7A, MW-8A, MW-14A, MW-14B, MW-14C	• water level, pH, conductivity, temperature, Eh, DO, turbidity	• VOCs	• Monitor impact of cap, monitor plume expansion/reduction, establish long-term database.	Semi-Annually
<u>Sentry Wells</u> MW-1A, MW-1B, MW-4A, MW-5A, MW-5B, MW-6A, MW-10A, MW-11A, MW-11B, MW-11C, MW-17A, MW-17B	• water level, pH, conductivity, temperature, Eh, DO, turbidity	• VOCs, Total metals <sup>(4)</sup> , Chloride	• Monitor impact of cap, monitor plume expansion/reduction, establish long-term database.	Annually
Residential Wells <sup>(5)</sup>	• pH, conductivity, temperature, Eh, DO, turbidity	• VOCs, Total metals <sup>(4)</sup> , Chloride	• Identify potential impacts to downgradient groundwater consumers.	Annually
Deer Creek	• water level	• None	• Evaluate groundwater flow	Quarterly

Notes:

<sup>(1)</sup> Water levels will be collected quarterly at all monitoring wells.

<sup>(2)</sup> All monitoring wells will be analyzed for total metals and chloride during the annual round.

<sup>(3)</sup> Additional parameters may be collected as part of the groundwater investigation study. Parameters may include alkalinity, hardness, COD, nitrate, and sulfate.

<sup>(4)</sup> Metals parameters include arsenic and thallium. If sample results report metals above Wisconsin enforcement standards or federal maximum containment levels, groundwater from the well location will be sampled for dissolved metals, TSS, and TDS in addition to the parameters listed above during the next scheduled monitoring event.

<sup>(5)</sup> Residential wells include Pluess Rental, T. Pluess, J. Pluess, Kenworthy, Zdrojowy, Hanson, Ripp, Thundercloud, Schleicher, and Thomson.

TABLE 4.2

SUMMARY OF REVISED GAS EXTRACTION SYSTEM SAMPLING AND ANALYSIS PROGRAM  
 POST-CONSTRUCTION MONITORING PLAN  
 TOMAH MUNICIPAL SANITARY LANDFILL  
 TOMAH, WISCONSIN

<i>Sample Matrix</i>	<i>Field Parameters</i>	<i>Laboratory Parameters</i>	<i>Intended Data Usage</i>	<i>Frequency</i>	<i>Total Per Year</i>
Blower Discharge	• % methane, % oxygen, temperature, flow rate, pressure	• VOC	• Assess performance of remedy and determine need for off-gas treatment	Semi-Annual	2
Condensate Tank	• pH, generation rate, tank water level	• BOD, COD, TSS, oil and grease, ammonia nitrogen, total metals, VOC, SVOC	• POTW discharge approval	As needed prior to discharge	NA
Perimeter Gas Probes	• % methane, % oxygen, pressure	• NA	• Assess potential for off-Site gas migration	Quarterly *	NA
Gas Extraction Wells	• % methane, % oxygen, pressure	• NA	• Assess landfill gas removal and system balancing	Quarterly *	NA

Notes:

<sup>(1)</sup> One trip blank sample will be shipped with each cooler of water samples collected for VOC analysis

<sup>(2)</sup> One field duplicate/matrix/year

<sup>(3)</sup> Assume condensate tank will be emptied two times per year

NA - Not applicable

\* These locations will be monitored monthly until further notice.



A

**APPENDIX A**  
**GROUNDWATER LABORATORY DATA**  
**MAY 2001**



17865-70

# ANALYTICAL REPORT



MN FILE COPY

Grant Anderson  
Conestoga-Rovers & Assoc., Inc.  
PROJECT NO. 12865-70  
TOMAH LANDFILL - WISCONSIN

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720-6961

Tel: 330 497 9396  
Fax: 330 497 0772  
www.stl-inc.com

## SAMPLE SUMMARY

<u>WC #</u>	<u>LABORATORY ID</u>	<u>SAMPLE IDENTIFICATION</u>
ED0QQ	A1E250173-001	W-010522-DN-01
ED0TT	A1E250173-002	W-010522-DN-02
ED0TV	A1E250173-003	W-010522-DN-03
ED0VD	A1E250173-004	W-010522-DN-04
ED0VQ	A1E250173-005	W-010522-DN-05
ED0VR	A1E250173-006	W-010522-DN-06
ED0VV	A1E250173-007	W-010522-DN-07
ED0VW	A1E250173-008	W-010522-DN-08
ED0W9	A1E250173-009	W-010522-DN-09
ED0XA	A1E250173-010	W-010522-DN-10
ED0XC	A1E250173-011	W-010522-DN-11
ED0XD	A1E250173-012	W-010523-DN-12
ED0XH	A1E250173-013	W-010523-DN-13
ED0XP	A1E250173-014	W-010523-DN-14
ED0X6	A1E250173-015	W-010523-DN-15
ED0X8	A1E250173-016	W-010523-DN-16
ED0X9	A1E250173-017	W-010523-DN-17
ED00C	A1E250173-018	W-010523-DN-18
ED00F	A1E250173-019	W-010523-DN-19
ED00G	A1E250173-020	W-010523-DN-20
ED00J	A1E250173-021	W-010523-DN-21
ED00K	A1E250173-022	W-010523-DN-22
ED00M	A1E250173-023	W-010523-DN-23
ED00N	A1E250173-024	W-010523-DN-24
ED00Q	A1E250173-025	W-010523-DN-25
ED01A	A1E250173-026	W-010523-DN-26
ED019	A1E250173-027	W-010523-DN-100
ED02W	A1E250173-028	W-010523-DN-101
ED02X	A1E250173-029	W-010524-DN-27
ED024	A1E250173-030	W-010524-DN-28
ED025	A1E250173-031	W-010524-DN-29
ED026	A1E250173-032	W-010524-DN-30
ED029	A1E250173-033	W-010524-DN-31
ED1LQ	A1E250173-034	TRIP BLANK

RECEIVED  
JUL 05 2001  
CRA INC.

SEVERN TRENT LABORATORIES, INC.

Amy L. McCormick  
Project Manager  
June 29, 2001

STL North Canton is a part of Severn Trent Laboratories, Inc.

## **CASE NARRATIVE**

A1E250173

The following report contains the analytical results for thirty-three water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Tomah Landfill - Wisconsin Site, project number 12865-70. The samples were received May 25, 2001, according to documented sample acceptance procedures.

The samples submitted for 524.2 Volatile Organics were analyzed at STL's Tampa, Florida facility.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to Grant Anderson on June 8, 2001. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

Sample Trip Blank was received at the laboratory but was not listed on the chain-of-custody. It was analyzed per the sample label.

#### **GC/MS VOLATILES**

Sample(s) which contain results between the MDL and the RL have been flagged with J. There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for quality control criteria may not be met at these quantitation levels.

Sample(s) which contain concentrations of target analyte(s) at a reportable level in the associated method blank(s) have been flagged with B. All target analytes in the method blank must be below the reporting limits (RL) or the associated sample(s) must be ND with the exception of Methylene chloride, Acetone, and 2-Butanone. These are common laboratory contaminants and may be present in concentrations up to five times the reporting limits.

## **CASE NARRATIVE (continued)**

### **METALS**

Matrix spike/duplicate spike recoveries were outside the acceptance limits for some analytes. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference. See the Matrix Spike Report for the affected analytes which have been flagged with N.

### **GENERAL CHEMISTRY**

Sample DN-31 , submitted for Total Dissolved Solids, was analyzed within the recommended sample holding time; however, the sample was spilled after preparation. It was reprepared and reanalyzed after the sample holding time had been exceeded. Both sets of results have been reported.

Samples DN-03, DN-04, DN-06, DN-07, and DN-08, submitted for Total Dissolved Solids, were analyzed after the recommended sample holding times had expired. The samples were received 48 hours or more after sampling. It is STL policy to analyze all samples within holding times, but when they are received significantly later than their collection time, this cannot be guaranteed.

Due to an analyst oversight sample DN-26, submitted for Total Suspended Solids, was analyzed after the recommended sample holding time had expired.

Sample duplicate relative percent differences were outside acceptance limits for Total Suspended Solids in batch 1151136, sample A1E260123-006, batch 1151136, sample A1E260123-022, batch 1149356, sample A1E220177-001, and batch 1149356, sample A1E230126-001. Results were less than five times the reporting limit; therefore, no corrective action was required.

Sample duplicate relative percent difference was outside acceptance limits for Total Dissolved Solids in batch 1151140, sample A1E260123-022. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference.

Sample duplicate relative percent difference was outside acceptance limits for Total Suspended Solids in batch 1151137, sample A1E260131-002. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### Volatile (GC or GC/MS)

Methylene chloride  
Acetone  
2-Butanone

#### Semivolatile (GC/MS)

Phthalate Esters

#### Metals

Copper  
Iron  
Zinc  
Lead\*

\* for analyses run on TJA Trace ICP or GFAA only

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

---

### **STL North Canton, Certifications and Approvals:**

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225) – Florida CompQAPP (#890651G), Kentucky (#90021), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001), New York (#10975), North Dakota (#R-156), Ohio (#6090), OhioVAP (#CL0024), Pennsylvania (#68-340), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

# ANALYTICAL METHODS SUMMARY

A1E250173

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Measurement of Purgeable Organic Compounds	EPA-DW 524.2
Non-Filterable Residue (TSS)	MCAWW 160.2
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- EPA-DW "Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, December 1988 and its Supplements.
- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

AIR250173

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
ED0QQ	001	W-010522-DN-01	05/22/01	
ED0TT	002	W-010522-DN-02	05/22/01	
ED0TV	003	W-010522-DN-03	05/22/01	
ED0VU	004	W-010522-DN-04	05/22/01	
ED0VQ	005	W-010522-DN-05	05/22/01	
ED0VR	006	W-010522-DN-06	05/22/01	
ED0VV	007	W-010522-DN-07	05/22/01	
ED0VW	008	W-010522-DN-08	05/22/01	
ED0W9	009	W-010522-DN-09	05/22/01	
ED0XA	010	W-010522-DN-10	05/22/01	
ED0XC	011	W-010522-DN-11	05/23/01	
ED0XD	012	W-010523-DN-12	05/23/01	
ED0XH	013	W-010523-DN-13	05/23/01	
ED0XP	014	W-010523-DN-14	05/23/01	
ED0X6	015	W-010523-DN-15	05/23/01	
ED0X8	016	W-010523-DN-16	05/23/01	
ED0X9	017	W-010523-DN-17	05/23/01	
ED00C	018	W-010523-DN-18	05/23/01	
ED00F	019	W-010523-DN-19	05/23/01	
ED00G	020	W-010523-DN-20	05/23/01	
ED00J	021	W-010523-DN-21	05/23/01	
ED00K	022	W-010523-DN-22	05/23/01	
ED00M	023	W-010523-DN-23	05/23/01	
ED00N	024	W-010523-DN-24	05/23/01	
ED00Q	025	W-010523-DN-25	05/23/01	
ED01A	026	W-010523-DN-26	05/23/01	
ED019	027	W-010523-DN-100	05/23/01	
ED02W	028	W-010523-DN-101	05/24/01	
ED02X	029	W-010524-DN-27	05/24/01	
ED024	030	W-010524-DN-28	05/24/01	
ED025	031	W-010524-DN-29	05/24/01	
ED026	032	W-010524-DN-30	05/24/01	
ED029	033	W-010524-DN-31	05/24/01	
ED1LQ	034	TRIP BLANK	05/24/01	

(Continued on next page)

# SAMPLE SUMMARY

A1E250173

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>SAMPLED</u>	<u>SAMP</u>
				<u>DATE</u>	<u>TIME</u>

---

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-01

GC/MS Volatiles

MW 15A

Lot-Sample #....: A1E250173-001    Work Order #....: ED0QQ1AA    Matrix.....: WG  
 Date Sampled....: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152120  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-01

GC/MS Volatiles

Lot-Sample #....: A1E250173-001 Work Order #....: ED0QQ1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-01

TOTAL Metals

Lot-Sample #...: A1E250173-001  
 Date Sampled...: 05/22/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Aluminum	0.29	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AG
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AJ
		Dilution Factor: 1				
Iron	0.25	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AD
		Dilution Factor: 1				
Manganese	0.020	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0QQ1AL
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-01

General Chemistry

Lot-Sample #....: A1E250173-001  
Date Sampled....: 05/22/01

Work Order #....: ED00Q  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/06/01	1159145

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-02

GC/MS Volatiles

MW 15B

Lot-Sample #...: A1E250173-002    Work Order #...: ED0TT1AA    Matrix.....: WG  
 Date Sampled...: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152120  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methylene chloride	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Trichloroethene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-02

GC/MS Volatiles

Lot-Sample #...: A1E250173-002

Work Order #...: ED0TT1AA

Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-02

TOTAL Metals

Lot-Sample #....: A1E250173-002  
 Date Sampled....: 05/22/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1150102						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AG
		Dilution Factor: 1				
Iron	0.10	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AM
		Dilution Factor: 1				
Radium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0TT1AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-02

General Chemistry

Lot-Sample #...: A1E250173-002  
Date Sampled...: 05/22/01

Work Order #...: ED0TT  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.3	1.0	mg/L	MCAWW 300.0A	06/06/01	1159145

Dilution Factor: 1



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-03

GC/MS Volatiles

MW 15C

Lot-Sample #....: A1E250173-003    Work Order #....: ED0TV1AA    Matrix.....: WG  
 Date Sampled....: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152120  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-03

GC/MS Volatiles

Lot-Sample #...: A1E250173-003 Work Order #...: ED0TV1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-03

TOTAL Metals

Lot-Sample #...: A1E250173-003

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 1150102						
Aluminum	0.22	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AF
		Dilution Factor: 1				
Iron	0.12	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AC
		Dilution Factor: 1				
Manganese	0.48	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0TV1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-03

DISSOLVED Metals

Lot-Sample #...: A1E250173-003

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Manganese	0.47	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0TVLAQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-IN-03

General Chemistry

Lot-Sample #...: A1E250173-003      Work Order #...: ED0TV      Matrix.....: WG  
 Date Sampled...: 05/22/01      Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	7.6	1.0	mg/L	MCAWW 300.0A	06/06/01	1159145
		Dilution Factor: 1				
Total Dissolved Solids	180	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149372
		Dilution Factor: 1				
Total Suspended Solids	12	4.0	mg/L	MCAWW 160.2	05/29/01	1149356
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-04

GC/MS Volatiles

MW 12A

Lot-Sample #....: A1E250173-004    Work Order #....: ED0VD1AA    Matrix.....: WG  
 Date Sampled....: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152120  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
Bromomethane	ND	2.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Toluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-04

GC/MS Volatiles

Lot-Sample #: A1E250173-004    Work Order #: EDQVD1AA    Matrix: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-04

TOTAL Metals

Lot-Sample #...: A1E250173-004  
 Date Sampled...: 05/22/01

Date Received...: 05/25/01

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1150102						
Aluminum	0.27	0.20	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AF
		Dilution Factor: 1				
Manganese	0.041	0.015	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AK
		Dilution Factor: 1				
Iron	0.67	0.10	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AC
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	EDOVD1AE
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-04

DISSOLVED Metals

Lot-Sample #...: A1E250173-004

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Manganese	0.038	0.015	mg/L	SW846 6010B	05/30-06/01/01	KD0VD1AQ
		Dilution Factor: 1				
Iron	0.13	0.10	mg/L	SW846 6010B	05/30-06/01/01	KD0VD1AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-04

General Chemistry

Lot-Sample #...: A1E250173-004      Work Order #...: ED0VD      Matrix.....: WG  
 Date Sampled...: 05/22/01      Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	2.0	1.0	mg/L	MCAWW 300.0A	06/06/01	1159145
		Dilution Factor: 1				
Total Dissolved Solids	62	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149372
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/29/01	1149350
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-05

GC/MS Volatiles

MW 12 B

Lot-Sample #...: A1E250173-005    Work Order #...: ED0VQ1AA    Matrix.....: WG  
 Date Sampled...: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152120  
 Dilution Factor: 2.5    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	25	ug/L
Benzene	7.2	2.5	ug/L
Bromodichloromethane	ND	2.5	ug/L
Bromoform	ND	2.5	ug/L
omomethane	ND	5.0	ug/L
Carbon tetrachloride	ND	2.5	ug/L
Chlorobenzene	ND	2.5	ug/L
2-Butanone	ND	25	ug/L
Carbon disulfide	ND	2.5	ug/L
Dibromochloromethane	ND	2.5	ug/L
Chloroethane	9.6	5.0	ug/L
Chloroform	ND	2.5	ug/L
Chloromethane	ND	5.0	ug/L
1,1-Dichloroethane	32	2.5	ug/L
trans-1,2-Dichloroethene	ND	1.2	ug/L
1,2-Dichloropropane	0.54 J	2.5	ug/L
cis-1,3-Dichloropropene	ND	2.5	ug/L
1,2-Dichloroethane	ND	2.5	ug/L
1,1-Dichloroethene	ND	2.5	ug/L
cis-1,2-Dichloroethene	15	1.2	ug/L
trans-1,3-Dichloropropene	ND	2.5	ug/L
chylbenzene	ND	2.5	ug/L
2-Hexanone	ND	25	ug/L
Methylene chloride	5.5	2.5	ug/L
4-Methyl-2-pentanone	ND	12	ug/L
Styrene	ND	2.5	ug/L
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L
Tetrachloroethene	1.1 J	2.5	ug/L
Toluene	ND	2.5	ug/L
1,1,1-Trichloroethane	ND	2.5	ug/L
1,1,2-Trichloroethane	ND	2.5	ug/L
Trichloroethene	0.62 J	2.5	ug/L
Vinyl chloride	74	1.2	ug/L
Xylenes (total)	ND	2.5	ug/L
Dichlorodifluoromethane	0.93 J	2.5	ug/L
Trichlorofluoromethane	ND	2.5	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-05

GC/MS Volatiles

Lot-Sample #...: A1E250173-005 Work Order #...: EDOVQ1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-05

TOTAL Metals

Lot-Sample #...: A1E250173-005

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AK
		Dilution Factor: 1				
Barium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AD
		Dilution Factor: 1				
Manganese	0.39	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0VQ1AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-05

General Chemistry

Lot-Sample #...: A1E250173-005  
Date Sampled...: 05/22/01

Work Order #...: ED0VQ  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	94.1	1.0	mg/L	MCAWW 300.0A	06/06/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-06

GC/MS Volatiles

MW 12C

Lot-Sample #....: A1E250173-006    Work Order #....: ED0VR1AA    Matrix.....: WG  
 Date Sampled....: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152120  
 Dilution Factor: 1.25    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	12	ug/L
Benzene	0.76 J	1.2	ug/L
Bromodichloromethane	ND	1.2	ug/L
Bromoform	ND	1.2	ug/L
bromomethane	ND	2.5	ug/L
Carbon tetrachloride	ND	1.2	ug/L
2-Butanone	ND	12	ug/L
Carbon disulfide	ND	1.2	ug/L
Chlorobenzene	ND	1.2	ug/L
Dibromochloromethane	ND	1.2	ug/L
Chloroethane	0.92 J	2.5	ug/L
Chloroform	0.34 J	1.2	ug/L
Chloromethane	ND	2.5	ug/L
1,1-Dichloroethane	8.5	1.2	ug/L
1,2-Dichloroethane	ND	1.2	ug/L
1,1-Dichloroethene	3.3	1.2	ug/L
cis-1,2-Dichloroethene	36	0.62	ug/L
trans-1,2-Dichloroethene	0.38 J	0.62	ug/L
1,2-Dichloropropane	0.68 J	1.2	ug/L
cis-1,3-Dichloropropene	ND	1.2	ug/L
trans-1,3-Dichloropropene	ND	1.2	ug/L
hylbenzene	ND	1.2	ug/L
2-Hexanone	ND	12	ug/L
Methylene chloride	5.5	1.2	ug/L
4-Methyl-2-pentanone	ND	6.2	ug/L
Styrene	ND	1.2	ug/L
1,1,2,2-Tetrachloroethane	ND	1.2	ug/L
Tetrachloroethene	13	1.2	ug/L
Toluene	ND	1.2	ug/L
Trichloroethene	2.8	1.2	ug/L
Vinyl chloride	6.1	0.62	ug/L
1,1,1-Trichloroethane	17	1.2	ug/L
1,1,2-Trichloroethane	ND	1.2	ug/L
Xylenes (total)	0.76 J	1.2	ug/L
Dichlorodifluoromethane	7.5	1.2	ug/L
Trichlorofluoromethane	3.5	1.2	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-06

GC/MS Volatiles

Lot-Sample #...: A1E250173-006 Work Order #...: EDOVR1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

NOTE (S) :

! Estimated result. Result is less than RL.



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-06

TOTAL Metals

Lot-Sample #...: A1E250173-006

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #...: 1150102</b>						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AJ
		Dilution Factor: 1				
Barium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AF
		Dilution Factor: 1				
Manganese	0.41	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AC
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-06

DISSOLVED Metals

Lot-Sample #...: A1E250173-006

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Manganese	0.40	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0VR1AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-06

General Chemistry

Lot-Sample #...: A1E250173-006  
Date Sampled...: 05/22/01

Work Order #...: ED0VR  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	40.8	1.0	mg/L	MCAWW 300.0A	06/06/01	1159148
		Dilution Factor: 1				
Total Dissolved Solids	130	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149372
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/29/01	1149356
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-07

GC/MS Volatiles

MW 14A

Lot-Sample #....: A1E250173-007      Work Order #....: ED0VV1AA      Matrix.....: WG  
 Date Sampled....: 05/22/01      Date Received...: 05/25/01  
 Prep Date.....: 05/31/01      Analysis Date...: 05/31/01  
 Prep Batch #....: 1152120      Method.....: SW846 8260B  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.91 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-07

GC/MS Volatiles

Lot-Sample #...: A1E250173-007 Work Order #...: ED0VV1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

**NOTE(S):**

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-07

TOTAL Metals

Lot-Sample #...: A1E250173-007

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1150102						
Aluminum	0.69	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1A <sup>m</sup>
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AF
		Dilution Factor: 1				
Iron	14.9	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AC
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AH
		Dilution Factor: 1				
Manganese	0.30	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-07

DISSOLVED Metals

Lot-Sample #...: A1E250173-007

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 1150102						
Iron	15.6	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AR
		Dilution Factor: 1				
Manganese	0.30	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0VV1AQ
		Dilution Factor: 1				

CONBSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-07

General Chemistry

Lot-Sample #...: A1E250173-007  
Date Sampled...: 05/22/01

Work Order #...: ED0VV  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	27.3	1.0	mg/L	MCAWW 300.0A	06/06/01	1159148
		Dilution Factor: 1				
Total Dissolved Solids	220	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149372
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/29/01	1149356
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-08

GC/MS Volatiles

*P.B. (MW 14A)*

Lot-Sample #...: A1E250173-008    Work Order #...: ED0VW1AA    Matrix.....: WG  
 Date Sampled...: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
stone	ND	10	ug/L
benzene	0.30 J,B	1.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
hylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.24 J	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-08

TOTAL Metals

Lot-Sample #...: A1E250173-008

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AC
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AG
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0VW1AK
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-08

DISSOLVED Metals

Lot-Sample #...: A1E250173-008

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 1150102						
Iron	ND	0.10	mg/L	SW846 6010B	05/30-06/01/01	EDOVW1AR
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-06/01/01	EDOVW1AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-08

General Chemistry

Lot-Sample #...: A1E250173-008  
 Date Sampled...: 05/22/01

Work Order #...: ED0VW  
 Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/06/01	1159148
		Dilution Factor: 1				
Total Dissolved Solids	13	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149372
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/29/01	1149356
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-09

GC/MS Volatiles

MW 14B

Lot-Sample #...: A1E250173-009    Work Order #...: ED0W91AA    Matrix.....: WG  
 Date Sampled...: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	0.35 J,B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-09

GC/MS Volatiles

Lot-Sample #....: A1E250173-009 Work Order #....: ED0W91AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	89	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-09

TOTAL Metals

Lot-Sample #...: A1E250173-009

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
<b>Prep Batch #...: 1150102</b>						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0W91AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0W91AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0W91AM
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0W91AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0W91AD
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-09

General Chemistry

Lot-Sample #...: A1E250173-009    Work Order #...: ED0W9    Matrix.....: WG  
Date Sampled...: 05/22/01    Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	8.7	1.0	mg/L	MCAWW 300.0A	06/06/01	1159148

Dilution Factor: 1



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-10

GC/MS Volatiles

MW 140

Lot-Sample #....: A1E250173-010    Work Order #....: ED0XA1AA    Matrix.....: WG  
 Date Sampled....: 05/22/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	0.45 J,B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-10

GC/MS Volatiles

Lot-Sample #...: A1E250173-010 Work Order #...: ED0XA1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	94	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE(S) :

1 Estimated result. Result is less than RL.

Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-10

TOTAL Metals

Lot-Sample #...: A1E250173-010  
 Date Sampled...: 05/22/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Aluminum	0.21	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAP
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAG
		Dilution Factor: 1				
Iron	0.17	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XALAM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0XAL
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-10

General Chemistry

Lot-Sample #...: A1E250173-010  
Date Sampled...: 05/22/01

Work Order #...: ED0XA  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	6.7	1.0	mg/L	MCAWW 300.0A	06/06/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-11

GC/MS Volatiles

MW 14 C (dup)

Lot-Sample #...: A1E250173-011 Work Order #...: ED0XC1AA Matrix.....: WG  
 Date Sampled...: 05/22/01 Date Received...: 05/25/01  
 Prep Date.....: 05/31/01 Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178 Method.....: SW846 8260B  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	0.48 J,B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DW-11

GC/MS Volatiles

Lot-Sample #...: A1E250173-011 Work Order #...: ED0XC1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE(S):

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-11

TOTAL Metals

Lot-Sample #...: A1E250173-011

Matrix.....: WG

Date Sampled...: 05/22/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AG
		Dilution Factor: 1				
Iron	0.10	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0XC1A
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-11

General Chemistry

Lot-Sample #...: A1E250173-011  
Date Sampled...: 05/22/01

Work Order #...: EDOXC  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	6.8	1.0	mg/L	MCANW 300.0A	06/07/01	1159148

Dilution Factor: 1



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-12

GC/MS Volatiles

MW 9A

Lot-Sample #....: A1E250173-012    Work Order #....: ED0XD1AA    Matrix.....: WG  
 Date Sampled....: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178    Method.....: SW846 8260B  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	0.87 J,B	1.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	2.9	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010522-DN-11

General Chemistry

Lot-Sample #...: A1E250173-011  
Date Sampled...: 05/22/01

Work Order #...: ED0XC  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	6.8	1.0	mg/L	MCAW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-12

GC/MS Volatiles

MW 9A

Lot-Sample #...: A1E250173-012  
 Date Sampled...: 05/23/01  
 Prep Date.....: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1

Work Order #...: ED0XD1AA  
 Date Received...: 05/25/01  
 Analysis Date...: 05/31/01  
 Method.....: SW846 8260B

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	0.87 J,B	1.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	2.9	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-12

GC/MS Volatiles

Lot-Sample #...: A1E250173-012 Work Order #...: ED0XD1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

Y Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-12

TOTAL Metals

Lot-Sample #...: A1E250173-012

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AE
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AJ
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AF
		Dilution Factor: 1				
Iron	1.1	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AC
		Dilution Factor: 1				
Manganese	0.40	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-12

DISSOLVED Metals

Lot-Sample #...: A1E250173-012  
Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Iron	0.95	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AR
		Dilution Factor: 1				
Manganese	0.43	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0XD1AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-12

General Chemistry

Lot-Sample #...: A1E250173-012  
Date Sampled...: 05/23/01

Work Order #...: ED0XD  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	36.9	1.0	mg/L	MCAWW 300.0A	06/07/01	1159148
		Dilution Factor: 1				
Total Dissolved Solids	170	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149377
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/29/01	1149356
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-13

GC/MS Volatiles

MW 9B

Lot-Sample #....: A1E250173-013  
 Date Sampled...: 05/23/01  
 Prep Date.....: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1

Work Order #....: EDOXH1AA  
 Date Received...: 05/25/01  
 Analysis Date...: 05/31/01  
 Method.....: SW846 8260B

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	5.1 B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	0.20 J	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	1.3 J	2.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	0.46 J	1.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	0.95 J	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	3.8	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	0.21 J	1.0	ug/L
Vinyl chloride	33	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)



COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-13

GC/MS Volatiles

Lot-Sample #....: A1E250173-013    Work Order #....: EDOXH1AA    Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE (S) :

- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.  
J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-13

TOTAL Metals

Lot-Sample #...: A1E250173-013

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1150102						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AF
		Dilution Factor: 1				
Iron	26.5	0.10	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AC
		Dilution Factor: 1				
Manganese	1.2	0.015	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-06/01/01	ED0XH1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-13

DISSOLVED Metals

Lot-Sample #...: A1E250173-013

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150102						
Iron	20.2	0.10	mg/L	SW846 6010B	05/30-06/01/01	EDOXHLAR
		Dilution Factor: 1				
Manganese	1.4	0.015	mg/L	SW846 6010B	05/30-06/01/01	EDOXHLAQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-13

General Chemistry

Lot-Sample #...: A1E250173-013  
Date Sampled...: 05/23/01

Work Order #...: ED0XH  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	51.5	1.0	mg/L	MCAWW 300.0A	06/07/01	1159148
		Dilution Factor: 1				
Total Dissolved Solids	300	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149377
		Dilution Factor: 1				
Total Suspended Solids	8.0	4.0	mg/L	MCAWW 160.2	05/29/01	1149356
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-14

GC/MS Volatiles

MW 9C

Lot-Sample #....: A1E250173-014    Work Order #....: EDOXP1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178    Method.....: SW846 8260B  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Acetone	ND	10	ug/L
Benzene	0.33 J,B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-14

GC/MS Volatiles

Lot-Sample #....: A1E250173-014 Work Order #....: ED0XP1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

NOTE(S):

- 1 Estimated result. Result is less than RL.
- 3 Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-14

TOTAL Metals

Lot-Sample #...: A1E250173-014

Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1AP
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1A4
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1AH
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1AW
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1A7
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1AL
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1AT
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1CA
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED0XP1A1
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-14

General Chemistry

Lot-Sample #...: A1E250173-014  
Date Sampled...: 05/23/01

Work Order #...: ED0XP  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159148

Dilution Factor: 1



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-~~EW~~-15

GC/MS Volatiles

MW 13A

Lot-Sample #....: A1E250173-015    Work Order #....: EDOX61AA    Matrix.....: WG  
 Date Sampled....: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1155165  
 Dilution Factor: 2.5    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	25	ug/L
Benzene	6.4	2.5	ug/L
Bromodichloromethane	ND	2.5	ug/L
Bromoform	ND	2.5	ug/L
Bromomethane	ND	5.0	ug/L
Chlorobenzene	0.40 J	2.5	ug/L
Dibromochloromethane	ND	2.5	ug/L
Chloroethane	2.9 J	5.0	ug/L
1,1-Dichloroethane	2.5	2.5	ug/L
1,2-Dichloroethane	ND	2.5	ug/L
2-Butanone	ND	25	ug/L
Carbon disulfide	ND	2.5	ug/L
Carbon tetrachloride	ND	2.5	ug/L
Chloroform	ND	2.5	ug/L
Chloromethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	2.5	ug/L
cis-1,2-Dichloroethene	17	1.2	ug/L
trans-1,2-Dichloroethene	ND	1.2	ug/L
1,2-Dichloropropane	1.4 J	2.5	ug/L
cis-1,3-Dichloropropene	ND	2.5	ug/L
trans-1,3-Dichloropropene	ND	2.5	ug/L
Ethylbenzene	ND	2.5	ug/L
2-Hexanone	ND	25	ug/L
Methylene chloride	2.7	2.5	ug/L
4-Methyl-2-pentanone	ND	12	ug/L
Styrene	ND	2.5	ug/L
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L
Tetrachloroethene	ND	2.5	ug/L
Toluene	ND	2.5	ug/L
1,1,1-Trichloroethane	ND	2.5	ug/L
1,1,2-Trichloroethane	ND	2.5	ug/L
Trichloroethene	0.40 J	2.5	ug/L
Vinyl chloride	73	1.2	ug/L
Xylenes (total)	ND	2.5	ug/L
Dichlorodifluoromethane	ND	2.5	ug/L
Trichlorofluoromethane	ND	2.5	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-15

GC/MS Volatiles

Lot-Sample #....: A1E250173-015 Work Order #....: ED0X61AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	90	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-15

TOTAL Metals

Lot-Sample #...: A1E250173-015

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AD
		Dilution Factor: 1				
Manganese	0.42	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AK
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AC
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED0X61
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-15

DISSOLVED Metals

Lot-Sample #...: A1E250173-015  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Manganese	0.43	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AQ
		Dilution Factor: 1				
Iron	0.10	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED0X61AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-15

General Chemistry

Lot-Sample #...: A1E250173-015    Work Order #...: EDOX6    Matrix.....: WG  
Date Sampled...: 05/23/01    Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	87.1	1.0	mg/L	MCAW 300.0A	06/07/01	1159148
		Dilution Factor: 1				
Total Dissolved Solids	250	10	mg/L	MCAW 160.1	05/29-05/30/01	1149377
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAW 160.2	05/29/01	1149356
		Dilution Factor: 1				

CONNSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-16

GC/MS Volatiles

MW 13B

Lot-Sample #....: A1E250173-016    Work Order #....: ED0X81AA    Matrix.....: WG  
 Date Sampled....: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178    Method.....: SW846 8260B  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	2.2 B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	0.22 J	1.0	ug/L
1,2-Dichloroethane	3.3	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	6.9	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	0.66 J	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	1.6	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	0.23 J	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	0.27 J	1.0	ug/L
Vinyl chloride	18	0.50	ug/L
Xylenes (total)	0.54 J	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-16

GC/MS Volatiles

Lot-Sample #....: A1E250173-016 Work Order #....: ED0X81AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	94	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE(S):

- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-16

TOTAL Metals

Lot-Sample #...: A1E250173-016  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED0X81AJ
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-16

General Chemistry

Lot-Sample #...: A1E250173-016    Work Order #...: ED0X8    Matrix.....: WG  
Date Sampled...: 05/23/01    Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	20.7	1.0	mg/L	MCANW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-17

GC/MS Volatiles

MW 11A

Lot-Sample #....: A1E250173-017    Work Order #....: ED0X91AA    Matrix.....: WG  
 Date Sampled....: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-17

GC/MS Volatiles

Lot-Sample #....: A1E250173-017 Work Order #....: ED0X91AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-17

TOTAL Metals

Lot-Sample #...: A1E250173-017  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED0X91AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-17

General Chemistry

Lot-Sample #...: A1E250173-017  
Date Sampled...: 05/23/01

Work Order #...: ED0X9  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	2.8	1.0	mg/L	MCANW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-18

*NW 11A (dup)*

GC/MS Volatiles

Lot-Sample #....: A1E250173-018    Work Order #....: ED00C1AA    Matrix.....: WG  
 Date Sampled....: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-18

GC/MS Volatiles

Lot-Sample #....: A1E250173-018    Work Order #....: ED00C1AA    Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-18

TOTAL Metals

Lot-Sample #...: A1E250173-018  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00C1AJ
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-18

General Chemistry

Lot-Sample #...: A1E250173-018  
Date Sampled...: 05/23/01

Work Order #...: ED00C  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	3.1	1.0	mg/L	MCANW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-19

GC/MS Volatiles

MW 11B

Lot-Sample #...: A1E250173-019    Work Order #...: ED00F1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 B260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-19

GC/MS Volatiles

Lot-Sample #...: A1E250173-019 Work Order #...: ED00F1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-19

TOTAL Metals

Lot-Sample #...: A1E250173-019  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00FLAK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00FLAG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AD
		Dilution Factor: 1				
Manganese	0.051	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00F1AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-19

General Chemistry

Lot-Sample #...: A1E250173-019  
Date Sampled...: 05/23/01

Work Order #...: ED00F  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	9.2	1.0	mg/L	MCAWW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-20

GC/MS Volatiles

MW 11C

Lot-Sample #...: A1E250173-020    Work Order #...: ED00G1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-20

GC/MS Volatiles

Lot-Sample #...: A1E250173-020 Work Order #...: ED00G1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	94	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-20

TOTAL Metals

Lot-Sample #...: A1E250173-020

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00G1AJ
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-20

General Chemistry

Lot-Sample #...: A1E250173-020  
Date Sampled...: 05/23/01

Work Order #...: ED00G  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	6.7	1.0	mg/L	MCAWW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-21

GC/MS Volatiles

MW 16A

Lot-Sample #....: A1E250173-021 Work Order #....: ED00J1AA Matrix.....: WG  
 Date Sampled....: 05/23/01 Date Received...: 05/25/01  
 Prep Date.....: 05/31/01 Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-21

GC/MS Volatiles

Lot-Sample #...: A1E250173-021 Work Order #...: ED00J1AA Matrix.....: WG

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-21

TOTAL Metals

Lot-Sample #...: A1E250173-021  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AG
		Dilution Factor: 1				
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AK
		Dilution Factor: 1				
Iron	2.6	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AD
		Dilution Factor: 1				
Manganese	0.081	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00J1AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-21

General Chemistry

Lot-Sample #...: A1E250173-021    Work Order #...: ED00J    Matrix.....: WG  
Date Sampled...: 05/23/01    Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	2.1	1.0	mg/L	MCAW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-22

R.B.  
(MW 16A)

GC/MS Volatiles

Lot-Sample #....: A1E250173-022    Work Order #....: ED00K1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	0.68 J	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	0.81 J	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.28 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-22

GC/MS Volatiles

Lot-Sample #...: A1E250173-022 Work Order #...: ED00K1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S):

1 Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-22

TOTAL Metals

Lot-Sample #...: A1E250173-022  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00K1AJ
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-22

General Chemistry

Lot-Sample #...: ALE250173-022  
Date Sampled...: 05/23/01

Work Order #...: ED00K  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159148

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-23

*MW 16B*

GC/MS Volatiles

Lot-Sample #...: A1E250173-023    Work Order #...: ED00M1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.20 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-23

GC/MS Volatiles

Lot-Sample #...: A1E250173-023    Work Order #...: ED00MLAA    Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE (S) :

1 Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-23

TOTAL Metals

Lot-Sample #...: A1E250173-023

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AK
		Dilution Factor: 1				
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AF
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AD
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00M1AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-23

General Chemistry

Lot-Sample #...: A1E250173-023  
Date Sampled...: 05/23/01

Work Order #...: ED00M  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.5	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-24

GC/MS Volatiles

MW 16C

Lot-Sample #....: A1E250173-024    Work Order #....: ED00N1AA    Matrix.....: WG  
 Date Sampled....: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.30 J	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-24

GC/MS Volatiles

Lot-Sample #...: A1E250173-024 Work Order #...: ED00N1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-24

TOTAL Metals

Lot-Sample #...: A1E250173-024

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AF
Arsenic	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AK
Cadmium	ND	0.0050 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AE
Chromium	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AG
Iron	0.14	0.10 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AD
Manganese	0.026	0.015 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AH
Lead	ND	0.0030 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AL
Thallium	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AM
Vanadium	ND	0.050 Dilution Factor: 1	mg/L	SW846 6010B	05/30-05/31/01	ED00N1AJ



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-24

General Chemistry

Lot-Sample #...: A1E250173-024  
Date Sampled...: 05/23/01

Work Order #...: ED00N  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	2.2	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-25

GC/MS Volatiles

MW 1A

Lot-Sample #...: ALE250173-025    Work Order #...: ED00Q1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-25

GC/MS Volatiles

Lot-Sample #...: A1E250173-025 Work Order #...: ED00Q1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	94	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-25

TOTAL Metals

Lot-Sample #...: A1E250173-025

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AF
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AK
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AG
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AD
		Dilution Factor: 1				
Manganese	0.033	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AH
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AL
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AM
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED00Q1AJ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-25

General Chemistry

Lot-Sample #...: A1E250173-025  
Date Sampled...: 05/23/01

Work Order #...: ED00Q  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-26

GC/MS Volatiles

MW 1B

Lot-Sample #...: A1E250173-026    Work Order #...: ED01A1AA    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-26

GC/MS Volatiles

Lot-Sample #: W-010523-DW-26 Work Order #: ED01A1AA Matrix: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-26

TOTAL Metals

Lot-Sample #...: A1E250173-026  
 Date Sampled...: 05/23/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	0.31	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AJ
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AC
		Dilution Factor: 1				
Manganese	0.52	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AG
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AH
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-26

DISSOLVED Metals

Lot-Sample #...: A1E250173-026

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Manganese	0.54	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED01A1AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-26

General Chemistry

Lot-Sample #...: A1E250173-026  
Date Sampled...: 05/23/01

Work Order #...: ED01A  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.9	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152
		Dilution Factor: 1				
Total Dissolved Solids	73	10	mg/L	MCAWW 160.1	05/29-05/30/01	1149377
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151137
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DW-100

GC/MS Volatiles

*Boehm*

Lot-Sample #...: ALE250173-027      Work Order #...: ED0191AN      Matrix.....: WG  
 Date Sampled...: 05/23/01      Date Received...: 05/25/01  
 Prep Date.....: 06/05/01      Analysis Date...: 06/05/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1      Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Methylene chloride	ND	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-100

GC/MS Volatiles

Lot-Sample #...: A1E250173-027 Work Order #...: ED0191AN Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT</u>	<u>RECOVERY</u>	
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>	
Bromofluorobenzene	83	(65 - 130)	
1,2-Dichlorobenzene-d4	94	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-100

TOTAL Metals

Lot-Sample #...: A1E250173-027

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED0191AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0191AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED0191AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0191AE
		Dilution Factor: 1				
Iron	0.60	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED0191AA
		Dilution Factor: 1				
Manganese	0.023	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED0191AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED0191AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED0191AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED0191A
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-100

General Chemistry

Lot-Sample #...: A1E250173-027  
Date Sampled...: 05/23/01

Work Order #...: ED019  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWV 300.0A	06/07/01	1159152

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-101

GC/MS Volatiles

*Thundercloud*

Lot-Sample #...: A1E250173-028    Work Order #...: ED02W1AN    Matrix.....: WG  
 Date Sampled...: 05/23/01    Date Received...: 05/25/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methylene chloride	ND	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	0.86	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-101

GC/MS Volatiles

Lot-Sample #...: A1E250173-028 Work Order #...: ED02W1AN Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Bromofluorobenzene	83	(65 - 130)	
1,2-Dichlorobenzene-d4	98	(69 - 130)	



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-101

TOTAL Metals

Lot-Sample #...: A1E250173-028

Matrix.....: WG

Date Sampled...: 05/23/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAE
		Dilution Factor: 1				
Iron	0.44	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAA
		Dilution Factor: 1				
Manganese	0.098	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED02WLAK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED02WLA
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010523-DN-101

General Chemistry

Lot-Sample #...: A1E250173-028  
Date Sampled...: 05/23/01

Work Order #...: ED02W  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.8	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-27

GC/MS Volatiles

MW 5A

Lot-Sample #....: A1E250173-029    Work Order #....: ED02X1AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/25/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152178  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Acetone	ND	10	ug/L
Benzene	0.51 J,B	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	1.2	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	0.82 J	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	0.24 J	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-27

GC/MS Volatiles

Lot-Sample #...: A1E250173-029 Work Order #...: ED02X1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-27

TOTAL Metals

Lot-Sample #....: A1E250173-029

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 1150101						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AF
		Dilution Factor: 1				
Iron	46.7	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AC
		Dilution Factor: 1				
Manganese	16.3	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AK
		Dilution Factor: 1				
Thallium	0.019	0.010	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/30-05/31/01	ED02X1A
		Dilution Factor: 1				

COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-27

DISSOLVED Metals

Lot-Sample #...: A1E250173-029

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1150101						
Iron	49.3	0.10	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AR
		Dilution Factor: 1				
Manganese	15.8	0.015	mg/L	SW846 6010B	05/30-05/31/01	ED02X1AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-27

General Chemistry

Lot-Sample #...: A1E250173-029  
Date Sampled...: 05/24/01

Work Order #...: ED02X  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.4	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152
		Dilution Factor: 1				
Total Dissolved Solids	220	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151138
		Dilution Factor: 1				
Total Suspended Solids	35	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-28

GC/MS Volatiles

MW 5B

Lot-Sample #....: A1E250173-030    Work Order #....: ED0241AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/25/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1.25    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	12	ug/L
Benzene	6.9	1.2	ug/L
Bromodichloromethane	ND	1.2	ug/L
Bromoform	ND	1.2	ug/L
Bromomethane	ND	2.5	ug/L
2-Butanone	ND	12	ug/L
Carbon disulfide	ND	1.2	ug/L
Carbon tetrachloride	ND	1.2	ug/L
Chlorobenzene	5.2	1.2	ug/L
Dibromochloromethane	ND	1.2	ug/L
Chloroethane	3.8	2.5	ug/L
Chloroform	ND	1.2	ug/L
Chloromethane	ND	2.5	ug/L
1,1-Dichloroethane	ND	1.2	ug/L
1,2-Dichloroethane	ND	1.2	ug/L
1,1-Dichloroethene	ND	1.2	ug/L
cis-1,2-Dichloroethene	0.49 J	0.62	ug/L
trans-1,2-Dichloroethene	ND	0.62	ug/L
1,2-Dichloropropane	ND	1.2	ug/L
cis-1,3-Dichloropropene	ND	1.2	ug/L
trans-1,3-Dichloropropene	ND	1.2	ug/L
Ethylbenzene	0.70 J	1.2	ug/L
2-Hexanone	ND	12	ug/L
Methylene chloride	0.53 J	1.2	ug/L
4-Methyl-2-pentanone	ND	6.2	ug/L
Styrene	ND	1.2	ug/L
1,1,2,2-Tetrachloroethane	ND	1.2	ug/L
Tetrachloroethene	ND	1.2	ug/L
Toluene	0.27 J	1.2	ug/L
1,1,1-Trichloroethane	ND	1.2	ug/L
1,1,2-Trichloroethane	ND	1.2	ug/L
Trichloroethene	ND	1.2	ug/L
Vinyl chloride	39	0.62	ug/L
Xylenes (total)	2.1	1.2	ug/L
Dichlorodifluoromethane	ND	1.2	ug/L
Trichlorofluoromethane	ND	1.2	ug/L

(Continued on next page)



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-28

GC/MS Volatiles

Lot-Sample #...: A1E250173-030 Work Order #...: ED0241AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

1 Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-28

TOTAL Metals

Lot-Sample #...: A1E250173-030

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1149116						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/29-05/30/01	ED0241AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0241AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/29-05/30/01	ED0241AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0241AF
		Dilution Factor: 1				
Iron	99.7	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0241AC
		Dilution Factor: 1				
Manganese	6.1	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0241AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/29-05/30/01	ED0241AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0241AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/29-05/30/01	ED0241AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-28

DISSOLVED Metals

Lot-Sample #...: A1E250173-030

Date Sampled...: 05/24/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1149116						
Iron	80.8	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0241AR
		Dilution Factor: 1				
Manganese	5.9	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0241AQ
		Dilution Factor: 1				

COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-28

General Chemistry

Lot-Sample #...: A1E250173-030  
Date Sampled...: 05/24/01

Work Order #...: ED024  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	17.4	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152
		Dilution Factor: 1				
Total Dissolved Solids	640	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151138
		Dilution Factor: 1				
Total Suspended Solids	54	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CORNESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-29

GC/MS Volatiles

MW 5C

Lot-Sample #....: A1E250173-031  
 Date Sampled....: 05/24/01  
 Prep Date.....: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1

Work Order #....: ED0251AA  
 Date Received...: 05/25/01  
 Analysis Date...: 06/01/01  
 Method.....: SW846 8260B

Matrix.....: WG

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-29

GC/MS Volatiles

Lot-Sample #...: A1E250173-031 Work Order #...: ED0251AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-29

TOTAL Metals

Lot-Sample #...: A1E250173-031

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1149116						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/29-05/30/01	ED0251AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0251AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0251AC
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0251AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/29-05/30/01	ED0251AD
		Dilution Factor: 1				
Manganese	2.0	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0251AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/29-05/30/01	ED0251AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0251AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/29-05/30/01	ED0251A
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-29

DISSOLVED Metals

Lot-Sample #...: A1E250173-031

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
------------------	---------------	----------------------------------	--------------	---------------	---	-------------------------------

Prep Batch #...: 1149116

Manganese

1.9

0.015

mg/L

SW846 6010B

05/29-05/30/01 ED0251AQ

Dilution Factor: 1



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-29

General Chemistry

Lot-Sample #...: A1E250173-031  
Date Sampled...: 05/24/01

Work Order #...: ED025  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	2.5	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152
		Dilution Factor: 1				
Total Dissolved Solids	76	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151138
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-30

GC/MS Volatiles

*mw 17A*

Lot-Sample #...: A1E250173-032    Work Order #...: ED0261AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/25/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #...: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.77 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-30

GC/MS Volatiles

Lot-Sample #....: A1E250173-032 Work Order #....: ED0261AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

CONKSTOGA-ROVERS & ASSOC., INC:

Client Sample ID: W-010524-DN-30

TOTAL Metals

Lot-Sample #...: A1E250173-032

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1149116						
Aluminum	0.54	0.20	mg/L	SW846 6010B	05/29-05/30/01	ED0261AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0261AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/29-05/30/01	ED0261AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0261AF
		Dilution Factor: 1				
Iron	14.8	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0261AC
		Dilution Factor: 1				
Manganese	0.74	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0261AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/29-05/30/01	ED0261AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0261AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/29-05/30/01	ED0261AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-30

DISSOLVED Metals

Lot-Sample #...: A1E250173-032  
Date Sampled...: 05/24/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1149116						
Iron	14.4	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0261AR
		Dilution Factor: 1				
Manganese	0.80	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0261AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-30

General Chemistry

Lot-Sample #...: A1E250173-032  
Date Sampled...: 05/24/01

Work Order #...: ED026  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	3.8	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152
		Dilution Factor: 1				
Total Dissolved Solids	85	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151138
		Dilution Factor: 1				
Total Suspended Solids	33	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-31

GC/MS Volatiles

E.B (MW 17A)

Lot-Sample #....: A1E250173-033  
 Date Sampled...: 05/24/01  
 Prep Date.....: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1

Work Order #....: ED0291AA  
 Date Received...: 05/25/01  
 Analysis Date...: 06/01/01

Matrix.....: WG

Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	0.65 J	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.24 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-31

GC/MS Volatiles

Lot-Sample #...: A1E250173-033 Work Order #...: ED0291AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.



CONKSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-31

TOTAL Metals

Lot-Sample #...: A1E250173-033

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/25/01

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 1149116						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/29-05/30/01	ED0291AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0291AJ
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0291AC
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0291AG
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/29-05/30/01	ED0291AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0291AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/29-05/30/01	ED0291AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/29-05/30/01	ED0291AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/29-05/30/01	ED0291A
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-31

DISSOLVED Metals

Lot-Sample #...: A1E250173-033  
Date Sampled...: 05/24/01

Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 1149116						
Manganese	ND	0.015	mg/L	SW846 6010B	05/29-05/30/01	ED0291AQ
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/29-05/30/01	ED0291AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-31

General Chemistry

Lot-Sample #...: A1E250173-033  
Date Sampled...: 05/24/01

Work Order #...: ED029  
Date Received...: 05/25/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159152
		Dilution Factor: 1				
Total Dissolved Solids	ND	10	mg/L	MCAWW 160.1	06/04-06/06/01	1155296
		Dilution Factor: 1				
Total Dissolved Solids	ND	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: A1E250173-034    Work Order #....: ED1LQ1AA    Matrix.....: WQ  
 Date Sampled....: 05/24/01    Date Received...: 05/25/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	0.24 J	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A1E250173-034 Work Order #...: ED1LQ1AA Matrix.....: WQ

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	101	(61 - 128)
Toluene-d8	98	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

NOTE(S):

1 Estimated result. Result is less than RL.

**CRA**

CONESTOGA-ROVERS & ASSOCIATES  
1801 OLD HWY. 8, SUITE 114  
ST. PAUL, MN 55112 (612) 639-0913

CHAIN OF CUSTODY REC RD  
SHIPPED TO (Laboratory Name):

STL - N. Canton

REFERENCE NUMBER:

# 19865-70

08/1/93

SAMPLER'S SIGNATURE:

PRINTED NAME: DAN NELSON

SEQ. No. DATE TIME SAMPLE No.

SAMPLE TYPE OF CONTAINERS

PARAMETERS: Pb, Cd, Ni, Cr, Hg, Mn, Cu, Zn, Fe, Al, S, P, K, Na, Ca, Mg, Co, Ni, Mo, B, V, Ti, Sr, Ba, Pb, Bi, Se, Te, U, Th, Pa, Ra, Ac, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr

REMARKS

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	OF CONTAINERS	PARAMETERS	REMARKS
5/23/91			N-010503-DN-01	N/A	5	X	N/A
			-02	HM-15A	5	X	N/A
			-03	HM-15B	5	X	N/A
			-04	HM-15C	5	X	N/A
			-05	HM-12A	5	X	N/A
			-06	HM-12B	5	X	N/A
			-07	HM-12C	5	X	N/A
			-08	HM-14A	5	X	N/A
			-09	HM-14A (RB)	5	X	N/A
			-10	HM-14B	5	X	N/A
			-11	HM-14C	5	X	N/A
			N-010503-DN-12	HM-14C (Dup)	5	X	N/A
			-13	HM-9A	7	X	N/A
			-14 (NSHSD)	HM-9B	7	X	N/A
			-15	HM-9C	7	X	N/A
			-16	HM-13A	5	X	N/A
			-17	HM-13B	5	X	N/A
				HM-11A	5	X	N/A

TOTAL NUMBER OF CONTAINERS

HEALTH/CHEMICAL HAZARDS

RELINQUISHED BY: <u>[Signature]</u>	DATE: 5/24/91	RECEIVED BY: <u>[Signature]</u>	DATE: 5/24/91
RELINQUISHED BY: <u>[Signature]</u>	DATE: 12/00	RECEIVED BY: <u>[Signature]</u>	DATE: 12/00
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____

METHOD OF SHIPMENT:

Self-ex DON.

WAY BILL No.

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY:

- White - Fully Executed Copy
- Yellow - Receiving Laboratory Copy
- Pink - Shipper Copy
- Goldenrod - Sampler Copy

NAME: [Signature]

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

NO 03054



12865-70



# ANALYTICAL REPORT

MN FILE COPY

Grant Anderson  
Conestoga-Rovers & Assoc., Inc.  
PROJECT NO. 12865-70  
TOMAH LANDFILL - WISCONSIN

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720-6961

Tel: 330 497 9396  
Fax: 330 497 0772  
www.stl-inc.com

## SAMPLE SUMMARY

<u>WO #</u>	<u>LABORATORY ID</u>	<u>SAMPLE IDENTIFICATION</u>
EE064	A1F150138-001	W-010614-PS-111
EE07L	A1F150138-002	TRIP

RECEIVED  
JUL 06 2001  
CRA INC.

SEVERN TRENT LABORATORIES, INC.

*Amy L. McCormick*  
Amy L. McCormick  
Project Manager

June 28, 2001



## **CASE NARRATIVE**

**A1F150138**

The following report contains the analytical results for one water sample and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Tomah Landfill-Wisconsin Site, project number 12865-70. The samples were received June 15, 2001, according to documented sample acceptance procedures.

Analyses for 524.2 Volatile Organics were performed at STL's Tampa East, Florida facility.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to Grant Anderson on June 18, 2001. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

### **SUPPLEMENTAL QC INFORMATION**

#### **GC/MS VOLATILES**

Sample(s) which contain concentrations of target analyte(s) at a reportable level in the associated method blank(s) have been flagged with B. All target analytes in the method blank must be below the reporting limits (RL) or the associated sample(s) must be ND with the exception of Methylene chloride, Acetone, and 2-Butanone. These are common laboratory contaminants and may be present in concentrations up to five times the reporting limits.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)  
Methylene chloride  
Acetone  
2-Butanone

Semivolatile (GC/MS)  
Phthalate Esters

Metals  
Copper  
Iron  
Zinc  
Lead\*

\* for analyses run on TJA Trace ICP or GFAA only

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

---

### **STL North Canton, Certifications and Approvals:**

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225) – Florida CompQAPP (#890651G), Kentucky (#90021), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001), New York (#10975), North Dakota (#R-156), Ohio (#6090), OhioVAP (#CL0024), Pennsylvania (#68-340), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence –

# ANALYTICAL METHODS SUMMARY

ALF150138

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Measurement of Purgeable Organic Compounds	EPA-DW 524.2
Non-Filterable Residue (TSS)	MCAWW 160.2
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- EPA-DW "Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, December 1988 and its Supplements.
- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

ALF150138

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
EE064	001	W-010614-PS-111	06/14/01	
EE07L	002	TRIP	06/14/01	

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010614-PS-111

GC/MS Volatiles

*Ripp*

Lot-Sample #...: ALF150138-001    Work Order #...: EE0641AE    Matrix.....: WG  
 Date Sampled...: 06/14/01    Date Received...: 06/15/01  
 Prep Date.....: 06/16/01    Analysis Date...: 06/17/01  
 Prep Batch #...: 1169143  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methylene chloride	0.86 B	0.50	ug/L
1,2-Dibromo-3- chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010614-PS-111

GC/MS Volatiles

Lot-Sample #...: A1F150138-001 Work Order #...: BE0641AE Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	81	(65 - 130)
1,2-Dichlorobenzene-d4	98	(69 - 130)

NOTE(S) :

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010614-PS-111

TOTAL Metals

Lot-Sample #...: A1F150138-001

Matrix.....: WG

Date Sampled...: 06/14/01

Date Received...: 06/15/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1166277						
Aluminum	ND	0.20	mg/L	SW846 6010B	06/15/01	EE0641AH
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/15/01	EE0641AM
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/15/01	EE0641AG
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/15/01	EE0641AJ
		Dilution Factor: 1				
Iron	5.8	0.10	mg/L	SW846 6010B	06/15/01	EE0641AF
		Dilution Factor: 1				
Manganese	0.40	0.015	mg/L	SW846 6010B	06/15/01	EE0641AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	06/15/01	EE0641AP
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	06/15/01	EE0641AL
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010614-PS-111

General Chemistry

Lot-Sample #...: A1F150138-001  
Date Sampled...: 06/14/01

Work Order #...: EE064  
Date Received...: 06/15/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	4.5	1.0	mg/L	MCAWW 300.0A	06/16/01	1167130
		Dilution Factor: 1				
Total Dissolved Solids	110	10	mg/L	MCAWW 160.1	06/15-06/18/01	1166384
		Dilution Factor: 1				
Total Suspended Solids	9.0	4.0	mg/L	MCAWW 160.2	06/15-06/18/01	1166384
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: TRIP

GC/MS Volatiles

Lot-Sample #....: AIF150138-002    Work Order #....: EE07L1AA    Matrix.....: WQ  
 Date Sampled....: 06/14/01    Date Received...: 06/15/01  
 Prep Date.....: 06/16/01    Analysis Date...: 06/17/01  
 Prep Batch #....: 1169143  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methylene chloride	1.3 B	0.50	ug/L
1,2-Dibromo-3- chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: TRIP

GC/MS Volatiles

Lot-Sample #...: AIF150138-002 Work Order #...: EE07L1AA Matrix.....: WQ

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	85	(65 - 130)
1,2-Dichlorobenzene-d4	105	(69 - 130)

NOTE (S) :

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.



12865-TC



# ANALYTICAL REPORT

MN FILE COPY

Grant Anderson  
Conestoga-Rovers & Assoc., Inc.  
PROJECT NO. 12865-70  
TOMAH LANDFILL - WISCONSIN

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720-6961

Tel: 330 497 9396  
Fax: 330 497 0772  
www.st-inc.com

## SAMPLE SUMMARY

<u>WO #</u>	<u>LABORATORY ID</u>	<u>SAMPLE IDENTIFICATION</u>
ED2EL	A1E260123-001	W-010524-DN-32
ED2EQ	A1E260123-002	W-010524-DN-33
ED2ET	A1E260123-003	W-010524-DN-34
ED2EW	A1E260123-004	W-010524-DN-35
ED2EX	A1E260123-005	W-010524-DN-36
ED2EO	A1E260123-006	W-010524-DN-37
ED2E5	A1E260123-007	W-010524-DN-38
ED2E6	A1E260123-008	W-010524-DN-39
ED2E7	A1E260123-009	W-010524-DN-40
ED2E8	A1E260123-010	W-010524-DN-41
ED2E9	A1E260123-011	W-010524-DN-42
ED2FA	A1E260123-012	W-010524-DN-43
ED2FE	A1E260123-013	W-010524-DN-44
ED2FG	A1E260123-014	W-010524-DN-45
ED2FL	A1E260123-015	W-010524-DN-46
ED2FN	A1E260123-016	W-010525-DN-102
ED2FW	A1E260123-017	W-010525-DN-103
ED2FO	A1E260123-018	W-010525-DN-104
ED2F3	A1E260123-019	W-010525-DN-105
ED2GD	A1E260123-020	W-010525-DN-106
ED2GE	A1E260123-021	W-010525-DN-107
ED2GH	A1E260123-022	W-010525-DN-108
ED2GQ	A1E260123-023	W-010525-DN-109
ED2GV	A1E260123-024	W-010525-DN-110
ED2G0	A1E260123-025	TRIP BLANKS

RECEIVED  
JUL 06 2001  
CRA, INC.

SEVERN TRENT LABORATORIES, INC.

*Amy L. McCormick*  
Amy L. McCormick  
Project Manager

June 28, 2001

## **CASE NARRATIVE**

AIE260123

The following report contains the analytical results for twenty-four water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Tomah Landfill-Wisconsin Site, project number 12865-70. The samples were received May 26, 2001, according to documented sample acceptance procedures.

Analyses for 524.2 Volatile Organics were performed at STL's Tampa East, Florida facility.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to Grant Anderson on June 8, 2001. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

### **SUPPLEMENTAL QC INFORMATION**

#### **GC/MS VOLATILES - 8260B**

Sample(s) which contain results between the MDL and the RL have been flagged with J. There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for quality control criteria may not be met at these quantitation levels.

#### **METALS**

Some dissolved metals sample results were greater than the corresponding total metals results. The affected data was reviewed and the difference between the total and dissolved results was considered insignificant or the results were confirmed by analysis of the undigested samples.

#### **GENERAL CHEMISTRY**

Sample DN-108, submitted for Total Dissolved Solids, was analyzed within the recommended sample holding time; however, the sample was spilled after it was prepped. The sample was re-prepared and reanalyzed outside of holding time. Both sets of results have been reported.

## **CASE NARRATIVE (continued)**

### **GENERAL CHEMISTRY (continued)**

Sample duplicate relative percent differences were outside acceptance limits for Total Dissolved Solids in batch 1151140, sample A1E260123-022 and Total Suspended Solids in batch 1151137. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference.

Sample duplicate relative percent difference was outside acceptance limits for Total Suspended Solids in batch 1151136, samples A1E260123-006 and A1E260123-022. Results were less than five times the reporting limit; therefore, no corrective action was required.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### Volatile (GC or GC/MS)

Methylene chloride  
Acetone  
2-Butanone

#### Semivolatile (GC/MS)

Phthalate Esters

#### Metals

Copper  
Iron  
Zinc  
Lead\*

\* for analyses run on TJA Trace ICP or GFAA only



## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

---

### **STL North Canton, Certifications and Approvals:**

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225) – Florida CompQAPP (#890651G), Kentucky (#90021), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001), New York (#10975), North Dakota (#R-156), Ohio (#6090), OhioVAP (#CL0024), Pennsylvania (#68-340), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

# ANALYTICAL METHODS SUMMARY

A1E260123

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Measurement of Purgeable Organic Compounds	EPA-DW 524.2
Non-Filterable Residue (TSS)	MCAWW 160.2
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- EPA-DW "Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, December 1988 and its Supplements.
- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A1E260123

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
ED2EL	001	W-010524-DN-32	05/24/01	
ED2EQ	002	W-010524-DN-33	05/24/01	
ED2ET	003	W-010524-DN-34	05/24/01	
ED2EW	004	W-010524-DN-35	05/24/01	
ED2EX	005	W-010524-DN-36	05/24/01	
ED2E0	006	W-010524-DN-37	05/24/01	
ED2E5	007	W-010524-DN-38	05/24/01	
ED2E6	008	W-010524-DN-39	05/24/01	
ED2E7	009	W-010524-DN-40	05/24/01	
ED2E8	010	W-010524-DN-41	05/24/01	
ED2E9	011	W-010524-DN-42	05/24/01	
ED2FA	012	W-010524-DN-43	05/24/01	
ED2FE	013	W-010524-DN-44	05/24/01	
ED2FG	014	W-010524-DN-45	05/24/01	
ED2FL	015	W-010524-DN-46	05/24/01	
ED2FN	016	W-010525-DN-102	05/25/01	
ED2FW	017	W-010525-DN-103	05/25/01	
ED2F0	018	W-010525-DN-104	05/25/01	
ED2F3	019	W-010525-DN-105	05/25/01	
ED2GD	020	W-010525-DN-106	05/25/01	
ED2GE	021	W-010525-DN-107	05/25/01	
ED2GH	022	W-010525-DN-108	05/25/01	
ED2GQ	023	W-010525-DN-109	05/25/01	
ED2GV	024	W-010525-DN-110	05/25/01	
ED2G0	025	TRIP BLANKS	05/25/01	

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-32

GC/MS Volatiles

MW 17B

Lot-Sample #....: A1E260123-001    Work Order #....: ED2EL1AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1.67    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	17	ug/L
Benzene	4.8	1.7	ug/L
Bromodichloromethane	ND	1.7	ug/L
Bromoform	ND	1.7	ug/L
Bromomethane	ND	3.3	ug/L
2-Butanone	ND	17	ug/L
Carbon disulfide	ND	1.7	ug/L
Carbon tetrachloride	ND	1.7	ug/L
Chlorobenzene	0.42 J	1.7	ug/L
Dibromochloromethane	ND	1.7	ug/L
Chloroethane	1.4 J	3.3	ug/L
Chloroform	ND	1.7	ug/L
Chloromethane	ND	3.3	ug/L
1,1-Dichloroethane	2.2	1.7	ug/L
1,2-Dichloroethane	ND	1.7	ug/L
1,1-Dichloroethene	ND	1.7	ug/L
cis-1,2-Dichloroethene	15	0.84	ug/L
trans-1,2-Dichloroethene	ND	0.84	ug/L
1,2-Dichloropropane	0.36 J	1.7	ug/L
cis-1,3-Dichloropropene	ND	1.7	ug/L
trans-1,3-Dichloropropene	ND	1.7	ug/L
Ethylbenzene	ND	1.7	ug/L
2-Hexanone	ND	17	ug/L
Methylene chloride	2.4	1.7	ug/L
4-Methyl-2-pentanone	ND	8.4	ug/L
Styrene	ND	1.7	ug/L
1,1,2,2-Tetrachloroethane	ND	1.7	ug/L
Tetrachloroethene	ND	1.7	ug/L
Toluene	ND	1.7	ug/L
1,1,1-Trichloroethane	ND	1.7	ug/L
1,1,2-Trichloroethane	ND	1.7	ug/L
Trichloroethene	0.92 J	1.7	ug/L
Vinyl chloride	37	0.84	ug/L
Xylenes (total)	ND	1.7	ug/L
Dichlorodifluoromethane	ND	1.7	ug/L
Trichlorofluoromethane	ND	1.7	ug/L

(Continued on next page)

CUNESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-32

GC/MS Volatiles

Lot-Sample #...: A1E260123-001 Work Order #...: ED2RL1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-32

TOTAL Metals

Lot-Sample #...: A1E260123-001

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AF
		Dilution Factor: 1				
Iron	46.7	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AC
		Dilution Factor: 1				
Manganese	3.9	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AK
		Dilution Factor: 1				
Thallium	0.011	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2EL1AF
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-32

DISSOLVED Metals

Lot-Sample #...: A1E260123-001  
Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Iron	45.3	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2KL1AQ
		Dilution Factor: 1				
Manganese	3.8	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2KL1AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-32

General Chemistry

Lot-Sample #....: A1E260123-001  
Date Sampled....: 05/24/01

Work Order #....: ED2EL  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	137	2.0	mg/L	MCAW 300.0A	06/07/01	1159192
		Dilution Factor: 2				
Total Dissolved Solids	550	10	mg/L	MCAW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	17	4.0	mg/L	MCAW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-33

GC/MS Volatiles

MLW 6A

Lot-Sample #...: A1E260123-002  
 Date Sampled...: 05/24/01  
 Prep Date...: 05/31/01  
 Prep Batch #...: 1152121  
 Dilution Factor: 1

Work Order #...: ED2EQ1AA  
 Date Received...: 05/26/01  
 Analysis Date...: 05/31/01  
 Method...: SW846 8260B

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-33

GC/MS Volatiles

Lot-Sample #...: A1E260123-002 Work Order #...: ED2EQ1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-33

TOTAL Metals

Lot-Sample #...: A1E260123-002

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	2.4	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AF
		Dilution Factor: 1				
Iron	1.6	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AC
		Dilution Factor: 1				
Manganese	0.017	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2EQ1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-33

General Chemistry

Lot-Sample #....: A1E260123-002  
Date Sampled....: 05/24/01

Work Order #....: ED2EQ  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	3.6	1.0	mg/L	MCAW 300.0A	06/07/01	1159192

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-34

GC/MS Volatiles

MW 2A

Lot-Sample #....: A1E260123-003    Work Order #....: ED2ET1AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152121    Method.....: SW846 8260B  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	9.2	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	2.9	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-34

GC/MS Volatiles

Lot-Sample #...: A1E260123-003    Work Order #...: ED2ET1AA    Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-34

TOTAL Metals

Lot-Sample #...: A1E260123-003  
 Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AF
		Dilution Factor: 1				
Iron	2.0	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AC
		Dilution Factor: 1				
Manganese	0.70	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2ET1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-34

DISSOLVED Metals

Lot-Sample #...: A1E260123-003

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Iron	2.3	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2FT1AQ
		Dilution Factor: 1				
Manganese	0.71	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2FT1AR
		Dilution Factor: 1				



COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-34

General Chemistry

Lot-Sample #...: A1E260123-003  
Date Sampled...: 05/24/01

Work Order #...: ED2ET  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	39	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-35

GC/MS Volatiles

MW 2A (dup)

Lot-Sample #....: A1E260123-004    Work Order #....: ED2EW1AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	9.4	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	3.1	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-35

GC/MS Volatiles

Lot-Sample #....: A1E260123-004 Work Order #....: ED2EW1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-35

TOTAL Metals

Lot-Sample #...: A1E260123-004

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AF
		Dilution Factor: 1				
Iron	2.6	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AC
		Dilution Factor: 1				
Manganese	0.68	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1F
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-35

DISSOLVED Metals

Lot-Sample #....: A1E260123-004  
Date Sampled....: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #....: 1151105						
Iron	2.0	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AQ
		Dilution Factor: 1				
Manganese	0.77	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2EW1AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-35

General Chemistry

Lot-Sample #...: A1E260123-004  
Date Sampled...: 05/24/01

Work Order #...: ED2EW  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	22	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-36

GC/MS Volatiles

MW 2B

Lot-Sample #...: A1E260123-005    Work Order #...: ED2EX1AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 05/31/01    Analysis Date...: 05/31/01  
 Prep Batch #...: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	1.8	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	2.3	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-36

GC/MS Volatiles

Lot-Sample #....: A1E260123-005    Work Order #....: ED2EX1AA    Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)



CORBESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-36

TOTAL Metals

Lot-Sample #...: A1E260123-005  
 Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	0.30	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AC
		Dilution Factor: 1				
Manganese	1.8	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2EX1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-36

DISSOLVED Metals

Lot-Sample #...: A1E260123-005

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 1151105						
Manganese	1.8	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2EK1AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-36

General Chemistry

Lot-Sample #...: A1E260123-005  
Date Sampled...: 05/24/01

Work Order #...: ED2EX  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	15.8	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	81	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-37

GC/MS Volatiles

MW-10A

Lot-Sample #...: A1E260123-006 Work Order #...: ED2E01AA Matrix.....: WG  
 Date Sampled...: 05/24/01 Date Received...: 05/26/01  
 Prep Date.....: 05/31/01 Analysis Date...: 05/31/01  
 Prep Batch #...: 1152121  
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-37

GC/MS Volatiles

Lot-Sample #...: A1E260123-006 Work Order #...: ED2E01AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-37

TOTAL Metals

Lot-Sample #...: A1E260123-006

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2E01AL
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E01A1
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2E01AH
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E01AP
		Dilution Factor: 1				
Iron	1.1	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E01AE
		Dilution Factor: 1				
Manganese	0.18	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E01AT
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2E01A4
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E01A7
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2E01
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-37

DISSOLVED Metals

Lot-Sample #....: A1E260123-006  
Date Sampled....: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1151105						
Iron	1.1	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E01CL
		Dilution Factor: 1				
Manganese	0.18	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E01CP
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-37

General Chemistry

Lot-Sample #...: A1E260123-006  
Date Sampled...: 05/24/01

Work Order #...: ED2E0  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.3	1.0	mg/L	MCAWV 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	35	10	mg/L	MCAWV 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	4.0	4.0	mg/L	MCAWV 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-38

GC/MS Volatiles

MW 8A

Lot-Sample #....: A1E260123-007    Work Order #....: ED2E51AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	0.84 J	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	1.4	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	6.8	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	0.34 J	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-38

GC/MS Volatiles

Lot-Sample #: A1E260123-007 Work Order #: ED2E51AA Matrix: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	98	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

NOTE(S):

1 Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-38

TOTAL Metals

Lot-Sample #...: A1E260123-007

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AC
		Dilution Factor: 1				
Manganese	0.68	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-38

DISSOLVED Metals

Lot-Sample #...: A1E260123-007

Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 1151105						
Manganese	0.57	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E51AQ
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-38

General Chemistry

Lot-Sample #...: A1E260123-007  
Date Sampled...: 05/24/01

Work Order #...: ED2E5  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	75.1	1.0	mg/L	MCAW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	220	10	mg/L	MCAW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-39

GC/MS Volatiles

MW 8A (dup)

Lot-Sample #....: A1E260123-008    Work Order #....: ED2E61AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	0.84 J	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	1.4	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	6.9	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-1N-39

GC/MS Volatiles

Lot-Sample #...: A1E260123-008 Work Order #...: ED2E61AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	98	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

NOTE (S) :

I Estimated result. Result is less than RL.

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-39

TOTAL Metals

Lot-Sample #...: A1E260123-008

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AC
		Dilution Factor: 1				
Manganese	0.61	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2E61F
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-39

DISSOLVED Metals

Lot-Sample #...: A1E260123-008  
Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105 Manganese	0.58	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E61AQ

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-39

General Chemistry

Lot-Sample #...: A1E260123-008  
Date Sampled...: 05/24/01

Work Order #...: ED2E6  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	60.0	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	170	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-40

GC/MS Volatiles

MW 4A

Lot-Sample #....: A1E260123-009    Work Order #....: ED2E71AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	0.13 J	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-40

GC/MS Volatiles

Lot-Sample #....: A1E260123-009 Work Order #....: ED2E71AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

NOTE(S):

) Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-40

TOTAL Metals

Lot-Sample #...: A1E260123-009

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	ND	0.20 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AE
Arsenic	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AJ
Cadmium	ND	0.0050 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AD
Chromium	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AF
Iron	36.0	0.10 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AC
Manganese	3.0	0.015 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AG
Lead	ND	0.0030 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AK
Thallium	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AL
Vanadium	ND	0.050 Dilution Factor: 1	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AH

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-40

DISSOLVED Metals

Lot-Sample #...: A1E260123-009  
Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Iron	36.0	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AQ
		Dilution Factor: 1				
Manganese	3.0	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E71AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-40

General Chemistry

Lot-Sample #...: A1E260123-009  
Date Sampled...: 05/24/01

Work Order #...: ED2E7  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	6.9	2.0	mg/L	MCAW 300.0A	06/07/01	1159192
		Dilution Factor: 2				
Total Dissolved Solids	410	10	mg/L	MCAW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	31	4.0	mg/L	MCAW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-41

GC/MS Volatiles

MW 4B

Lot-Sample #....: A1E260123-010  
 Date Sampled...: 05/24/01  
 Prep Date.....: 06/01/01  
 Prep Batch #...: 1152121  
 Dilution Factor: 1

Work Order #....: ED2E81AA  
 Date Received...: 05/26/01  
 Analysis Date...: 06/01/01  
 Method.....: SW846 8260B

Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	8.2	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	1.0	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	1.4 J	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	0.23 J	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	0.77 J	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	0.25 J	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	0.53 J	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.90 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	35	0.50	ug/L
Xylenes (total)	0.66 J	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-41

GC/MS Volatiles

Lot-Sample #...: A1E260123-010 Work Order #...: ED2E81AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONKSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-41

TOTAL Metals

Lot-Sample #...: A1E260123-010

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AE
		Dilution Factor: 1				
Arsenic	0.020	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AF
		Dilution Factor: 1				
Iron	124	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AC
		Dilution Factor: 1				
Manganese	0.53	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AI
		Dilution Factor: 1				

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-41

DISSOLVED Metals

Lot-Sample #....: A1E260123-010  
Date Sampled....: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #....: 1151105						
Iron	124	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AQ
		Dilution Factor: 1				
Manganese	0.52	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2E81AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-41

General Chemistry

Lot-Sample #...: A1E260123-010  
Date Sampled...: 05/24/01

Work Order #...: ED2E8  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	14.0	5.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 5				
Total Dissolved Solids	800	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	160	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-42

R.B.

GC/MS Volatiles

(MW-48)

Lot-Sample #....: A1E260123-011    Work Order #....: ED2E91AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #...: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	0.64 J	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.30 J	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-42

GC/MS Volatiles

Lot-Sample #....: A1E260123-011 Work Order #....: ED2E91AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

NOTE(S):

1 Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-42

TOTAL Metals

Lot-Sample #...: A1E260123-011

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2E91AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2E91AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2E91AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2E91AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31/01	ED2E91AC
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/31/01	ED2E91AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2E91AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2E91AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2E91AH
		Dilution Factor: 1				

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DX-42

DISSOLVED Metals

Lot-Sample #....: A1E260123-011

Matrix.....: WG

Date Sampled....: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1151104						
Iron	ND	0.10	mg/L	SW846 6010B	05/31/01	ED2E91AQ
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/31/01	ED2E91AR
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-42

General Chemistry

Lot-Sample #...: A1E260123-011  
Date Sampled...: 05/24/01

Work Order #...: ED2E9  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	10	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-43

GC/MS Volatiles

MW 7A

Lot-Sample #...: A1E260123-012    Work Order #...: ED2FA1AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #...: 1155164  
 Dilution Factor: 2.5    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	25	ug/L
Benzene	3.7	2.5	ug/L
Bromodichloromethane	ND	2.5	ug/L
Bromoform	ND	2.5	ug/L
Bromomethane	ND	5.0	ug/L
2-Butanone	ND	25	ug/L
Carbon disulfide	ND	2.5	ug/L
Carbon tetrachloride	ND	2.5	ug/L
Chlorobenzene	ND	2.5	ug/L
Dibromochloromethane	ND	2.5	ug/L
Chloroethane	1.1 J	5.0	ug/L
Chloroform	ND	2.5	ug/L
Chloromethane	ND	5.0	ug/L
1,1-Dichloroethane	1.3 J	2.5	ug/L
1,2-Dichloroethane	ND	2.5	ug/L
1,1-Dichloroethene	ND	2.5	ug/L
cis-1,2-Dichloroethene	ND	1.2	ug/L
trans-1,2-Dichloroethene	ND	1.2	ug/L
1,2-Dichloropropane	1.9 J	2.5	ug/L
cis-1,3-Dichloropropene	ND	2.5	ug/L
trans-1,3-Dichloropropene	ND	2.5	ug/L
Ethylbenzene	6.7	2.5	ug/L
2-Hexanone	ND	25	ug/L
Methylene chloride	ND	2.5	ug/L
4-Methyl-2-pentanone	ND	12	ug/L
Styrene	ND	2.5	ug/L
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L
Tetrachloroethene	ND	2.5	ug/L
Toluene	5.1	2.5	ug/L
1,1,1-Trichloroethane	ND	2.5	ug/L
1,1,2-Trichloroethane	ND	2.5	ug/L
Trichloroethene	ND	2.5	ug/L
Vinyl chloride	50	1.2	ug/L
Xylenes (total)	14	2.5	ug/L
Dichlorodifluoromethane	ND	2.5	ug/L
Trichlorofluoromethane	ND	2.5	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-43

GC/MS Volatiles

Lot-Sample #...: A1E260123-012 Work Order #...: ED2FA1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-43

TOTAL Metals

Lot-Sample #...: A1E260123-012

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AE
Arsenic	0.024	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AJ
Cadmium	ND	0.0050 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AD
Chromium	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AF
Iron	36.0	0.10 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AC
Manganese	0.93	0.015 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AG
Lead	ND	0.0030 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AK
Thallium	ND	0.010 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AL
Vanadium	ND	0.050 Dilution Factor: 1	mg/L	SW846 6010B	05/31/01	ED2FA1AH

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-43

DISSOLVED Metals

Lot-Sample #...: A1E260123-012  
Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Iron	32.2	0.10	mg/L	SW846 6010B	05/31/01	ED2FA1AQ
		Dilution Factor: 1				
Manganese	1.2	0.015	mg/L	SW846 6010B	05/31/01	ED2FA1AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-43

General Chemistry

Lot-Sample #...: A1E260123-012  
Date Sampled...: 05/24/01

Work Order #...: ED2FA  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	24.3	2.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 2				
Total Dissolved Solids	290	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	49	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-44

GC/MS Volatiles

MW 3A

Lot-Sample #....: A1E260123-013    Work Order #....: ED2FE1AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1152121  
 Dilution Factor: 1    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
2-Butanone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
2-Hexanone	ND	10	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Styrene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
Xylenes (total)	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-44

GC/MS Volatiles

Lot-Sample #....: A1E260123-013 Work Order #....: ED2FE1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-44

TOTAL Metals

Lot-Sample #...: A1E260123-013  
 Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2FE1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FE1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2FE1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FE1AF
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31/01	ED2FE1AC
		Dilution Factor: 1				
Manganese	0.24	0.015	mg/L	SW846 6010B	05/31/01	ED2FE1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2FE1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FE1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2FE1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-44

DISSOLVED Metals

Lot-Sample #: A1E260123-013

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #: 1151104						
Iron	ND	0.10	mg/L	SW846 6010B	05/31/01	ED2FE1AQ
		Dilution Factor: 1				
Manganese	0.17	0.015	mg/L	SW846 6010B	05/31/01	ED2FE1AR
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-44

General Chemistry

Lot-Sample #....: ALE260123-013  
 Date Sampled....: 05/24/01

Work Order #....: ED2FE  
 Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.7	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	96	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-45

GC/MS Volatiles

MW 3B

Lot-Sample #...: A1E260123-014    Work Order #...: ED2FG1AA    Matrix.....: WG  
 Date Sampled...: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #...: 1155164  
 Dilution Factor: 3.33    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	33	ug/L
Benzene	24	3.3	ug/L
Bromodichloromethane	ND	3.3	ug/L
Bromoform	ND	3.3	ug/L
Bromomethane	ND	6.7	ug/L
2-Butanone	ND	33	ug/L
Carbon disulfide	ND	3.3	ug/L
Carbon tetrachloride	ND	3.3	ug/L
Chlorobenzene	4.1	3.3	ug/L
Dibromochloromethane	ND	3.3	ug/L
Chloroethane	1.7 J	6.7	ug/L
Chloroform	ND	3.3	ug/L
Chloromethane	ND	6.7	ug/L
1,1-Dichloroethane	ND	3.3	ug/L
1,2-Dichloroethane	ND	3.3	ug/L
1,1-Dichloroethene	ND	3.3	ug/L
cis-1,2-Dichloroethene	ND	1.7	ug/L
trans-1,2-Dichloroethene	ND	1.7	ug/L
1,2-Dichloropropane	1.9 J	3.3	ug/L
cis-1,3-Dichloropropene	ND	3.3	ug/L
trans-1,3-Dichloropropene	ND	3.3	ug/L
Ethylbenzene	31	3.3	ug/L
2-Hexanone	ND	33	ug/L
Methylene chloride	ND	3.3	ug/L
4-Methyl-2-pentanone	ND	17	ug/L
Styrene	ND	3.3	ug/L
1,1,2,2-Tetrachloroethane	ND	3.3	ug/L
Tetrachloroethene	ND	3.3	ug/L
Toluene	14	3.3	ug/L
1,1,1-Trichloroethane	ND	3.3	ug/L
1,1,2-Trichloroethane	ND	3.3	ug/L
Trichloroethene	ND	3.3	ug/L
Vinyl chloride	84	1.7	ug/L
Xylenes (total)	88	3.3	ug/L
Dichlorodifluoromethane	ND	3.3	ug/L
Trichlorofluoromethane	ND	3.3	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-45

GC/MS Volatiles

Lot-Sample #....: ALE260123-014 Work Order #....: ED2FG1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-45

TOTAL Metals

Lot-Sample #...: A1E260123-014  
Date Sampled...: 05/24/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2FG1AE
		Dilution Factor: 1				
Arsenic	0.021	0.010	mg/L	SW846 6010B	05/31/01	ED2FG1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2FG1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FG1AF
		Dilution Factor: 1				
Iron	44.0	0.10	mg/L	SW846 6010B	05/31/01	ED2FG1AC
		Dilution Factor: 1				
Manganese	0.061	0.015	mg/L	SW846 6010B	05/31/01	ED2FG1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2FG1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FG1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2FG1A'
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-45

DISSOLVED Metals

Lot-Sample #...: A1E260123-014

Matrix.....: WG

Date Sampled...: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Iron	45.8	0.10	mg/L	SW846 6010B	05/31/01	ED2FG1AQ
		Dilution Factor: 1				
Manganese	0.063	0.015	mg/L	SW846 6010B	05/31/01	ED2FG1AR
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FG1AT
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-45

General Chemistry

Lot-Sample #...: A1E260123-014  
Date Sampled...: 05/24/01

Work Order #...: ED2FG  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	178	5.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 5				
Total Dissolved Solids	1400	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	70	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-46

GC/MS Volatiles

MW 3C

Lot-Sample #....: A1E260123-015    Work Order #....: ED2FL1AA    Matrix.....: WG  
 Date Sampled....: 05/24/01    Date Received...: 05/26/01  
 Prep Date.....: 06/01/01    Analysis Date...: 06/01/01  
 Prep Batch #....: 1155164    Method.....: SW846 8260B  
 Dilution Factor: 5

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Acetone	ND	50	ug/L
Benzene	27	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	50	ug/L
Carbon disulfide	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Chlorobenzene	2.8 J	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	10	ug/L
1,1-Dichloroethane	1.6 J	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
cis-1,2-Dichloroethene	ND	2.5	ug/L
trans-1,2-Dichloroethene	ND	2.5	ug/L
1,2-Dichloropropane	2.9 J	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Ethylbenzene	14	5.0	ug/L
2-Hexanone	ND	50	ug/L
Methylene chloride	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	25	ug/L
Styrene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Tetrachloroethene	ND	5.0	ug/L
Toluene	11	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Vinyl chloride	120	2.5	ug/L
Xylenes (total)	32	5.0	ug/L
Dichlorodifluoromethane	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DN-46

GC/MS Volatiles

Lot-Sample #...: A1E260123-015 Work Order #...: ED2FL1AA Matrix.....: WG

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	94	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-LN-46

TOTAL Metals

Lot-Sample #....: A1E260123-015

Matrix.....: WG

Date Sampled....: 05/24/01

Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1151105						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AE
		Dilution Factor: 1				
Arsenic	0.023	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AJ
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AF
		Dilution Factor: 1				
Iron	29.4	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AC
		Dilution Factor: 1				
Manganese	0.034	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AK
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AL
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2FL1AH
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010524-DW-46

General Chemistry

Lot-Sample #...: A1E260123-015  
Date Sampled...: 05/24/01

Work Order #...: ED2FL  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	193	5.0	mg/L	MCANW 300.0A	06/07/01	1159192
		Dilution Factor: 5				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-102

GC/MS Volatiles

*Schleicher*

Lot-Sample #....: A1E260123-016    Work Order #....: ED2FN1AQ    Matrix.....: WG  
 Date Sampled....: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #....: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	0.93	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-102

GC/MS Volatiles

Lot-Sample #....: A1E260123-016 Work Order #....: ED2FN1AQ Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
<u>SURROGATE</u>			
Bromofluorobenzene	82	(65 - 130)	
1,2-Dichlorobenzene-d4	97	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-102

TOTAL Metals

Lot-Sample #....: A1E260123-016  
 Date Sampled....: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2FN1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FN1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2FN1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FN1AE
		Dilution Factor: 1				
Iron	7.1	0.10	mg/L	SW846 6010B	05/31/01	ED2FN1AA
		Dilution Factor: 1				
Manganese	0.033	0.015	mg/L	SW846 6010B	05/31/01	ED2FN1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2FN1AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FN1AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2FN1AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-102

General Chemistry

Lot-Sample #...: A1E260123-016  
Date Sampled...: 05/25/01

Work Order #...: ED2FN  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	8.3	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	78	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DW-103

GC/MS Volatiles

*Schleicher (dup)*

Lot-Sample #...: A1E260123-017    Work Order #...: ED2FW1AQ    Matrix.....: WG  
 Date Sampled...: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	0.68	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-103

GC/MS Volatiles

Lot-Sample #...: A1E260123-017 Work Order #...: ED2FW1AQ Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Bromofluorobenzene	83	(65 - 130)	
1,2-Dichlorobenzene-d4	100	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-103

TOTAL Metals

Lot-Sample #...: A1E260123-017  
 Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2FW1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FW1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2FW1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FW1AE
		Dilution Factor: 1				
Iron	0.34	0.10	mg/L	SW846 6010B	05/31/01	ED2FW1AA
		Dilution Factor: 1				
Manganese	0.033	0.015	mg/L	SW846 6010B	05/31/01	ED2FW1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2FW1AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2FW1AK
		Dilution Factor: 1				
Tanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2FW1AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-103

General Chemistry

Lot-Sample #...: A1E260123-017  
Date Sampled...: 05/25/01

Work Order #...: ED2FW  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	8.3	1.0	mg/L	MCAWW 300.0A	06/07/01	1159192
		Dilution Factor: 1				
Total Dissolved Solids	79	10	mg/L	MCAWW 160.1	05/30-05/31/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151137
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-104

GC/MS Volatiles

*Thomson*

Lot-Sample #....: ALE260123-018    Work Order #....: ED2F01AQ    Matrix.....: WG  
 Date Sampled....: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #....: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	0.59	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-104

GC/MS Volatiles

Lot-Sample #...: A1E260123-018 Work Order #...: ED2F01AQ Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
<u>SURROGATE</u>			
Bromofluorobenzene	82	(65 - 130)	
1,2-Dichlorobenzene-d4	100	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-104

TOTAL Metals

Lot-Sample #...: A1E260123-018  
 Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2F01AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2F01AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2F01AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2F01AE
		Dilution Factor: 1				
Iron	0.14	0.10	mg/L	SW846 6010B	05/31/01	ED2F01AA
		Dilution Factor: 1				
Manganese	0.16	0.015	mg/L	SW846 6010B	05/31/01	ED2F01AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2F01AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2F01AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2F01AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-104

General Chemistry

Lot-Sample #...: A1E260123-018  
Date Sampled...: 05/25/01

Work Order #...: ED2F0  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	1.9	1.0	mg/L	MCAWV 300.0A	06/07/01	1159192
			Dilution Factor: 1			
Total Dissolved Solids	54	10	mg/L	MCAWV 160.1	05/30-05/31/01	1151140
			Dilution Factor: 1			
Total Suspended Solids	ND	4.0	mg/L	MCAWV 160.2	05/30-05/31/01	1151137
			Dilution Factor: 1			



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-105

GC/MS Volatiles

*Hanson*

Lot-Sample #...: A1E260123-019    Work Order #...: ED2F31AN    Matrix.....: WG  
 Date Sampled...: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methylene chloride	0.68	0.50	ug/L
1,2-Dibromo-3- chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DW-105

GC/MS Volatiles

Lot-Sample #...: A1E260123-019    Work Order #...: ED2F31AN    Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
<u>SURROGATE</u>			
Bromofluorobenzene	83	(65 - 130)	
1,2-Dichlorobenzene-d4	98	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-105

TOTAL Metals

Lot-Sample #...: A1E260123-019  
 Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2F31AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2F31AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2F31AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2F31AE
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31/01	ED2F31AA
		Dilution Factor: 1				
Manganese	0.031	0.015	mg/L	SW846 6010B	05/31/01	ED2F31AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2F31AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2F31AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2F31AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-105

General Chemistry

Lot-Sample #...: A1E260123-019  
Date Sampled...: 05/25/01

Work Order #...: ED2F3  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	5.0	1.0	mg/L	MCAW 300.0A	06/07/01	1159194

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-106

F.B.  
(Hansen)

GC/MS Volatiles

Lot-Sample #....: A1E260123-020    Work Order #....: ED2GD1AN    Matrix.....: WG  
 Date Sampled....: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #....: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Methylene chloride	0.75	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-106

GC/MS Volatiles

Lot-Sample #....: A1E260123-020 Work Order #....: ED2GD1AN Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
<u>SURROGATE</u>			
Bromofluorobenzene	87	(65 - 130)	
1,2-Dichlorobenzene-d4	104	(69 - 130)	

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-106

TOTAL Metals

Lot-Sample #...: A1E260123-020  
Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2GD1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GD1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2GD1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GD1AE
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31/01	ED2GD1AA
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/31/01	ED2GD1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2GD1AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GD1AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2GD1AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-106

General Chemistry

Lot-Sample #....: A1E260123-020  
Date Sampled....: 05/25/01

Work Order #....: ED2GD  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	1.0	mg/L	MCAWW 300.0A	06/07/01	1159194

Dilution Factor: 1



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-107

GC/MS Volatiles

Zdrojowy

Lot-Sample #....: A1E260123-021    Work Order #....: ED2GE1AN    Matrix.....: WG  
 Date Sampled....: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #....: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	ND	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-107

GC/MS Volatiles

Lot-Sample #...: A1E260123-021 Work Order #...: ED2GE1AN Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
<u>SURROGATE</u>			
Bromofluorobenzene	85	(65 - 130)	
1,2-Dichlorobenzene-d4	103	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-107

TOTAL Metals

Lot-Sample #...: A1E260123-021  
 Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2GE1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GE1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2GE1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GE1AE
		Dilution Factor: 1				
Iron	1.0	0.10	mg/L	SW846 6010B	05/31/01	ED2GE1AA
		Dilution Factor: 1				
Manganese	0.025	0.015	mg/L	SW846 6010B	05/31/01	ED2GE1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2GE1AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GE1AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2GE1AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-107

General Chemistry

Lot-Sample #...: A1E260123-021    Work Order #...: ED2GE    Matrix.....: WG  
Date Sampled...: 05/25/01    Date Received...: 05/26/01

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	7.4	1.0	mg/L	MCAW 300.0A	06/07/01	1159194

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DW-108

GC/MS Volatiles

John Pless

Lot-Sample #...: A1E260123-022    Work Order #...: ED2GH1CN    Matrix.....: WG  
 Date Sampled...: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	1.2	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropane	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-108

GC/MS Volatiles

Lot-Sample #...: A1E260123-022 Work Order #...: ED2GH1CN Matrix.....: WG

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
		PERCENT	RECOVERY
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>	
Bromofluorobenzene	83	(65 - 130)	
1,2-Dichlorobenzene-d4	99	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-108

TOTAL Metals

Lot-Sample #...: A1E260123-022  
 Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2GH1AH
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GH1AW
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2GH1AE
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GH1AL
		Dilution Factor: 1				
Iron	0.13	0.10	mg/L	SW846 6010B	05/31/01	ED2GH1AA
		Dilution Factor: 1				
Manganese	0.059	0.015	mg/L	SW846 6010B	05/31/01	ED2GH1AP
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2GH1A1
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GH1A4
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2GH1AT
		Dilution Factor: 1				

CONRSTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-108

General Chemistry

Lot-Sample #...: A1E260123-022  
Date Sampled...: 05/25/01

Work Order #...: ED2GH  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	74.9	1.0	mg/L	MCAWW 300.0A	06/07/01	1159194
		Dilution Factor: 1				
Total Dissolved Solids	240	10	mg/L	MCAWW 160.1	06/04-06/06/01	1155296
		Dilution Factor: 1				
Total Dissolved Solids	270	10	mg/L	MCAWW 160.1	05/30-06/01/01	1151140
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	05/30-05/31/01	1151136
		Dilution Factor: 1				



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-109

GC/MS Volatiles

*Tom Pluess*

Lot-Sample #....: A1E260123-023    Work Order #....: ED2GQ1AN    Matrix.....: WG  
 Date Sampled....: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #....: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	ND	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-109

GC/MS Volatiles

Lot-Sample #....: A1E260123-023 Work Order #....: ED2GQ1AN Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
<u>SURROGATE</u>			
Bromofluorobenzene	84	(65 - 130)	
1,2-Dichlorobenzene-d4	98	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DW-109

TOTAL Metals

Lot-Sample #...: A1E260123-023  
 Date Sampled...: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31/01	ED2GQ1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GQ1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31/01	ED2GQ1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GQ1AE
		Dilution Factor: 1				
Iron	0.15	0.10	mg/L	SW846 6010B	05/31/01	ED2GQ1AA
		Dilution Factor: 1				
Manganese	0.024	0.015	mg/L	SW846 6010B	05/31/01	ED2GQ1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31/01	ED2GQ1AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31/01	ED2GQ1AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31/01	ED2GQ1AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-109

General Chemistry

Lot-Sample #...: A1E260123-023  
Date Sampled...: 05/25/01

Work Order #...: ED2GQ  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	12.1	1.0	mg/L	MCAWW 300.0A	06/08/01	1159194

Dilution Factor: 1

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DW-110

GC/MS Volatiles

*Plus Rental*

Lot-Sample #...: A1E260123-024    Work Order #...: ED2GVIAN    Matrix.....: WG  
 Date Sampled...: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Methylene chloride	ND	0.50	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-110

GC/MS Volatiles

Lot-Sample #....: A1E260123-024 Work Order #....: ED2GV1AN Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
	<u>PERCENT</u>	<u>RECOVERY</u>	
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>	
Bromofluorobenzene	82	(65 - 130)	
1,2-Dichlorobenzene-d4	100	(69 - 130)	

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-110

TOTAL Metals

Lot-Sample #....: A1E260123-024  
 Date Sampled....: 05/25/01

Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1151104						
Aluminum	ND	0.20	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AE
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AA
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AF
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AJ
		Dilution Factor: 1				
Thallium	ND	0.010	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AK
		Dilution Factor: 1				
Vanadium	ND	0.050	mg/L	SW846 6010B	05/31-06/01/01	ED2GV1AG
		Dilution Factor: 1				

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-010525-DN-110

General Chemistry

Lot-Sample #....: A1E260123-024  
Date Sampled....: 05/25/01

Work Order #....: ED2GV  
Date Received...: 05/26/01

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	3.6	1.0	mg/L	MCAW 300.0A	06/08/01	1159194

Dilution Factor: 1



CORKESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: TRIP BLANKS

GC/MS Volatiles

Lot-Sample #...: A1E260123-025    Work Order #...: ED2G01AC    Matrix.....: WQ  
 Date Sampled...: 05/25/01    Date Received...: 05/26/01  
 Prep Date.....: 06/05/01    Analysis Date...: 06/06/01  
 Prep Batch #...: 1157341  
 Dilution Factor: 1    Method.....: EPA-DW 524.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methylene chloride	ND	0.50	ug/L
1,2-Dibromo-3- chloropropane (DBCP)	ND	0.50	ug/L
cis-1,3-Dichloropropene	ND	0.50	ug/L
trans-1,3-Dichloropropene	ND	0.50	ug/L
Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	ug/L
Bromochloromethane	ND	0.50	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	0.50	ug/L
Bromomethane	ND	0.50	ug/L
n-Butylbenzene	ND	0.50	ug/L
sec-Butylbenzene	ND	0.50	ug/L
tert-Butylbenzene	ND	0.50	ug/L
Carbon tetrachloride	ND	0.50	ug/L
Chlorobenzene	ND	0.50	ug/L
Chlorodibromomethane	ND	0.50	ug/L
Chloroethane	ND	0.50	ug/L
Chloroform	ND	0.50	ug/L
Chloromethane	ND	0.50	ug/L
o-Chlorotoluene	ND	0.50	ug/L
p-Chlorotoluene	ND	0.50	ug/L
1,2-Dibromoethane	ND	0.50	ug/L
Dibromomethane	ND	0.50	ug/L
o-Dichlorobenzene	ND	0.50	ug/L
m-Dichlorobenzene	ND	0.50	ug/L
p-Dichlorobenzene	ND	0.50	ug/L
Dichlorodifluoromethane	ND	0.50	ug/L
1,1-Dichloroethane	ND	0.50	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
cis-1,2-Dichloroethylene	ND	0.50	ug/L
trans-1,2-Dichloroethylene	ND	0.50	ug/L
1,1-Dichloroethylene	ND	0.50	ug/L
1,2-Dichloropropane	ND	0.50	ug/L
1,3-Dichloropropane	ND	0.50	ug/L
2,2-Dichloropropane	ND	0.50	ug/L
1,1-Dichloropropene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Hexachlorobutadiene	ND	0.50	ug/L

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: TRIP BLANKS

GC/MS Volatiles

Lot-Sample #...: A1E260123-025 Work Order #...: ED2G01AC Matrix.....: WQ

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Isopropylbenzene	ND	0.50	ug/L
p-Isopropyltoluene	ND	0.50	ug/L
Naphthalene	ND	0.50	ug/L
n-Propylbenzene	ND	0.50	ug/L
Styrene	ND	0.50	ug/L
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L
Tetrachloroethylene	ND	0.50	ug/L
Toluene	ND	0.50	ug/L
1,2,3-Trichlorobenzene	ND	0.50	ug/L
1,2,4-Trichloro- benzene	ND	0.50	ug/L
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2-Trichloroethane	ND	0.50	ug/L
Trichloroethene	ND	0.50	ug/L
Trichlorofluoromethane	ND	0.50	ug/L
1,2,3-Trichloropropane	ND	0.50	ug/L
1,2,4-Trimethylbenzene	ND	0.50	ug/L
1,3,5-Trimethylbenzene	ND	0.50	ug/L
Vinyl chloride	ND	0.50	ug/L
o-Xylene	ND	0.50	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	79	(65 - 130)
1,2-Dichlorobenzene-d4	98	(69 - 130)



# CHAIN OF CUSTODY RECORD

7/20/01

<b>CRA</b> CONESTOGA-ROVERS & ASSOCIATES 1801 OLD HWY. 8, SUITE 114 ST. PAUL, MN 55112- <del>(651)</del> 639-0913	SHIPPED TO (Laboratory Name): <p style="font-size: 1.5em; text-align: center;">STL - N. Canton</p>	REFERENCE NUMBER: <p style="font-size: 1.5em; text-align: center;"># 12265-70</p>
--	---	--

SAMPLER'S SIGNATURE: <u>[Signature]</u>		PRINTED NAME: <u>DAN NELSON</u>		No. OF CONTAINERS	PARAMETERS					REMARKS
SEQ. No.	DATE	TIME	SAMPLE No.		SAMPLE TYPE	344 Ver's	TT. Met. Id	Chk. Id	ISS TIDS	
	5/25/01		W-010524-DN-104 Thomson	Water	6	X	X	X		
			- 105 Hanson		5	X	X	X		
			- 106 Hanson (F.B.)		5	X	X	X		
			- 107 Zdrojowy		5	X	X	X		
			- 108 (m/hso) John Pless		10	X	X	X		
			- 109 Tom Pless		5	X	X	X		
			- 110 Pless Rental		5	X	X	X		
			Temp blanks		2	X				
			Temp blanks (1 per Center = 4)		4					
End of Samples!										

TOTAL NUMBER OF CONTAINERS: 55 HEALTH/CHEMICAL HAZARDS:                     

RELINQUISHED BY: ① <u>[Signature]</u>	DATE: <u>5/25/01</u>	RECEIVED BY: ② _____	DATE: TIME:
RELINQUISHED BY: ② _____	DATE: TIME:	RECEIVED BY: ③ _____	DATE: TIME:
RELINQUISHED BY: ③ _____	DATE: TIME:	RECEIVED BY: ④ _____	DATE: TIME:

METHOD OF SHIPMENT: Fed-Ex. P.O.N WAY BILL No. \_\_\_\_\_

White - Fully Executed Copy Yellow - Receiving Laboratory Copy Pink - Shipper Copy Goldenrod - Sampler Copy	SAMPLE TEAM: <u>Nelson, D.</u> <u>Stalio, P.</u>	RECEIVED FOR LABORATORY BY: _____ NO <b>03057</b> DATE: _____ TIME: _____
--	--	--

**APPENDIX B**  
**GROUNDWATER DATA VALIDATION MEMO**




**CONESTOGA-ROVERS  
& ASSOCIATES**

1801 Old Highway 8 NW, Suite #114  
St. Paul, Minnesota 55112  
Telephone: (651) 639-0913 Fax: (651) 639-0923  
www.CRAworld.com

## MEMORANDUM

TO: Katie Kamm REF. NO.: 12865-70

FROM: Dan Nelson  DATE: July 11, 2001

RE: **May 2001, Round 4, Groundwater Monitoring Event  
Tomah Municipal Sanitary Landfill, Tomah, Wisconsin**

During the week of May 21, 2001, Pete Storlie and I conducted the fourth round groundwater and residential monitoring event at the Tomah Municipal Landfill in Tomah, Wisconsin.

Pete and I measured water levels at each of the 38 monitoring wells, 2 surface water and 1 residential location on May 22, 2001. I have summarized the groundwater elevations in Table 1.

Groundwater sampling was conducted in accordance with the GW-FSP. All 38 monitoring wells were sampled using the standard QA/QC procedures. Samples were collected for 8260B VOCs, chloride and total metals (unfiltered) analysis. Additional samples were collected at selected locations based on previous rounds analytical results. Those additional samples were TDS, TSS, and metals (filtered). Samples collected were placed on ice along with lab supplied trip and temperature blanks and shipped to Severn Trent Laboratories (STL) via Federal Express within 48 hours from collection. Attached is the groundwater sampling summary (Table 2).

On May 23 and 25, 2001, Pete and I conducted the residential sampling. Sampling was conducted in accordance with the GW-FSP. A total of 10 out of the 11 residential locations were sampled using standard QA/QC procedures. The Kenworthy location was not sampled because of the remodeling construction being performed. The water supply to the home was turned off during the construction. We left several messages to get the water turned on, but Mrs. Kenworthy did not respond. Each residential location was sampled for EPA 524.4 VOCs, chloride, and total metals (unfiltered) analysis. Additional samples were collected at select residents based on previous rounds analytical results. Those additional samples were TDS, TSS, and metals (filtered). Samples collected were placed on ice along with lab supplied trip and temperature blanks. Attached is the residential sampling summary (Table 3).

During the residential sampling, the Ripp residence was sampled on June 14, 2001, by Buck Lardy and Pete Storlie. The samples were collected, placed on ice, and shipped to STL (overnight) the same day via Federal Express.

Field parameter equipment was calibrated on a daily basis throughout the sampling event and in accordance with the GW-FSP. Calibration of equipment was recorded on field data record forms. The data forms along with any additional information pertaining to the sampling event have been placed in the file and/or in the Site-specific field book. The copies of the chain-of-custody record for both the monitoring and residential sampling has been filed.

DAN/jla/10  
Enc.

TABLE 1

**GROUNDWATER ELEVATION SUMMARY  
TOMAH MUNICIPAL SANITARY LANDFILL**

<i>Monitoring Well</i>	<i>Top of Casing Elevation (AMSL)</i>	<i>2/19/01</i>	<i>5/22/01</i>
MW-1A	990.64	961.87	963.09
MW-1B	990.60	962.04	963.15
MW-2A	997.39	957.81	959.14
MW-2B	997.38	957.83	959.17
MW-3A	969.17	957.68	959.88
MW-3B	969.70	957.18	958.26
MW-3C	968.73	957.06	958.10
MW-4A	971.02	958.98	959.81
MW-4B	970.79	958.99	959.78
MW-5A	962.67	958.65	959.10
MW-5B	962.14	958.64	959.13
MW-5C	962.58	958.69	959.23
MW-6A	973.21	959.84	962.91
MW-7A	976.84	957.75	959.54
MW-8A	977.38	957.20	958.51
MW-9A	961.25	955.30	955.77
MW-9B	961.24	955.30	955.77
MW-9C	961.30	955.49	955.99
MW-10A	967.33	960.47	961.05
MW-11A	958.02	954.19	954.46
MW-11B	957.97	954.26	954.54
MW-11C	957.84	954.30	954.66
MW-12A	958.14	953.29	954.27
MW-12B	958.03	953.28	954.26
MW-12C	958.17	954.04	954.22
MW-13A	959.81	953.04	953.44
MW-13B	959.78	953.03	953.41
MW-14A	956.23	951.33	951.83
MW-14B	956.22	951.42	951.93
MW-14C	955.70	951.42	951.99
MW-15A	955.21	951.40	952.23
MW-15B	955.08	951.39	952.19
MW-15C	955.04	951.36	952.10
MW-16A	960.25	Frozen	957.83
MW-16B	960.32	957.24	957.87
MW-16C	960.46	957.40	957.98
MW-17A	961.50	956.90	957.69
MW-17B	961.75	957.17	957.70
SG-#1	957.92	Frozen	956.18
SG-#2	958.89	Frozen	956.34

Note:

Staff Gauges #1 and #2 are located on east side of Noth Road.  
SG #1 is the south culvert and SG#2 in the north culvert.

**TABLE 2**  
**MONITORING WELL SAMPLE SUMMARY**  
**TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN**  
**MAY 2001**

<i>Well</i>			<i>Specific</i>	<i>Temperature</i>		<i>Dissolved</i>	<i>Turbidity</i>		<i>Volume</i>
<i>Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Conductivity (uS)</i>	<i>(°C)</i>	<i>Eh (mV)</i>	<i>Oxygen (mg/l)</i>	<i>(NTU)</i>	<i>Clarity</i>	<i>(gallons)</i>
MW-15A	W-010522-DN-01	4.72	61	10.9	45	1.51	18	Clear	3
		4.73	62	10.9	42	1.50	16	Clear	4
		4.73	62	10.9	40	1.49	15	Clear	5
MW-15B	W-010522-DN-02	5.03	78	7.9	100	2.55	24	Clear	14
		5.06	78	7.9	125	2.57	12	Clear	18.5
		5.08	78	7.9	134	2.60	9.7	Clear	23
MW-15C *	W-010522-DN-03	4.43	229	9.2	260	2.10	19	Clear	8
		4.43	228	9.3	266	2.14	17	Clear	16
		4.43	227	9.3	270	2.13	10	Clear	24
MW-12A *	W-010522-DN-04	4.76	55	8.2	205	0.98	6.1	Clear	6
		4.78	55	8.2	204	0.83	4.2	Clear	8
		4.78	55	8.2	204	0.78	3.7	Clear	10
MW-12B	W-010522-DN-05	5.74	444	8.5	136	0.16	3.3	Clear	5.5
		5.78	450	8.5	149	0.13	3.0	Clear	11
		5.79	456	8.5	155	0.13	2.8	Clear	16.5
MW-12C *	W-010522-DN-06	4.70	197	8.9	265	0.30	0.1	Clear	9
		4.70	196	8.9	270	0.29	0.1	Clear	18
		4.67	197	8.9	273	0.28	0.1	Clear	27
MW-14A *	W-010522-DN-07	5.79	281	10.7	-40	0.50	17	Opaque	3
	W-010522-DN-08 (R.B.)	5.78	277	10.6	-35	0.40	14	Opaque	4
		5.78	277	10.5	-36	0.30	12	Opaque	5



**TABLE 2**  
**MONITORING WELL SAMPLE SUMMARY**  
**TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN**  
**MAY 2001**

<i>Well Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Specific Conductivity (uS)</i>	<i>Temperature (°C)</i>	<i>Eh (mV)</i>	<i>Dissolved Oxygen (mg/l)</i>	<i>Turbidity (NTU)</i>	<i>Clarity</i>	<i>Volume Removed (gallons)</i>
MW-14B	W-010522-DN-09	5.19	176	7.8	130	2.60	90	Silty	4.5
		5.19	175	7.8	153	2.61	16	Clear	9
		5.19	175	7.8	160	2.62	14	Clear	13.5
MW-14C	W-010522-DN-10 W-010522-DN-11 (Dup.)	5.12	144	9.5	207	8.44	55	Sl. Silty	8
		5.11	144	9.5	220	8.45	26	Sl. Silty	16
		5.10	144	9.5	226	8.42	23	Clear	24
MW-9A *	W-010523-DN-12	5.63	268	8.0	-2	0.42	6.6	Clear	6
		5.65	265	8.0	-1	0.37	6.0	Clear	8
		5.64	265	8.0	-1	0.37	5.5	Clear	10
MW-9B *	W-010523-DN-13	5.92	503	8.3	-100	0.12	3.6	Clear	5.5
		5.93	504	8.4	-103	0.10	3.2	Clear	10.5
		5.93	512	8.4	-104	0.09	2.9	Clear	15.5
MW-9C	W-010523-DN-14 (MS/MSD)	5.39	24	9.0	5	11.33	15.0	Clear	8.5
		5.32	24	9.0	50	11.26	9.5	Clear	17
		5.28	24	9.0	80	11.25	6.2	Clear	26
		5.23	24	9.0	96	11.26	5.0	Clear	35
		5.21	24	9.0	110	11.29	4.5	Clear	44
MW-13A *	W-010523-DN-15	4.91	373	7.9	178	1.56	4.7	Clear	6
		4.92	375	7.9	186	1.51	3.9	Clear	8
		4.93	376	7.9	191	1.47	3.3	Clear	10

**TABLE 2**  
**MONITORING WELL SAMPLE SUMMARY**  
**TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN**  
**MAY 2001**

<i>Well</i>			<i>Specific</i>	<i>Temperature</i>		<i>Dissolved</i>	<i>Turbidity</i>		<i>Volume</i>
<i>Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Conductivity (uS)</i>	<i>(°C)</i>	<i>Eh (mV)</i>	<i>Oxygen (mg/l)</i>	<i>(NTU)</i>	<i>Clarity</i>	<i>Removed</i>
									<i>(gallons)</i>
MW-13B	W-010523-DN-16	5.21	162	8.2	178	0.29	5.5	Clear	5
		5.18	167	8.2	180	0.28	3.8	Clear	10
		5.17	169	8.2	185	0.28	3.7	Clear	15
MW-11A	W-010523-DN-17	5.24	59	7.8	169	7.93	4.8	Clear	7
	W-010523-DN-18 (Dup.)	5.22	60	7.8	179	7.85	4.0	Clear	9
		5.21	61	7.8	190	7.85	3.4	Clear	11
MW-11B	W-010523-DN-19	4.90	145	8.9	255	3.35	2.80	Clear	5
		4.91	143	8.9	263	3.39	2.60	Clear	10
		4.91	141	8.9	265	3.34	2.50	Clear	15
MW-11C	W-010523-DN-20	4.99	122	9.2	278	5.29	5.8	Clear	8.5
		4.98	121	9.2	277	5.39	5.0	Clear	17
		4.98	121	9.2	278	5.55	4.5	Clear	25.5
MW-16A	W-010523-DN-21	5.65	84	8.2	55	2.10	11	Clear	3
	W-010523-DN-22 (R.B.)	5.64	84	8.1	55	2.09	9.4	Clear	4
		5.64	84	8.1	55	2.08	7.2	Clear	5.5
MW-16B	W-010523-DN-23	5.18	41.0	7.4	180	7.47	8	Clear	5
		5.17	41.0	7.4	200	7.45	5	Clear	10
		5.17	41.0	7.4	208	7.42	4	Clear	15
MW-16C	W-010523-DN-24	5.14	43	8.6	207	3.64	32	Clear	8
		5.13	44	8.6	214	3.86	15	Clear	16
		5.13	45	8.6	220	4.02	4.8	Clear	24

**TABLE 2**  
**MONITORING WELL SAMPLE SUMMARY**  
**TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN**  
**MAY 2001**

<i>Well</i>			<i>Specific</i>	<i>Temperature</i>		<i>Dissolved</i>	<i>Turbidity</i>		<i>Volume</i>
<i>Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Conductivity (uS)</i>	<i>(°C)</i>	<i>Eh (mV)</i>	<i>Oxygen (mg/l)</i>	<i>(NTU)</i>	<i>Clarity</i>	<i>Removed</i>
									<i>(gallons)</i>
MW-1A	W-010523-DN-25	5.03	38	8.7	266	10.23	2.2	Clear	4.5
		5.03	38	8.7	268	10.11	2.5	Clear	6
		5.03	38	8.7	271	9.88	2.3	Clear	7.5
MW-1B *	W-010523-DN-26	4.64	99	9.8	360	9.77	1.9	Clear	10
		4.65	98	9.8	364	9.58	1.1	Clear	15
		4.66	99	9.8	367	9.56	0.9	Clear	20
MW-5A *	W-010524-DN-27	6.32	471	7.3	-85	0.81	3.86	Clear	4.5
		6.32	469	7.3	-86	0.76	3.10	Clear	6
		6.32	469	7.3	-87	0.67	3.24	Clear	7.5
MW-5B *	W-010524-DN-28	6.43	1428	7.4	-112	0.18	11.0	Clear	4
		6.42	1424	7.4	-115	0.17	9.7	Clear	8
		6.42	1421	7.4	-116	0.15	7.6	Clear	12
MW-5C *	W-010524-DN-29	5.28	100	8.9	90	4.68	2.4	Clear	9.5
		5.28	100	8.9	107	4.61	2.0	Clear	19
		5.28	99	8.9	121	4.52	2.2	Clear	28.5
		5.29	98	8.9	153	4.47	1.9	Clear	38
		5.30	97	8.9	169	4.39	1.4	Clear	47.5
MW-17A *	W-010524-DN-30	5.91	121	10.9	-39	0.13	7.3	Clear	3
	W-010524-DN-31 (R.B.)	5.91	121	10.9	-40	0.12	7.0	Clear	4
		5.91	121	10.9	-41	0.11	6.7	Clear	5

TABLE 2

**MONITORING WELL SAMPLE SUMMARY  
TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN  
MAY 2001**

<i>Well Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Specific Conductivity (uS)</i>	<i>Temperature (°C)</i>	<i>Eh (mV)</i>	<i>Dissolved Oxygen (mg/l)</i>	<i>Turbidity (NTU)</i>	<i>Clarity</i>	<i>Volume Removed (gallons)</i>
MW-17B *	W-010524-DN-32	5.99	783	8.1	-33	0.47	6.3	Clear	4.5
		6.08	892	7.8	-22	0.48	3.0	Clear	9
		6.09	909	7.8	-20	0.46	3.1	Clear	13.5
		6.10	910	7.8	-19	0.46	3.2	Clear	18
MW-6A	W-010524-DN-33	6.78	85	11	35	9.22	456	Silty	3.5
		6.60	85	11	46	9.16	161	Sl. Silty	4.5
		6.52	85	11	56	9.14	111	Sl. Silty	5.5
MW-2A *	W-010524-DN-34	5.11	47	9.7	145	0.25	2.8	Clear	3
	W-010524-DN-35 (Dup.)	5.08	47	9.7	144	0.25	2.9	Clear	4
		5.06	46	9.7	147	0.23	2.2	Clear	5
MW-2B *	W-010524-DN-36	4.74	132	10.4	276	0.17	1.91	Clear	5
		4.74	132	10.4	277	0.17	1.81	Clear	10
		4.74	131	10.4	286	0.16	1.82	Clear	15
MW-10A *	W-010524-DN-37 (MS/MSD)	5.60	60	9.0	189	1.31	4.69	Clear	6
		5.61	61	9.0	185	1.27	3.99	Clear	8
		5.62	62	9.1	176	1.24	3.01	Clear	10
MW-8A *	W-010524-DN-38	4.88	215	9.2	250	1.25	4.18	Clear	4.5
	W-010524-DN-39 (Dup.)	4.86	234	9.2	258	1.08	3.30	Clear	6
		4.83	264	9.2	272	0.96	3.03	Clear	7.5

**TABLE 2**  
**MONITORING WELL SAMPLE SUMMARY**  
**TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN**  
**MAY 2001**

<i>Well</i>			<i>Specific</i>	<i>Temperature</i>		<i>Dissolved</i>	<i>Turbidity</i>		<i>Volume</i>
<i>Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Conductivity (uS)</i>	<i>(°C)</i>	<i>Eh (mV)</i>	<i>Oxygen (mg/l)</i>	<i>(NTU)</i>	<i>Clarity</i>	<i>(gallons)</i>
MW-4A *	W-010524-DN-40	6.21	518	10.1	8	0.17	14.2	Clear	3
		6.23	540	10.1	7	0.15	5.11	Clear	4
		6.26	550	10.1	6	0.13	3.54	Clear	5
MW-4B *	W-010524-DN-41	6.42	1556	10.2	-79	0.09	18.3	Clear	3.5
	W-010524-DN-42 (R.B.)	6.43	1653	10.3	-92	0.08	7.14	Clear	7
		6.45	1687	10.3	-100	0.07	6.61	Clear	10.5
		6.45	1696	10.3	-103	0.07	6.60	Clear	14
MW-7A *	W-010524-DN-43	6.51	718	10.1	-61	2.11	10.30	Cldy - Fe	2 P.D.
Insufficient amount of water to collect full field parameters. Waterlevel recovered sufficiently to collect sample.									
MW-3A *	W-010524-DN-44	5.51	104	9.6	120	6.82	3.8	Clear	4.5
		5.46	107	9.6	144	6.62	3.5	Clear	6
		5.45	107	9.6	153	6.52	3.4	Clear	7.5
MW-3B *	W-010524-DN-45	6.53	2654	9.9	-77	0.12	5.2	Sl. Cldy	5
		6.54	2682	9.9	-86	0.09	3.4	Clear	10
		6.54	2697	9.9	-89	0.08	3.1	Clear	15
		6.54	2699.0	9.9	-90	0.08	3.0	Clear	20
MW-3C	W-010524-DN-46	6.57	2688	10.3	-77	0.07	4.3	Clear	9.5
		6.58	2672	10.3	-82	0.06	2.6	Clear	19
		6.58	2665	10.3	-85	0.05	2.1	Clear	28.5

Notes: \* = These locations had extra parameters taken due to previous rounds analytical results. An additional metals (filtered), TDS and TSS were collected.

TABLE 3

**RESIDENTIAL SAMPLE SUMMARY  
TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN  
MAY 2001**

<i>Residential Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Specific Conductivity (uS)</i>	<i>Temperature (°C)</i>	<i>Eh (mV)</i>	<i>Dissolved Oxygen (mg/l)</i>	<i>Turbidity (NTU)</i>	<i>Clarity</i>	<i>Volume Removed (gallons)</i>
Boehm *	W-010523-DN-100	5.07	40	10.8	220	5.25	5.00	Clear	15
		5.06	40	10.8	216	5.07	5.14	Clear	20
		5.04	40	10.8	219	5.16	5.11	Clear	25
Thundercloud *	W-010523-DN-101	5.55	64	10.8	200	8.25	7.95	Clear	100
		5.58	64	10.9	189	8.25	5.86	Clear	110
		5.51	63	10.8	188	8.75	4.11	Clear	120
Schleicher *	W-010525-DN-102	5.60	106	10.8	176	1.50	2.27	Clear	25
	W-010525-DN-103 (Dup)	5.62	106	10.8	173	1.50	2.01	Clear	50
		5.63	106	10.8	173	1.49	2.09	Clear	75
Thompson *	W-010525-DN-104	5.12	67	11.5	226	3.66	1.43	Clear	15
		5.10	67	11.4	230	3.59	1.50	Clear	30
		5.08	67	11.4	236	3.56	1.60	Clear	45
Hanson	W-010525-DN-105	6.02	253	9.2	156	6.28	1.50	Clear	10
	W-010525-DN-106 (F.B.)	6.02	253	9.2	159	6.41	1.60	Clear	20
		6.00	254	9.3	157	6.46	1.40	Clear	30
Zdrojowy	W-010525-DN-107	5.44	197	10.9	184	4.94	3.80	Clear	50
		5.42	196	10.9	193	4.91	3.40	Clear	100
		5.42	197	10.9	202	4.95	2.90	Clear	150

TABLE 3

**RESIDENTIAL SAMPLE SUMMARY  
TOMAH MUNICIPAL SANITARY LANDFILL - TOMAH, WISCONSIN  
MAY 2001**

<i>Residential Location</i>	<i>Sample Number</i>	<i>pH</i>	<i>Specific Conductivity (uS)</i>	<i>Temperature (°C)</i>	<i>Eh (mV)</i>	<i>Dissolved Oxygen (mg/l)</i>	<i>Turbidity (NTU)</i>	<i>Clarity</i>	<i>Volume Removed (gallons)</i>
John Pluess *	W-010525-DN-108 (MS/MSD)	5.42	399	11.3	225	5.12	2.42	Clear	30
		5.39	393	11.2	230	5.55	1.81	Clear	60
		5.39	384	11.2	234	5.68	2.34	Clear	90
		5.39	385	11.2	234	5.66	1.92	Clear	120
Tom Pluess	W-010525-DN-109	5.15	240	10.2	238	10.02	1.92	Clear	25
		5.14	239	10.2	240	10.10	1.93	Clear	50
		5.13	243	10.2	243	10.04	2.02	Clear	75
		5.13	245	10.2	244	10.03	1.90	Clear	100
Pluess Rental	W-010525-DN-110	5.19	104	10.5	244	9.26	1.50	Clear	35
		5.18	89	10.6	250	9.56	2.00	Clear	70
		5.18	89	10.6	253	9.70	2.10	Clear	105
Ripp	W-010614-DN-111	7.50	194	9.6	106		26.8	Brownish	257
		6.50	161	9.5	180		32.6	Sl. Cldy	514
Pumping Well		6.50	159	9.4	181		5.5	Clear	771
		6.50	159	9.4	182		5.0	Clear	1028
Kenworthy	No Sample - See note								

**Note:**

Field parameters were taken after the initial 5 minutes since purging began. Readings taken in 5 minute intervals. Each sample location was taken at the outside spigot except Thundercloud and Ripp. Thundercloud sample was taken at the kitchen sink and the Ripp sample was collected at the well via 2" submersible pump after 5 standing well volumes had been purged from the well.

\* These locations had additional parameters taken due to previous rounds analytical results. The additional samples were metals (filtered), TDS and TSS.

Kenworthy location was not sampled due to the remodeling construction throughout the home and the water supply had been turned off as new plumbing being installed at this time.



---

## MEMORANDUM

---

TO: Katie Kamm REF. NO.: 12865-70

FROM: Grant Anderson *GA* DATE: July 20, 2001

C.C.: Analytical Data File  
Brian Sandberg

RE: Data Quality Assessment and Validation  
May and June 2001 Sampling Events  
Tomah Landfill Site - Tomah, Wisconsin (COC 3054 - 3057, 3504)

---

The following details a data quality assessment and validation for water samples collected May 22-25 and June 14, 2001, at the Tomah Landfill Site in Tomah, Wisconsin. The samples identified in Table 1 were analyzed for three or more of the parameters listed in Table 2. With the exception of VOC (524.2), the analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The VOC (524.2) analyses were performed by STL in Tampa, Florida. The quality assurance criteria were defined by the quality assurance project plan (QAPP)<sup>1</sup>.

### Holding Time Periods

The holding time periods for the analyses are presented in Table 2. On the basis of sample collection and analysis dates on the chain-of-custody forms and the analytical reports provided by STL, the majority of the analyses were completed within the specified holding time periods. Several TDS analyses were performed after the recommended holding time had expired. Table 3 lists sample results that require qualification based on holding time exceedences.

### Method Blank Samples

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of method blank samples. With the exception of benzene and methylene chloride, the method blank samples were reported to be free from detectable concentrations of target analytes. Table 4 lists associated sample results that should be qualified based on method blank contamination.

---

<sup>1</sup> Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999 and "National Functional Guidelines for Inorganic Data Review", February 1994.



### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries for the analyses were within acceptance criteria, indicating that individual sample performance was adequate.

### Laboratory Control Sample (LCS) Recoveries

Overall performance of the analyses was monitored by means of LCS. The LCS percent recoveries were within acceptance criteria, indicating that overall performance was adequate.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

To assess the long-term accuracy and precision of the analytical method on various matrices, MS/MSD - percent recoveries and relative percent difference (RPD) of the recoveries were determined for the analyses. With the exception of iron, the MS/MSD results for project-related samples were within acceptance criteria. Table 5 lists associated sample data that require qualification based on outlying MS/MSD results.

### Laboratory Duplicate (DUP) Results

To assess the precision of the analytical method on various matrices, RPDs were determined for DUP analyses. With the exception of TDS, the DUP results for project-related samples were within acceptance criteria. Table 6 presents the outlying DUP data. The associated sample data should be qualified as noted in the table.

### Field Quality Assurance/Quality Control (QA/QC) Samples

The field QA/QC samples associated with the May and June sampling events consisted of three trip blank samples, five rinsate/field blank samples, and five field duplicate sample sets.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, three trip blank samples were submitted to the laboratory for VOC analysis. The trip blank samples were within acceptance criteria.

As a check for cleanliness of sampling equipment, four rinsate blank samples were collected as authentic samples for labeling and submission to the laboratory. One field blank was submitted in an effort to evaluate the ambient conditions at the Site. The rinsate blank and field blank samples are identified in Table 7. Table 8 lists associated sample data that requires qualification based on rinsate/field blank contamination.

Overall, precision for the sampling event was monitored using field duplicate sample sets. The field duplicate sample sets are listed in Table 9. RPD values were calculated for positive results from the field duplicate samples. With the exception of iron, RPD data from the field duplicate sets was found to be

acceptable. The iron results for sample set W-010525-DN-102/W-010525-DN-103 were non-comparable. As a result, the iron result for samples W-010525-DN-102 and W-010525-DN-103 should be qualified as estimated (J).

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualifications noted above.

GDA/jla/11

Enc.

)

)

**TABLE 1**

**SAMPLE IDENTIFICATION NUMBERS  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS**

W-010522-DN-01	W-010524-DN-32
W-010522-DN-02	W-010524-DN-33
W-010522-DN-03	W-010524-DN-34
W-010522-DN-04	W-010524-DN-35
W-010522-DN-05	W-010524-DN-36
W-010522-DN-06	W-010524-DN-37
W-010522-DN-07	W-010524-DN-38
W-010522-DN-08	W-010524-DN-39
W-010522-DN-09	W-010524-DN-40
W-010522-DN-10	W-010524-DN-41
W-010522-DN-11	W-010524-DN-42
W-010523-DN-12	W-010524-DN-43
W-010523-DN-13	W-010524-DN-44
W-010523-DN-14	W-010524-DN-45
W-010523-DN-15	W-010524-DN-46
W-010523-DN-16	W-010523-DN-100
W-010523-DN-17	W-010523-DN-101
W-010523-DN-18	W-010525-DN-102
W-010523-DN-19	W-010525-DN-103
W-010523-DN-20	W-010525-DN-104
W-010523-DN-21	W-010525-DN-105
W-010523-DN-22	W-010525-DN-106
W-010523-DN-23	W-010525-DN-107
W-010523-DN-24	W-010525-DN-108
W-010523-DN-25	W-010525-DN-109
W-010523-DN-26	W-010525-DN-110
W-010524-DN-27	
W-010524-DN-28	
W-010524-DN-29	
W-010524-DN-30	
W-010524-DN-31	

TABLE 2

SUMMARY OF ANALYTICAL PARAMETERS  
AND HOLDING TIME PERIODS  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS

<i>Analysis-Method</i> <sup>1</sup>	<i>Holding Time</i> <sup>2</sup>
Volatile Organic Compounds (VOC) - SW 8260B or EPA 524.2	14 days
Total or Dissolved Select Metals - SW 6010B	6 months
Chloride - MCAWW 300.0A	28 days
Total Dissolved Solids - MCAWW 160.1	7 days
Total Suspended Solids - MCAWW 160.2	7 days

Notes:

<sup>1</sup> Methods were derived from:

SW - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods",  
3rd Edition, November 1986 with its updates and revisions.

MCAWW - "Methods for Chemical Analysis of Water and Wastes", EPA 600/4-79-020,  
March 1983 and revisions.

EPA - "Methods for the Determination of Organic Compounds in Drinking Water",  
EPA-600/4-88/039, December 1988 and supplements.

<sup>2</sup> Holding time periods are based from sample collection date to sample analysis date.

TABLE 3

SAMPLE HOLDING TIME VIOLATIONS  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS

<i>Analysis</i>	<i>Sample ID</i>	<i>Method Required Holding Time</i>	<i>Actual Holding Time</i>	<i>Qualifier<sup>1</sup></i>
TDS	W-010522-DN-03	7 days to analysis	8 days to analysis	J/UJ
TDS	W-010522-DN-04	7 days to analysis	8 days to analysis	J/UJ
TDS	W-010522-DN-06	7 days to analysis	8 days to analysis	J/UJ
TDS	W-010522-DN-07	7 days to analysis	8 days to analysis	J/UJ
TDS	W-010522-DN-08	7 days to analysis	8 days to analysis	J/UJ
TDS	W-010524-DN-31	7 days to analysis	13 days to analysis	J/UJ

Notes:

<sup>1</sup> Sample results should be qualified as:

J - The associated value is an estimated quantity for detected analytes.

UJ - The analyte was checked for, but not detected.

The associated value is an estimated quantitation limit.

TABLE 4

SAMPLE RESULTS QUALIFIED BASED ON  
METHOD BLANK DATA  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS

<i>Analysis</i>	<i>Batch</i>	<i>Analyte</i>	<i>Blank Conc (µg/L)</i>	<i>Associated Samples</i>	<i>Qualifier<sup>1</sup></i>
VOC	1152178	benzene	0.19	W-010522-DN-09 W-010522-DN-10 W-010522-DN-11 W-010523-DN-12 W-010523-DN-14 W-010524-DN-27	1.0U 1.0U 1.0U 1.0U 1.0U 1.0U
VOC	1169143	methylene chloride	1.5	W-010614-PS-111	0.86U

Notes:

<sup>1</sup> Sample results should be qualified as:

U - The analyte is non-detect with the associated value being the quantitation limit.

TABLE 5

OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE DATA  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS

<i>Sample ID</i>	<i>Batch</i>	<i>Analyte</i>	<i>MS %R</i>	<i>MSD %R</i>	<i>%R Limits</i>	<i>RPD</i>	<i>RPD Limits</i>	<i>Qualifier<sup>1</sup></i>	<i>Associated Samples</i>
W-010523-DN-14	1150101	iron	127	133	75-125	4.8	20	J/NR	W-010523-DN-14; W-010523-DN-15; W-010523-DN-16; W-010523-DN-17; W-010523-DN-18; W-010523-DN-19; W-010523-DN-20; W-010523-DN-21; W-010523-DN-22; W-010523-DN-23; W-010523-DN-24; W-010523-DN-25; W-010523-DN-26; W-010524-DN-27; W-010523-DN-100; W-010523-DN-101

Notes:

<sup>1</sup> Sample results should be qualified as:

J- The associated value is an estimated quantity for detected analytes.

NR- No qualification of data is necessary for non-detect analytes.

TABLE 6

OUTLYING LABORATORY DUPLICATE DATA  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS

<i>Sample ID</i>	<i>Batch</i>	<i>Analyte</i>	<i>RPD</i>	<i>RPD Limits</i>	<i>Qualifier<sup>1</sup></i>	<i>Associated Samples</i>
W-010525-DN-108	1151140	Total Dissolved Solids	123	20	J/UJ	W-010524-DN-32; W-010524-DN-34; W-010524-DN-35; W-010524-DN-36; W-010524-DN-37; W-010524-DN-38; W-010524-DN-39; W-010524-DN-40; W-010524-DN-41; W-010524-DN-42; W-010524-DN-43; W-010524-DN-44; W-010524-DN-45; W-010525-DN-102; W-010525-DN-103; W-010525-DN-104; W-010525-DN-108

Notes:

<sup>1</sup> Sample results should be qualified as:

J - The associated value is an estimated quantity for detected analytes.

UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.



**TABLE 7**

**RINSATE/FIELD BLANK SAMPLE  
IDENTIFICATION NUMBERS  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS**

W-010522-DN-08

W-010523-DN-22

W-010524-DN-31

W-010524-DN-42

W-010524-DN-106

TABLE 8

SAMPLE RESULTS QUALIFIED BASED ON  
RINSATE BLANK DATA  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS

<i>Analysis</i>	<i>Blank Id</i>	<i>Analyte</i>	<i>Blank Conc. (ug/L)</i>	<i>Associated Sample</i>	<i>Qualifier<sup>1</sup></i>
VOC	W-010524-DN-42	toluene	0.30	W-010524-DN-41	1.0U
VOC	W-010525-DN-106	methylene chloride	0.75	W-010525-DN-105	0.68U
VOC	W-010522-DN-08	toluene	0.24	W-010522-DN-07	1.0U
VOC	W-010524-DN-31	toluene	0.24	W-010524-DN-30	1.0U

Notes:

<sup>1</sup> Sample results should be qualified as:

U - The analyte is non-detect with the associated value being the quantitation limit.

**TABLE 9**

**FIELD DUPLICATE SAMPLE SET  
IDENTIFICATION NUMBERS  
TOMAH LANDFILL SITE  
MAY AND JUNE 2001 SAMPLING EVENTS**

W-010522-DN-10/W010522-DN-11

W-010523-DN-17/W010523-DN-18

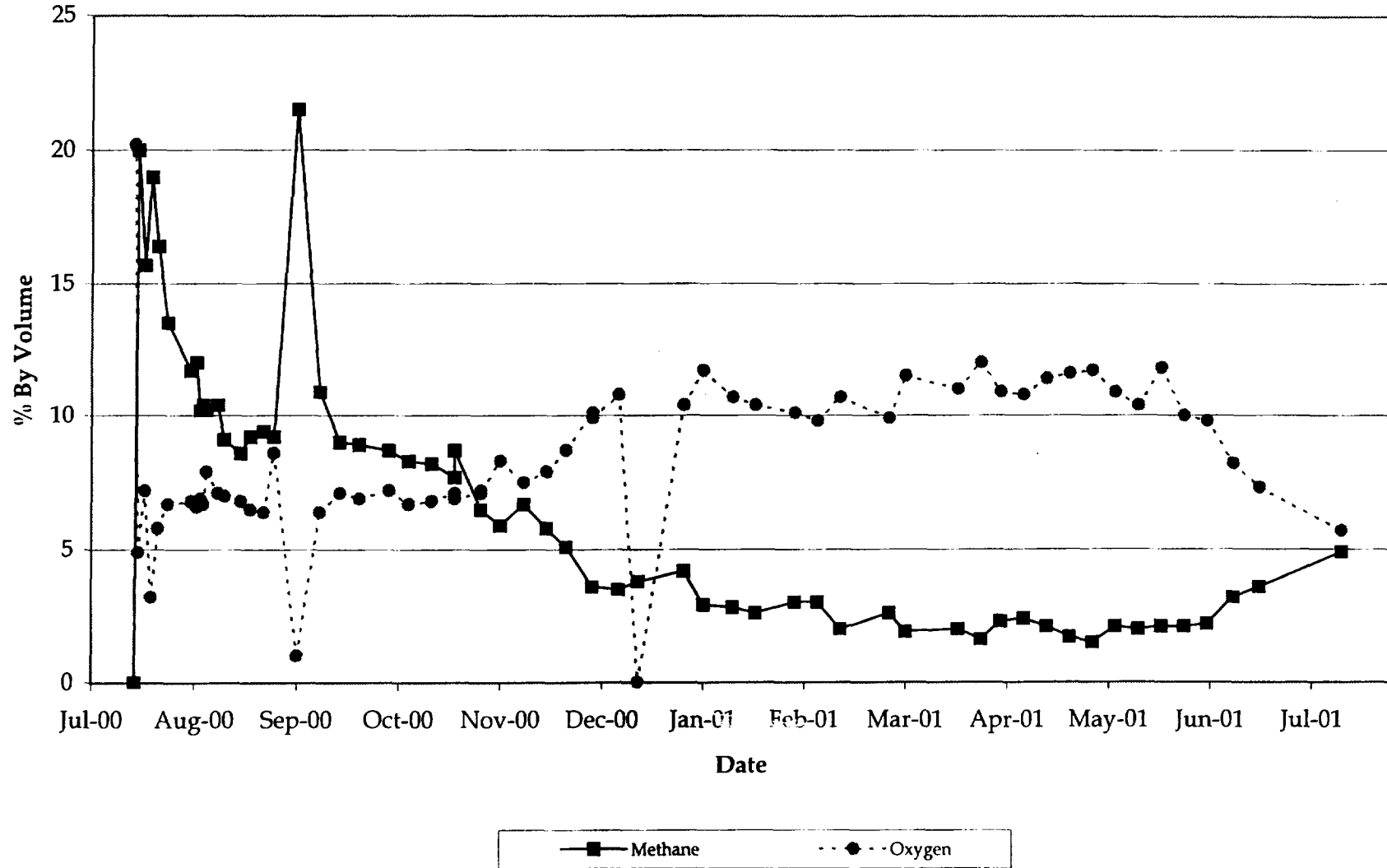
W-010524-DN-34/W010524-DN-35

W-010524-DN-38/W010524-DN-39

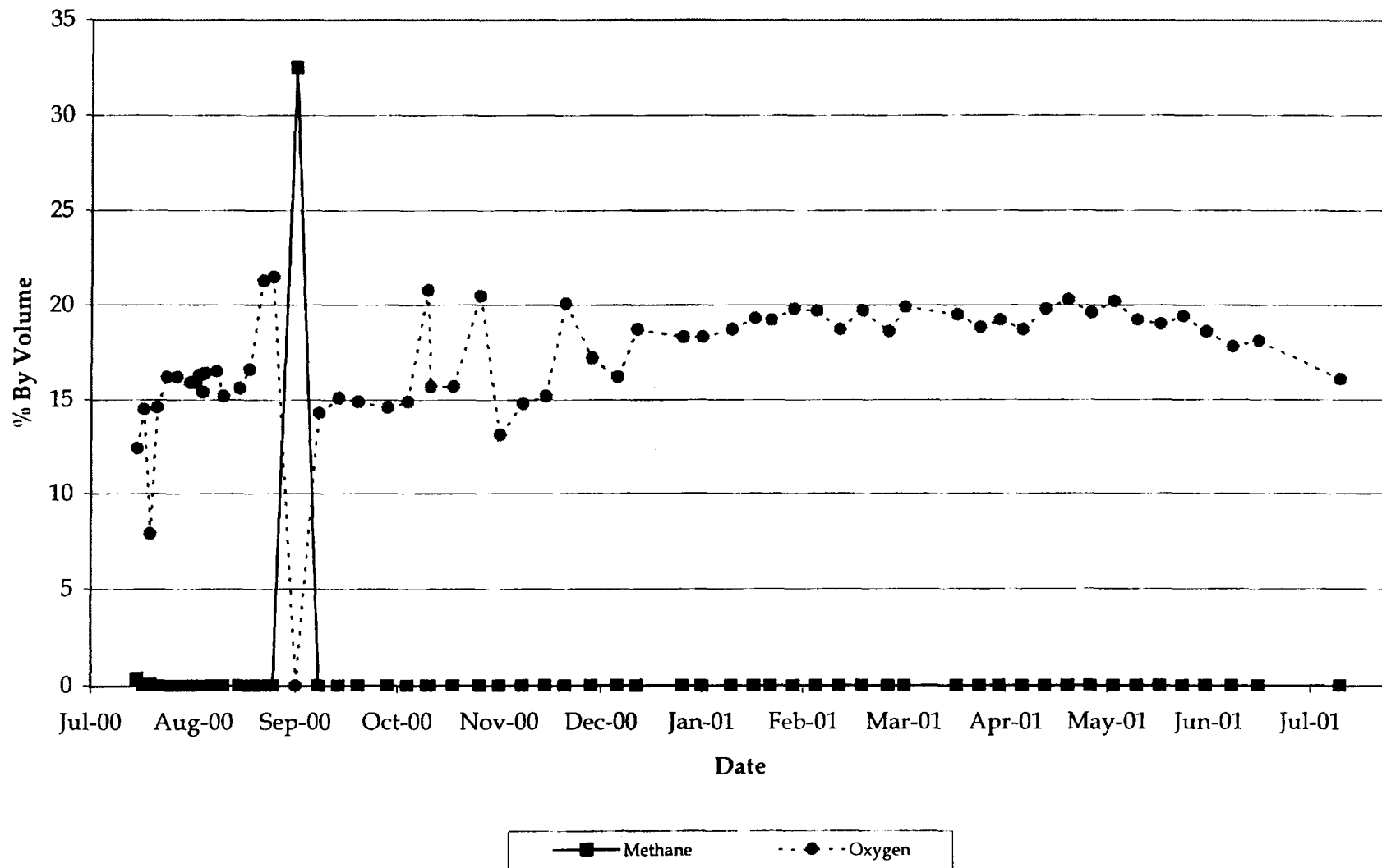
W-010525-DN-102/W010525-DN-103

**APPENDIX C**  
**METHANE CONCENTRATIONS**  
**IN GAS EXTRACTION WELLS**

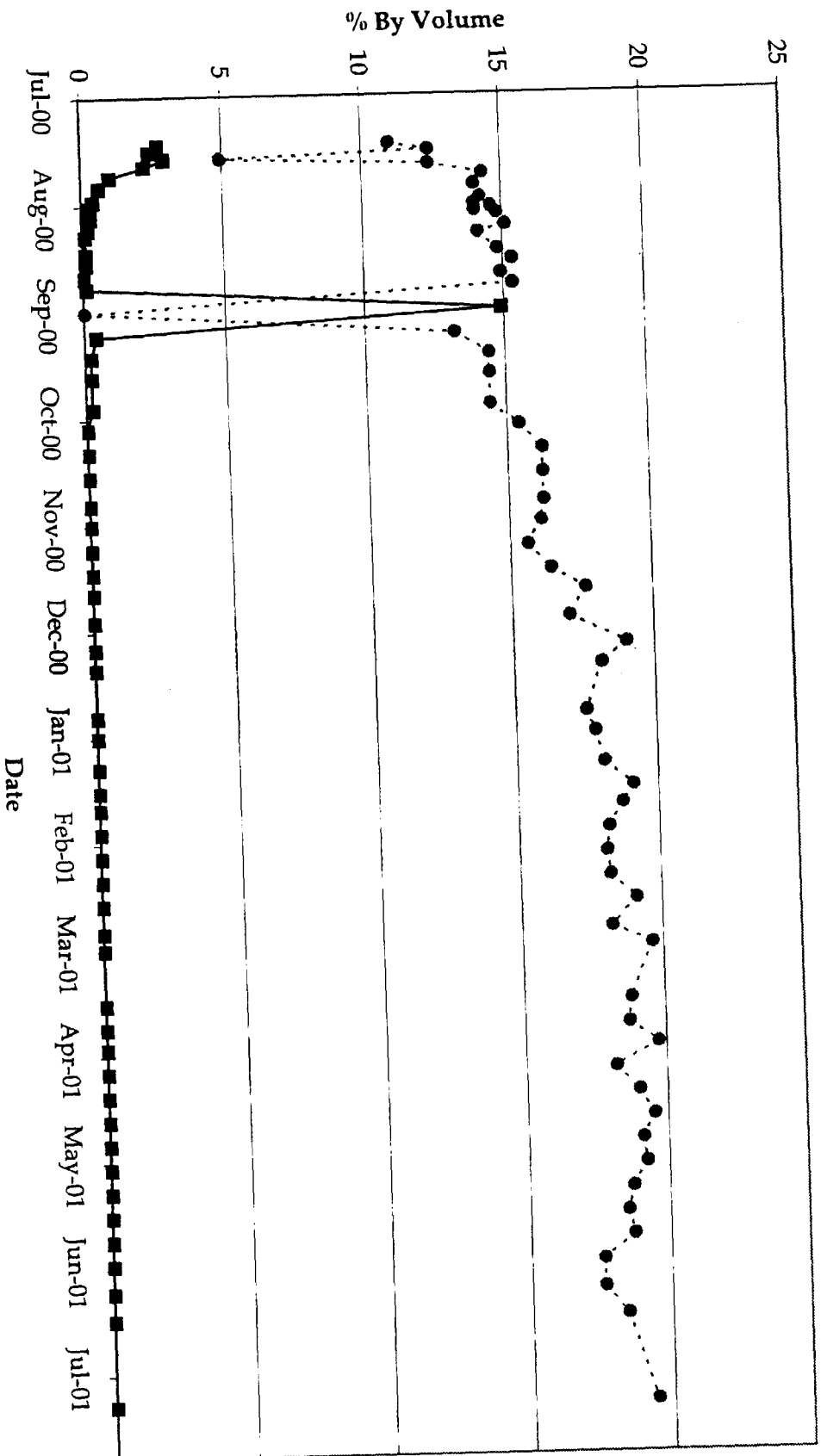
# BLOWER OUTLET



# EW-01

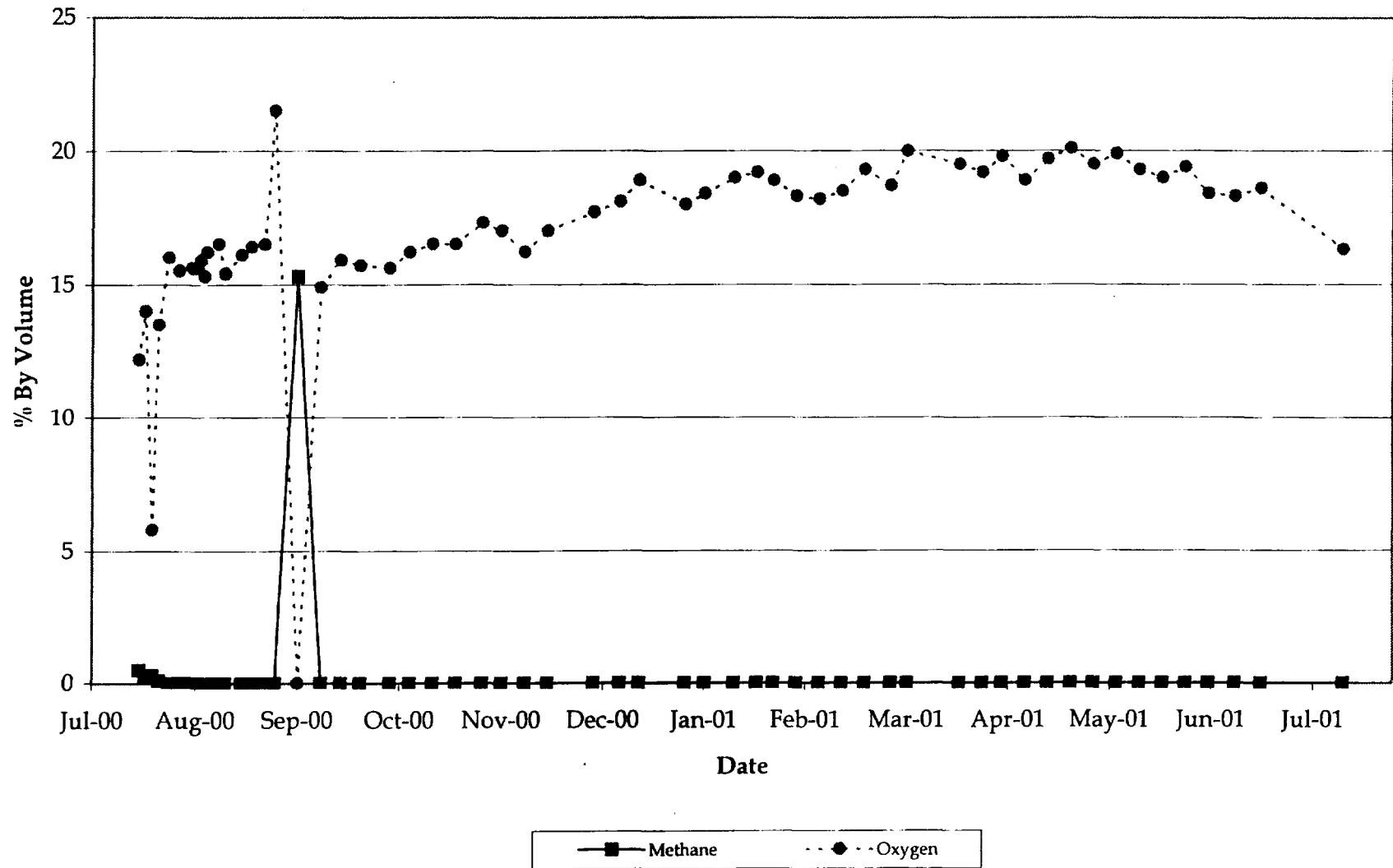


EW-02



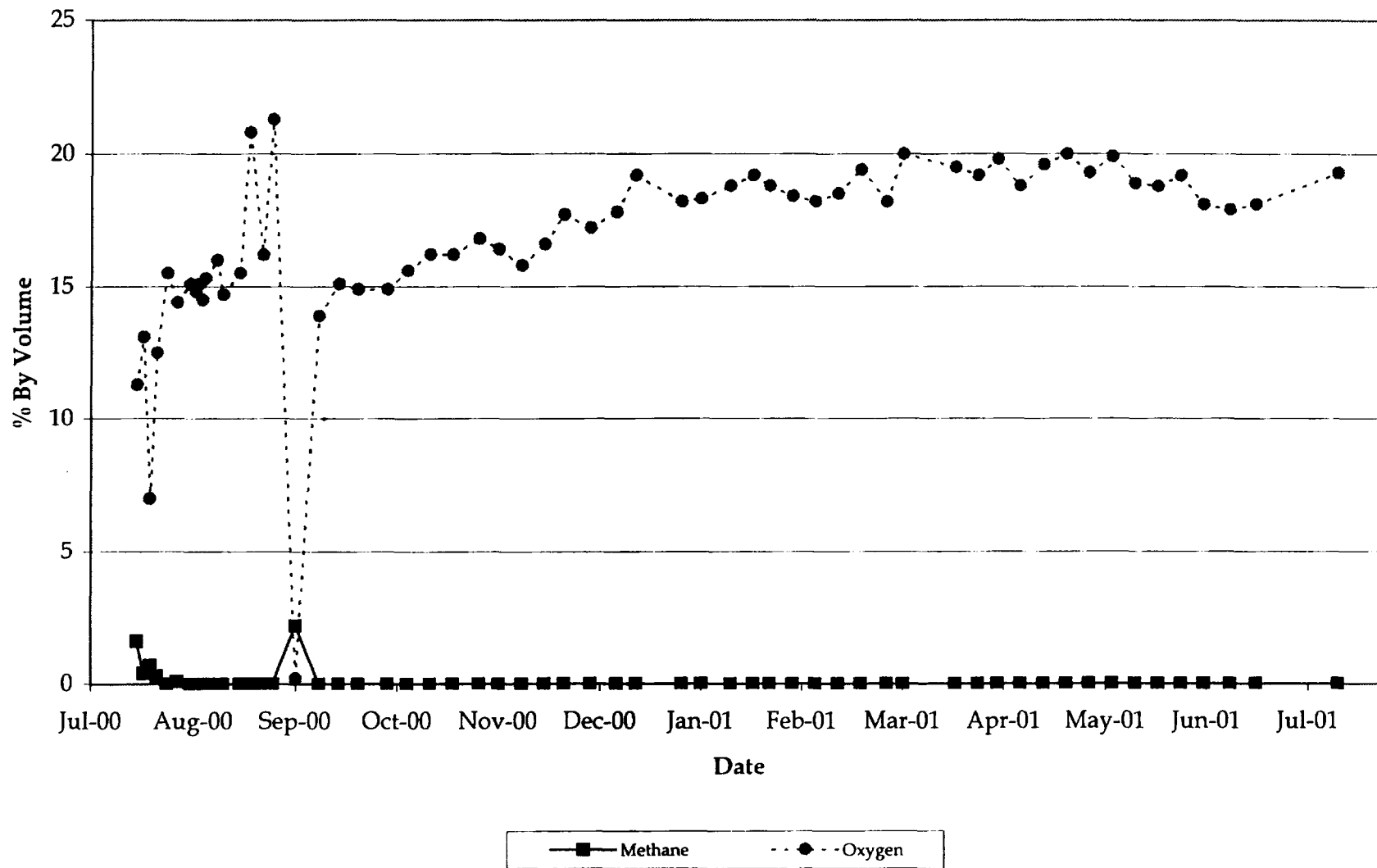
—■— Methane  
- - -◆- - - Oxygen

# EW-03

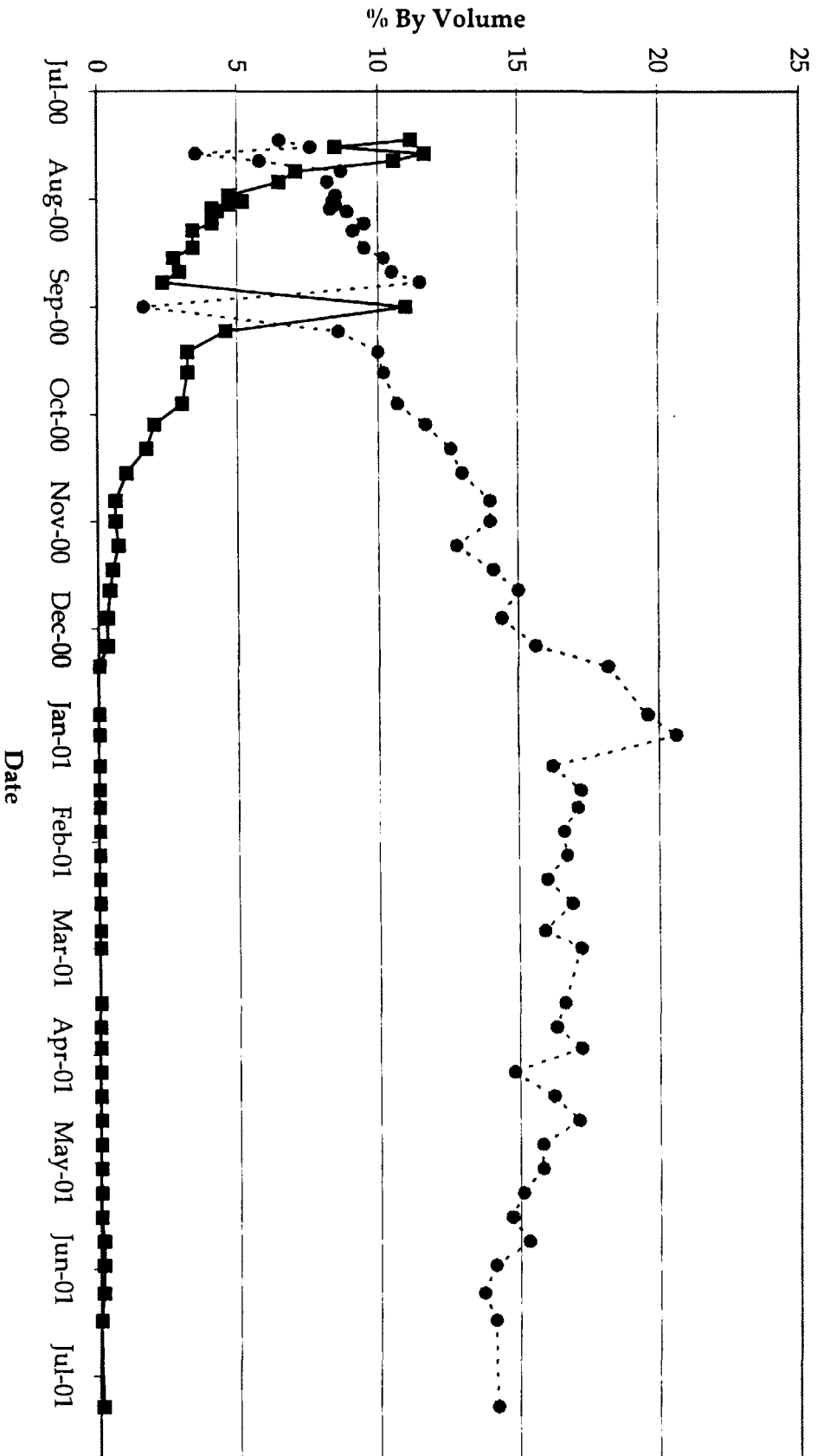




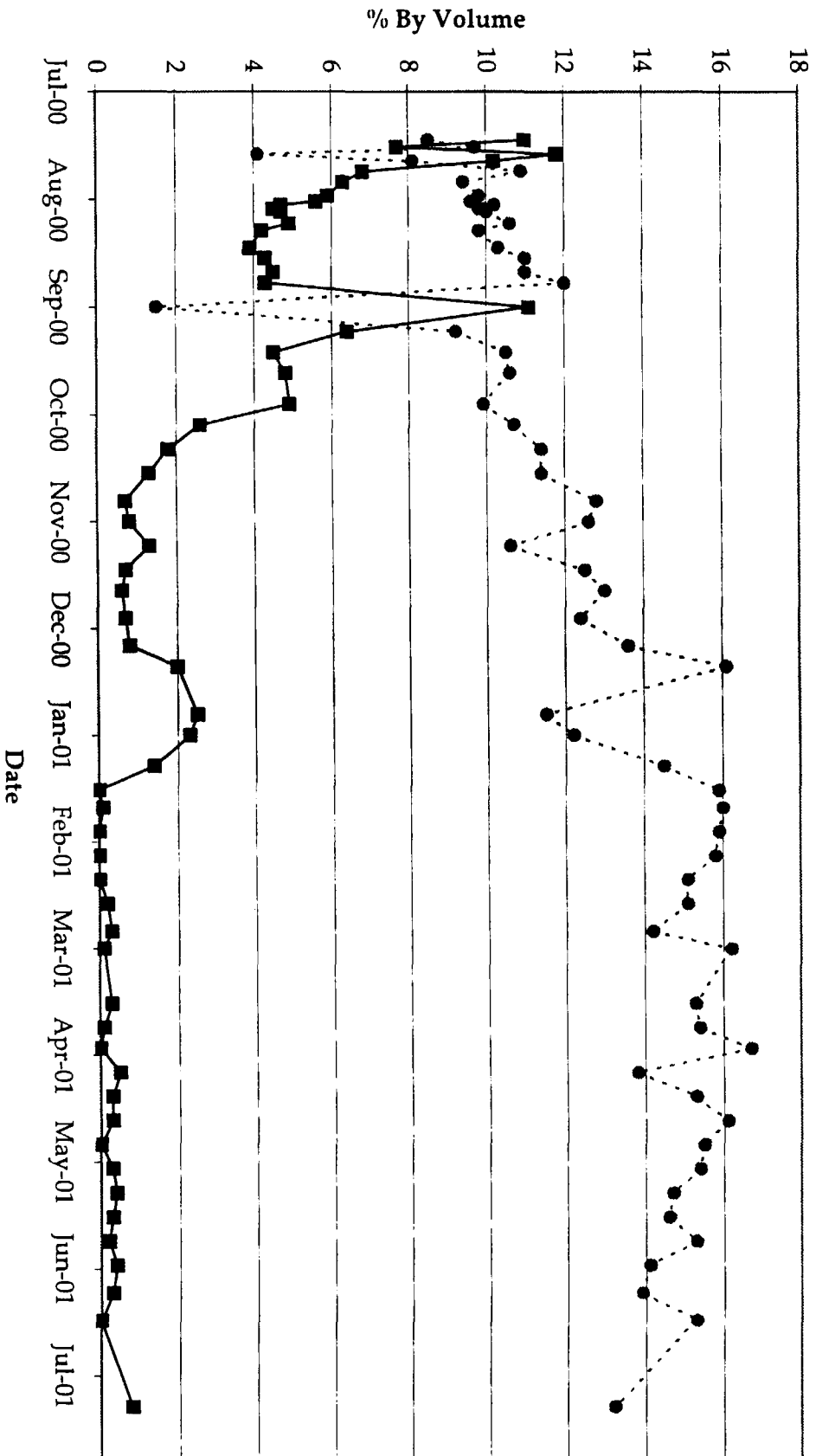
# EW-04



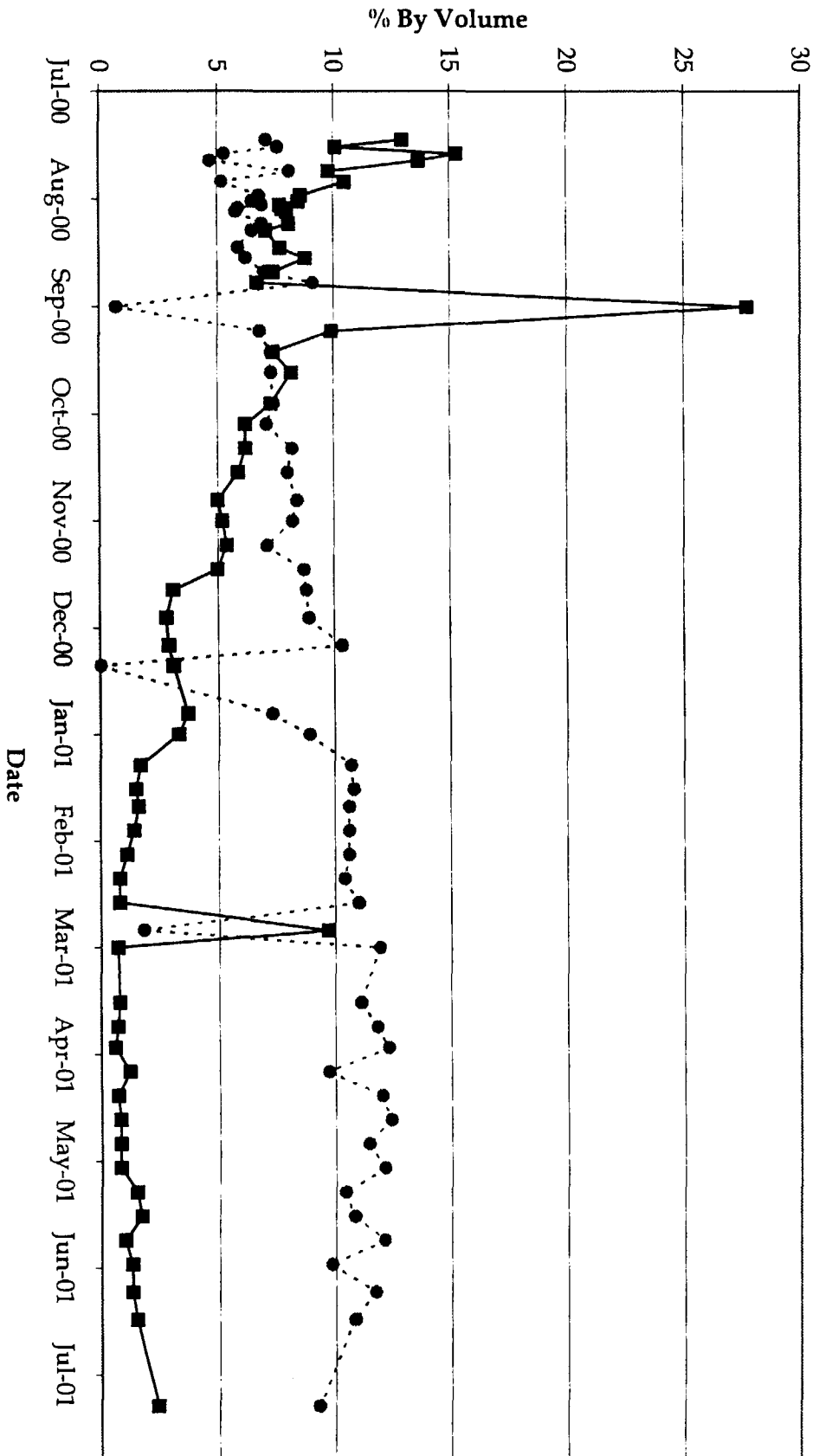
EW-05



EW-06

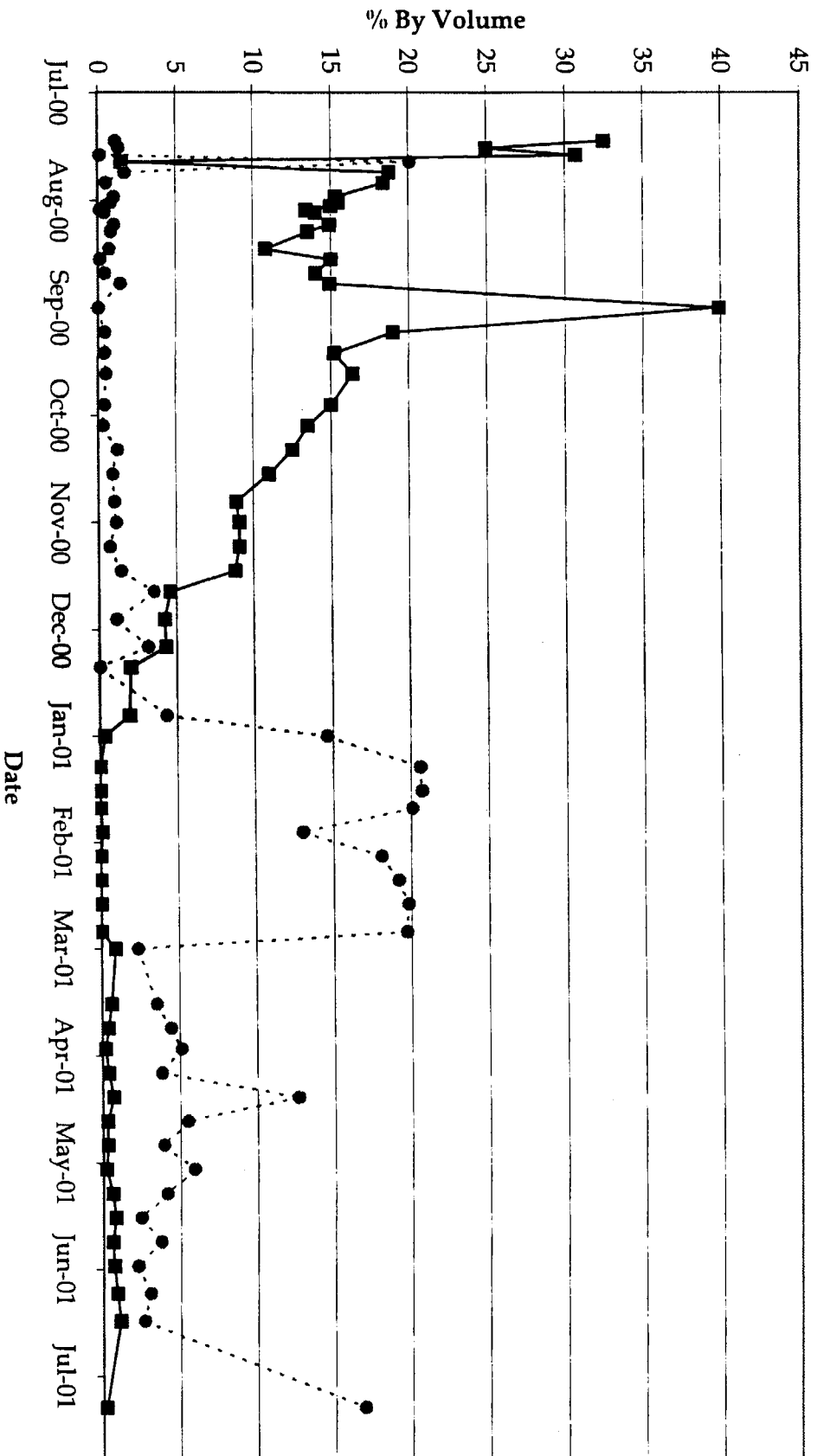


EW-07

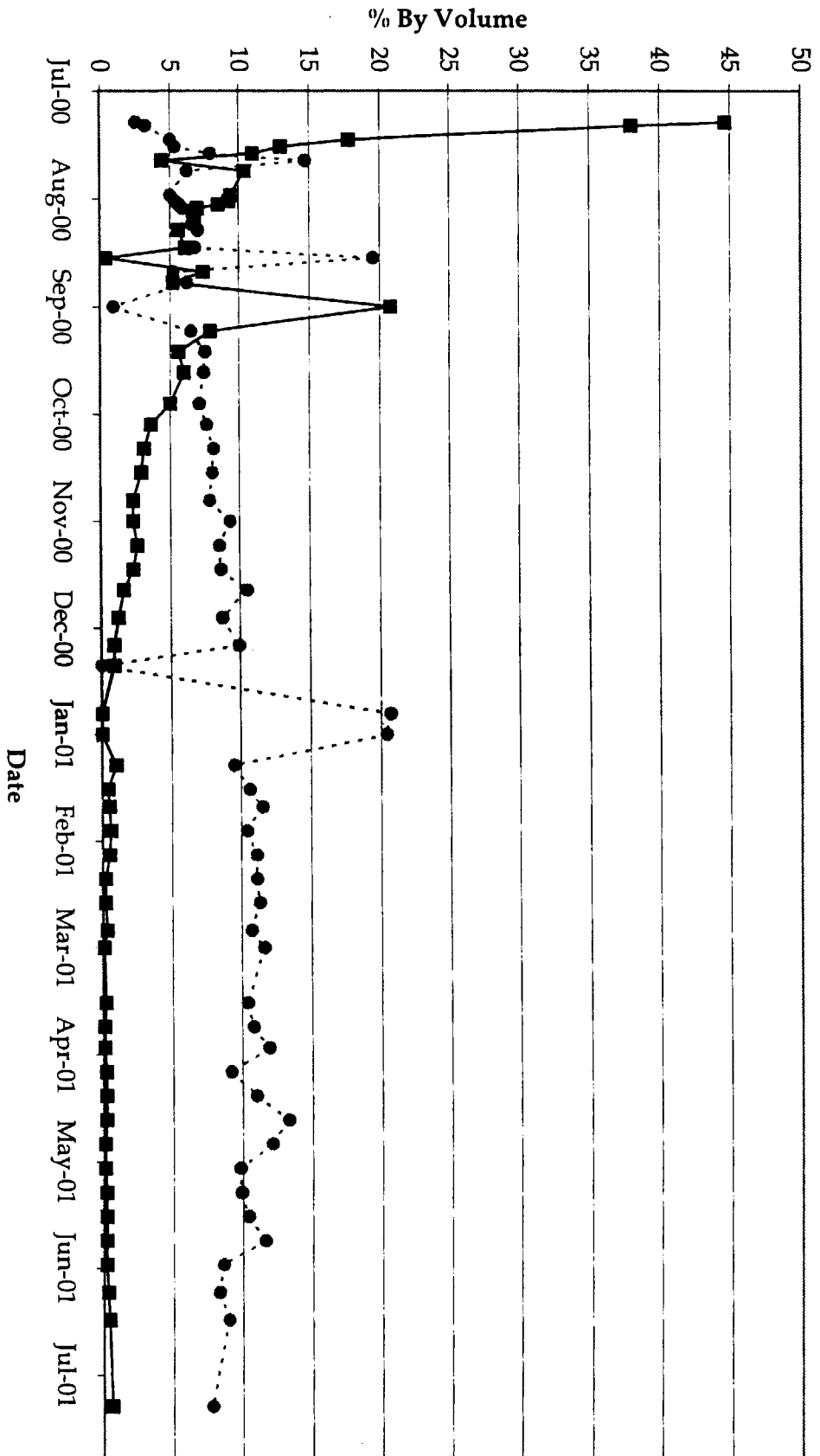


—■— Methane  
- - -◆- - - Oxygen

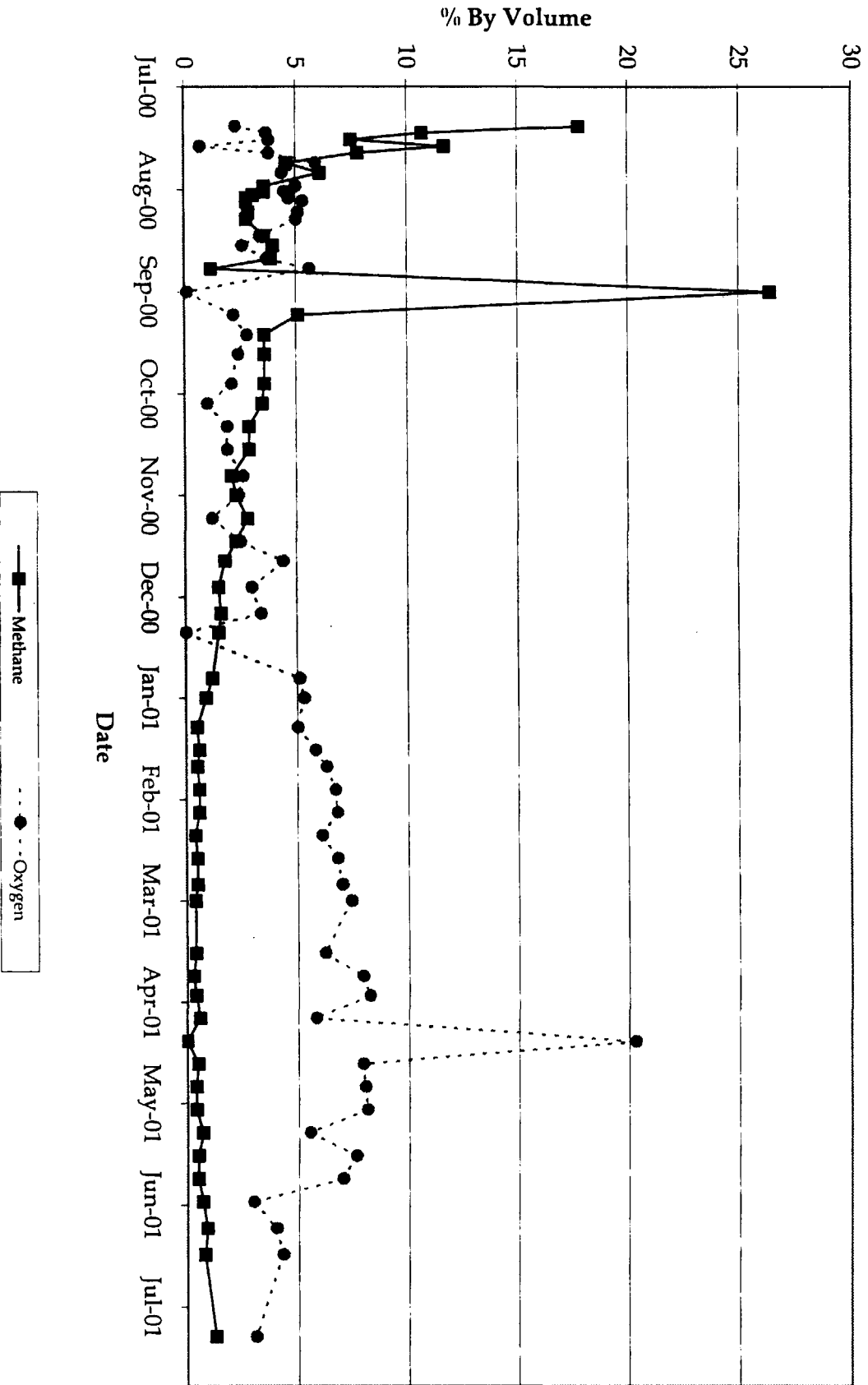
EW-08



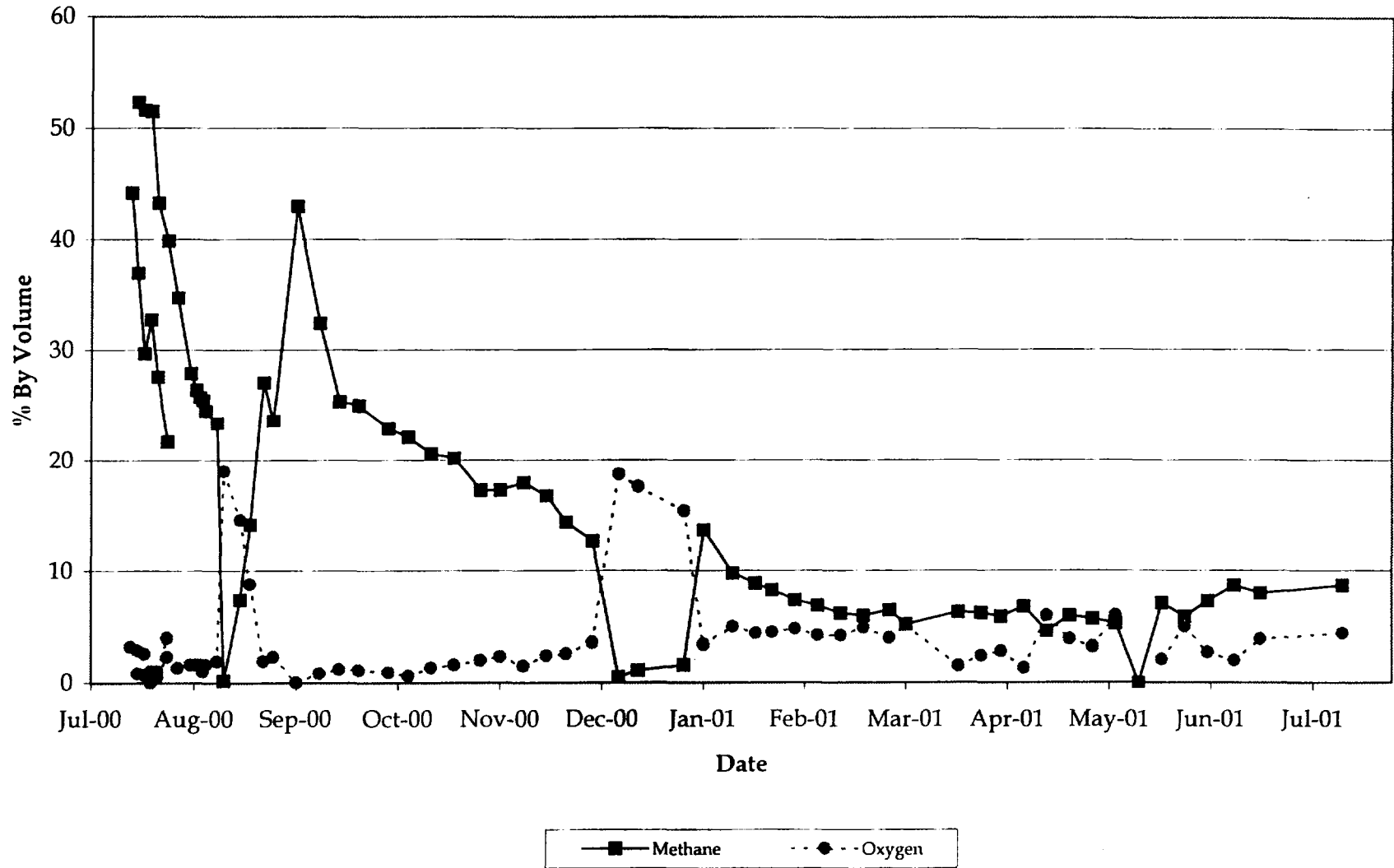
# EW-09



EW-10

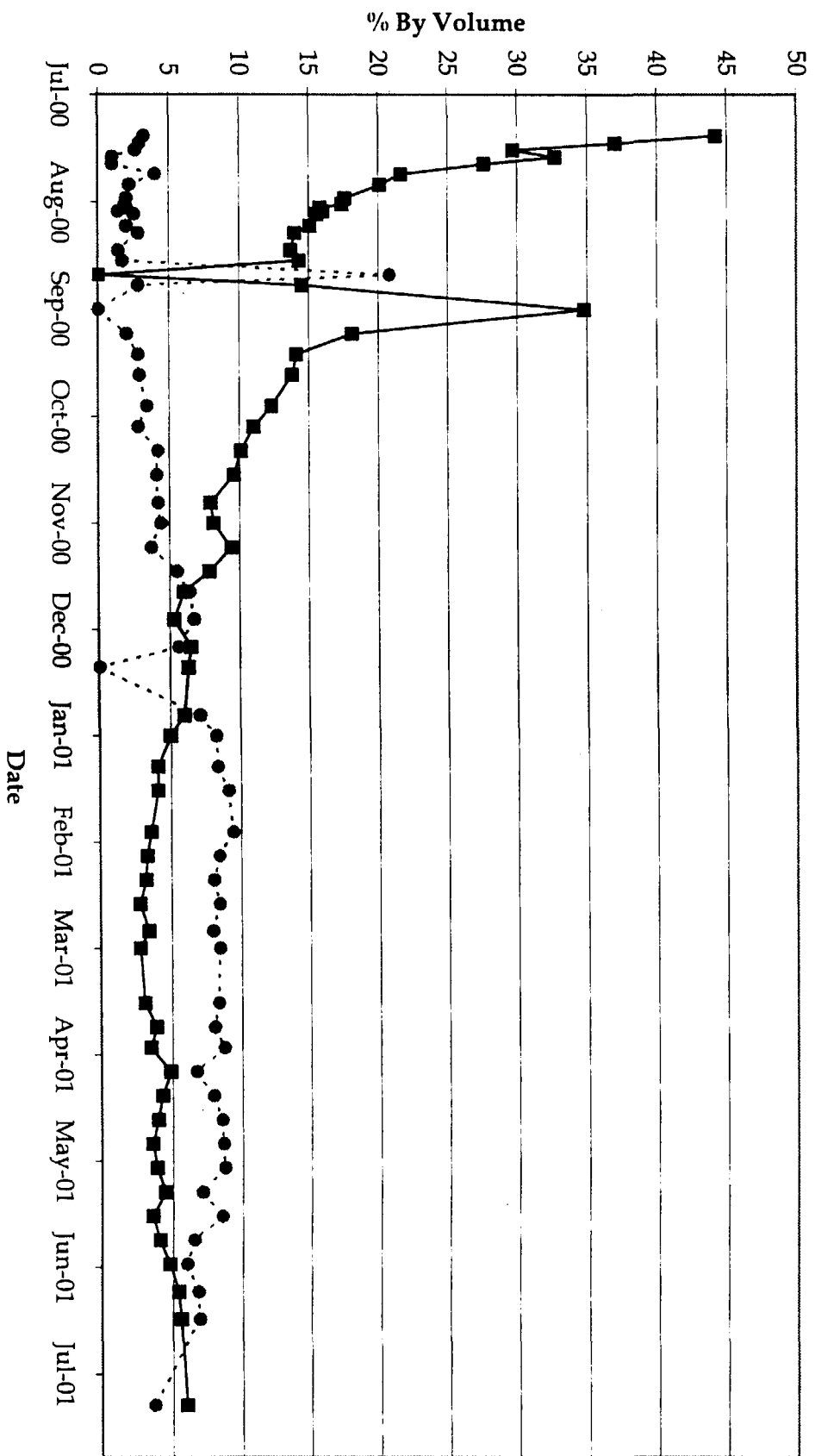


# EW-11



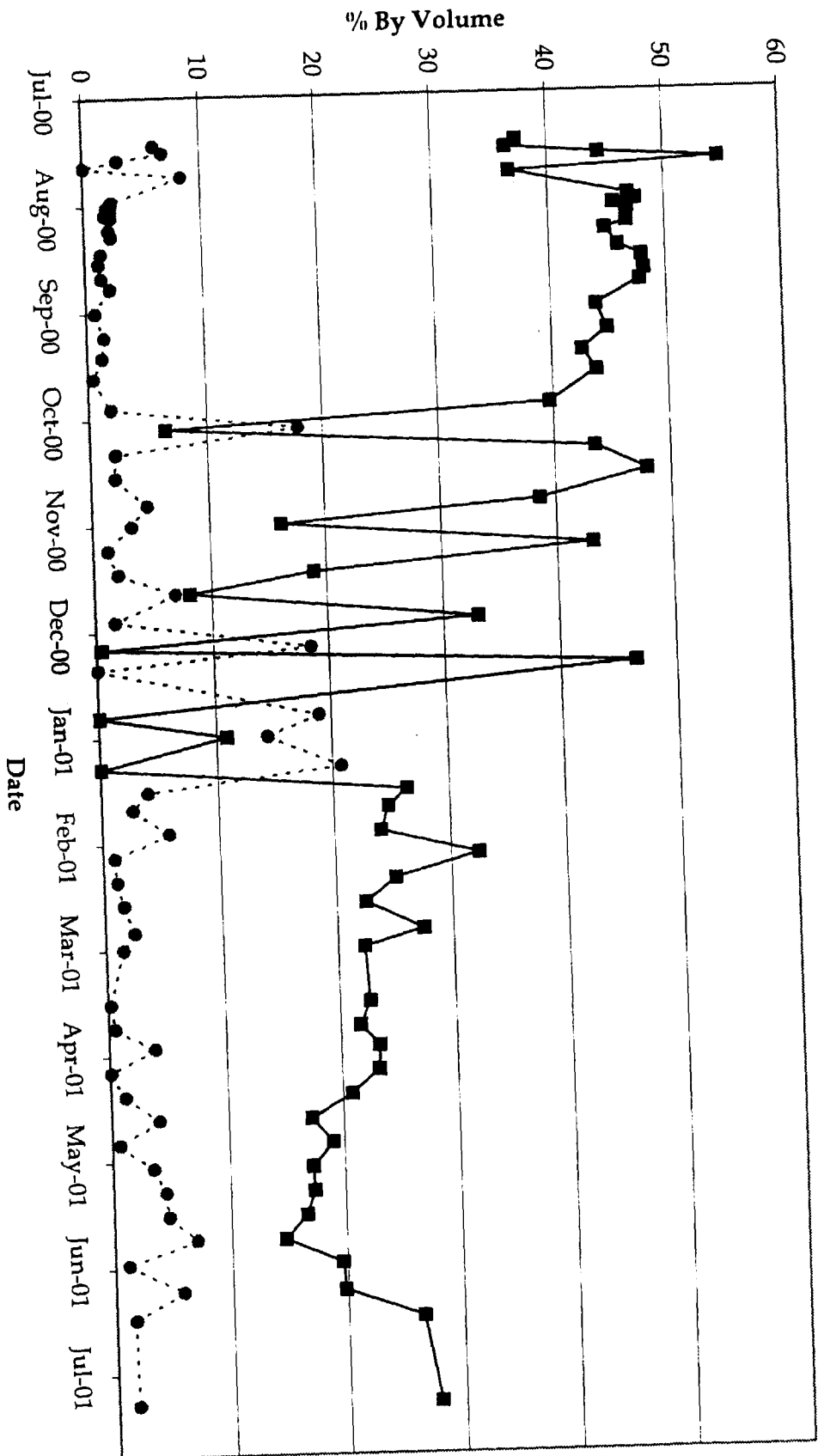


EW-12



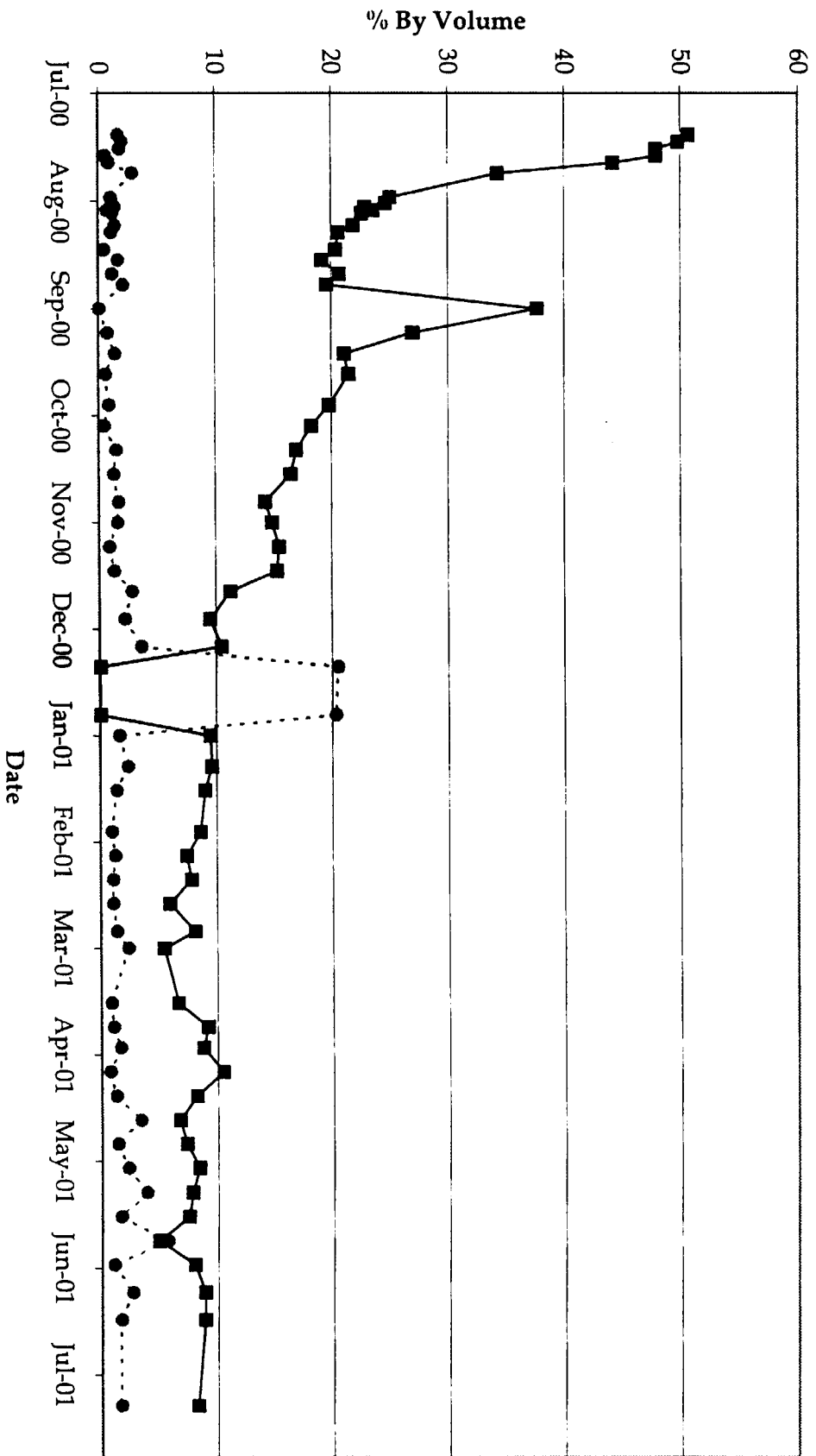
—■— Methane  
- - -◆- - - Oxygen

EW-13

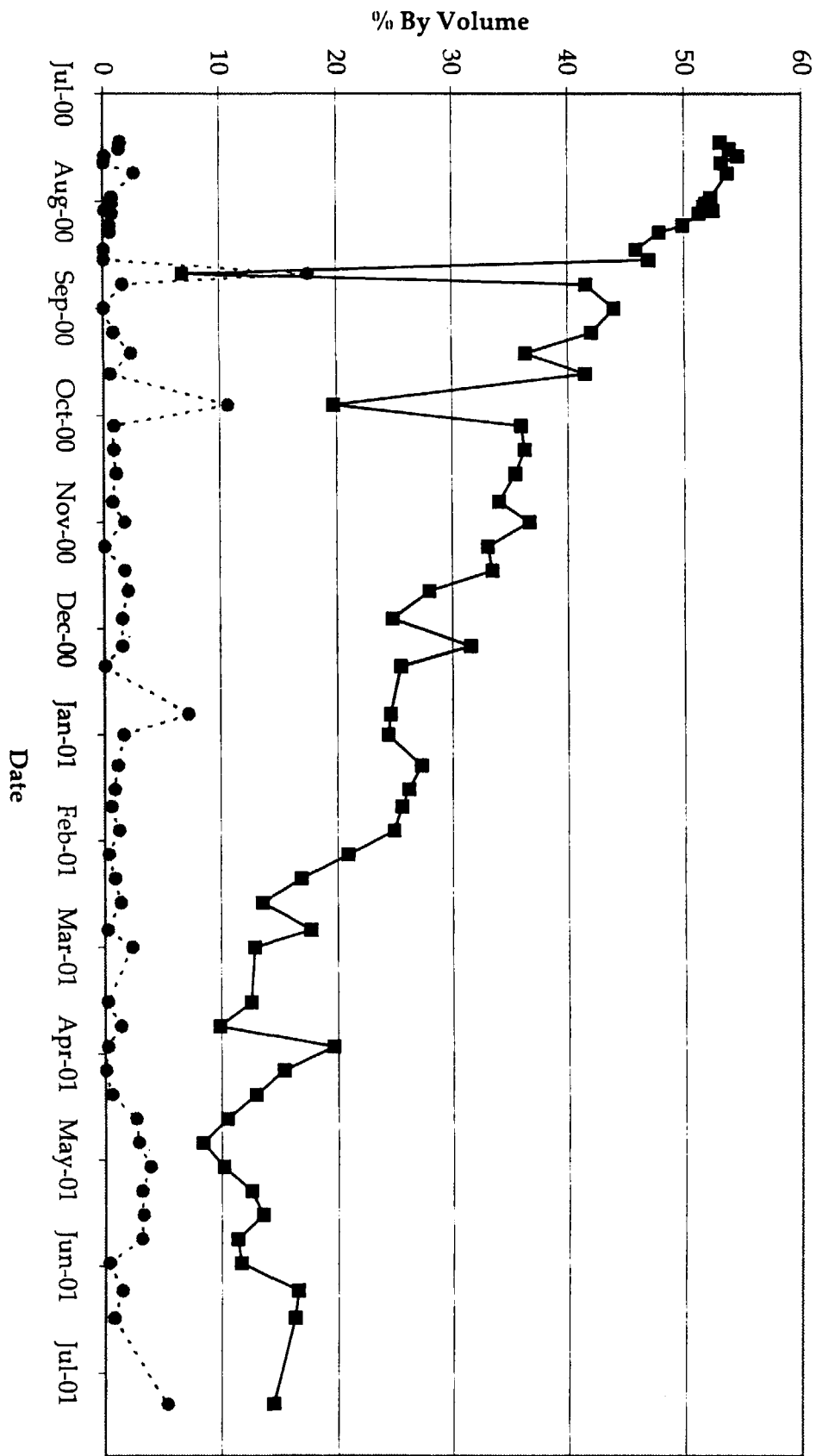


—■— Methane  
- - -●- - - Oxygen

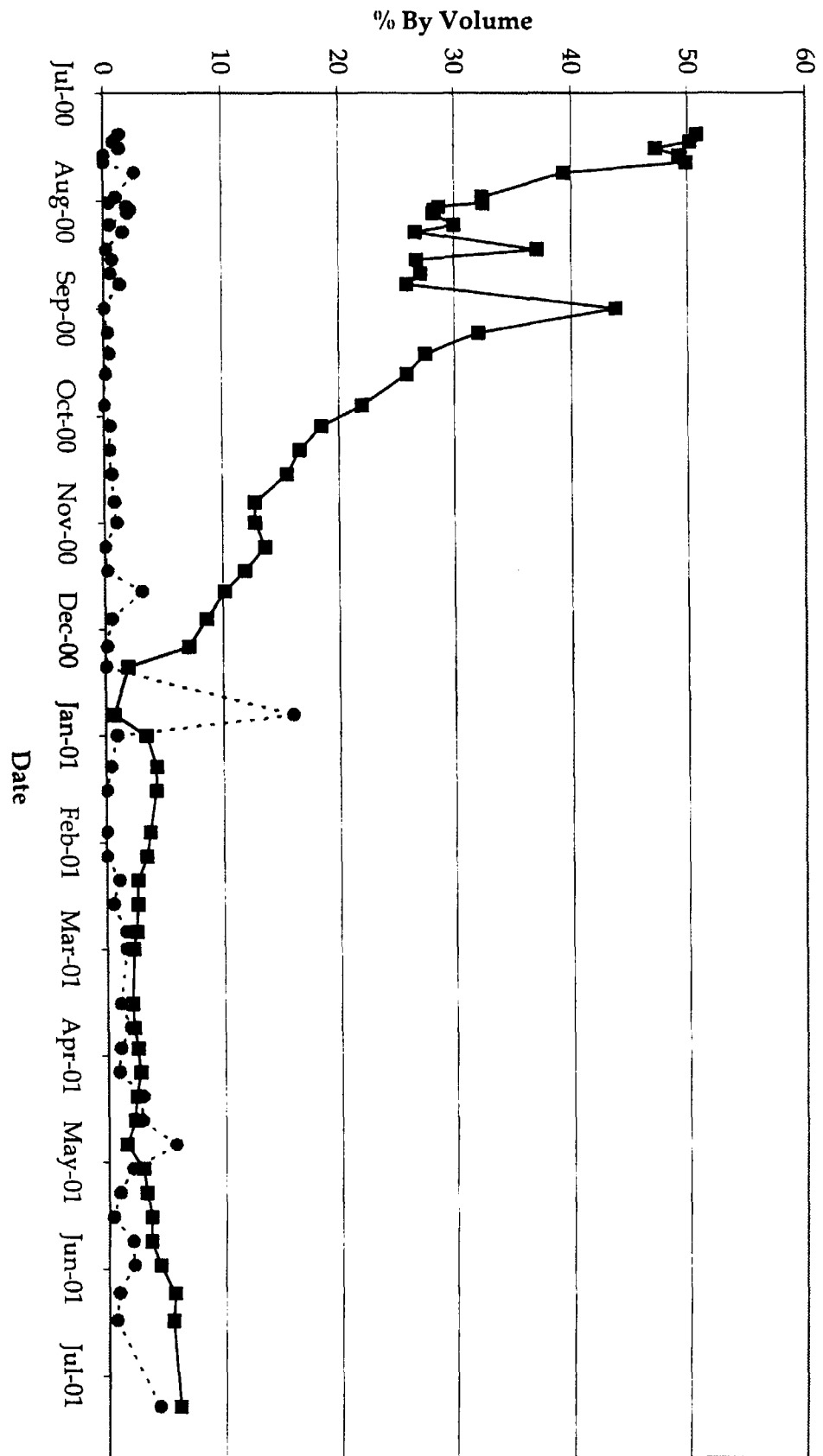
EW-14



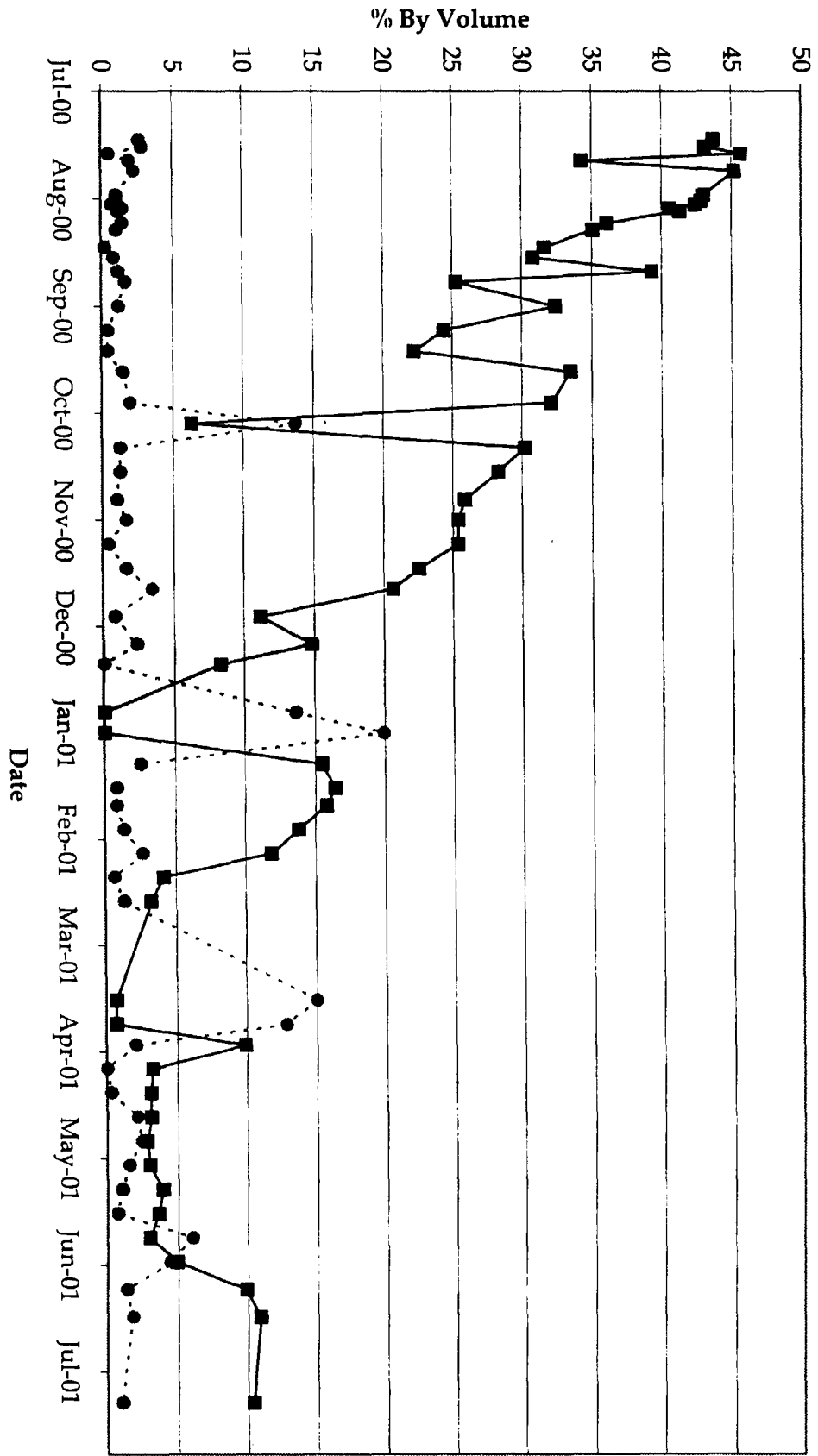
EW-15



EW-16

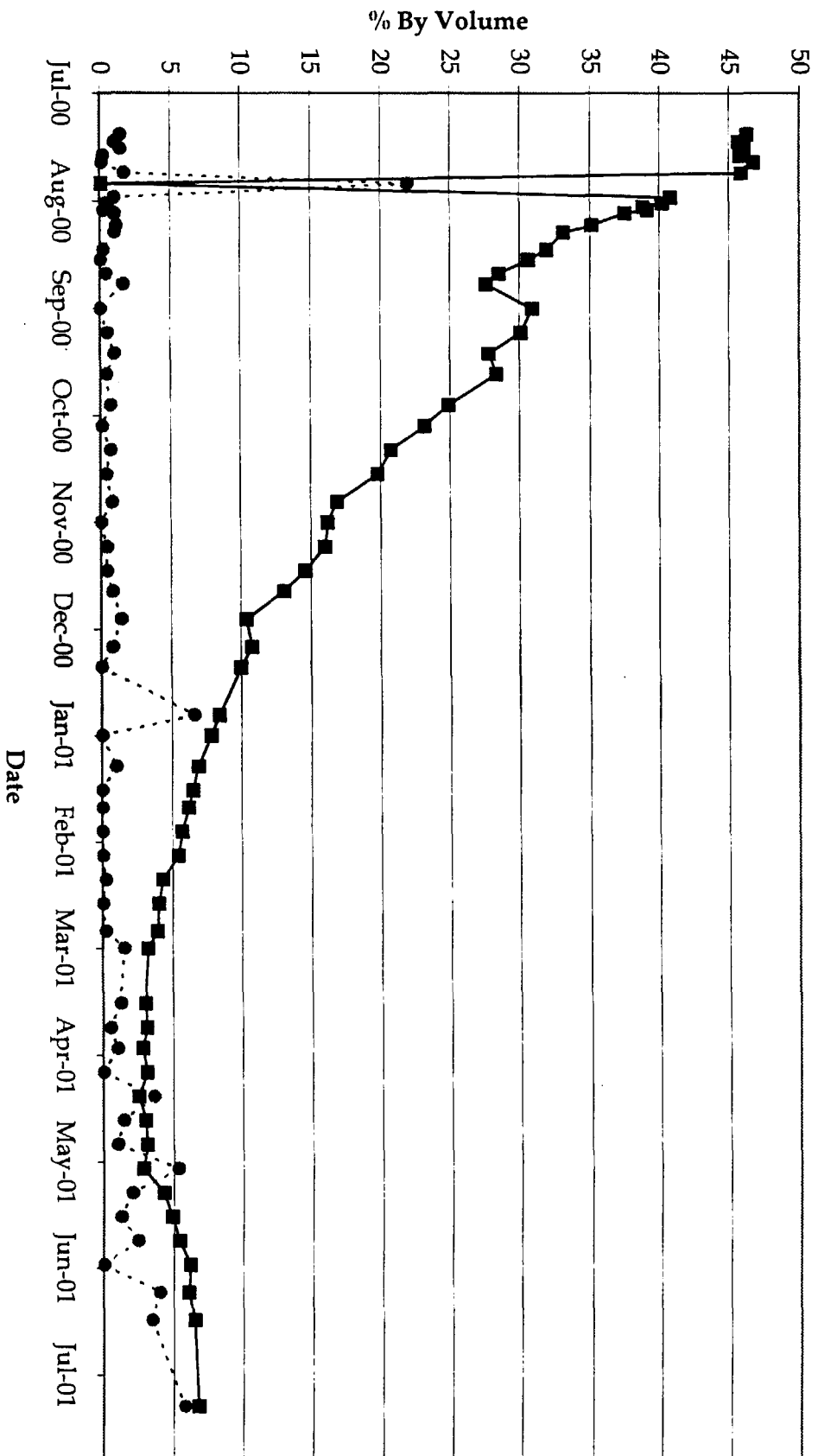


EW-17

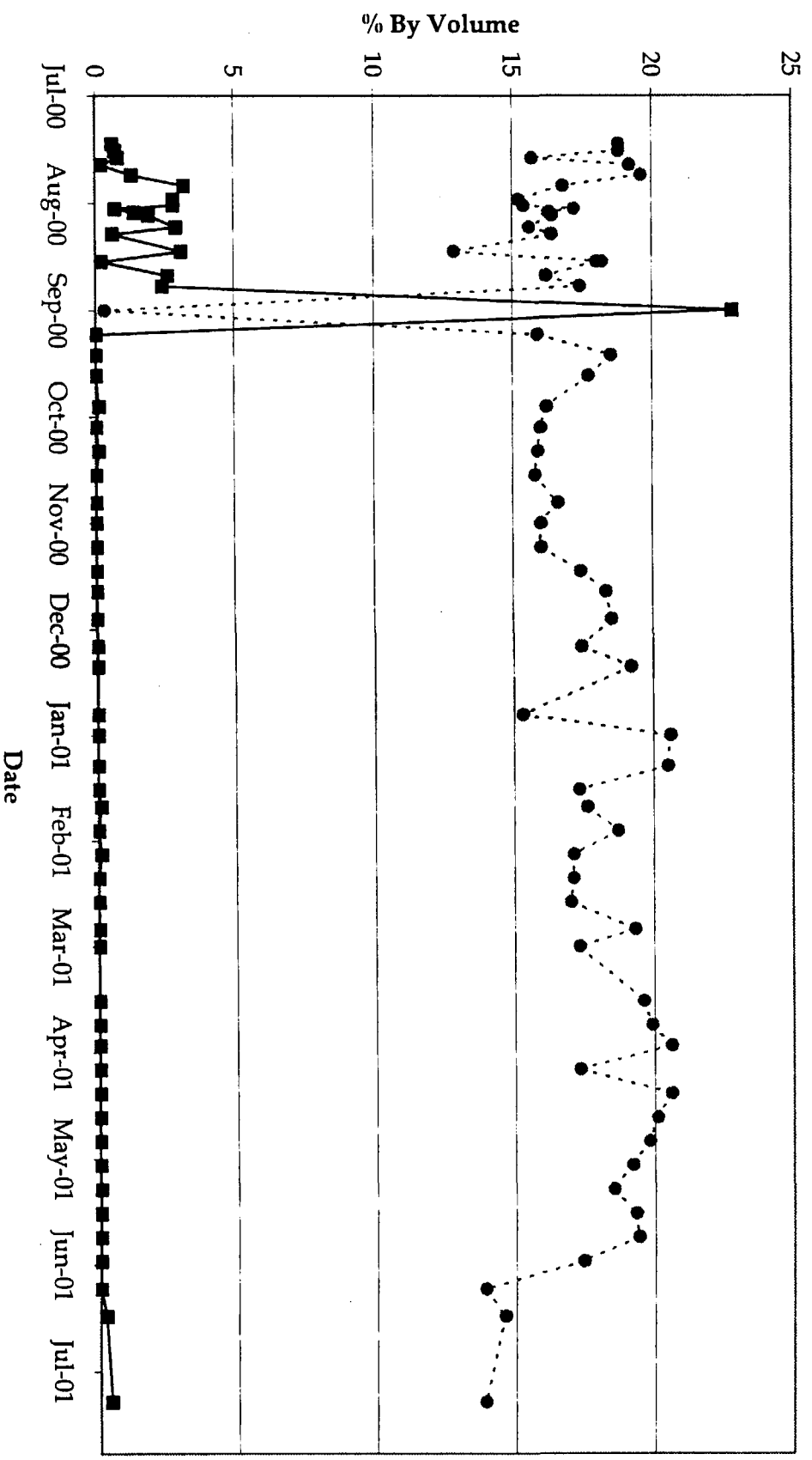


—■— Methane  
...◆... Oxygen

EW-18



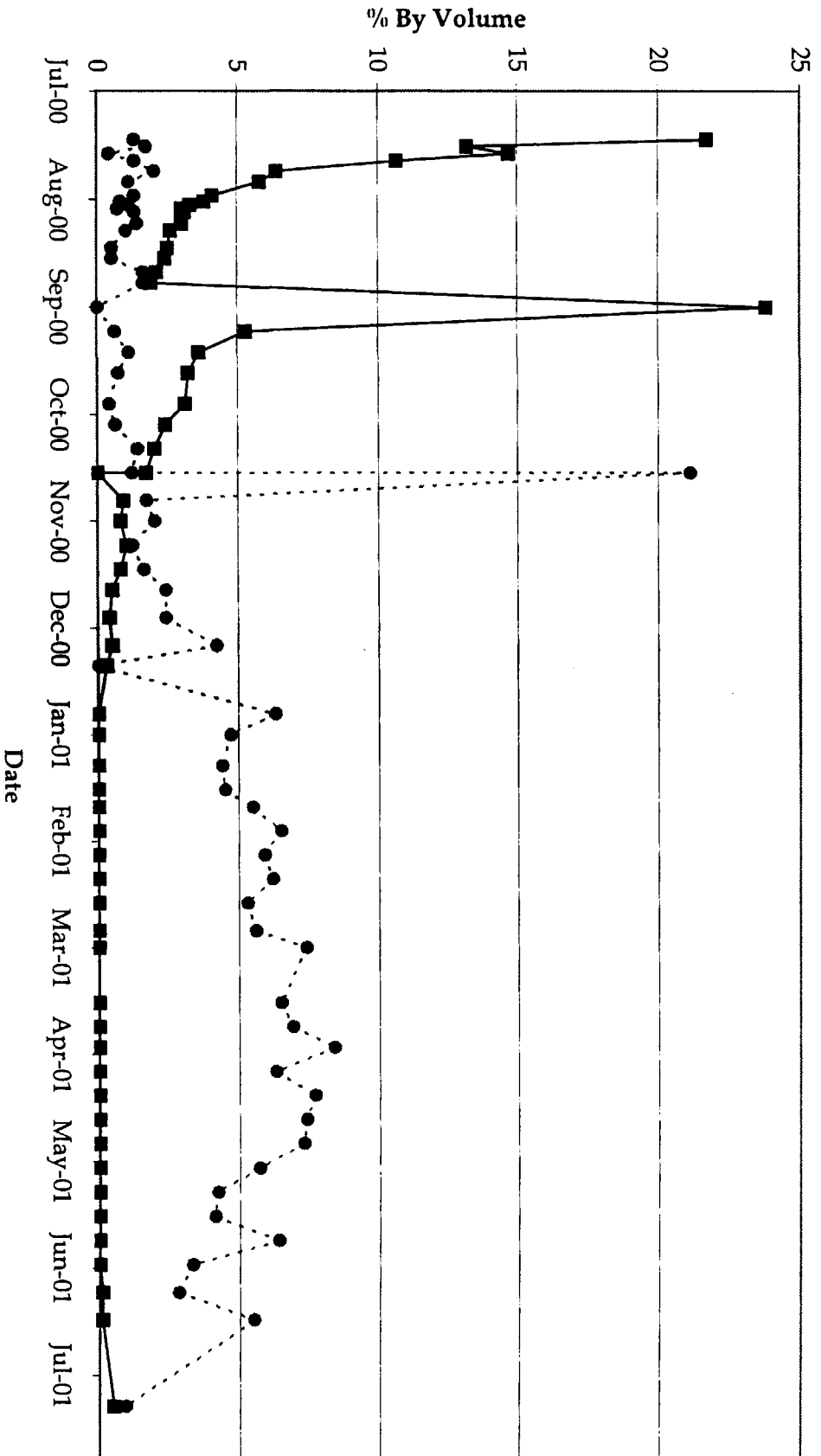
EW-19



—■— Methane  
- - -●- - - Oxygen



# EW-20



**APPENDIX D**  
**BLOWER DISCHARGE LABORATORY DATA**  
**MAY 2001**



MN FILE COPY

May 14, 2001

RECEIVED

STL LOT NO: M1E100301

MAY 18 2001

CRA, INC.

## STL Los Angeles

1721 South Grand Avenue  
Santa Ana, CA 92705-4808

Tel: 714 258 8610

Fax: 714 258 0921

www.stl-inc.com

Grant Anderson  
Conestoga-Rovers & Assoc., Inc.  
1801 Old Highway 8  
Suite 114  
St. Paul, MN 55112

Dear Mr. Anderson,

This report contains the analytical results for the sample received under chain of custody by STL Los Angeles on May 10, 2001.

Preliminary results were sent via facsimile on Monday, May 14, 2001.

STL Los Angeles certifies that the test results provided in this report meet all the requirements of NELAC. Our certificate number is 01118CA. All applicable quality control procedures met method-specified acceptance criteria. Any matrix-related anomalies are indicated using footnotes within the report.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000015 pages.

If you have any questions, please feel free to call me at 714-258-8610.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jesse Bacwaden".

Jesse Bacwaden  
Project Manager

cc: Project File

000001



# **ANALYTICAL REPORT**

**PROJECT NO. 12865-70**

**Lot #: MLE100301**

**Grant Anderson**

**Conestoga-Rovers & Assoc., Inc.**

**SEVERN TRENT LABORATORIES, INC.**

**Jesse Bacwaden  
Project Manager**

**May 14, 2001**

**000003**

# EXECUTIVE SUMMARY - Detection Highlights

M1E100301

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
G-010509-LL-01 05/09/01 11:58 001				
Dichlorodifluoromethane	550	9.9	ppb (v/v)	EPA-21 TO-14A
1,2-Dichloro- 1,1,2,2-tetrafluoroethane	32	2.0	ppb (v/v)	EPA-21 TO-14A
Vinyl chloride	1200	9.9	ppb (v/v)	EPA-21 TO-14A
Chloroethane	47	4.0	ppb (v/v)	EPA-21 TO-14A
Trichlorofluoromethane	150	2.0	ppb (v/v)	EPA-21 TO-14A
1,1-Dichloroethene	5.9	2.0	ppb (v/v)	EPA-21 TO-14A
Acetone	19	10	ppb (v/v)	EPA-21 TO-14A
Methylene chloride	12	2.0	ppb (v/v)	EPA-21 TO-14A
1,1-Dichloroethane	9.8	2.0	ppb (v/v)	EPA-21 TO-14A
cis-1,2-Dichloroethene	120	2.0	ppb (v/v)	EPA-21 TO-14A
2-Butanone (MEK)	10	10	ppb (v/v)	EPA-21 TO-14A
1,1,1-Trichloroethane	12	2.0	ppb (v/v)	EPA-21 TO-14A
Benzene	78	2.0	ppb (v/v)	EPA-21 TO-14A
Trichloroethene	36	2.0	ppb (v/v)	EPA-21 TO-14A
Toluene	340	2.0	ppb (v/v)	EPA-21 TO-14A
Tetrachloroethene	55	2.0	ppb (v/v)	EPA-21 TO-14A
Chlorobenzene	11	2.0	ppb (v/v)	EPA-21 TO-14A
Ethylbenzene	250	2.0	ppb (v/v)	EPA-21 TO-14A
Xylenes (total)	650	2.0	ppb (v/v)	EPA-21 TO-14A
4-Ethyltoluene	110	2.0	ppb (v/v)	EPA-21 TO-14A
1,3,5-Trimethylbenzene	61	2.0	ppb (v/v)	EPA-21 TO-14A
1,2,4-Trimethylbenzene	140	2.0	ppb (v/v)	EPA-21 TO-14A
1,4-Dichlorobenzene	53	2.0	ppb (v/v)	EPA-21 TO-14A

000004

# ANALYTICAL METHODS SUMMARY

MLE100301

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by TO-14A	EPA-21 TO-14A

## References:

EPA-21 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", Second Edition, EPA/625/R-96/010b, January 1997

000005

# SAMPLE SUMMARY

M1E100301

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
EC6Q9	001	G-010509-LL-01	05/09/01	11:58

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

000006



CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: G-010509-LL-01

GC/MS Volatiles

*blower outlet*

Lot-Sample #....: M1E100301-001    Work Order #....: EC6Q91AD    Matrix.....: AIR  
 Date Sampled...: 05/09/01    Date Received...: 05/10/01  
 Prep Date.....: 05/11/01    Analysis Date...: 05/11/01  
 Prep Batch #....: 1130483  
 Dilution Factor: 1  
 Analyst ID.....: 117751    Instrument ID...: MSB  
 Method.....: EPA-21 TO-14A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	4.0	ppb (v/v)
1,2-Dichloro- 1,1,2,2-tetrafluoroethane	32	2.0	ppb (v/v)
Bromomethane	ND	2.0	ppb (v/v)
loroethane	47	4.0	ppb (v/v)
Trichlorofluoromethane	150	2.0	ppb (v/v)
1,1-Dichloroethene	5.9	2.0	ppb (v/v)
Carbon disulfide	ND	10	ppb (v/v)
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	2.0	ppb (v/v)
Acetone	19	10	ppb (v/v)
Methylene chloride	12	2.0	ppb (v/v)
trans-1,2-Dichloroethene	ND	2.0	ppb (v/v)
1,1-Dichloroethane	9.8	2.0	ppb (v/v)
Vinyl acetate	ND	10	ppb (v/v)
cis-1,2-Dichloroethene	120	2.0	ppb (v/v)
2-Butanone (MEK)	10	10	ppb (v/v)
Chloroform	ND	2.0	ppb (v/v)
1,1,1-Trichloroethane	12	2.0	ppb (v/v)
Carbon tetrachloride	ND	2.0	ppb (v/v)
nzene	78	2.0	ppb (v/v)
,2-Dichloroethane	ND	2.0	ppb (v/v)
Trichloroethene	36	2.0	ppb (v/v)
1,2-Dichloropropane	ND	2.0	ppb (v/v)
Bromodichloromethane	ND	2.0	ppb (v/v)
cis-1,3-Dichloropropene	ND	2.0	ppb (v/v)
4-Methyl-2-pentanone (MIBK)	ND	10	ppb (v/v)
Toluene	340	2.0	ppb (v/v)
trans-1,3-Dichloropropene	ND	2.0	ppb (v/v)
1,1,2-Trichloroethane	ND	2.0	ppb (v/v)
Tetrachloroethene	55	2.0	ppb (v/v)
2-Hexanone	ND	30	ppb (v/v)
Dibromochloromethane	ND	2.0	ppb (v/v)
1,2-Dibromoethane (EDB)	ND	2.0	ppb (v/v)
Chlorobenzene	11	2.0	ppb (v/v)
Ethylbenzene	250	2.0	ppb (v/v)

(Continued on next page)

000007

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: G-010509-LL-01

GC/MS Volatiles

Lot-Sample #...: M1E100301-001 Work Order #...: EC6Q91AD Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Xylenes (total)	650	2.0	ppb (v/v)
Styrene	ND	2.0	ppb (v/v)
Bromoform	ND	2.0	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND	2.0	ppb (v/v)
Benzyl chloride	ND	10	ppb (v/v)
4-Ethyltoluene	110	2.0	ppb (v/v)
1,3,5-Trimethylbenzene	61	2.0	ppb (v/v)
1,2,4-Trimethylbenzene	140	2.0	ppb (v/v)
1,3-Dichlorobenzene	ND	2.0	ppb (v/v)
1,4-Dichlorobenzene	53	2.0	ppb (v/v)
1,2-Dichlorobenzene	ND	2.0	ppb (v/v)
1,2,4-Trichloro- benzene	ND	20	ppb (v/v)
Hexachlorobutadiene	ND	4.0	ppb (v/v)

000008

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: G-010509-LL-01

GC/MS Volatiles

Lot-Sample #...: M1E100301-001    Work Order #...: EC6Q92AD    Matrix.....: AIR  
Date Sampled...: 05/09/01    Date Received...: 05/10/01  
Prep Date.....: 05/11/01    Analysis Date...: 05/11/01  
Prep Batch #...: 1130483  
Dilution Factor: 4.96  
Analyst ID.....: 117751    Instrument ID...: MSB  
Method.....: EPA-21 TO-14A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Dichlorodifluoromethane	550	9.9	ppb (v/v)
Vinyl chloride	1200	9.9	ppb (v/v)

000009

# QC DATA ASSOCIATION SUMMARY

MIE100301

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	AIR	EPA-21 TO-14A		1130483	

000010

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: M1E100301  
 MB Lot-Sample #: M1E100000-483

Work Order #...: EC6TT1AA

Matrix.....: AIR

Analysis Date...: 05/10/01  
 Dilution Factor: 1

Prep Date.....: 05/10/01

Instrument ID...: MSB

Prep Batch #...: 1130483

Analyst ID.....: 117751

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Dichlorodifluoromethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Chloromethane	ND	4.0	ppb (v/v)	EPA-21 TO-14A
1,2-Dichloro- 1,1,2,2-tetrafluoroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Vinyl chloride	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Chloromethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Chloroethane	ND	4.0	ppb (v/v)	EPA-21 TO-14A
Trichlorofluoromethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,1-Dichloroethene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Carbon disulfide	ND	10	ppb (v/v)	EPA-21 TO-14A
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Acetone	ND	10	ppb (v/v)	EPA-21 TO-14A
Methylene chloride	ND	2.0	ppb (v/v)	EPA-21 TO-14A
trans-1,2-Dichloroethene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,1-Dichloroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Vinyl acetate	ND	10	ppb (v/v)	EPA-21 TO-14A
cis-1,2-Dichloroethene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
2-Butanone (MEK)	ND	10	ppb (v/v)	EPA-21 TO-14A
Chloroform	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,1,1-Trichloroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Carbon tetrachloride	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Benzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,2-Dichloroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Trichloroethene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,2-Dichloropropane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Bromodichloromethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
cis-1,3-Dichloropropene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
4-Methyl-2-pentanone (MIBK)	ND	10	ppb (v/v)	EPA-21 TO-14A
Toluene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
trans-1,3-Dichloropropene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,1,2-Trichloroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Tetrachloroethene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
2-Hexanone	ND	30	ppb (v/v)	EPA-21 TO-14A
Dibromochloromethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,2-Dibromoethane (EDB)	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Chlorobenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Ethylbenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Xylenes (total)	ND	2.0	ppb (v/v)	EPA-21 TO-14A

(Continued on next page)

000011

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: M1E100301

Work Order #...: EC6TT1AA

Matrix.....: AIR

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Styrene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Bromoform	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,1,2,2-Tetrachloroethane	ND	2.0	ppb (v/v)	EPA-21 TO-14A
Benzyl chloride	ND	10	ppb (v/v)	EPA-21 TO-14A
4-Ethyltoluene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,3,5-Trimethylbenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,2,4-Trimethylbenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,3-Dichlorobenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,4-Dichlorobenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,2-Dichlorobenzene	ND	2.0	ppb (v/v)	EPA-21 TO-14A
1,2,4-Trichloro- benzene	ND	20	ppb (v/v)	EPA-21 TO-14A
Hexachlorobutadiene	ND	4.0	ppb (v/v)	EPA-21 TO-14A

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

000012

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: M1E100301      Work Order #...: EC6TT1AC-LCS      Matrix.....: AIR  
 LCS Lot-Sample#: M1E100000-483      EC6TT1AD-LCSD  
 Prep Date.....: 05/10/01      Analysis Date...: 05/10/01  
 Prep Batch #...: 1130483  
 Dilution Factor: 1      Instrument ID...: MSB  
 Analyst ID.....: 117751

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
1,1-Dichloroethene	48.0	49.9	ppb (v/v)	104		EPA-21 TO-14A
	48.0	49.4	ppb (v/v)	103	0.94	EPA-21 TO-14A
Methylene chloride	53.6	50.6	ppb (v/v)	94		EPA-21 TO-14A
	53.6	49.7	ppb (v/v)	93	1.7	EPA-21 TO-14A
Trichloroethene	47.2	53.2	ppb (v/v)	113		EPA-21 TO-14A
	47.2	53.1	ppb (v/v)	113	0.16	EPA-21 TO-14A
Toluene	51.3	54.5	ppb (v/v)	106		EPA-21 TO-14A
	51.3	55.4	ppb (v/v)	108	1.6	EPA-21 TO-14A
1,1,2,2-Tetrachloroethane	50.0	49.0	ppb (v/v)	98		EPA-21 TO-14A
	50.0	50.5	ppb (v/v)	101	3.0	EPA-21 TO-14A

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000013

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: M1E100301      Work Order #...: EC6TT1AC-LCS      Matrix.....: AIR  
 LCS Lot-Sample#: M1E100000-483      EC6TT1AD-LCSD  
 Prep Date.....: 05/10/01      Analysis Date...: 05/10/01  
 Prep Batch #...: 1130483  
 Dilution Factor: 1      Instrument ID...: MSB  
 Analyst ID.....: 117751

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,1-Dichloroethene	104	(70 - 120)			EPA-21 TO-14A
	103	(70 - 120)	0.94	(0-20)	EPA-21 TO-14A
Methylene chloride	94	(80 - 120)			EPA-21 TO-14A
	93	(80 - 120)	1.7	(0-20)	EPA-21 TO-14A
Trichloroethene	113	(80 - 120)			EPA-21 TO-14A
	113	(80 - 120)	0.16	(0-20)	EPA-21 TO-14A
Toluene	106	(70 - 120)			EPA-21 TO-14A
	108	(70 - 120)	1.6	(0-20)	EPA-21 TO-14A
1,1,2,2-Tetrachloroethane	98	(75 - 130)			EPA-21 TO-14A
	101	(75 - 130)	3.0	(0-20)	EPA-21 TO-14A

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000014



**CANISTER FIELD DATA RECORD**

CLIENT: CRA  
 CANISTER SERIAL #: 12839 ✓  
 DATE CLEANED: 4-23-01C  
 CLIENT SAMPLE #: G-010509-LL-01  
 SITE LOCATION: Tomah Landfill

VFR ID: \_\_\_\_\_  
 Duration of comp. : \_\_\_\_\_ hrs / mins.  
 Flow setting: \_\_\_\_\_ ml/min  
 Initials: \_\_\_\_\_

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	5-3-01	(K)
INITIAL FIELD VACUUM	1158	30"	5-9-01	LL
FINAL FIELD READING	1159	2"	5-9-01	LL
GAUGE READING UPON RECEIPT				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (inches Hg and PSIA)	12.45	5-10-01	AA
FINAL PRESSURE (PSIA)	24.60	5-10-01	AA

Pressurization Gas: N<sub>2</sub>

COMMENTS: <u>Field Readings at</u> <u>Time of Sampling</u> <u>(X by VOLUME)</u> <u>CH<sub>4</sub> 2.1</u> <u>O<sub>2</sub> 10.9</u> <u>CO<sub>2</sub> 9.4</u>	COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
		0.5 Hours
	1	79.2 - 83.3
	2	39.6 - 41.7
	4	19.8 - 20.8
	6	13.2 - 13.9
	8	9.9 - 10.4
	10	7.92 - 8.3
	12	6.6 - 6.9
	24	3.5 - 4.0



**APPENDIX E**  
**BLOWER DISCHARGE DATA VALIDATION MEMO**



---

## MEMORANDUM

---

TO: Katie Kamm REF. NO.: 12865-70

FROM: Grant Anderson *GA* DATE: July 20, 2001

C.C.: Analytical Data File  
Brian Sandberg

RE: **Data Quality Assessment and Validation  
May 2001 Sampling Event  
Tomah Municipal Landfill Site - Tomah, Wisconsin (COC 3045)**

---

The following details a data quality assessment and validation for one air sample collected on May 9, 2001, at the Tomah Municipal Landfill Site in Tomah, Wisconsin. The sample was identified as G-010509-LL-01 (blower discharge) and was analyzed for volatile organic compounds (VOCs)<sup>1</sup>. The analyses were performed by Severn Trent Laboratories (STL) in Santa Ana, California. The quality assurance criteria were established in the associated Quality Assurance Project Plan (QAPP)<sup>2</sup>.

### Holding Time Periods

The holding time period for VOC analysis in air using a SUMMA canister is 30 days from sample collection to completion of analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analysis was completed within the specified holding time period.

### Method Blank Samples

Contamination of the sample contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank sample was reported to be free from detectable concentrations of target analytes, indicating that no significant laboratory contamination occurred.

### Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

Overall performance of VOC analyses was monitored by means of LCS/LCSD. The LCS/LCSD recoveries and relative percent difference (RPD) values of the recoveries were within acceptance criteria, indicating that overall performance was adequate.

- 
- <sup>1</sup> VOC Method was derived from "Compendium Method TO-14: The Determination of Volatile Organic Compounds (VOCs) in Ambient Air Using Summa Passivated Canister Sampling and Gas Chromatographic Analysis", USEPA, May 1988 and it's updates.
  - <sup>2</sup> Application of relevant quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

Field Quality Assurance/Quality Control (QA/QC) Samples

There were no field QA/QC samples associated with this sampling event.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used without qualification.

GDA/jla/12

**APPENDIX F**  
**CONDENSATE GENERATION**

## MONTHLY CONDENSATE TANK VOLUME CALCULATION

update the colored cell to calculate new volume

	water level reading	12.01 feet
d	water depth	4.415 feet
	tank length	14 feet
D	tank diameter	8 feet
$A_c$	(cross section of condensate)	28.44678 feet <sup>2</sup>
$A_t$	(cross section of entire tank)	50.26548 feet <sup>2</sup>
theta		-0.10375 degrees
acos(theta)		1.674733 radians
	Volume of condensate in tank	2979.153 gallons

<i>Date</i>	<i>Water level (feet BTOC)</i>	<i>Condensate Volume (gallons)</i>	<i>Generation Rate (gallons/day)</i>
11/12/99	14.25	1157.91	
11/24/99	14.33	1098.61	-4.94
12/1/99	14.36	1076.56	-3.15
12/8/99	14.28	1135.59	8.43
12/15/99	14.26	1150.46	2.12
12/22/99	14.33	1098.61	-7.41
12/29/99	13.96	1378.33	39.96
1/5/00	13.97	1370.60	-1.10
1/12/00	14.19	1202.83	-23.97
1/19/00	14.16	1225.43	3.23
1/26/00	14.23	1172.84	-7.51
2/2/00	14.01	1339.76	23.85
2/9/00	14.26	1150.46	-27.04
2/16/00	14.27	1143.02	-1.06
3/1/00	14.13	1248.12	7.51
3/8/00	14.15	1232.98	-2.16
3/15/00	14.36	1076.56	-22.35
4/6/00	14.19	1202.83	5.74
4/12/00	14.1	1270.9	11.35
4/19/00	14.12	1255.71	-2.17
4/26/00	14.04	1316.72	8.72
5/3/00	14.15	1232.98	-11.96
5/10/00	14.2	1195.32	-5.38
5/16/00	14.23	1172.84	-3.75
9/29/00	13.96	1378.33	1.51
10/27/00	13.96	1378.33	0.00
11/2/00	13.8	1503.19	20.81
11/22/00	13.76	1534.72	1.58
12/8/00	13.3	1904.88	23.14
12/28/00	13.34	1872.22	-1.63
1/3/01	13.12	2052.74	30.09
1/24/01	13.08	2085.77	1.57
1/31/01	13.15	2028.01	-8.25
2/7/01	13.15	2028.01	0.00
2/14/01	12.72	2385.15	51.02
2/21/01	12.74	2368.44	-2.39
3/1/01	12.67	2426.95	7.31
4/4/01	12.01	2979.15	16.24
5/2/01	11.54	3367.46	13.87
6/6/01	13.4	1823.37	-44.12
7/17/01	11.21	3634.15	44.17



# Condensate Water Generation Tomah Landfill Gas Extraction System

