

# **2008 SUPPLEMENTAL ANNUAL GROUNDWATER MONITORING REPORT**

**CLOSED LANDFILL  
ELYRIA, OHIO**

**FEBRUARY 26, 2009**

**REF. NO. 012616 (42)**

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## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
1.0 FACILITY DATABASE.....	3
2.0 WELL DATABASE.....	3
3.0 SAMPLING DATABASE.....	3
4.0 PARAMETER DATABASE .....	3
5.0 GROUNDWATER DATABASE .....	3
6.0 OTHER REQUIRED INFORMATION .....	3
6.1 GROUNDWATER CONTOURS.....	3
6.2 GROUNDWATER FLOW .....	4
6.3 GROUNDWATER QUALITY SAMPLING.....	4
6.3.1 FEBRUARY 2008 SEMI-ANNUAL MONITORING EVENT .....	5
6.3.2 AUGUST 2008 SEMI-ANNUAL MONITORING EVENT .....	5
6.4 PRIMARY SUMP LIQUID QUALITY SAMPLING .....	6
6.4.1 FEBRUARY 2008 MONITORING EVENT .....	6
6.4.2 AUGUST 2008 MONITORING EVENT.....	6
6.5 SECONDARY SUMP LIQUID QUALITY SAMPLING.....	7
6.5.1 FEBRUARY 2008 MONITORING EVENT .....	7
6.5.2 MAY 2008 MONITORING EVENT .....	7
6.5.3 AUGUST 2008 MONITORING EVENT.....	8
7.0 STATISTICAL EVALUATION .....	8
8.0 COMPLIANCE GROUNDWATER MONITORING.....	9
9.0 CORRECTIVE ACTION GROUNDWATER MONITORING.....	9
DECLARATION .....	10

LIST OF FIGURES  
(Following Text)

FIGURE 1.1	SITE LOCATION
FIGURE 6.1	TILL CONTACT GROUNDWATER ELEVATIONS – FEBRUARY 6, 2008
FIGURE 6.2	BEDROCK GROUNDWATER ELEVATIONS – FEBRUARY 6, 2008
FIGURE 6.3	TILL CONTACT GROUNDWATER ELEVATIONS – AUGUST 8, 2008
FIGURE 6.4	BEDROCK GROUNDWATER ELEVATIONS – AUGUST 8, 2008

LIST OF TABLES  
(Following Text)

TABLE 6.1	MONITORING WELL/PIEZOMETER COMPLETION DETAILS AND GROUNDWATER ELEVATIONS - 2008
TABLE 6.2	SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008
TABLE 6.3	SUMMARY OF ANALYTICAL RESULTS FOR PRIMARY SUMP LIQUID SAMPLES - 2008
TABLE 6.4	SUMMARY OF ANALYTICAL RESULTS FOR SECONDARY SUMP LIQUID SAMPLES - 2008
TABLE 7.1	LOCATIONS AND PARAMETERS WITH POTENTIAL EXCEEDANCES OF SITE UPPER TOLERANCE LIMITS, APRIL 2008 RE-SAMPLING DATA

LIST OF APPENDICIES

APPENDIX A	2008 SUPPLEMENTAL ANNUAL REPORT FORM
APPENDIX B	GROUNDWATER FLOW VELOCITY CALCULATIONS
APPENDIX C	WELL PURGE FORMS
APPENDIX D	LABORATORY ANALYTICAL REPORTS
APPENDIX E	DATA QUALITY ASSESSMENT AND VALIDATION REPORTS



## INTRODUCTION

This report presents the 2008 Supplemental Annual Groundwater Monitoring Report for the Remediation and Liability Management Company, Inc. (REALM) Landfill (Site) in Elyria, Ohio in accordance with the Ohio Environmental Protection Agency's (Ohio EPA) Ohio Administrative Code (OAC) Rule 3745-54-75. A Site location map is presented on Figure 1.1.

During 2008, the following groundwater monitoring activities were completed:

- two rounds of groundwater levels at the Site monitoring wells and piezometers;
- first round of semi-annual groundwater sampling at the Site monitoring wells during February 2008;
- one round of confirmation groundwater sampling (conducted in April 2008) due to potential exceedances of upper tolerance limits (UTLs) during the February semi-annual sampling event;
- second round of semi-annual groundwater sampling at the Site monitoring wells during August 2008;
- one round of confirmation groundwater sampling (conducted in September 2008) due to potential exceedances of UTLs during the August semi-annual sampling event;
- two rounds of sump liquid sampling of the four primary sumps; and
- three rounds of sump liquid sampling from the four secondary sumps.

The 2008 activities were initially completed in accordance with the Revised Post-Closure Groundwater Monitoring Plan dated December 2001 (GWMP), and approved by the Ohio EPA on February 13, 2002. Starting in the Fall of 2008, the activities were completed in accordance with the Revised Post-Closure Groundwater Monitoring Plan-2007 (Revised GWMP-2007) following its approval by the Ohio EPA on October 10, 2008 and Ohio EPA's clarified approval on December 3, 2008.

Conestoga-Rovers & Associates, Inc. (CRA) performed the sampling, and TestAmerica Laboratories, Inc. performed the analytical testing.

The results of the groundwater level monitoring, groundwater quality monitoring, and sump liquid quality monitoring are presented in subsequent sections of this report.

The data collected in 2008 are being submitted electronically as Microsoft Excel (MS Excel) files, as per the 2008 generic Form and Instructions from Ohio EPA. The five MS Excel files are labeled as: Facility, Wells, Sampling, Params, GWData, and are included on the enclosed compact disc (CD) in Appendix A.

## **1.0 FACILITY DATABASE**

The 2008 Supplemental Annual Report Form for Section 1.0 has been completed and is included in Appendix A-1.

## **2.0 WELL DATABASE**

The 2008 Supplemental Annual Report Form for Section 2.0 has been completed and is included in Appendix A-2.

## **3.0 SAMPLING DATABASE**

The 2008 Supplemental Annual Report Form for Section 3.0 has been completed and is included in Appendix A-3.

## **4.0 PARAMETER DATABASE**

The 2008 Supplemental Annual Report Form for Section 4.0 has been completed and is included in Appendix A-4.

## **5.0 GROUNDWATER DATABASE**

The 2008 Supplemental Annual Report Form for Section 5.0 has been completed and is included in Appendix A-5.

## **6.0 OTHER REQUIRED INFORMATION**

### **6.1 GROUNDWATER CONTOURS**

Groundwater elevations were collected on two occasions during 2008 (February 6 and August 8). Groundwater elevations were collected from monitoring wells P-2, P-2T, P-8R, P-8T, P-12, P-12TR, P-13, P-13T, P-14, P-14T, P-16, and P-16T, and piezometers P-1, P-1T, P-3R, P-3T, P-11, P-15, P-15T, P-17, P-18, P-19, P-20, and P-21. The groundwater elevations for 2008 are summarized in Table 6.1.

The groundwater elevations, contours, and generalized flow direction for the till contact, and bedrock water-bearing zones for February 2008 are presented on Figures 6.1 and 6.2,

respectively. During the February 2008 monitoring event, groundwater flow directions in the till contact and bedrock water-bearing zones beneath the landfill cell were from the west and southwest to the northeast, which is consistent with most historical groundwater flow patterns.

The groundwater elevations, contours, and generalized flow direction for the till contact and bedrock water-bearing zones for August 2008 are presented on Figures 6.3 and 6.4, respectively. During the August 2008 monitoring event, groundwater flow directions in the till contact and bedrock water-bearing zones beneath the landfill cell were from the west and southwest to the northeast, which is consistent with most historical groundwater flow patterns.

## **6.2 GROUNDWATER FLOW**

Groundwater flow velocity was calculated based on the February and August 2008 water level measurements using an average hydraulic conductivity of  $4.1 \times 10^{-4}$  centimeters per second (cm/sec), and  $1.9 \times 10^{-4}$  cm/sec (CRA, 2002 Supplemental Annual Report) for till contact and bedrock water-bearing zones, respectively. The groundwater flow velocity beneath the landfill in the till contact zone was calculated to be at a rate of 36.7 feet per year and in the bedrock water-bearing zone was calculated to be at a rate of 14.5 feet per year as detailed in Appendix B.

## **6.3 GROUNDWATER QUALITY SAMPLING**

The groundwater samples were collected using a low flow sampling method in accordance with the GWMP. All groundwater samples were analyzed for total and dissolved metals (barium, calcium, chromium, iron, magnesium, manganese, nickel, potassium, and sodium), chloride, sulfate, and total cyanide. Additionally, the August 2008 samples were analyzed for the monitoring parameters copper, total dissolved solids (TDS), and total suspended solids (TSS). Specific conductance, pH, temperature, turbidity, dissolved oxygen and oxygen reduction potential were measured in the field prior to sampling.

There were no exceedances of the current MCLs (which exist for barium, chromium and total cyanide) in any of the groundwater samples collected in 2008.

### **6.3.1 FEBRUARY 2008 SEMI-ANNUAL MONITORING EVENT**

Groundwater samples were collected on February 6 and 7, 2008. During the February 2008 semi-annual monitoring event, groundwater samples were collected from monitoring wells P-2, P-2T, P-8R, P-8T, P-12, P-12TR, P-13, P-13T, P-14, P-14T, P-16, and P-16T. One duplicate sample from monitoring well P-14T and a matrix spike/matrix spike duplicate sample from monitoring well P-12 were collected and analyzed for quality control purposes. The well purge forms for the February 2008 event are presented in Appendix C-1. The laboratory analytical report and chains-of-custody are presented in Appendix D-1. The associated data quality assessment and validation memorandum are presented in Appendix E-1. The validated analytical results are summarized in Table 6.2.

Confirmation groundwater samples were collected on April 1 and 2, 2008 due to potential UTL exceedances for certain wells and parameters identified in the February 2008 samples. The procedures for UTL determination and statistical analysis of the monitoring data are provided in the GWMP. During the April 2008 confirmation monitoring, groundwater samples were collected from monitoring wells P-2, P-2T, P-8R, P-8T, P-13, P-13T, P-16, and P-16T. One duplicate sample from monitoring well P-13T was collected and analyzed for quality control purposes. The well purge forms for the April 2008 supplemental event are presented in Appendix C-2. The laboratory analytical report and chains-of-custody are presented in Appendix D-2. The associated data quality assessment and validation memorandum is presented in Appendix E-2. The validated analytical results are summarized in Table 6.2. Confirmation of potential exceedances of UTLs were provided to the Ohio EPA in a letter dated May 5, 2008.

### **6.3.2 AUGUST 2008 SEMI-ANNUAL MONITORING EVENT**

Groundwater samples were collected on August 8 and 9, 2008. During the August 2008 semi-annual monitoring, groundwater samples were collected from monitoring wells P-2, P-2T, P-8R, P-8T, P-12, P-12TR, P-13, P-13T, P-14, P-14T, P-16, and P-16T. One duplicate sample from monitoring well P-8R was collected and analyzed for quality control purposes. The well purge forms for the August 2008 event are presented in Appendix C-3. The laboratory analytical report and chains-of-custody are presented in Appendix D-3. The associated data quality assessment and validation memorandum is presented in Appendix E-3. The validated analytical results are summarized in Table 6.2.

Confirmation groundwater samples were collected on September 22 and 23, 2008 due to potential UTL exceedances for certain wells and parameters identified in the

August 2008 samples. The procedures for UTL determination and statistical analysis of the monitoring data are provided in the GWMP. During the September 2008 confirmation monitoring, groundwater samples were collected from monitoring wells P-2, P-2T, P-8R, P-8T, P-13, P-13T, P-16, and P-16T. One duplicate sample from monitoring well P-2 was collected and analyzed for quality control purposes. The well purge forms for the September 2008 supplemental event are presented in Appendix C-4. The laboratory analytical report and chains-of-custody are presented in Appendix D-4. The associated data quality assessment and validation memorandum is presented in Appendix E-4. The validated analytical results are summarized in Table 6.2. Confirmation samples were collected prior to the approval of the Revised GWMP-2007. The Revised GWMP-2007 was approved by Ohio EPA on October 10, 2008 and Ohio EPA's clarified approval was provided on December 3, 2008. The comparisons of groundwater results to UTLs under the former GWMP have been replaced by comparisons of groundwater results to MCLs for screening purposes under the Revised GWMP-2007. There were no exceedances of the current MCLs (which exist for barium, chromium and total cyanide) in any of the groundwater samples collected in 2008.

#### **6.4 PRIMARY SUMP LIQUID QUALITY SAMPLING**

The primary sump liquid samples were collected using a peristaltic pump in February and August 2008. The samples were analyzed for total and dissolved metals (barium, calcium, chromium, iron, magnesium, manganese, nickel, potassium, and sodium), chloride, sulfate, and total cyanide. Additionally, the August 2008 samples were analyzed for the annual monitoring parameters, copper, TDS and TSS.

##### **6.4.1 FEBRUARY 2008 MONITORING EVENT**

Primary sump liquid samples were collected on February 7 and 8, 2008. During the February 2008 monitoring event, sump liquid samples were collected from the northeast primary sump, northwest primary sump, southeast primary sump, and southwest primary sump. The laboratory analytical report and chain-of-custody are presented in Appendix D-1. The data quality assessment and validation memorandum is presented in Appendix E-1. The validated analytical results are summarized in Table 6.3.

##### **6.4.2 AUGUST 2008 MONITORING EVENT**

Primary sump liquid samples were collected on August 9 and 10, 2008. During the August 2008 monitoring event, sump liquid samples were collected from the northeast

primary sump, northwest primary sump, southeast primary sump, and southwest primary sump. One matrix spike/matrix spike duplicate sample from the northwest primary sump was collected and analyzed for quality control purposes. The laboratory analytical report and chain-of-custody are presented in Appendix D-3. The data quality assessment and validation memorandum is presented in Appendix E-3. The validated analytical results are summarized in Table 6.3.

## **6.5 SECONDARY SUMP LIQUID QUALITY SAMPLING**

The secondary sump liquid samples were collected using a peristaltic pump in February, May, and August 2008. In accordance with the Revised GWMP-2007 the December 2008 monitoring event is no longer required. The samples were analyzed for total and dissolved metals (barium, calcium, chromium, iron, magnesium, manganese, nickel, potassium, and sodium), chloride, sulfate, and total cyanide. Additionally, the August 2008 samples were analyzed for the monitoring parameters, copper, TDS, and TSS.

### **6.5.1 FEBRUARY 2008 MONITORING EVENT**

Secondary sump liquid samples were collected on February 8, 2008. During the February 2008 monitoring event, sump liquid samples were collected from the northeast secondary sump, northwest secondary sump, southeast secondary sump, and southwest secondary sump. The laboratory analytical report and chain-of-custody are presented in Appendix D-1. The data quality assessment and validation memorandum is presented in Appendix E-1. The validated analytical results are summarized in Table 6.4.

### **6.5.2 MAY 2008 MONITORING EVENT**

Secondary sump liquid samples were collected on May 8, 2008. During the May 2008 monitoring event, sump liquid samples were collected from the northeast secondary sump, northwest secondary sump, southeast secondary sump, and southwest secondary sump. One duplicate sample from the northwest secondary sump was collected and analyzed for quality control purposes. The laboratory analytical report and chain-of-custody are presented in Appendix D-5. The data quality assessment and validation memorandum is presented in Appendix E-5. The validated analytical results are summarized in Table 6.4.

### 6.5.3 AUGUST 2008 MONITORING EVENT

Secondary sump liquid samples were collected on August 10, 2008. During the August 2008 monitoring event, sump liquid samples were collected from the northeast secondary sump, northwest secondary sump, southeast secondary sump, and southwest secondary sump. The laboratory analytical report and chain-of-custody are presented in Appendix D-3. The data quality assessment and validation memorandum is presented in Appendix E-3. The validated analytical results are summarized in Table 6.4.

## 7.0 STATISTICAL EVALUATION

Groundwater elevations in February and August 2008 are contoured on Figures 6.1 through 6.4, according to the requirements of the GWMP. As discussed in Section 6.2 of the 2003 Supplemental Annual Groundwater Monitoring Report, groundwater flow directions at the Site are inconsistent. Therefore, true background does not appear to be available for typical statistical analysis. A classic statistical evaluation of the Site monitoring wells based on an interwell comparison of downgradient to upgradient wells is inappropriate, based on the current understanding of Site conditions and difficulty in determining Site background groundwater quality.

Although the current understanding of the Site indicates that true background does not appear to be available for typical statistical analysis, statistical analyses were still performed in accordance with the GWMP. Two statistical analyses were performed, one on the February 2008 semi-annual round (including the April 2008 confirmation round) of groundwater quality data and the other on the August 2008 semi-annual round (including the September 2008 confirmation round) of groundwater quality data, in accordance with the GWMP and a letter from Ohio EPA dated August 7, 2003. The results of the February (including April) 2008 analyses were presented to Ohio EPA in a letter dated May 5, 2008. Table 7.1 identifies the locations and parameters with potential exceedances identified in that letter. Supplemental sampling was not performed, as detailed in a REALM letter dated May 25, 2004.

The Revised GWMP-2007 was approved by Ohio EPA on October 10, 2008 and Ohio EPA's clarified approval was provided on December 3, 2008. Therefore, the comparisons of groundwater results to UTLs under the former GWMP have been replaced by comparisons of groundwater results to MCLs for screening purposes under the Revised GWMP-2007. There were no exceedances of the current MCLs (which exist for barium, chromium and total cyanide) in any of the groundwater samples collected in 2008.

## 8.0 COMPLIANCE GROUNDWATER MONITORING

Compliance groundwater monitoring is not required because the Site is currently being monitored under a Detection Monitoring Program in accordance with the approved GWMP, and more recently, under the approved Revised GWMP-2007.

## 9.0 CORRECTIVE ACTION GROUNDWATER MONITORING

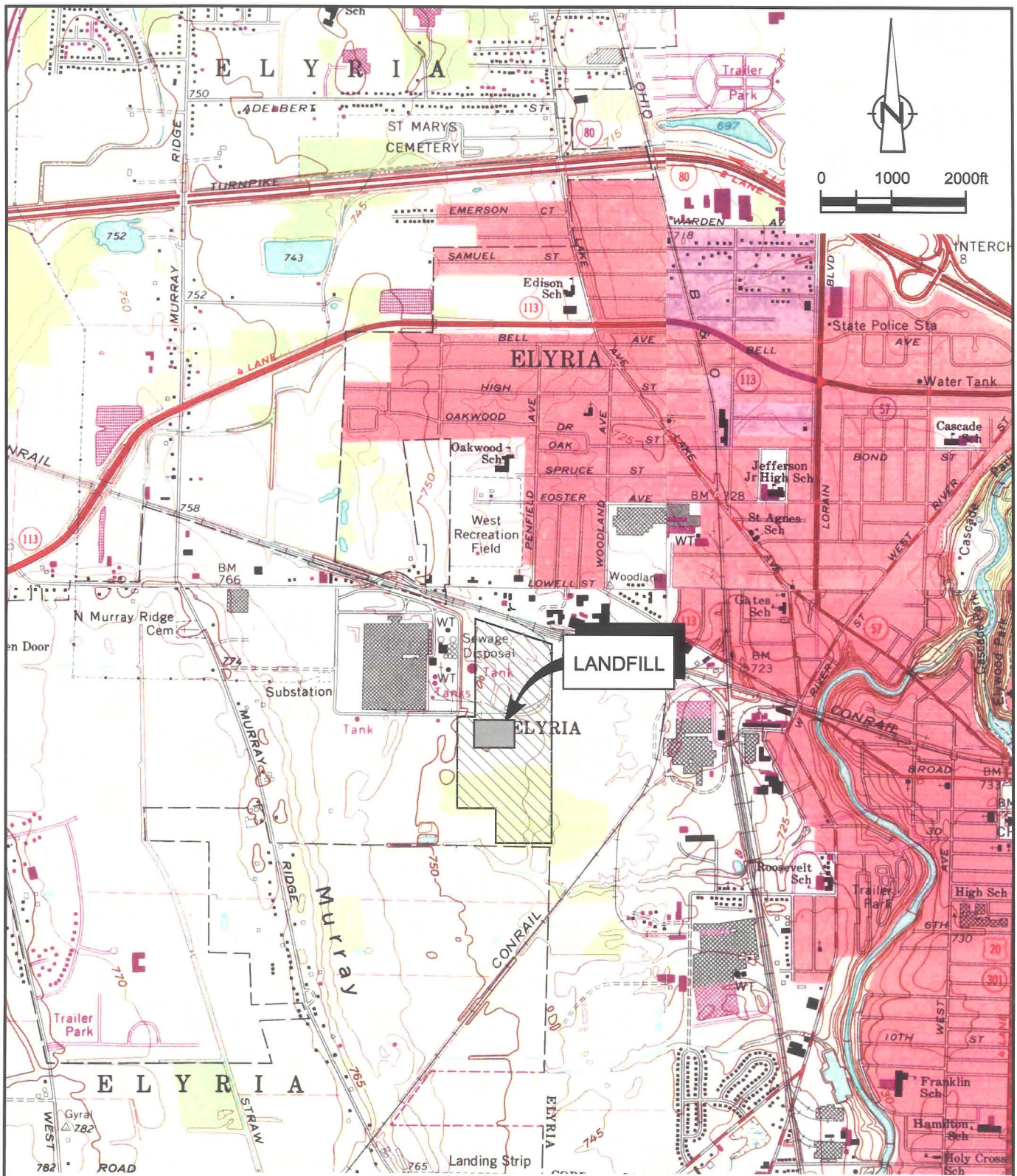
Corrective action groundwater monitoring is not required because there were no corrective action measures taken at this Site in the year 2008.

## DECLARATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

---

Andrew LaVine  
CRA (Consultant for REALM)



SOURCE: USGS QUADRANGLE MAPS;  
 AVON, GRAFTON, LORAIN & OBERLIN, OHIO

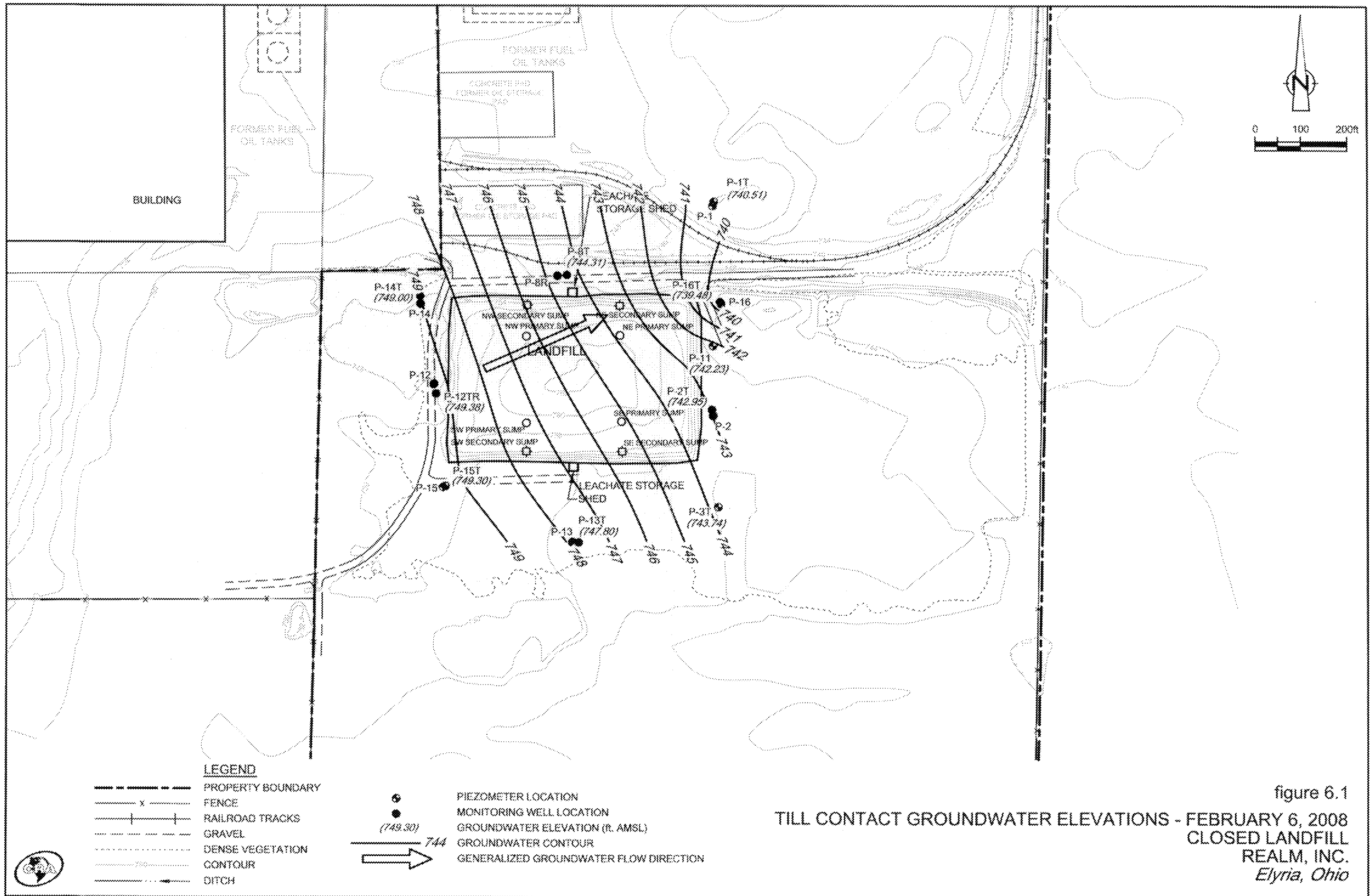
**LEGEND**

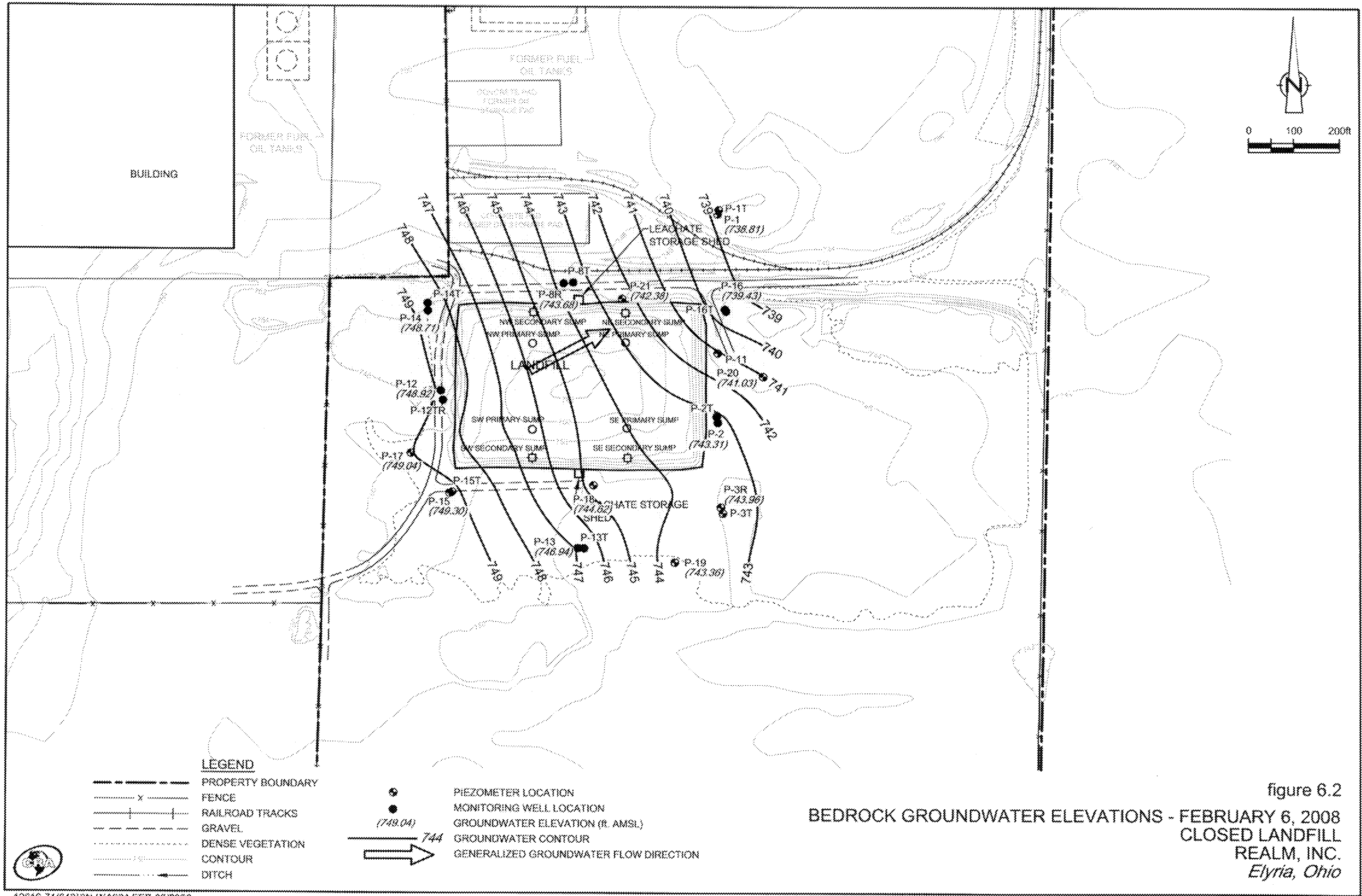


REALM PROPERTY



figure 1.1  
**SITE LOCATION**  
**CLOSED LANDFILL**  
**REALM, INC.**  
*Elyria, Ohio*





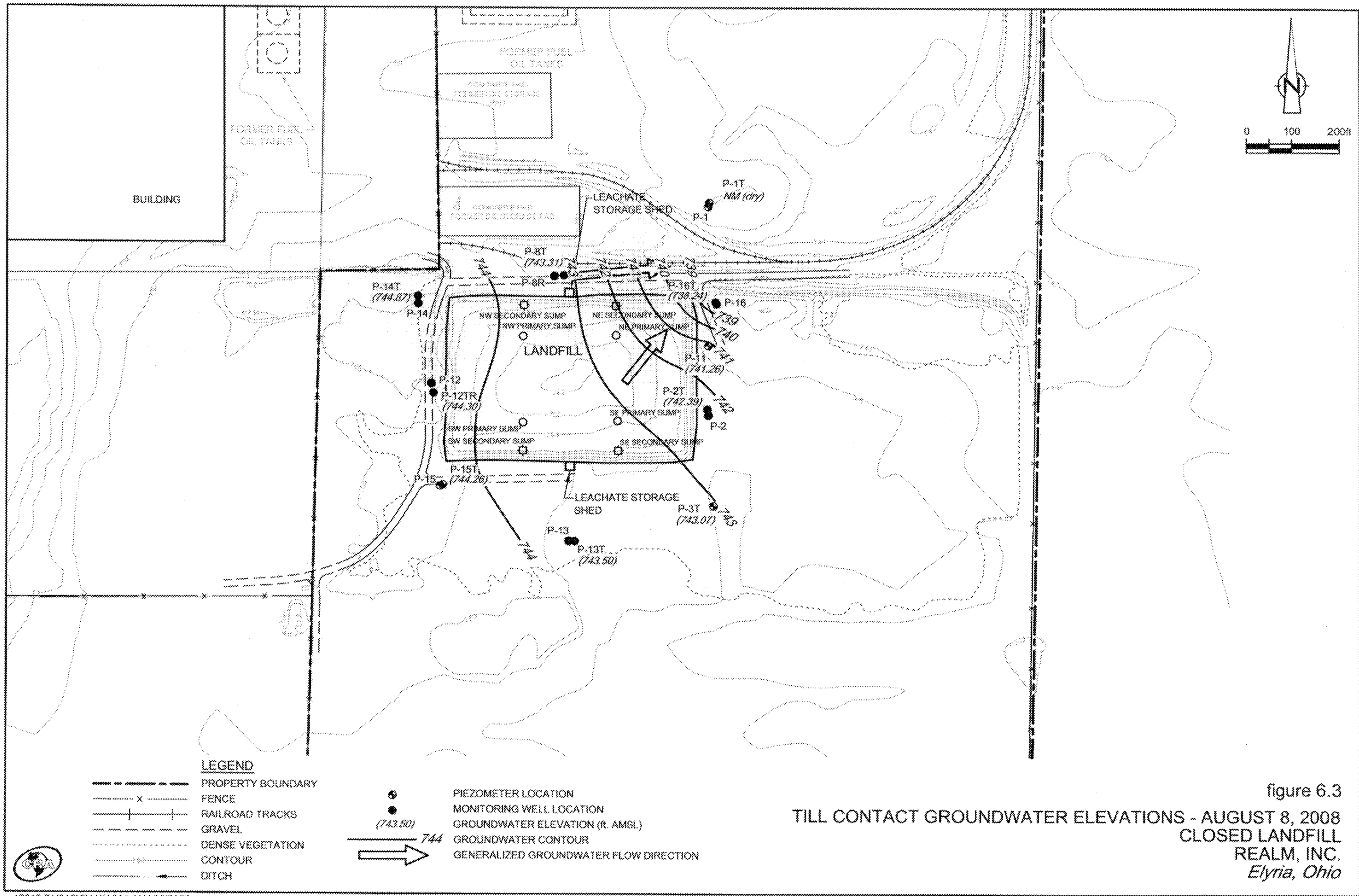
**LEGEND**

- PROPERTY BOUNDARY
- x- FENCE
- + + RAILROAD TRACKS
- - - GRAVEL
- ..... DENSE VEGETATION
- ..... CONTOUR
- DITCH

- PIEZOMETER LOCATION
- MONITORING WELL LOCATION
- (749.04) GROUNDWATER ELEVATION (ft. AMSL)
- 744 GROUNDWATER CONTOUR
- GENERALIZED GROUNDWATER FLOW DIRECTION

**BEDROCK GROUNDWATER ELEVATIONS - FEBRUARY 6, 2008**  
**CLOSED LANDFILL**  
**REALM, INC.**  
*Elyria, Ohio*

figure 6.2



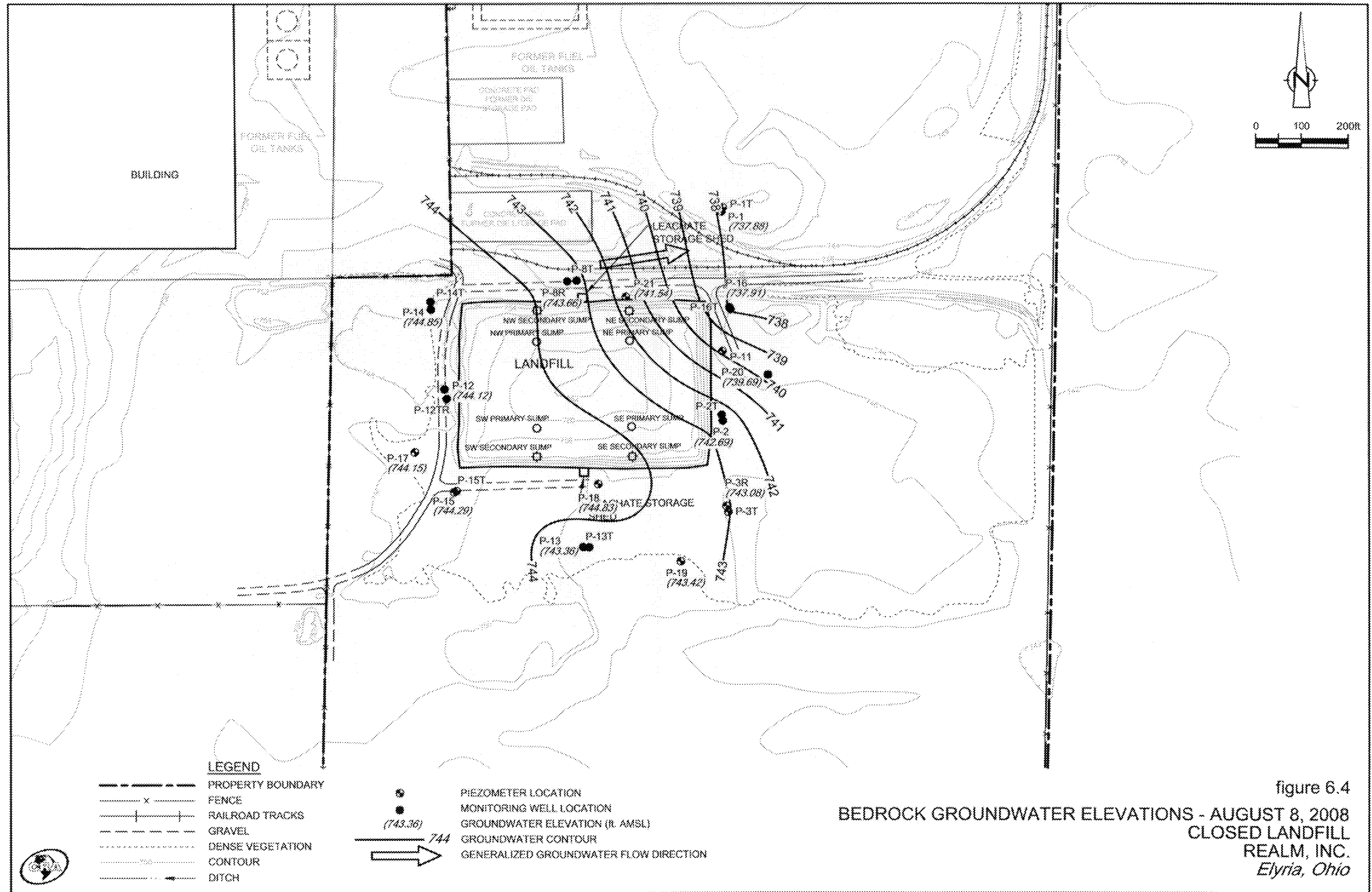


figure 6.4

BEDROCK GROUNDWATER ELEVATIONS - AUGUST 8, 2008  
 CLOSED LANDFILL  
 REALM, INC.  
 Elyria, Ohio

TABLE 6.1

**SUMMARY OF MONITORING WELL COMPLETION DETAILS AND GROUNDWATER ELEVATIONS - 2008**  
**CLOSED LANDFILL**  
**ELYRIA, OHIO**

Location	Status	Unit	Reference Elevation (feet AMSL)	Ground Surface Elevation (feet AMSL)	Well Depth (feet btor) (1)	Bottom of Screen (feet AMSL)	Groundwater Level	
							February 6, 2008 (feet AMSL)	August 8, 2008 (feet AMSL)
P-1	Piezometer	Bedrock	749.57	748.5	21.97	728.5	738.81	737.88
P-1T	Piezometer	Contact	750.44	748 (est.)	-- (2)	738.0 (est.)	740.51	Dry (<738.0)
P-2	Monitoring Well	Bedrock	748.87	747.1	22.54	726.3	743.56	742.69
P-2T	Monitoring Well	Contact	749.80	747.5	15.14	734.6	743.55	742.39
P-3R	Piezometer	Bedrock	748.87	746.5	21.40	727.5	743.96	743.08
P-3T	Piezometer	Contact	748.77	746.6	12.66	736.6	743.74	743.07
P-8R	Monitoring Well	Bedrock	751.09	748.6	22.41	728.6	743.68	743.66
P-8T	Monitoring Well	Contact	751.13	748 (est.)	12.40	738.0 (est.)	744.31	743.31
P-11	Piezometer	Contact	749.52	747 (est.)	15.13	734.0 (est.)	742.23	741.26
P-12	Monitoring Well	Bedrock	751.83	750 (est.)	22.45	730.0 (est.)	748.92	744.12
P-12TR	Monitoring Well	Contact	752.22	749.8	13.94	738.3	749.38	744.30
P-13	Monitoring Well	Bedrock	750.94	748.5	19.40	731.4	747.23	743.36
P-13T	Monitoring Well	Contact	750.83	748.6	10.53	740.1	747.95	743.50
P-14	Monitoring Well	Bedrock	751.64	749.3	22.15	729.3	748.71	744.85
P-14T	Monitoring Well	Contact	751.68	749.4	14.30	737.4	749.00	744.87
P-15	Piezometer	Bedrock	753.73	751.3	24.11	729.3	749.30	744.29
P-15T	Piezometer	Contact	753.59	751.2	15.88	737.7	749.30	744.26
P-16	Monitoring Well	Bedrock	747.62	745.0	20.22	727.0	739.43	737.91
P-16T	Monitoring Well	Contact	747.40	745.0	12.05	735.0	739.48	738.24
P-17	Piezometer	Bedrock	754.96	752.2	25.20	730.2	749.04	744.15
P-18	Piezometer	Bedrock	751.35	748.5	31.11	720.3	744.62	744.83
P-19	Piezometer	Bedrock	750.24	747.6	20.98	729.8	743.36	743.42
P-20	Piezometer	Bedrock	748.94	746.0	20.68	728.0	741.03	739.69
P-21	Piezometer	Bedrock	751.35	748.4	23.90	727.4	742.38	741.54

## Notes:

feet AMSL feet Above Mean Sea Level

feet btor feet below top of riser

est. estimated

(1) Measured September 22, 2008

(2) Not measured (wasps present).



TABLE 6.2

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO

Sample Location:	P-02	P-02	P-02	P-02	P-02	P-02	P-02T	P-02T
Sample ID:	WG-12616-020708-DN-05	WG-12616-040208-DN-06	WG-12616-080908-DN-06	WG-12616-092308-DN-06	WG-12616-092308-DN-07	WG-12616-092308-DN-07	WG-12616-020708-DN-06	WG-12616-040108-DN-05
Sample Date:	2/7/2008	4/2/2008	8/9/2008	9/23/2008	9/23/2008	9/23/2008	2/7/2008	4/1/2008
Parameters:	Units					(Duplicate)		
<b>Metals</b>								
Barium	mg/L	0.049 J	-	0.045 J	-	-	0.020 J	-
Barium (Dissolved)	mg/L	0.049 J	-	0.048 J	-	-	0.019 J	-
Calcium	mg/L	120	-	104	-	-	249	-
Calcium (Dissolved)	mg/L	121	-	110	-	-	250	228
Chromium Total	mg/L	0.010 U	-	0.010 U	-	-	0.010 U	-
Chromium Total (Dissolved)	mg/L	0.010 U	-	0.010 U	-	-	0.010 U	-
Copper	mg/L	-	-	0.025 U	-	-	-	-
Copper (Dissolved)	mg/L	-	-	0.025 U	-	-	-	-
Iron	mg/L	0.20	-	0.21	-	-	0.72	-
Iron (Dissolved)	mg/L	0.12	-	0.19	-	-	0.13	-
Magnesium	mg/L	43.5	-	36.5	-	-	104	-
Magnesium (Dissolved)	mg/L	44.4	46.7	38.7	36.7	35.6	105	98.5
Manganese	mg/L	0.28	-	0.34	-	-	0.15	-
Manganese (Dissolved)	mg/L	0.25	-	0.36	-	-	0.12	-
Nickel	mg/L	0.0062 J	-	0.0070 J	-	-	0.0087 J	-
Nickel (Dissolved)	mg/L	0.0062 J	-	0.0053 J	-	-	0.0084 J	-
Potassium	mg/L	4.4 J	-	4.9 J	-	-	1.1 J	-
Potassium (Dissolved)	mg/L	4.3 J	-	5.4	5.1	4.7 J	1.2 J	-
Sodium	mg/L	105	-	107	-	-	48.5	-
Sodium (Dissolved)	mg/L	103	-	112	-	-	48.8	-
<b>General Chemistry</b>								
Chloride	mg/L	29.3	-	30.9	-	-	101	107
Cyanide (total)	mg/L	0.010 U	-	0.010 U	-	-	0.010 U	-
Sulfate	mg/L	284	-	225	-	-	660	716
Total Dissolved Solids (TDS)	mg/L	-	-	790	-	-	-	-
Total Suspended Solids (TSS)	mg/L	-	-	3.0 J	-	-	-	-

## Notes:

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.

TABLE 6.2

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO

Sample Location:		P-02T	P-02T	P-08R	P-08R	P-08R	P-08R	P-08R
Sample ID:		WG-12616-080908-DN-07	WG-12616-092308-DN-05	WG-12616-020608-DN-02	WG-12616-040108-DN-01	WG-12616-080808-DN-03	WG-12616-080808-DN-04	WG-12616-092208-DN-01
Sample Date:		8/9/2008	9/23/2008	2/6/2008	4/1/2008	8/8/2008	8/8/2008 (Duplicate)	9/22/2008
Parameters:	Units							
<i>Metals</i>								
Barium	mg/L	0.021 J	-	0.082 J	-	0.084 J	0.083 J	-
Barium (Dissolved)	mg/L	0.021 J	-	0.088 J	0.088 J	0.083 J	0.083 J	0.087 J
Calcium	mg/L	244	-	89.8	-	91.8	90.6	-
Calcium (Dissolved)	mg/L	236	224	96.5	-	91.2	92.3	-
Chromium Total	mg/L	0.010 U	-	0.010 U	-	0.010 U	0.010 U	-
Chromium Total (Dissolved)	mg/L	0.010 U	-	0.010 U	-	0.010 U	0.010 U	-
Copper	mg/L	0.025 U	-	-	-	0.025 U	0.025 U	-
Copper (Dissolved)	mg/L	0.025 U	-	-	-	0.025 U	0.025 U	-
Iron	mg/L	0.36	-	0.16	-	0.13	0.10	-
Iron (Dissolved)	mg/L	0.28	-	0.13	-	0.13	0.11	-
Magnesium	mg/L	101	-	19.6	-	19.4	19.1	-
Magnesium (Dissolved)	mg/L	98.6	90.7	21.1	-	19.2	19.5	-
Manganese	mg/L	0.42	-	0.044	-	0.042	0.041	-
Manganese (Dissolved)	mg/L	0.39	-	0.046	-	0.041	0.043	-
Nickel	mg/L	0.0086 J	-	0.0094 J	-	0.010 J	0.0089 J	-
Nickel (Dissolved)	mg/L	0.012 J	-	0.011 J	-	0.010 J	0.012 J	-
Potassium	mg/L	1.4 J	-	3.3 J	-	4.2 J	4.1 J	-
Potassium (Dissolved)	mg/L	1.4 J	-	3.7 J	-	4.3 J	4.0 J	-
Sodium	mg/L	46.5	-	174	-	180	177	-
Sodium (Dissolved)	mg/L	45.4	-	183	191	179	174	176
<i>General Chemistry</i>								
Chloride	mg/L	101	123	162	175	169	170	174
Cyanide (total)	mg/L	0.010 U	-	0.010 U	-	0.010 U	0.010 U	-
Sulfate	mg/L	679	680	43.8	-	34.3	35.9	-
Total Dissolved Solids (TDS)	mg/L	1400	-	-	-	820	800	-
Total Suspended Solids (TSS)	mg/L	3.0 J	-	-	-	4.0 U	4.0 U	-

## Notes:

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.

**TABLE 6.2**  
**SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008**  
**CLOSED LANDFILL**  
**ELYRIA, OHIO**

<i>Sample Location:</i>		<i>P-08T</i>	<i>P-08T</i>	<i>P-08T</i>	<i>P-08T</i>	<i>P-12</i>	<i>P-12</i>
<i>Sample ID:</i>		WG-12616-020608-DN-01	WG-12616-040108-DN-02	WG-12616-080808-DN-05	WG-12616-092208-DN-02	WG-12616-020708-DN-09	WG-12616-080908-DN-12
<i>Sample Date:</i>		2/6/2008	4/1/2008	8/8/2008	9/22/2008	2/7/2008	8/9/2008
<i>Parameters:</i>	<i>Units</i>						
<b>Metals</b>							
Barium	mg/L	0.037 J	-	0.054 J	-	0.030 J	0.024 J
Barium (Dissolved)	mg/L	0.039 J	-	0.057 J	-	0.033 J	0.029 J
Calcium	mg/L	74.8	-	121	-	61.0	51.8
Calcium (Dissolved)	mg/L	76.1	-	127	-	66.9	58.3
Chromium Total	mg/L	0.010 U	-	0.010 U	-	0.010 U	0.010 U
Chromium Total (Dissolved)	mg/L	0.010 U	-	0.010 U	-	0.010 U	0.010 U
Copper	mg/L	-	-	0.025 U	-	-	0.025 U
Copper (Dissolved)	mg/L	-	-	0.025 U	-	-	0.025 U
Iron	mg/L	0.12	-	0.16	-	0.086 J	0.37
Iron (Dissolved)	mg/L	0.10 U	-	0.12	-	0.099 J	0.36
Magnesium	mg/L	36.1	-	38.3	-	16.1	13.6
Magnesium (Dissolved)	mg/L	34.9	-	39.9	-	17.7	15.2
Manganese	mg/L	0.035	-	0.24	-	0.021 J	0.20
Manganese (Dissolved)	mg/L	0.024	-	0.24	-	0.041 J	0.17
Nickel	mg/L	0.0033 J	-	0.031 J	-	0.040 U	0.040 U
Nickel (Dissolved)	mg/L	0.040 U	-	0.034 J	-	0.040 U	0.040 U
Potassium	mg/L	8.5	-	11.0	-	3.8 J	4.9 J
Potassium (Dissolved)	mg/L	8.5	9.8	11.9	14.5	3.6 J	4.6 J
Sodium	mg/L	10.4 J	-	63.9	-	115	126
Sodium (Dissolved)	mg/L	19.0 J	-	67.2	31.0	104	115
<b>General Chemistry</b>							
Chloride	mg/L	15.4	-	57.3	-	19.4	19.1
Cyanide (total)	mg/L	0.010 U	-	0.010 U	-	0.010 U	0.010 U
Sulfate	mg/L	126	-	160	-	85.3	79.0
Total Dissolved Solids (TDS)	mg/L	-	-	740	-	-	540
Total Suspended Solids (TSS)	mg/L	-	-	4.0 U	-	-	4.0 U

**Notes:**

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.

**TABLE 6.2**  
**SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008**  
**CLOSED LANDFILL**  
**ELYRIA, OHIO**

<i>Sample Location:</i>		<i>P-12TR</i>	<i>P-12TR</i>	<i>P-13</i>	<i>P-13</i>	<i>P-13</i>	<i>P-13</i>
<i>Sample ID:</i>		<i>WG-12616-020708-DN-10</i>	<i>WG-12616-080908-DN-13</i>	<i>WG-12616-020708-DN-07</i>	<i>WG-12616-040208-DN-08</i>	<i>WG-12616-080908-DN-08</i>	<i>WG-12616-092308-DN-08</i>
<i>Sample Date:</i>		<i>2/7/2008</i>	<i>8/9/2008</i>	<i>2/7/2008</i>	<i>4/2/2008</i>	<i>8/9/2008</i>	<i>9/23/2008</i>
<i>Parameters:</i>	<i>Units</i>						
<b>Metals</b>							
Barium	mg/L	0.067 J	0.072 J	0.021 J	-	0.019 J	-
Barium (Dissolved)	mg/L	0.064 J	0.072 J	0.018 J	-	0.018 J	-
Calcium	mg/L	134	127	157	-	146	-
Calcium (Dissolved)	mg/L	125	126	149	149	142	142
Chromium Total	mg/L	0.010 U	0.010 U	0.010 U	-	0.010 U	-
Chromium Total (Dissolved)	mg/L	0.010 U	0.010 U	0.010 U	-	0.010 U	-
Copper	mg/L	-	0.025 U	-	-	0.025 U	-
Copper (Dissolved)	mg/L	-	0.025 U	-	-	0.025 U	-
Iron	mg/L	0.59	0.13	3.3	-	1.4	-
Iron (Dissolved)	mg/L	0.26	0.11	1.5	-	1.3	-
Magnesium	mg/L	35.4	32.8	31.6	-	28.8	-
Magnesium (Dissolved)	mg/L	32.6	34.0	30.9	-	27.8	-
Manganese	mg/L	0.030	0.11	0.24	-	0.22	-
Manganese (Dissolved)	mg/L	0.024	0.082	0.22	-	0.20	-
Nickel	mg/L	0.0036 J	0.040 U	0.046	-	0.040	-
Nickel (Dissolved)	mg/L	0.040 U	0.0035 J	0.042	0.044	0.039 J	-
Potassium	mg/L	2.1 J	2.9 J	2.2 J	-	3.0 J	-
Potassium (Dissolved)	mg/L	2.1 J	3.0 J	2.5 J	-	3.0 J	-
Sodium	mg/L	50.4	48.7	41.1	-	38.0	-
Sodium (Dissolved)	mg/L	51.3	52.5	38.3	-	36.9	-
<b>General Chemistry</b>							
Chloride	mg/L	10.5	9.9	23.4	-	23.3	-
Cyanide (total)	mg/L	0.010 U	0.010 U	0.010 U	-	0.010 U	-
Sulfate	mg/L	151	110	126	-	117	-
Total Dissolved Solids (TDS)	mg/L	-	610	-	-	680	-
Total Suspended Solids (TSS)	mg/L	-	4.0 U	-	-	3.0 J	-

## Notes:

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.

TABLE 6.2

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO

Sample Location:		P-13T	P-13T	P-13T	P-13T	P-13T	P-14
Sample ID:		WG-12616-020708-DN-08	WG-12616-040208-DN-07	WG-12616-040208-DN-09	WG-12616-080908-DN-09	WG-12616-092308-DN-09	WG-12616-020708-DN-11
Sample Date:		2/7/2008	4/2/2008	4/2/2008 (Duplicate)	8/9/2008	9/23/2008	2/7/2008
Parameters:	Units						
<b>Metals</b>							
Barium	mg/L	0.035 J	-	-	0.033 J	-	0.067 J
Barium (Dissolved)	mg/L	0.024 J	-	-	0.018 J	-	0.058 J
Calcium	mg/L	142	-	-	181	-	118
Calcium (Dissolved)	mg/L	169	173	172	143	-	117
Chromium Total	mg/L	0.012	-	-	0.0032 J	-	0.010 U
Chromium Total (Dissolved)	mg/L	0.010 U	-	-	0.010 U	-	0.010 U
Copper	mg/L	-	-	-	0.025 U	-	-
Copper (Dissolved)	mg/L	-	-	-	0.025 U	-	-
Iron	mg/L	4.7	-	-	5.5	-	7.4
Iron (Dissolved)	mg/L	0.53	-	-	1.3	1.5	1.7
Magnesium	mg/L	45.3	-	-	54.0	-	26.6
Magnesium (Dissolved)	mg/L	48.7	55.8	55.4	28.0	-	26.5
Manganese	mg/L	0.28	-	-	0.82	-	0.14
Manganese (Dissolved)	mg/L	0.22	-	-	0.20	-	0.14
Nickel	mg/L	0.028 J	-	-	0.029 J	-	0.040 U
Nickel (Dissolved)	mg/L	0.034 J	-	-	0.040	-	0.040 U
Potassium	mg/L	9.1	-	-	14.1	-	1.2 J
Potassium (Dissolved)	mg/L	8.2	11.9	11.9	2.9 J	-	1.2 J
Sodium	mg/L	23.2 J	-	-	30.3	-	8.2
Sodium (Dissolved)	mg/L	32.6 J	-	-	36.8	-	7.9
<b>General Chemistry</b>							
Chloride	mg/L	18.7	-	-	22.8	-	7.9
Cyanide (total)	mg/L	0.010 U	-	-	0.010 U	-	0.076
Sulfate	mg/L	377	379	377	215	-	65.7
Total Dissolved Solids (TDS)	mg/L	-	-	-	750	-	-
Total Suspended Solids (TSS)	mg/L	-	-	-	530	-	-

## Notes:

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.

TABLE 6.2

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO

Sample Location:		P-14	P-14T	P-14T	P-14T	P-16	P-16
Sample ID:		WG-12616-080908-DN-10	WG-12616-020708-DN-12	WG-12616-020708-DN-13	WG-12616-080908-DN-11	WG-12616-020608-DN-03	WG-12616-040108-DN-03
Sample Date:		8/9/2008	2/7/2008	2/7/2008 (Duplicate)	8/9/2008	2/6/2008	4/1/2008
Parameters:	Units						
<b>Metals</b>							
Barium	mg/L	0.064 J	0.027 J	0.026 J	0.025 J	0.049 J	-
Barium (Dissolved)	mg/L	0.063 J	0.022 J	0.023 J	0.020 J	0.047 J	-
Calcium	mg/L	117	115	117	113	224	-
Calcium (Dissolved)	mg/L	118	114	118	108	229	226
Chromium Total	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	-
Chromium Total (Dissolved)	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	-
Copper	mg/L	0.025 U	-	-	0.025 U	-	-
Copper (Dissolved)	mg/L	0.025 U	-	-	0.025 U	-	-
Iron	mg/L	4.1	0.16	0.098 J	0.23	4.7	-
Iron (Dissolved)	mg/L	1.8	0.10 U	0.10 U	0.10 U	0.99	-
Magnesium	mg/L	26.3	22.4	23.2	22.2	71.1	-
Magnesium (Dissolved)	mg/L	26.8	22.9	23.8	20.9	72.9	73.4
Manganese	mg/L	0.15	1.1	0.83	1.5	0.22	-
Manganese (Dissolved)	mg/L	0.15	0.10	0.13	0.54	0.21	-
Nickel	mg/L	0.040 U	0.040 U	0.040 U	0.040 U	0.13	-
Nickel (Dissolved)	mg/L	0.040 U	0.040 U	0.040 U	0.040 U	0.14	0.11
Potassium	mg/L	1.5 J	1.0 J	1.0 J	1.5 J	2.0 J	-
Potassium (Dissolved)	mg/L	1.5 J	1.1 J	1.0 J	1.6 J	2.2 J	-
Sodium	mg/L	9.1	15.4	14.8	13.9	65.1	-
Sodium (Dissolved)	mg/L	9.5	14.1	15.1	15.4	67.3	-
<b>General Chemistry</b>							
Chloride	mg/L	6.0	3.0	3.1	3.0	60.6	53.7
Cyanide (total)	mg/L	0.010 U	0.010 UJ	0.089 J	0.010 U	0.010 U	-
Sulfate	mg/L	64.5	47.1	47.4	47.1	548	604
Total Dissolved Solids (TDS)	mg/L	480	-	-	440	-	-
Total Suspended Solids (TSS)	mg/L	5.0	-	-	6.0	-	-

## Notes:

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.

**TABLE 6.2**  
**SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES - 2008**  
**CLOSED LANDFILL**  
**ELYRIA, OHIO**

<i>Sample Location:</i>		<i>P-16</i>	<i>P-16</i>	<i>P-16T</i>	<i>P-16T</i>	<i>P-16T</i>	<i>P-16T</i>
<i>Sample ID:</i>		<i>WG-12616-080808-DN-01</i>	<i>WG-12616-092208-DN-04</i>	<i>WG-12616-020608-DN-04</i>	<i>WG-12616-040108-DN-04</i>	<i>WG-12616-080808-DN-02</i>	<i>WG-12616-092208-DN-03</i>
<i>Sample Date:</i>		<i>8/8/2008</i>	<i>9/22/2008</i>	<i>2/6/2008</i>	<i>4/1/2008</i>	<i>8/8/2008</i>	<i>9/22/2008</i>
<i>Parameters:</i>	<i>Units</i>						
<i>Metals</i>							
Barium	mg/L	0.047 J	-	0.022 J	-	0.022 J	-
Barium (Dissolved)	mg/L	0.045 J	-	0.022 J	-	0.021 J	-
Calcium	mg/L	230	-	229	-	228	-
Calcium (Dissolved)	mg/L	218	212	226	233	221	213
Chromium Total	mg/L	0.010 U	-	0.010 U	-	0.010 U	-
Chromium Total (Dissolved)	mg/L	0.010 U	-	0.0044 J	-	0.010 U	-
Copper	mg/L	0.025 U	-	-	-	0.025 U	-
Copper (Dissolved)	mg/L	0.025 U	-	-	-	0.025 U	-
Iron	mg/L	4.7	-	0.10 U	-	0.10 U	-
Iron (Dissolved)	mg/L	2.9	-	0.10 U	-	0.10 U	-
Magnesium	mg/L	71.6	-	66.3	-	65.1	-
Magnesium (Dissolved)	mg/L	67.5	64.8	65.7	68.9	63.0	61.9
Manganese	mg/L	0.25	-	0.0089 J	-	0.0050 J	-
Manganese (Dissolved)	mg/L	0.22	-	0.0012 J	-	0.00051 J	-
Nickel	mg/L	0.15	-	0.023 J	-	0.020 J	-
Nickel (Dissolved)	mg/L	0.16	0.19	0.025 J	-	0.020 J	-
Potassium	mg/L	2.6 J	-	1.4 J	-	1.9 J	-
Potassium (Dissolved)	mg/L	2.7 J	-	1.6 J	-	2.0 J	-
Sodium	mg/L	60.6	-	63.7	-	42.8	-
Sodium (Dissolved)	mg/L	61.2	-	65.2	60.1	42.7	-
<i>General Chemistry</i>							
Chloride	mg/L	66.0	92.3	19.5	-	16.8	-
Cyanide (total)	mg/L	0.010 U	-	0.005 J	-	0.010 U	-
Sulfate	mg/L	512	515	641	684	573	592
Total Dissolved Solids (TDS)	mg/L	1300	-	-	-	1200	-
Total Suspended Solids (TSS)	mg/L	10	-	-	-	4.0 U	-

**Notes:**

- J - Estimated concentration.
- U - Not present at or above the associated value.
- UJ - Estimated reporting limit.
- Not analyzed.



TABLE 6.3

SUMMARY OF ANALYTICAL RESULTS FOR PRIMARY SUMP LIQUID SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO

Sample Location:		Northeast Primary Sump	Northeast Primary Sump	Northwest Primary Sump	Northwest Primary Sump	Southeast Primary Sump
Sample ID:		WG-12616-020808-DN-15	WG-12616-080908-DN-15	WG-12616-020708-DN-14	WG-12616-080908-DN-14	WG-12616-020808-DN-16
Sample Date:		2/8/2008	8/9/2008	2/7/2008	8/9/2008	2/8/2008
Parameters:	Units					
<i>Metals</i>						
Barium	mg/L	0.016 J	0.019 J	0.023 J	0.030 J	0.016 J
Barium (Dissolved)	mg/L	0.016 J	0.018 J	0.022 J	0.028 J	0.014 J
Calcium	mg/L	65.3	69.1	95.5	106	34.5
Calcium (Dissolved)	mg/L	67.1	66.7	91.1	101	39.8
Chromium Total	mg/L	0.010 U	0.010 U	0.0040 J	0.0080 J	0.010 U
Chromium Total (Dissolved)	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Copper	mg/L	-	0.0097 J	-	0.0071 J	-
Copper (Dissolved)	mg/L	-	0.025 U	-	0.025 U	-
Iron	mg/L	0.10 U	0.10 U	0.27	0.39	1.3
Iron (Dissolved)	mg/L	0.10 U	0.10 U	0.12	0.13	0.084 J
Magnesium	mg/L	8.1	4.4 J	22.7	18.7	7.0
Magnesium (Dissolved)	mg/L	8.3	4.2 J	21.6	17.8	7.9
Manganese	mg/L	0.023	0.016	0.063	0.084	0.013 J
Manganese (Dissolved)	mg/L	0.023	0.015	0.059	0.076	0.0047 J
Nickel	mg/L	0.64	0.83	0.26	0.49	0.020 J
Nickel (Dissolved)	mg/L	0.66	0.83	0.24	0.47	0.021 J
Potassium	mg/L	1300	1420	557	816	45.4
Potassium (Dissolved)	mg/L	1300	1380	593	789	52.1
Sodium	mg/L	183	236	81.4	149	5.9
Sodium (Dissolved)	mg/L	188	229	78.0	144	7.5
<i>General Chemistry</i>						
Chloride	mg/L	400	451	156	269	12.0
Cyanide (total)	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.042
Sulfate	mg/L	1920	2390	921	1560	96.8
Total Dissolved Solids (TDS)	mg/L	-	4200	-	2600	-
Total Suspended Solids (TSS)	mg/L	-	4.0 U	-	4.0 U	-

## Notes:

- J - Estimated concentration.
- U - Not present at or above the associated value.
- Not analyzed.

TABLE 6.3

**SUMMARY OF ANALYTICAL RESULTS FOR PRIMARY SUMP LIQUID SAMPLES - 2008**  
**CLOSED LANDFILL**  
**ELYRIA, OHIO**

<i>Sample Location:</i>		<i>Southeast Primary Sump</i>	<i>Southwest Primary Sump</i>	<i>Southwest Primary Sump</i>
<i>Sample ID:</i>		<i>WG-12616-081008-DN-16</i>	<i>WG-12616-020808-DN-17</i>	<i>WG-12616-081008-DN-17</i>
<i>Sample Date:</i>		<i>8/10/2008</i>	<i>2/8/2008</i>	<i>8/10/2008</i>
<i>Parameters:</i>	<i>Units</i>			
<i>Metals</i>				
Barium	mg/L	0.036 J	0.016 J	0.093 J
Barium (Dissolved)	mg/L	0.034 J	0.015 J	0.028 J
Calcium	mg/L	77.4	47.8	189
Calcium (Dissolved)	mg/L	72.9	56.9	162
Chromium Total	mg/L	0.0022 J	0.010 U	1.1
Chromium Total (Dissolved)	mg/L	0.010 U	0.010 U	0.010 U
Copper	mg/L	0.015 J	-	6.6
Copper (Dissolved)	mg/L	0.025 U	-	0.0046 J
Iron	mg/L	0.21	1.3	38.7
Iron (Dissolved)	mg/L	0.10 U	0.088 J	0.10 U
Magnesium	mg/L	16.3	7.0	14.7
Magnesium (Dissolved)	mg/L	15.1	8.1	10.7
Manganese	mg/L	0.058	0.034	0.35
Manganese (Dissolved)	mg/L	0.052	0.020	0.050
Nickel	mg/L	0.57	0.11	0.89
Nickel (Dissolved)	mg/L	0.56	0.13	0.61
Potassium	mg/L	1780	162	524 J
Potassium (Dissolved)	mg/L	1760	191	794 J
Sodium	mg/L	155	29.5	153 J
Sodium (Dissolved)	mg/L	151	35.4	191 J
<i>General Chemistry</i>				
Chloride	mg/L	307	54.3	320
Cyanide (total)	mg/L	0.010 U	0.010 U	0.006 J
Sulfate	mg/L	1740	397	1850
Total Dissolved Solids (TDS)	mg/L	2900	-	3100
Total Suspended Solids (TSS)	mg/L	4.0 U	-	19

## Notes:

J - Estimated concentration.

U - Not present at or above the associated value

-- Not analyzed.

TABLE 6.4

SUMMARY OF ANALYTICAL RESULTS FOR SECONDARY SUMP LIQUID SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO

Sample Location:	Northeast Secondary Sump		Northeast Secondary Sump		Northeast Secondary Sump		Northwest Secondary Sump		Northwest Secondary Sump	
Sample ID:	WG-12616-020808-DN-19		WG-12616-050808-DN-03		WG-12616-081008-DN-19		WG-12616-020808-DN-18		WG-12616-050808-DN-01	
Sample Date:	2/8/2008		5/8/2008		8/10/2008		2/8/2008		5/8/2008	
Parameters:	Units									
<i>Metals</i>										
Barium	mg/L	0.033 J		0.039 J		0.047 J		0.10 J		0.096 J
Barium (Dissolved)	mg/L	0.035 J		0.037 J		0.046 J		0.10 J		0.095 J
Calcium	mg/L	338		357		368		211		212
Calcium (Dissolved)	mg/L	363		361		370		213		208
Chromium Total	mg/L	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U
Chromium Total (Dissolved)	mg/L	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U
Copper	mg/L	-		-		0.025 U		-		-
Copper (Dissolved)	mg/L	-		-		0.025 U		-		-
Iron	mg/L	0.28		0.23		14.6 J		0.57		3.7 J
Iron (Dissolved)	mg/L	0.27		0.25		21.5 J		0.52		4.2
Magnesium	mg/L	81.2		83.9		88.8		38.3		38.5
Magnesium (Dissolved)	mg/L	87.7		85.1		89.4		38.9		37.9
Manganese	mg/L	3.8		3.8		3.8		0.97		1.1
Manganese (Dissolved)	mg/L	4.1		3.9		4.0		1.0		1.1
Nickel	mg/L	0.86		0.98		0.94		0.52		0.53
Nickel (Dissolved)	mg/L	0.93		0.99		0.94		0.52		0.51
Potassium	mg/L	508		447		402		556		430
Potassium (Dissolved)	mg/L	559		444		403		557		424
Sodium	mg/L	141		148		155		114		103
Sodium (Dissolved)	mg/L	152		149		155		116		101
<i>General Chemistry</i>										
Chloride	mg/L	284		250		274		208		172
Cyanide (total)	mg/L	0.010 U		0.01		0.010 U		0.010 U		0.010 U
Sulfate	mg/L	1440		1300		1440		1150		936
Total Dissolved Solids (TDS)	mg/L	-		-		3300		-		-
Total Suspended Solids (TSS)	mg/L	-		-		6.0		-		-

## Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

-- Not analyzed.

TABLE 6.4

**SUMMARY OF ANALYTICAL RESULTS FOR SECONDARY SUMP LIQUID SAMPLES - 2008  
CLOSED LANDFILL  
ELYRIA, OHIO**

<i>Sample Location:</i>		<i>Northwest Secondary Sump</i>	<i>Northwest Secondary Sump</i>	<i>Southeast Secondary Sump</i>	<i>Southeast Secondary Sump</i>	<i>Southeast Secondary Sump</i>
<i>Sample ID:</i>		WG-12616-050808-DN-02	WG-12616-081008-DN-18	WG-12616-020808-DN-20	WG-12616-050808-DN-04	WG-12616-081008-DN-20
<i>Sample Date:</i>		5/8/2008 (Duplicate)	8/10/2008	2/8/2008	5/8/2008	8/10/2008
<i>Parameters:</i>	<i>Units</i>					
<i>Metals</i>						
Barium	mg/L	0.090 J	0.075 J	0.039 J	0.044 J	0.037 J
Barium (Dissolved)	mg/L	0.097 J	0.077 J	0.040 J	0.045 J	0.041 J
Calcium	mg/L	202	196	193	214	192
Calcium (Dissolved)	mg/L	213	189	204	216	205
Chromium Total	mg/L	0.010 U	0.010 U	0.0086 J	0.0090 J	0.0077 J
Chromium Total (Dissolved)	mg/L	0.010 U	0.010 U	0.0097 J	0.0088 J	0.010
Copper	mg/L	-	0.12	-	-	0.022 J
Copper (Dissolved)	mg/L	-	0.068	-	-	0.025 U
Iron	mg/L	1.3 J	0.38 J	0.10 U	0.15	0.67
Iron (Dissolved)	mg/L	4.1 J	0.78 J	0.10	0.090 J	0.62
Magnesium	mg/L	36.9	36.2	50.2	54.9	51.4
Magnesium (Dissolved)	mg/L	38.8	34.8	53.2	56.3	54.4
Manganese	mg/L	0.99	0.10 J	1.4	1.4	1.2
Manganese (Dissolved)	mg/L	1.1	0.79 J	1.6	1.6	1.4
Nickel	mg/L	0.51	0.44	0.64	0.77	0.65
Nickel (Dissolved)	mg/L	0.53	0.42	0.68	0.81	0.71
Potassium	mg/L	413	376	565	490	404
Potassium (Dissolved)	mg/L	432	360	595	491	423 J
Sodium	mg/L	98.8	99.1	101	112	107
Sodium (Dissolved)	mg/L	103	94.5	108	114	112
<i>General Chemistry</i>						
Chloride	mg/L	171	162	180	191	208
Cyanide (total)	mg/L	0.010 U	0.010 U	0.010 U	0.006 J	0.010 U
Sulfate	mg/L	931	954	967	948	1030
Total Dissolved Solids (TDS)	mg/L	-	1900	-	-	2500
Total Suspended Solids (TSS)	mg/L	-	4.0 U	-	-	4.0 U

## Notes:

J - Estimated concentration.

U - Not present at or above the associated v

-- Not analyzed.

TABLE 6.4

**SUMMARY OF ANALYTICAL RESULTS FOR SECONDARY SUMP LIQUID SAMPLES - 2008**  
**CLOSED LANDFILL**  
**ELYRIA, OHIO**

<i>Sample Location:</i>		<i>Southwest Secondary Sump</i>	<i>Southwest Secondary Sump</i>	<i>Southwest Secondary Sump</i>
<i>Sample ID:</i>		<i>WG-12616-020808-DN-21</i>	<i>WG-12616-050808-DN-05</i>	<i>WG-12616-081008-DN-21</i>
<i>Sample Date:</i>		<i>2/8/2008</i>	<i>5/8/2008</i>	<i>8/10/2008</i>
<i>Parameters:</i>	<i>Units</i>			
<i>Metals</i>				
Barium	mg/L	0.062 J	0.064 J	0.061 J
Barium (Dissolved)	mg/L	0.064 J	0.069 J	0.061 J
Calcium	mg/L	328	333	320
Calcium (Dissolved)	mg/L	341	359	306
Chromium Total	mg/L	0.010 U	0.010 U	0.010 U
Chromium Total (Dissolved)	mg/L	0.010 U	0.010 U	0.010 U
Copper	mg/L	-	-	0.11
Copper (Dissolved)	mg/L	-	-	0.017 J
Iron	mg/L	0.15	0.10 U	0.16 J
Iron (Dissolved)	mg/L	0.17	0.14	2.6 J
Magnesium	mg/L	81.8	81.3	79.5
Magnesium (Dissolved)	mg/L	83.7	86.9	74.3
Manganese	mg/L	7.4	7.1	6.7
Manganese (Dissolved)	mg/L	8.1	8.3	7.2
Nickel	mg/L	0.55	0.61	0.53
Nickel (Dissolved)	mg/L	0.55	0.65	0.50
Potassium	mg/L	310	284	260
Potassium (Dissolved)	mg/L	308	297	243
Sodium	mg/L	103	104	102
Sodium (Dissolved)	mg/L	104	110	94.7
<i>General Chemistry</i>				
Chloride	mg/L	167	158	154
Cyanide (total)	mg/L	0.010 U	0.010 U	0.010 U
Sulfate	mg/L	1340	1220	1320
Total Dissolved Solids (TDS)	mg/L	-	-	2600
Total Suspended Solids (TSS)	mg/L	-	-	4.0 U

## Notes:

J - Estimated concentration.

U - Not present at or above the associated v

-- Not analyzed.



TABLE 7.1

**LOCATIONS AND PARAMETERS WITH POTENTIAL  
EXCEEDANCES OF SITE UPPER TOLERANCE LIMITS  
APRIL 2008 RE-SAMPLING DATA  
CLOSED LANDFILL  
ELYRIA, OHIO**

<i>Location</i>	<i>Parameter</i>
<i>A) Bedrock Wells</i>	
P-02	Magnesium (Dissolved)
P-08R	Barium (Dissolved)
P-08R	Chloride
P-08R	Sodium (Dissolved)
P-13	Calcium (Dissolved)
P-13	Nickel (Dissolved)
P-16	Calcium (Dissolved)
P-16	Chloride
P-16	Magnesium (Dissolved)
P-16	Nickel (Dissolved)
P-16	Sulfate
<i>B) Till Contact Wells</i>	
P-02T	Calcium (Dissolved)
P-02T	Chloride
P-02T	Magnesium (Dissolved)
P-02T	Sulfate
P-08T	Potassium (Dissolved)
P-13T	Calcium (Dissolved)
P-13T	Magnesium (Dissolved)
P-13T	Potassium (Dissolved)
P-13T	Sulfate
P-16T	Calcium (Dissolved)
P-16T	Magnesium (Dissolved)
P-16T	Sodium (Dissolved)
P-16T	Sulfate



APPENDIX A

2008 SUPPLEMENTAL ANNUAL REPORT FORM



**2008 FINAL STANDARDS  
SUPPLEMENTARY ANNUAL REPORT FORM  
GROUNDWATER MONITORING INFORMATION**

The Ohio EPA form "Supplementary Annual Report for 2008 Final Standards Ground Water Monitoring Information" is completed electronically and is provided on a CD accompanying this Appendix A.

See the attached disk for the following sections:

Section 1	Facility.dbf
Section 2	Well.dbf
Section 3	Sampling.dbf
Section 4	Parameter.dbf
Section 5	Groundwater Data.dbf
Section 6	Other Required Information The information for Section 6 is provided in the text of the report.
Section 7	Statistical Evaluations The information for Section 7 is provided in the text of the report.
Section 8	Assessment Monitoring The information for Section 8 is provided in the text of the report.



APPENDIX A-1

FACILITY



FACILITY.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

NAME	FCID	ADDR1	ADDR2	CITY	STATE	ZIP	PHONE	CONTACT	SECTION	TWNSHIP
REALM	OHD004201091	1400 Lowell Street		Elyria	Ohio	44035	419-609-1339	Doug Wagner		

FACILITY.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

RANGE	LATTITUDE	LONGITUDE	GEOG_METHOD	NUM_WELLS	COUNTY_NAME	FIPS_CO	FIPS_ST
	412219 740	820806 840	S		55 Lorain		

APPENDIX A-2

WELL



WELL.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	DATUM	DEPTH	TOP_CAS_EL	TOP_SCR_EL	BOT_SCR_EL	GRAD_POSTN	CAS_MATERL	PIPE_DIA
OHD004201091	NORTHEAST_SUMP	MSL	18.4'	760.21			O		
OHD004201091	NORTHEAST_SUMP2	MSL	19.7'	756.7			O		
OHD004201091	NORTHWEST_SUMP	MSL	17.48'	760.36			O		
OHD004201091	NORTHWEST_SUMP2	MSL	16.8'	756.8			O		
OHD004201091	P-01	MSL	21.97'	749.57	15	20	U	PVC	2"
OHD004201091	P-01T	MSL	12.7'	750.44	5	10	U	PVC	2"
OHD004201091	P-02	MSL	22.54'	748.87	17	22	U	PVC	2"
OHD004201091	P-02T	MSL	15.14'	749.8	8.5	13.5	U	PVC	2"
OHD004201091	P-03R	MSL	21.4'	748.87	14	19	U	PVC	2"
OHD004201091	P-03T	MSL	12.66'	748.77	5	10	U	PVC	2"
OHD004201091	P-08R	MSL	22.41'	751.09	15	20	U	PVC	2"
OHD004201091	P-08T	MSL	12.4'	751.13	5	10	U	PVC	2"
OHD004201091	P-11	MSL	15.13'	749.52	8	13	U	PVC	2"
OHD004201091	P-12	MSL	22.45'	751.83	15	20	U	PVC	2"
OHD004201091	P-12TR	MSL	13.94'	752.22	6.5	11.5	U	PVC	2"
OHD004201091	P-13	MSL	19.4'	750.94	12	17	U	PVC	2"
OHD004201091	P-13T	MSL	10.53'	750.83	3	8	U	PVC	2"
OHD004201091	P-14	MSL	22.15'	751.64	15	20	U	PVC	2"
OHD004201091	P-14T	MSL	14.3'	751.68	7	12	U	PVC	2"
OHD004201091	P-15	MSL	24.11'	753.73	17	22	U	PVC	2"
OHD004201091	P-15T	MSL	15.88'	753.59	8.5	13.5	U	PVC	2"
OHD004201091	P-16	MSL	20.22'	747.62	13	18	U	PVC	2"
OHD004201091	P-16T	MSL	12.05'	747.4	5	10	U	PVC	2"
OHD004201091	P-17	MSL	25.2'	754.96	17	22	U	PVC	2"
OHD004201091	P-18	MSL	31.11'	751.35	23.2	28.2	U	PVC	2"
OHD004201091	P-19	MSL	20.98'	750.24	12.8	17.8	U	PVC	2"
OHD004201091	P-20	MSL	20.68'	748.94	13	18	U	PVC	2"
OHD004201091	P-21	MSL	23.9'	751.35	16	21	U	PVC	2"
OHD004201091	SOUTHEAST_SUMP	MSL	16.42'	760.34			O		
OHD004201091	SOUTHEAST_SUMP2	MSL	13.1'	757.1			O		
OHD004201091	SOUTHWEST_SUMP	MSL	16.29'	760.26			O		
OHD004201091	SOUTHWEST_SUMP2	MSL	17.4'	758.4			O		

WELL.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

WELL_ID	COMMENT	SURFACE_EL	LATTITUDE	LONGITUDE	X_VAR	Y_VAR
NORTHEAST_SUMP			820802 863	412211 321		
NORTHEAST_SUMP2	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls		820802 864	412211 966		
NORTHWEST_SUMP			820805 561	412211 310		
NORTHWEST_SUMP2	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls		820805 533	412211 988		
P-01	Piez. Only	748.47	820800 161	412214 120		
P-01T	Piez. Only	748	820800 126	412214 209		
P-02	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	747.12	820800 180	412209 566		
P-02T	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	747.54	820800 212	412209 696		
P-03R		746.45	820800 097	412207 715		
P-03T		746.56	820800 046	412207 587		
P-08R	New well	748.58	820804 654	412212 620		
P-08T		748	820804 381	412212 638		
P-11	Piez. Only	747	820800 176	412211 080		
P-12		750	820808 211	412210 280		
P-12TR	New well	749.83	820808 151	412210 074		
P-13		748.52	820804 269	412206 840		
P-13T		748.6	820804 090	412206 835		
P-14	New well	749.28	820808 577	412212 025		
P-14T	New well	749.37	820808 586	412212 191		
P-15		751.31	820807 966	412208 046		
P-15T		751.24	820807 898	412208 067		
P-16	New well	745.03	820759 937	412211 993		
P-16T	New well	745.01	820759 966	412212 038		
P-17	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	752.16	820809 077	412208 917		
P-18	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	748.47	820803 807	412208 209		
P-19	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	747.59	820801 426	412206 522		
P-20	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	745.98	820758 891	412210 565		
P-21	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls	748.4	820802 958	412212 281		
SOUTHEAST_SUMP			820802 830	412209 451		
SOUTHEAST_SUMP2	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls		820802 815	412208 800		
SOUTHWEST_SUMP			820805 575	412209 427		
SOUTHWEST_SUMP2	~20030911_Well Comp Details Aug 5 2003-Draft P&C.xls		820805 580	412208 810		

**WELL.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO**

WELL_ID	GEOG_METHOD	ELEV_METHOD	WELL_USE	WELL_LOG_T	DATE_INSTL	DPTH_INSTL	GWL_INSTL	DATA_QA_W
NORTHEAST_SUMP	S		8C	D	1/1/1998			
NORTHEAST_SUMP2	S		8C	D	1/1/1998			
NORTHWEST_SUMP	S		8C	D	1/1/1998			
NORTHWEST_SUMP2	S		8C	D	1/1/1998			
P-01	S		8B	D	5/14/1981	20'	NA	
P-01T	S		8B	D	10/26/1988	12.5'	NA	
P-02	S		8A	D	5/15/1981	22'	NA	
P-02T	S		8A	D	10/26/1988	13.5'	NA	
P-03R	S		8B	D	6/3/2002	19'	NA	
P-03T	S		8B	D	5/23/2002	10'	NA	
P-08R	S		8A	D	5/29/2002	20'	NA	
P-08T	S		8A	D	10/26/1988	10'	NA	
P-11	S		8B	D	10/27/1988	13'	NA	
P-12	S		8A	D	2/3/2000	24.5'	NA	
P-12TR	S		8A	D	6/11/2002	11.5'	NA	
P-13	S		8A	D	3/9/2000	17'	NA	
P-13T	S		8A	D	3/9/2000	8.17'	NA	
P-14	S		8A	D	6/5/2002	20'	NA	
P-14T	S		8A	D	5/24/2002	12'	NA	
P-15	S		8B	D	5/30/2002	22'	NA	
P-15T	S		8B	D	5/23/2002	14'	NA	
P-16	S		8A	D	6/5/2002	18'	NA	
P-16T	S		8A	D	5/24/2002	10'	NA	
P-17	S		8B	D	6/23/2003	22.7'	NA	
P-18	S		8B	D	6/30/2003	28.3'	NA	
P-19	S		8B	D	6/27/2003	20.2'	NA	
P-20	S		8B	D	7/1/2003	18.2'	NA	
P-21	S		8B	D	7/2/2003	22'	NA	
SOUTHEAST_SUMP	S		8C	D	1/1/1998			
SOUTHEAST_SUMP2	S		8C	D	1/1/1998			
SOUTHWEST_SUMP	S		8C	D	1/1/1998			
SOUTHWEST_SUMP2	S		8C	D	1/1/1998			



APPENDIX A-3

SAMPLING



**SAMPLING.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO**

FCID	SAMP_DATE	SAMP_SCHEM	COMMENT
OHD004201091	2/6/2008	S	
OHD004201091	2/7/2008	S	
OHD004201091	4/1/2008	O	
OHD004201091	4/2/2008	O	
OHD004201091	8/8/2008	S	
OHD004201091	8/9/2008	S	
OHD004201091	9/22/2008	O	
OHD004201091	9/23/2008	O	



APPENDIX A-4

PARAMETER



PARAMS.XLS  
 CLOSED LANDFILL  
 ELYRIA, OHIO

FCID	NAME	REP_CODE	UNITS	DET_LMT	ACL	MCL	CODE	METH_CODE
OHD004201091	Ba dis		ug/l	200			1	6010
OHD004201091	Ba		ug/l	200			2	6010
OHD004201091	Ca dis		ug/l	5000			3	6010
OHD004201091	Ca		ug/l	5000			4	6010
OHD004201091	Chld		mg/l	1			5	E300-28DAY
OHD004201091	Chld		mg/l	2			5	E300-28DAY
OHD004201091	Chld		mg/l	5			5	E300-28DAY
OHD004201091	Cr dis		ug/l	10			6	6010
OHD004201091	Cr		ug/l	10			7	6010
OHD004201091	Cu dis		ug/l	25			8	6010
OHD004201091	Cu		ug/l	25			9	6010
OHD004201091	Cyanide		ug/l	10			10	C335.2
OHD004201091	Fe dis		mg/l	0.1			11	6010
OHD004201091	Fe		mg/l	0.1			12	6010
OHD004201091	Mg dis		ug/l	5000			13	6010
OHD004201091	Mg		ug/l	5000			14	6010
OHD004201091	Mn dis		ug/l	15			15	6010
OHD004201091	Mn		ug/l	15			16	6010
OHD004201091	Ni dis		ug/l	40			17	6010
OHD004201091	Ni		ug/l	40			18	6010
OHD004201091	K dis		ug/l	5000			19	6010
OHD004201091	K		ug/l	5000			20	6010
OHD004201091	Na		mg/l	5			21	6010
OHD004201091	Na dis		mg/l	5			22	6010
OHD004201091	Sulfate		mg/l	1			23	E300-28DAY
OHD004201091	Sulfate		mg/l	2			23	E300-28DAY
OHD004201091	Sulfate		mg/l	5			23	E300-28DAY
OHD004201091	TDS		ug/l	10000			24	E160.1
OHD004201091	TDS		ug/l	20000			24	E160.1
OHD004201091	TSS		ug/l	4000			25	E160.2
OHD004201091	GWL		feet				26	



APPENDIX A-5

GROUNDWATER DATA



GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-08R	Ba dis	4/1/2008	200	88	ug/l			6010	J
OHD004201091	P-08R	Ba dis	9/22/2008	200	87	ug/l			6010	J
OHD004201091	P-02	Ba dis	8/9/2008	200	48	ug/l			6010	J
OHD004201091	P-16T	Ba dis	2/6/2008	200	22	ug/l			6010	J
OHD004201091	P-14	Ba dis	8/9/2008	200	63	ug/l			6010	J
OHD004201091	P-13T	Ba dis	2/7/2008	200	24	ug/l			6010	J
OHD004201091	P-02T	Ba dis	8/9/2008	200	21	ug/l			6010	J
OHD004201091	P-08T	Ba dis	8/8/2008	200	57	ug/l			6010	J
OHD004201091	P-02	Ba dis	2/7/2008	200	49	ug/l			6010	J
OHD004201091	P-12	Ba dis	8/9/2008	200	29	ug/l			6010	J
OHD004201091	P-13T	Ba dis	8/9/2008	200	18	ug/l			6010	J
OHD004201091	P-14T	Ba dis	8/9/2008	200	20	ug/l			6010	J
OHD004201091	P-13	Ba dis	2/7/2008	200	18	ug/l			6010	J
OHD004201091	P-14	Ba dis	2/7/2008	200	58	ug/l			6010	J
OHD004201091	P-02T	Ba dis	2/7/2008	200	19	ug/l			6010	J
OHD004201091	P-14T	Ba dis	2/7/2008	200	23	ug/l	D		6010	J
OHD004201091	P-08R	Ba dis	8/8/2008	200	83	ug/l			6010	J
OHD004201091	P-12TR	Ba dis	8/9/2008	200	72	ug/l			6010	J
OHD004201091	P-08R	Ba dis	2/6/2008	200	88	ug/l			6010	J
OHD004201091	P-16T	Ba dis	8/8/2008	200	21	ug/l			6010	J
OHD004201091	P-08R	Ba dis	8/8/2008	200	83	ug/l	D		6010	J
OHD004201091	P-16	Ba dis	8/8/2008	200	45	ug/l			6010	J
OHD004201091	P-08T	Ba dis	2/6/2008	200	39	ug/l			6010	J
OHD004201091	P-12TR	Ba dis	2/7/2008	200	64	ug/l			6010	J
OHD004201091	P-13	Ba dis	8/9/2008	200	18	ug/l			6010	J
OHD004201091	P-16	Ba dis	2/6/2008	200	47	ug/l			6010	J
OHD004201091	P-14T	Ba dis	2/7/2008	200	22	ug/l			6010	J
OHD004201091	P-12	Ba dis	2/7/2008	200	33	ug/l			6010	J
OHD004201091	P-14	Ba	8/9/2008	200	64	ug/l			6010	J
OHD004201091	P-02	Ba	8/9/2008	200	45	ug/l			6010	J
OHD004201091	P-12TR	Ba	2/7/2008	200	67	ug/l			6010	J
OHD004201091	P-16T	Ba	8/8/2008	200	22	ug/l			6010	J
OHD004201091	P-12	Ba	8/9/2008	200	24	ug/l			6010	J
OHD004201091	P-08T	Ba	8/8/2008	200	54	ug/l			6010	J
OHD004201091	P-08R	Ba	8/8/2008	200	83	ug/l	D		6010	J
OHD004201091	P-14T	Ba	2/7/2008	200	27	ug/l			6010	J
OHD004201091	P-12	Ba	2/7/2008	200	30	ug/l			6010	J
OHD004201091	P-14	Ba	2/7/2008	200	67	ug/l			6010	J
OHD004201091	P-14T	Ba	2/7/2008	200	26	ug/l	D		6010	J

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-02T	Ba	2/7/2008	200	20	ug/l			6010	J
OHD004201091	P-13T	Ba	2/7/2008	200	35	ug/l			6010	J
OHD004201091	P-08T	Ba	2/6/2008	200	37	ug/l			6010	J
OHD004201091	P-16	Ba	2/6/2008	200	49	ug/l			6010	J
OHD004201091	P-08R	Ba	2/6/2008	200	82	ug/l			6010	J
OHD004201091	P-16	Ba	8/8/2008	200	47	ug/l			6010	J
OHD004201091	P-13	Ba	2/7/2008	200	21	ug/l			6010	J
OHD004201091	P-16T	Ba	2/6/2008	200	22	ug/l			6010	J
OHD004201091	P-14T	Ba	8/9/2008	200	25	ug/l			6010	J
OHD004201091	P-13T	Ba	8/9/2008	200	33	ug/l			6010	J
OHD004201091	P-02	Ba	2/7/2008	200	49	ug/l			6010	J
OHD004201091	P-08R	Ba	8/8/2008	200	84	ug/l			6010	J
OHD004201091	P-02T	Ba	8/9/2008	200	21	ug/l			6010	J
OHD004201091	P-12TR	Ba	8/9/2008	200	72	ug/l			6010	J
OHD004201091	P-13	Ba	8/9/2008	200	19	ug/l			6010	J
OHD004201091	P-02T	Ca dis	4/1/2008	5000	228000	ug/l			6010	
OHD004201091	P-13	Ca dis	4/2/2008	5000	149000	ug/l			6010	
OHD004201091	P-14	Ca dis	8/9/2008	5000	118000	ug/l			6010	
OHD004201091	P-16	Ca dis	8/8/2008	5000	218000	ug/l			6010	
OHD004201091	P-13T	Ca dis	4/2/2008	5000	172000	ug/l	D		6010	
OHD004201091	P-13T	Ca dis	4/2/2008	5000	173000	ug/l			6010	
OHD004201091	P-14T	Ca dis	8/9/2008	5000	108000	ug/l			6010	
OHD004201091	P-14T	Ca dis	2/7/2008	5000	118000	ug/l	D		6010	
OHD004201091	P-14T	Ca dis	2/7/2008	5000	114000	ug/l			6010	
OHD004201091	P-16T	Ca dis	4/1/2008	5000	233000	ug/l			6010	
OHD004201091	P-08R	Ca dis	8/8/2008	5000	91200	ug/l			6010	
OHD004201091	P-16	Ca dis	4/1/2008	5000	226000	ug/l			6010	
OHD004201091	P-12	Ca dis	8/9/2008	5000	58300	ug/l			6010	
OHD004201091	P-16T	Ca dis	8/8/2008	5000	221000	ug/l			6010	
OHD004201091	P-02	Ca dis	8/9/2008	5000	110000	ug/l			6010	
OHD004201091	P-16T	Ca dis	9/22/2008	5000	213000	ug/l			6010	
OHD004201091	P-16	Ca dis	2/6/2008	5000	229000	ug/l			6010	
OHD004201091	P-02T	Ca dis	8/9/2008	5000	236000	ug/l			6010	
OHD004201091	P-16T	Ca dis	2/6/2008	5000	226000	ug/l			6010	
OHD004201091	P-08T	Ca dis	8/8/2008	5000	127000	ug/l			6010	
OHD004201091	P-16	Ca dis	9/22/2008	5000	212000	ug/l			6010	
OHD004201091	P-14	Ca dis	2/7/2008	5000	117000	ug/l			6010	
OHD004201091	P-02	Ca dis	2/7/2008	5000	121000	ug/l			6010	
OHD004201091	P-08R	Ca dis	2/6/2008	5000	96500	ug/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-02T	Ca dis	2/7/2008	5000	250000	ug/l			6010	
OHD004201091	P-12TR	Ca dis	8/9/2008	5000	126000	ug/l			6010	
OHD004201091	P-02T	Ca dis	9/23/2008	5000	224000	ug/l			6010	
OHD004201091	P-13	Ca dis	2/7/2008	5000	149000	ug/l			6010	
OHD004201091	P-13T	Ca dis	2/7/2008	5000	169000	ug/l			6010	
OHD004201091	P-08T	Ca dis	2/6/2008	5000	76100	ug/l			6010	
OHD004201091	P-12	Ca dis	2/7/2008	5000	66900	ug/l			6010	
OHD004201091	P-08R	Ca dis	8/8/2008	5000	92300	ug/l	D		6010	
OHD004201091	P-12TR	Ca dis	2/7/2008	5000	125000	ug/l			6010	
OHD004201091	P-13	Ca dis	8/9/2008	5000	142000	ug/l			6010	
OHD004201091	P-13	Ca dis	9/23/2008	5000	142000	ug/l			6010	
OHD004201091	P-13T	Ca dis	8/9/2008	5000	143000	ug/l			6010	
OHD004201091	P-13T	Ca	8/9/2008	5000	181000	ug/l			6010	
OHD004201091	P-13	Ca	8/9/2008	5000	146000	ug/l			6010	
OHD004201091	P-08R	Ca	8/8/2008	5000	91800	ug/l			6010	
OHD004201091	P-02	Ca	8/9/2008	5000	104000	ug/l			6010	
OHD004201091	P-08T	Ca	8/8/2008	5000	121000	ug/l			6010	
OHD004201091	P-14	Ca	8/9/2008	5000	117000	ug/l			6010	
OHD004201091	P-08R	Ca	8/8/2008	5000	90600	ug/l	D		6010	
OHD004201091	P-02T	Ca	8/9/2008	5000	244000	ug/l			6010	
OHD004201091	P-14T	Ca	2/7/2008	5000	115000	ug/l			6010	
OHD004201091	P-13	Ca	2/7/2008	5000	157000	ug/l			6010	
OHD004201091	P-13T	Ca	2/7/2008	5000	142000	ug/l			6010	
OHD004201091	P-02T	Ca	2/7/2008	5000	249000	ug/l			6010	
OHD004201091	P-16T	Ca	8/8/2008	5000	228000	ug/l			6010	
OHD004201091	P-12	Ca	2/7/2008	5000	61000	ug/l			6010	
OHD004201091	P-02	Ca	2/7/2008	5000	120000	ug/l			6010	
OHD004201091	P-12	Ca	8/9/2008	5000	51800	ug/l			6010	
OHD004201091	P-12TR	Ca	2/7/2008	5000	134000	ug/l			6010	
OHD004201091	P-12TR	Ca	8/9/2008	5000	127000	ug/l			6010	
OHD004201091	P-14	Ca	2/7/2008	5000	118000	ug/l			6010	
OHD004201091	P-16T	Ca	2/6/2008	5000	229000	ug/l			6010	
OHD004201091	P-14T	Ca	2/7/2008	5000	117000	ug/l	D		6010	
OHD004201091	P-16	Ca	2/6/2008	5000	224000	ug/l			6010	
OHD004201091	P-14T	Ca	8/9/2008	5000	113000	ug/l			6010	
OHD004201091	P-08R	Ca	2/6/2008	5000	89800	ug/l			6010	
OHD004201091	P-08T	Ca	2/6/2008	5000	74800	ug/l			6010	
OHD004201091	P-16	Ca	8/8/2008	5000	230000	ug/l			6010	
OHD004201091	P-12	Chld	2/7/2008	1	19.4	mg/l			E300-28DAY	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-02T	Chld	8/9/2008	5	101	mg/l			E300-28DAY	
OHD004201091	P-16	Chld	2/6/2008	5	60.6	mg/l			E300-28DAY	
OHD004201091	P-02	Chld	2/7/2008	5	29.3	mg/l			E300-28DAY	
OHD004201091	P-08R	Chld	2/6/2008	5	162	mg/l			E300-28DAY	
OHD004201091	P-02	Chld	8/9/2008	5	30.9	mg/l			E300-28DAY	
OHD004201091	P-08T	Chld	2/6/2008	1	15.4	mg/l			E300-28DAY	
OHD004201091	P-16T	Chld	2/6/2008	5	19.5	mg/l			E300-28DAY	
OHD004201091	P-13	Chld	8/9/2008	2	23.3	mg/l			E300-28DAY	
OHD004201091	P-16	Chld	8/8/2008	5	66	mg/l			E300-28DAY	
OHD004201091	P-02T	Chld	4/1/2008	5	107	mg/l			E300-28DAY	
OHD004201091	P-16T	Chld	8/8/2008	5	16.8	mg/l			E300-28DAY	
OHD004201091	P-16	Chld	4/1/2008	5	53.7	mg/l			E300-28DAY	
OHD004201091	P-08R	Chld	4/1/2008	5	175	mg/l			E300-28DAY	
OHD004201091	P-08T	Chld	8/8/2008	5	57.3	mg/l			E300-28DAY	
OHD004201091	P-08R	Chld	8/8/2008	5	169	mg/l			E300-28DAY	
OHD004201091	P-02T	Chld	2/7/2008	5	101	mg/l			E300-28DAY	
OHD004201091	P-14	Chld	2/7/2008	1	7.9	mg/l			E300-28DAY	
OHD004201091	P-08R	Chld	8/8/2008	5	170	mg/l	D		E300-28DAY	
OHD004201091	P-12TR	Chld	2/7/2008	1	10.5	mg/l			E300-28DAY	
OHD004201091	P-13T	Chld	2/7/2008	5	18.7	mg/l			E300-28DAY	
OHD004201091	P-14T	Chld	2/7/2008	1	3	mg/l			E300-28DAY	
OHD004201091	P-13	Chld	2/7/2008	1	23.4	mg/l			E300-28DAY	
OHD004201091	P-14T	Chld	2/7/2008	1	3.1	mg/l	D		E300-28DAY	
OHD004201091	P-08R	Chld	9/22/2008	5	174	mg/l			E300-28DAY	
OHD004201091	P-14T	Chld	8/9/2008	1	3	mg/l			E300-28DAY	
OHD004201091	P-16	Chld	9/22/2008	1	92.3	mg/l			E300-28DAY	
OHD004201091	P-13T	Chld	8/9/2008	2	22.8	mg/l			E300-28DAY	
OHD004201091	P-12TR	Chld	8/9/2008	5	9.9	mg/l			E300-28DAY	
OHD004201091	P-14	Chld	8/9/2008	2	6	mg/l			E300-28DAY	
OHD004201091	P-02T	Chld	9/23/2008	1	123	mg/l			E300-28DAY	
OHD004201091	P-12	Chld	8/9/2008	1	19.1	mg/l			E300-28DAY	
OHD004201091	P-13	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13T	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16T	Cr dis	2/6/2008	10	4.4	ug/l			6010	J
OHD004201091	P-16	Cr dis	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16	Cr dis	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-02	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08R	Cr dis	8/8/2008	ND<10		ug/l	D		6010	UJ
OHD004201091	P-02T	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-12TR	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14T	Cr dis	2/7/2008	ND<10		ug/l	D		6010	UJ
OHD004201091	P-02	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-02T	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-12	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08R	Cr dis	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-12	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08T	Cr dis	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14T	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16T	Cr dis	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08R	Cr dis	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08T	Cr dis	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-12TR	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14T	Cr dis	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13T	Cr dis	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08T	Cr	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14T	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-12	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08R	Cr	8/8/2008	ND<10		ug/l	D		6010	UJ
OHD004201091	P-12TR	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-12TR	Cr	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13	Cr	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-02	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14T	Cr	2/7/2008	ND<10		ug/l	D		6010	UJ
OHD004201091	P-14T	Cr	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-12	Cr	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13T	Cr	2/7/2008	10	12	ug/l			6010	
OHD004201091	P-02T	Cr	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-14	Cr	2/7/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13T	Cr	8/9/2008	10	3.2	ug/l			6010	J
OHD004201091	P-02T	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08T	Cr	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08R	Cr	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16	Cr	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-02	Cr	2/7/2008	ND<10		ug/l			6010	UJ

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-16	Cr	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-13	Cr	8/9/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16T	Cr	2/6/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16T	Cr	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-08R	Cr	8/8/2008	ND<10		ug/l			6010	UJ
OHD004201091	P-16	Cu dis	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08R	Cu dis	8/8/2008	ND<25		ug/l	D		6010	UJ
OHD004201091	P-12	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-13	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-16T	Cu dis	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-14	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08T	Cu dis	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-02	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-14T	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-13T	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-02T	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08R	Cu dis	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-12TR	Cu dis	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08R	Cu	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-14T	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-12TR	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-12	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08R	Cu	8/8/2008	ND<25		ug/l	D		6010	UJ
OHD004201091	P-13T	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-16T	Cu	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-14	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-02	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-16	Cu	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-13	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-02T	Cu	8/9/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08T	Cu	8/8/2008	ND<25		ug/l			6010	UJ
OHD004201091	P-08T	Cyanide	8/8/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-12	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-14T	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-14T	Cyanide	2/7/2008	10	89	ug/l	D		C335.2	J
OHD004201091	P-08R	Cyanide	8/8/2008	ND<10		ug/l	D		C335.2	UJ
OHD004201091	P-16	Cyanide	8/8/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-16T	Cyanide	8/8/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-08T	Cyanide	2/6/2008	ND<10		ug/l			C335.2	UJ

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-14T	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-12	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-13	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-02T	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-02T	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-02	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-13	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-13T	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-16T	Cyanide	2/6/2008	10	5	ug/l			C335.2	J
OHD004201091	P-14	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-14	Cyanide	2/7/2008	10	76	ug/l			C335.2	
OHD004201091	P-12TR	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-08R	Cyanide	8/8/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-13T	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-02	Cyanide	8/9/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-12TR	Cyanide	2/7/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-08R	Cyanide	2/6/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-16	Cyanide	2/6/2008	ND<10		ug/l			C335.2	UJ
OHD004201091	P-08T	Fe dis	2/6/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-02T	Fe dis	2/7/2008	0.1	0.13	mg/l			6010	
OHD004201091	P-02T	Fe dis	8/9/2008	0.1	0.28	mg/l			6010	
OHD004201091	P-16T	Fe dis	8/8/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-02	Fe dis	2/7/2008	0.1	0.12	mg/l			6010	
OHD004201091	P-16	Fe dis	8/8/2008	0.1	2.9	mg/l			6010	
OHD004201091	P-13T	Fe dis	9/23/2008	0.1	1.5	mg/l			6010	
OHD004201091	P-08R	Fe dis	2/6/2008	0.1	0.13	mg/l			6010	
OHD004201091	P-08R	Fe dis	8/8/2008	0.1	0.13	mg/l			6010	
OHD004201091	P-13	Fe dis	8/9/2008	0.1	1.3	mg/l			6010	
OHD004201091	P-13T	Fe dis	8/9/2008	0.1	1.3	mg/l			6010	
OHD004201091	P-14T	Fe dis	8/9/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-16	Fe dis	2/6/2008	0.1	0.99	mg/l			6010	
OHD004201091	P-16T	Fe dis	2/6/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-13T	Fe dis	2/7/2008	0.1	0.53	mg/l			6010	
OHD004201091	P-08T	Fe dis	8/8/2008	0.1	0.12	mg/l			6010	
OHD004201091	P-12TR	Fe dis	2/7/2008	0.1	0.26	mg/l			6010	
OHD004201091	P-14	Fe dis	2/7/2008	0.1	1.7	mg/l			6010	
OHD004201091	P-12	Fe dis	8/9/2008	0.1	0.36	mg/l			6010	
OHD004201091	P-12	Fe dis	2/7/2008	0.1	0.099	mg/l			6010	J
OHD004201091	P-12TR	Fe dis	8/9/2008	0.1	0.11	mg/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-14T	Fe dis	2/7/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-14	Fe dis	8/9/2008	0.1	1.8	mg/l			6010	
OHD004201091	P-02	Fe dis	8/9/2008	0.1	0.19	mg/l			6010	
OHD004201091	P-14T	Fe dis	2/7/2008	ND<0.1		mg/l	D		6010	UJ
OHD004201091	P-08R	Fe dis	8/8/2008	0.1	0.11	mg/l	D		6010	
OHD004201091	P-13	Fe dis	2/7/2008	0.1	1.5	mg/l			6010	
OHD004201091	P-14T	Fe	2/7/2008	0.1	0.16	mg/l			6010	
OHD004201091	P-08T	Fe	2/6/2008	0.1	0.12	mg/l			6010	
OHD004201091	P-12	Fe	2/7/2008	0.1	0.086	mg/l			6010	J
OHD004201091	P-14T	Fe	8/9/2008	0.1	0.23	mg/l			6010	
OHD004201091	P-08R	Fe	2/6/2008	0.1	0.16	mg/l			6010	
OHD004201091	P-14	Fe	2/7/2008	0.1	7.4	mg/l			6010	
OHD004201091	P-12TR	Fe	2/7/2008	0.1	0.59	mg/l			6010	
OHD004201091	P-13	Fe	2/7/2008	0.1	3.3	mg/l			6010	
OHD004201091	P-12	Fe	8/9/2008	0.1	0.37	mg/l			6010	
OHD004201091	P-13T	Fe	2/7/2008	0.1	4.7	mg/l			6010	
OHD004201091	P-16	Fe	8/8/2008	0.1	4.7	mg/l			6010	
OHD004201091	P-12TR	Fe	8/9/2008	0.1	0.13	mg/l			6010	
OHD004201091	P-02T	Fe	2/7/2008	0.1	0.72	mg/l			6010	
OHD004201091	P-16T	Fe	8/8/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-02	Fe	2/7/2008	0.1	0.2	mg/l			6010	
OHD004201091	P-16T	Fe	2/6/2008	ND<0.1		mg/l			6010	UJ
OHD004201091	P-14T	Fe	2/7/2008	0.1	0.098	mg/l	D		6010	J
OHD004201091	P-16	Fe	2/6/2008	0.1	4.7	mg/l			6010	
OHD004201091	P-08T	Fe	8/8/2008	0.1	0.16	mg/l			6010	
OHD004201091	P-14	Fe	8/9/2008	0.1	4.1	mg/l			6010	
OHD004201091	P-02	Fe	8/9/2008	0.1	0.21	mg/l			6010	
OHD004201091	P-08R	Fe	8/8/2008	0.1	0.1	mg/l	D		6010	
OHD004201091	P-13T	Fe	8/9/2008	0.1	5.5	mg/l			6010	
OHD004201091	P-13	Fe	8/9/2008	0.1	1.4	mg/l			6010	
OHD004201091	P-08R	Fe	8/8/2008	0.1	0.13	mg/l			6010	
OHD004201091	P-02T	Fe	8/9/2008	0.1	0.36	mg/l			6010	
OHD004201091	P-02T	Mg dis	9/23/2008	5000	90700	ug/l			6010	
OHD004201091	P-02	Mg dis	2/7/2008	5000	44400	ug/l			6010	
OHD004201091	P-12TR	Mg dis	2/7/2008	5000	32600	ug/l			6010	
OHD004201091	P-16T	Mg dis	9/22/2008	5000	61900	ug/l			6010	
OHD004201091	P-08T	Mg dis	8/8/2008	5000	39900	ug/l			6010	
OHD004201091	P-14T	Mg dis	2/7/2008	5000	23800	ug/l	D		6010	
OHD004201091	P-14T	Mg dis	2/7/2008	5000	22900	ug/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-08R	Mg dis	8/8/2008	5000	19500	ug/l	D		6010	
OHD004201091	P-16	Mg dis	8/8/2008	5000	67500	ug/l			6010	
OHD004201091	P-14	Mg dis	2/7/2008	5000	26500	ug/l			6010	
OHD004201091	P-13	Mg dis	8/9/2008	5000	27800	ug/l			6010	
OHD004201091	P-08R	Mg dis	8/8/2008	5000	19200	ug/l			6010	
OHD004201091	P-16T	Mg dis	2/6/2008	5000	65700	ug/l			6010	
OHD004201091	P-08R	Mg dis	2/6/2008	5000	21100	ug/l			6010	
OHD004201091	P-13T	Mg dis	8/9/2008	5000	28000	ug/l			6010	
OHD004201091	P-14	Mg dis	8/9/2008	5000	26800	ug/l			6010	
OHD004201091	P-02T	Mg dis	4/1/2008	5000	98500	ug/l			6010	
OHD004201091	P-12TR	Mg dis	8/9/2008	5000	34000	ug/l			6010	
OHD004201091	P-02	Mg dis	4/2/2008	5000	46700	ug/l			6010	
OHD004201091	P-13	Mg dis	2/7/2008	5000	30900	ug/l			6010	
OHD004201091	P-13T	Mg dis	4/2/2008	5000	55800	ug/l			6010	
OHD004201091	P-02	Mg dis	8/9/2008	5000	38700	ug/l			6010	
OHD004201091	P-16	Mg dis	9/22/2008	5000	64800	ug/l			6010	
OHD004201091	P-16T	Mg dis	4/1/2008	5000	68900	ug/l			6010	
OHD004201091	P-13T	Mg dis	2/7/2008	5000	48700	ug/l			6010	
OHD004201091	P-02T	Mg dis	2/7/2008	5000	105000	ug/l			6010	
OHD004201091	P-08T	Mg dis	2/6/2008	5000	34900	ug/l			6010	
OHD004201091	P-16T	Mg dis	8/8/2008	5000	63000	ug/l			6010	
OHD004201091	P-16	Mg dis	2/6/2008	5000	72900	ug/l			6010	
OHD004201091	P-02	Mg dis	9/23/2008	5000	35600	ug/l	D		6010	
OHD004201091	P-16	Mg dis	4/1/2008	5000	73400	ug/l			6010	
OHD004201091	P-14T	Mg dis	8/9/2008	5000	20900	ug/l			6010	
OHD004201091	P-02T	Mg dis	8/9/2008	5000	98600	ug/l			6010	
OHD004201091	P-12	Mg dis	2/7/2008	5000	17700	ug/l			6010	
OHD004201091	P-12	Mg dis	8/9/2008	5000	15200	ug/l			6010	
OHD004201091	P-02	Mg dis	9/23/2008	5000	36700	ug/l			6010	
OHD004201091	P-13T	Mg dis	4/2/2008	5000	55400	ug/l	D		6010	
OHD004201091	P-16	Mg	2/6/2008	5000	71100	ug/l			6010	
OHD004201091	P-12TR	Mg	2/7/2008	5000	35400	ug/l			6010	
OHD004201091	P-13	Mg	2/7/2008	5000	31600	ug/l			6010	
OHD004201091	P-12TR	Mg	8/9/2008	5000	32800	ug/l			6010	
OHD004201091	P-02T	Mg	8/9/2008	5000	101000	ug/l			6010	
OHD004201091	P-13T	Mg	2/7/2008	5000	45300	ug/l			6010	
OHD004201091	P-02	Mg	8/9/2008	5000	36500	ug/l			6010	
OHD004201091	P-12	Mg	2/7/2008	5000	16100	ug/l			6010	
OHD004201091	P-12	Mg	8/9/2008	5000	13600	ug/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-14	Mg	8/9/2008	5000	26300	ug/l			6010	
OHD004201091	P-14T	Mg	2/7/2008	5000	23200	ug/l	D		6010	
OHD004201091	P-14	Mg	2/7/2008	5000	26600	ug/l			6010	
OHD004201091	P-02	Mg	2/7/2008	5000	43500	ug/l			6010	
OHD004201091	P-08T	Mg	8/8/2008	5000	38300	ug/l			6010	
OHD004201091	P-14T	Mg	2/7/2008	5000	22400	ug/l			6010	
OHD004201091	P-13	Mg	8/9/2008	5000	28800	ug/l			6010	
OHD004201091	P-16T	Mg	2/6/2008	5000	66300	ug/l			6010	
OHD004201091	P-02T	Mg	2/7/2008	5000	104000	ug/l			6010	
OHD004201091	P-08R	Mg	2/6/2008	5000	19600	ug/l			6010	
OHD004201091	P-08R	Mg	8/8/2008	5000	19400	ug/l			6010	
OHD004201091	P-16	Mg	8/8/2008	5000	71600	ug/l			6010	
OHD004201091	P-08T	Mg	2/6/2008	5000	36100	ug/l			6010	
OHD004201091	P-16T	Mg	8/8/2008	5000	65100	ug/l			6010	
OHD004201091	P-13T	Mg	8/9/2008	5000	54000	ug/l			6010	
OHD004201091	P-14T	Mg	8/9/2008	5000	22200	ug/l			6010	
OHD004201091	P-08R	Mg	8/8/2008	5000	19100	ug/l	D		6010	
OHD004201091	P-08T	Mn dis	2/6/2008	15	24	ug/l			6010	
OHD004201091	P-12TR	Mn dis	8/9/2008	15	82	ug/l			6010	
OHD004201091	P-08R	Mn dis	8/8/2008	15	43	ug/l	D		6010	
OHD004201091	P-16	Mn dis	2/6/2008	15	210	ug/l			6010	
OHD004201091	P-12	Mn dis	8/9/2008	15	170	ug/l			6010	
OHD004201091	P-08R	Mn dis	8/8/2008	15	41	ug/l			6010	
OHD004201091	P-08T	Mn dis	8/8/2008	15	240	ug/l			6010	
OHD004201091	P-12	Mn dis	2/7/2008	15	41	ug/l			6010	J
OHD004201091	P-12TR	Mn dis	2/7/2008	15	24	ug/l			6010	
OHD004201091	P-13T	Mn dis	8/9/2008	15	200	ug/l			6010	
OHD004201091	P-14T	Mn dis	2/7/2008	15	100	ug/l			6010	
OHD004201091	P-14	Mn dis	2/7/2008	15	140	ug/l			6010	
OHD004201091	P-16	Mn dis	8/8/2008	15	220	ug/l			6010	
OHD004201091	P-16T	Mn dis	2/6/2008	15	1.2	ug/l			6010	J
OHD004201091	P-14	Mn dis	8/9/2008	15	150	ug/l			6010	
OHD004201091	P-02	Mn dis	2/7/2008	15	250	ug/l			6010	
OHD004201091	P-14T	Mn dis	8/9/2008	15	540	ug/l			6010	
OHD004201091	P-08R	Mn dis	2/6/2008	15	46	ug/l			6010	
OHD004201091	P-02T	Mn dis	8/9/2008	15	390	ug/l			6010	
OHD004201091	P-13	Mn dis	2/7/2008	15	220	ug/l			6010	
OHD004201091	P-13	Mn dis	8/9/2008	15	200	ug/l			6010	
OHD004201091	P-02	Mn dis	8/9/2008	15	360	ug/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-02T	Mn dis	2/7/2008	15	120	ug/l			6010	
OHD004201091	P-14T	Mn dis	2/7/2008	15	130	ug/l	D		6010	
OHD004201091	P-13T	Mn dis	2/7/2008	15	220	ug/l			6010	
OHD004201091	P-16T	Mn dis	8/8/2008	15	0.51	ug/l			6010	J
OHD004201091	P-08T	Mn	2/6/2008	15	35	ug/l			6010	
OHD004201091	P-08R	Mn	8/8/2008	15	42	ug/l			6010	
OHD004201091	P-12	Mn	8/9/2008	15	200	ug/l			6010	
OHD004201091	P-14	Mn	2/7/2008	15	140	ug/l			6010	
OHD004201091	P-12TR	Mn	8/9/2008	15	110	ug/l			6010	
OHD004201091	P-13	Mn	2/7/2008	15	240	ug/l			6010	
OHD004201091	P-08T	Mn	8/8/2008	15	240	ug/l			6010	
OHD004201091	P-14	Mn	8/9/2008	15	150	ug/l			6010	
OHD004201091	P-13	Mn	8/9/2008	15	220	ug/l			6010	
OHD004201091	P-02T	Mn	8/9/2008	15	420	ug/l			6010	
OHD004201091	P-12TR	Mn	2/7/2008	15	30	ug/l			6010	
OHD004201091	P-02	Mn	8/9/2008	15	340	ug/l			6010	
OHD004201091	P-16T	Mn	8/8/2008	15	5	ug/l			6010	J
OHD004201091	P-02T	Mn	2/7/2008	15	150	ug/l			6010	
OHD004201091	P-12	Mn	2/7/2008	15	21	ug/l			6010	J
OHD004201091	P-13T	Mn	8/9/2008	15	820	ug/l			6010	
OHD004201091	P-08R	Mn	2/6/2008	15	44	ug/l			6010	
OHD004201091	P-02	Mn	2/7/2008	15	280	ug/l			6010	
OHD004201091	P-13T	Mn	2/7/2008	15	280	ug/l			6010	
OHD004201091	P-08R	Mn	8/8/2008	15	41	ug/l	D		6010	
OHD004201091	P-16	Mn	2/6/2008	15	220	ug/l			6010	
OHD004201091	P-14T	Mn	2/7/2008	15	830	ug/l	D		6010	
OHD004201091	P-16	Mn	8/8/2008	15	250	ug/l			6010	
OHD004201091	P-14T	Mn	8/9/2008	15	1500	ug/l			6010	
OHD004201091	P-16T	Mn	2/6/2008	15	8.9	ug/l			6010	J
OHD004201091	P-14T	Mn	2/7/2008	15	1100	ug/l			6010	
OHD004201091	P-08R	Ni dis	8/8/2008	40	12	ug/l	D		6010	J
OHD004201091	P-13T	Ni dis	2/7/2008	40	34	ug/l			6010	J
OHD004201091	P-08R	Ni dis	8/8/2008	40	10	ug/l			6010	J
OHD004201091	P-12	Ni dis	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-02	Ni dis	2/7/2008	40	6.2	ug/l			6010	J
OHD004201091	P-08T	Ni dis	8/8/2008	40	34	ug/l			6010	J
OHD004201091	P-12	Ni dis	2/7/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-12TR	Ni dis	8/9/2008	40	3.5	ug/l			6010	J
OHD004201091	P-16	Ni dis	2/6/2008	40	140	ug/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-08R	Ni dis	2/6/2008	40	11	ug/l			6010	J
OHD004201091	P-12TR	Ni dis	2/7/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-14T	Ni dis	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-02T	Ni dis	8/9/2008	40	12	ug/l			6010	J
OHD004201091	P-16T	Ni dis	8/8/2008	40	20	ug/l			6010	J
OHD004201091	P-02T	Ni dis	2/7/2008	40	8.4	ug/l			6010	J
OHD004201091	P-13	Ni dis	4/2/2008	40	44	ug/l			6010	
OHD004201091	P-16	Ni dis	4/1/2008	40	110	ug/l			6010	
OHD004201091	P-13	Ni dis	8/9/2008	40	39	ug/l			6010	J
OHD004201091	P-13	Ni dis	2/7/2008	40	42	ug/l			6010	
OHD004201091	P-02	Ni dis	8/9/2008	40	5.3	ug/l			6010	J
OHD004201091	P-16	Ni dis	9/22/2008	40	190	ug/l			6010	
OHD004201091	P-14T	Ni dis	2/7/2008	ND<40		ug/l	D		6010	UJ
OHD004201091	P-16T	Ni dis	2/6/2008	40	25	ug/l			6010	J
OHD004201091	P-14	Ni dis	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-13T	Ni dis	8/9/2008	40	40	ug/l			6010	
OHD004201091	P-14T	Ni dis	2/7/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-16	Ni dis	8/8/2008	40	160	ug/l			6010	
OHD004201091	P-08T	Ni dis	2/6/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-14	Ni dis	2/7/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-08T	Ni	2/6/2008	40	3.3	ug/l			6010	J
OHD004201091	P-02	Ni	8/9/2008	40	7	ug/l			6010	J
OHD004201091	P-08R	Ni	8/8/2008	40	10	ug/l			6010	J
OHD004201091	P-16	Ni	2/6/2008	40	130	ug/l			6010	
OHD004201091	P-16T	Ni	8/8/2008	40	20	ug/l			6010	J
OHD004201091	P-08T	Ni	8/8/2008	40	31	ug/l			6010	J
OHD004201091	P-02T	Ni	2/7/2008	40	8.7	ug/l			6010	J
OHD004201091	P-13T	Ni	2/7/2008	40	28	ug/l			6010	J
OHD004201091	P-12	Ni	2/7/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-08R	Ni	8/8/2008	40	8.9	ug/l	D		6010	J
OHD004201091	P-13	Ni	2/7/2008	40	46	ug/l			6010	
OHD004201091	P-16T	Ni	2/6/2008	40	23	ug/l			6010	J
OHD004201091	P-13T	Ni	8/9/2008	40	29	ug/l			6010	J
OHD004201091	P-14T	Ni	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-12TR	Ni	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-08R	Ni	2/6/2008	40	9.4	ug/l			6010	J
OHD004201091	P-02T	Ni	8/9/2008	40	8.6	ug/l			6010	J
OHD004201091	P-02	Ni	2/7/2008	40	6.2	ug/l			6010	J
OHD004201091	P-14T	Ni	2/7/2008	ND<40		ug/l			6010	UJ

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-12	Ni	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-14T	Ni	2/7/2008	ND<40		ug/l	D		6010	UJ
OHD004201091	P-16	Ni	8/8/2008	40	150	ug/l			6010	
OHD004201091	P-14	Ni	8/9/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-12TR	Ni	2/7/2008	40	3.6	ug/l			6010	J
OHD004201091	P-14	Ni	2/7/2008	ND<40		ug/l			6010	UJ
OHD004201091	P-13	Ni	8/9/2008	40	40	ug/l			6010	
OHD004201091	P-08T	K dis	8/8/2008	5000	11900	ug/l			6010	
OHD004201091	P-02	K dis	8/9/2008	5000	5400	ug/l			6010	
OHD004201091	P-02T	K dis	2/7/2008	5000	1200	ug/l			6010	J
OHD004201091	P-16	K dis	2/6/2008	5000	2200	ug/l			6010	J
OHD004201091	P-08R	K dis	8/8/2008	5000	4000	ug/l	D		6010	J
OHD004201091	P-16T	K dis	8/8/2008	5000	2000	ug/l			6010	J
OHD004201091	P-16T	K dis	2/6/2008	5000	1600	ug/l			6010	J
OHD004201091	P-08R	K dis	2/6/2008	5000	3700	ug/l			6010	J
OHD004201091	P-14	K dis	2/7/2008	5000	1200	ug/l			6010	J
OHD004201091	P-08T	K dis	9/22/2008	5000	14500	ug/l			6010	
OHD004201091	P-13	K dis	2/7/2008	5000	2500	ug/l			6010	J
OHD004201091	P-08R	K dis	8/8/2008	5000	4300	ug/l			6010	J
OHD004201091	P-13T	K dis	4/2/2008	5000	11900	ug/l			6010	
OHD004201091	P-02	K dis	9/23/2008	5000	4700	ug/l	D		6010	J
OHD004201091	P-12TR	K dis	2/7/2008	5000	2100	ug/l			6010	J
OHD004201091	P-02T	K dis	8/9/2008	5000	1400	ug/l			6010	J
OHD004201091	P-12	K dis	2/7/2008	5000	3600	ug/l			6010	J
OHD004201091	P-02	K dis	9/23/2008	5000	5100	ug/l			6010	
OHD004201091	P-14T	K dis	2/7/2008	5000	1000	ug/l	D		6010	J
OHD004201091	P-13T	K dis	4/2/2008	5000	11900	ug/l	D		6010	
OHD004201091	P-13	K dis	8/9/2008	5000	3000	ug/l			6010	J
OHD004201091	P-08T	K dis	4/1/2008	5000	9800	ug/l			6010	
OHD004201091	P-08T	K dis	2/6/2008	5000	8500	ug/l			6010	
OHD004201091	P-12TR	K dis	8/9/2008	5000	3000	ug/l			6010	J
OHD004201091	P-14	K dis	8/9/2008	5000	1500	ug/l			6010	J
OHD004201091	P-12	K dis	8/9/2008	5000	4600	ug/l			6010	J
OHD004201091	P-02	K dis	2/7/2008	5000	4300	ug/l			6010	J
OHD004201091	P-14T	K dis	2/7/2008	5000	1100	ug/l			6010	J
OHD004201091	P-13T	K dis	2/7/2008	5000	8200	ug/l			6010	
OHD004201091	P-16	K dis	8/8/2008	5000	2700	ug/l			6010	J
OHD004201091	P-14T	K dis	8/9/2008	5000	1600	ug/l			6010	J
OHD004201091	P-13T	K dis	8/9/2008	5000	2900	ug/l			6010	J

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-02	K	2/7/2008	5000	4400	ug/l			6010	J
OHD004201091	P-13	K	8/9/2008	5000	3000	ug/l			6010	J
OHD004201091	P-16T	K	2/6/2008	5000	1400	ug/l			6010	J
OHD004201091	P-12TR	K	8/9/2008	5000	2900	ug/l			6010	J
OHD004201091	P-08T	K	2/6/2008	5000	8500	ug/l			6010	J
OHD004201091	P-16	K	2/6/2008	5000	2000	ug/l			6010	J
OHD004201091	P-02T	K	2/7/2008	5000	1100	ug/l			6010	J
OHD004201091	P-02T	K	8/9/2008	5000	1400	ug/l			6010	J
OHD004201091	P-08R	K	2/6/2008	5000	3300	ug/l			6010	J
OHD004201091	P-14T	K	8/9/2008	5000	1500	ug/l			6010	J
OHD004201091	P-08T	K	8/8/2008	5000	11000	ug/l			6010	J
OHD004201091	P-12	K	2/7/2008	5000	3800	ug/l			6010	J
OHD004201091	P-14T	K	2/7/2008	5000	1000	ug/l	D		6010	J
OHD004201091	P-13T	K	8/9/2008	5000	14100	ug/l			6010	J
OHD004201091	P-12TR	K	2/7/2008	5000	2100	ug/l			6010	J
OHD004201091	P-02	K	8/9/2008	5000	4900	ug/l			6010	J
OHD004201091	P-14	K	8/9/2008	5000	1500	ug/l			6010	J
OHD004201091	P-08R	K	8/8/2008	5000	4100	ug/l	D		6010	J
OHD004201091	P-12	K	8/9/2008	5000	4900	ug/l			6010	J
OHD004201091	P-08R	K	8/8/2008	5000	4200	ug/l			6010	J
OHD004201091	P-14T	K	2/7/2008	5000	1000	ug/l			6010	J
OHD004201091	P-13T	K	2/7/2008	5000	9100	ug/l			6010	J
OHD004201091	P-16	K	8/8/2008	5000	2600	ug/l			6010	J
OHD004201091	P-16T	K	8/8/2008	5000	1900	ug/l			6010	J
OHD004201091	P-13	K	2/7/2008	5000	2200	ug/l			6010	J
OHD004201091	P-14	K	2/7/2008	5000	1200	ug/l			6010	J
OHD004201091	P-14	Na	8/9/2008	5	9.1	mg/l			6010	J
OHD004201091	P-16T	Na	2/6/2008	5	63.7	mg/l			6010	J
OHD004201091	P-14T	Na	2/7/2008	5	14.8	mg/l	D		6010	J
OHD004201091	P-14T	Na	2/7/2008	5	15.4	mg/l			6010	J
OHD004201091	P-12	Na	8/9/2008	5	126	mg/l			6010	J
OHD004201091	P-08T	Na	8/8/2008	5	63.9	mg/l			6010	J
OHD004201091	P-02	Na	2/7/2008	5	105	mg/l			6010	J
OHD004201091	P-16T	Na	8/8/2008	5	42.8	mg/l			6010	J
OHD004201091	P-08T	Na	2/6/2008	5	10.4	mg/l			6010	J
OHD004201091	P-14	Na	2/7/2008	5	8.2	mg/l			6010	J
OHD004201091	P-12	Na	2/7/2008	5	115	mg/l			6010	J
OHD004201091	P-12TR	Na	2/7/2008	5	50.4	mg/l			6010	J
OHD004201091	P-02	Na	8/9/2008	5	107	mg/l			6010	J

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-13	Na	2/7/2008	5	41.1	mg/l			6010	
OHD004201091	P-16	Na	8/8/2008	5	60.6	mg/l			6010	
OHD004201091	P-08R	Na	2/6/2008	5	174	mg/l			6010	
OHD004201091	P-13T	Na	8/9/2008	5	30.3	mg/l			6010	
OHD004201091	P-12TR	Na	8/9/2008	5	48.7	mg/l			6010	
OHD004201091	P-13T	Na	2/7/2008	5	23.2	mg/l			6010	J
OHD004201091	P-13	Na	8/9/2008	5	38	mg/l			6010	
OHD004201091	P-14T	Na	8/9/2008	5	13.9	mg/l			6010	
OHD004201091	P-02T	Na	8/9/2008	5	46.5	mg/l			6010	
OHD004201091	P-08R	Na	8/8/2008	5	180	mg/l			6010	
OHD004201091	P-02T	Na	2/7/2008	5	48.5	mg/l			6010	
OHD004201091	P-08R	Na	8/8/2008	5	177	mg/l	D		6010	
OHD004201091	P-16	Na	2/6/2008	5	65.1	mg/l			6010	
OHD004201091	P-08T	Na dis	2/6/2008	5	19	mg/l			6010	J
OHD004201091	P-14T	Na dis	8/9/2008	5	15.4	mg/l			6010	
OHD004201091	P-14T	Na dis	2/7/2008	5	15.1	mg/l	D		6010	
OHD004201091	P-13	Na dis	8/9/2008	5	36.9	mg/l			6010	
OHD004201091	P-16	Na dis	2/6/2008	5	67.3	mg/l			6010	
OHD004201091	P-16T	Na dis	4/1/2008	5	60.1	mg/l			6010	
OHD004201091	P-16	Na dis	8/8/2008	5	61.2	mg/l			6010	
OHD004201091	P-08T	Na dis	9/22/2008	5	31	mg/l			6010	
OHD004201091	P-08R	Na dis	8/8/2008	5	174	mg/l	D		6010	
OHD004201091	P-08R	Na dis	2/6/2008	5	183	mg/l			6010	
OHD004201091	P-08R	Na dis	9/22/2008	5	176	mg/l			6010	
OHD004201091	P-08R	Na dis	4/1/2008	5	191	mg/l			6010	
OHD004201091	P-14T	Na dis	2/7/2008	5	14.1	mg/l			6010	
OHD004201091	P-08R	Na dis	8/8/2008	5	179	mg/l			6010	
OHD004201091	P-12TR	Na dis	8/9/2008	5	52.5	mg/l			6010	
OHD004201091	P-13T	Na dis	2/7/2008	5	32.6	mg/l			6010	J
OHD004201091	P-13T	Na dis	8/9/2008	5	36.8	mg/l			6010	
OHD004201091	P-14	Na dis	2/7/2008	5	7.9	mg/l			6010	
OHD004201091	P-12	Na dis	2/7/2008	5	104	mg/l			6010	
OHD004201091	P-14	Na dis	8/9/2008	5	9.5	mg/l			6010	
OHD004201091	P-02	Na dis	2/7/2008	5	103	mg/l			6010	
OHD004201091	P-02T	Na dis	2/7/2008	5	48.8	mg/l			6010	
OHD004201091	P-16T	Na dis	8/8/2008	5	42.7	mg/l			6010	
OHD004201091	P-08T	Na dis	8/8/2008	5	67.2	mg/l			6010	
OHD004201091	P-12	Na dis	8/9/2008	5	115	mg/l			6010	
OHD004201091	P-02	Na dis	8/9/2008	5	112	mg/l			6010	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-16T	Na dis	2/6/2008	5	65.2	mg/l			6010	
OHD004201091	P-13	Na dis	2/7/2008	5	38.3	mg/l			6010	
OHD004201091	P-02T	Na dis	8/9/2008	5	45.4	mg/l			6010	
OHD004201091	P-12TR	Na dis	2/7/2008	5	51.3	mg/l			6010	
OHD004201091	P-02T	Sulfate	9/23/2008	5	680	mg/l			E300-28DAY	
OHD004201091	P-02	Sulfate	8/9/2008	5	225	mg/l			E300-28DAY	
OHD004201091	P-14	Sulfate	8/9/2008	2	64.5	mg/l			E300-28DAY	
OHD004201091	P-16T	Sulfate	4/1/2008	5	684	mg/l			E300-28DAY	
OHD004201091	P-08R	Sulfate	2/6/2008	5	43.8	mg/l			E300-28DAY	
OHD004201091	P-08T	Sulfate	2/6/2008	1	126	mg/l			E300-28DAY	
OHD004201091	P-02T	Sulfate	4/1/2008	5	716	mg/l			E300-28DAY	
OHD004201091	P-13T	Sulfate	4/2/2008	5	379	mg/l			E300-28DAY	
OHD004201091	P-02T	Sulfate	2/7/2008	5	660	mg/l			E300-28DAY	
OHD004201091	P-13T	Sulfate	4/2/2008	5	377	mg/l	D		E300-28DAY	
OHD004201091	P-14T	Sulfate	8/9/2008	1	47.1	mg/l			E300-28DAY	
OHD004201091	P-16	Sulfate	9/22/2008	5	515	mg/l			E300-28DAY	
OHD004201091	P-13	Sulfate	2/7/2008	1	126	mg/l			E300-28DAY	
OHD004201091	P-13	Sulfate	8/9/2008	2	117	mg/l			E300-28DAY	
OHD004201091	P-13T	Sulfate	8/9/2008	2	215	mg/l			E300-28DAY	
OHD004201091	P-16T	Sulfate	8/8/2008	5	573	mg/l			E300-28DAY	
OHD004201091	P-16	Sulfate	2/6/2008	5	548	mg/l			E300-28DAY	
OHD004201091	P-14T	Sulfate	2/7/2008	1	47.1	mg/l			E300-28DAY	
OHD004201091	P-12	Sulfate	8/9/2008	1	79	mg/l			E300-28DAY	
OHD004201091	P-08R	Sulfate	8/8/2008	5	34.3	mg/l			E300-28DAY	
OHD004201091	P-12TR	Sulfate	8/9/2008	5	110	mg/l			E300-28DAY	
OHD004201091	P-16T	Sulfate	2/6/2008	5	641	mg/l			E300-28DAY	
OHD004201091	P-02T	Sulfate	8/9/2008	5	679	mg/l			E300-28DAY	
OHD004201091	P-12	Sulfate	2/7/2008	1	85.3	mg/l			E300-28DAY	
OHD004201091	P-08R	Sulfate	8/8/2008	5	35.9	mg/l	D		E300-28DAY	
OHD004201091	P-16	Sulfate	4/1/2008	5	604	mg/l			E300-28DAY	
OHD004201091	P-12TR	Sulfate	2/7/2008	1	151	mg/l			E300-28DAY	
OHD004201091	P-08T	Sulfate	8/8/2008	5	160	mg/l			E300-28DAY	
OHD004201091	P-16	Sulfate	8/8/2008	5	512	mg/l			E300-28DAY	
OHD004201091	P-02	Sulfate	2/7/2008	5	284	mg/l			E300-28DAY	
OHD004201091	P-16T	Sulfate	9/22/2008	5	592	mg/l			E300-28DAY	
OHD004201091	P-14T	Sulfate	2/7/2008	1	47.4	mg/l	D		E300-28DAY	
OHD004201091	P-13T	Sulfate	2/7/2008	5	377	mg/l			E300-28DAY	
OHD004201091	P-14	Sulfate	2/7/2008	1	65.7	mg/l			E300-28DAY	
OHD004201091	P-08T	TDS	8/8/2008	10000	740000	ug/l			E160.1	

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-14T	TDS	8/9/2008	10000	440000	ug/l			E160.1	
OHD004201091	P-16T	TDS	8/8/2008	10000	1200000	ug/l			E160.1	
OHD004201091	P-13	TDS	8/9/2008	10000	680000	ug/l			E160.1	
OHD004201091	P-12TR	TDS	8/9/2008	10000	610000	ug/l			E160.1	
OHD004201091	P-14	TDS	8/9/2008	10000	480000	ug/l			E160.1	
OHD004201091	P-08R	TDS	8/8/2008	10000	820000	ug/l			E160.1	
OHD004201091	P-02	TDS	8/9/2008	10000	790000	ug/l			E160.1	
OHD004201091	P-02T	TDS	8/9/2008	20000	1400000	ug/l			E160.1	
OHD004201091	P-13T	TDS	8/9/2008	10000	750000	ug/l			E160.1	
OHD004201091	P-16	TDS	8/8/2008	10000	1300000	ug/l			E160.1	
OHD004201091	P-08R	TDS	8/8/2008	10000	800000	ug/l	D		E160.1	
OHD004201091	P-12	TDS	8/9/2008	10000	540000	ug/l			E160.1	
OHD004201091	P-16	TSS	8/8/2008	4000	10000	ug/l			E160.2	
OHD004201091	P-02T	TSS	8/9/2008	4000	3000	ug/l			E160.2	J
OHD004201091	P-08R	TSS	8/8/2008	ND<4000		ug/l			E160.2	UJ
OHD004201091	P-12TR	TSS	8/9/2008	ND<4000		ug/l			E160.2	UJ
OHD004201091	P-13T	TSS	8/9/2008	4000	530000	ug/l			E160.2	
OHD004201091	P-16T	TSS	8/8/2008	ND<4000		ug/l			E160.2	UJ
OHD004201091	P-02	TSS	8/9/2008	4000	3000	ug/l			E160.2	J
OHD004201091	P-14	TSS	8/9/2008	4000	5000	ug/l			E160.2	
OHD004201091	P-12	TSS	8/9/2008	ND<4000		ug/l			E160.2	UJ
OHD004201091	P-14T	TSS	8/9/2008	4000	6000	ug/l			E160.2	
OHD004201091	P-13	TSS	8/9/2008	4000	3000	ug/l			E160.2	J
OHD004201091	P-08T	TSS	8/8/2008	ND<4000		ug/l			E160.2	UJ
OHD004201091	P-08R	TSS	8/8/2008	ND<4000		ug/l	D		E160.2	UJ
OHD004201091	P-01	GWL	2/6/2008		738.81	feet				
OHD004201091	P-01	GWL	8/8/2008		737.88	feet				
OHD004201091	P-01T	GWL	2/6/2008		740.51	feet				
OHD004201091	P-02	GWL	2/6/2008		743.56	feet				
OHD004201091	P-02	GWL	8/8/2008		742.94	feet				
OHD004201091	P-02T	GWL	2/6/2008		743.55	feet				
OHD004201091	P-02T	GWL	8/8/2008		742.99	feet				
OHD004201091	P-03R	GWL	2/6/2008		743.96	feet				
OHD004201091	P-03R	GWL	8/8/2008		743.08	feet				
OHD004201091	P-03T	GWL	2/6/2008		743.74	feet				
OHD004201091	P-03T	GWL	8/8/2008		743.07	feet				
OHD004201091	P-08R	GWL	2/6/2008		743.68	feet				
OHD004201091	P-08R	GWL	8/8/2008		743.66	feet				
OHD004201091	P-08T	GWL	2/6/2008		744.31	feet				

GWDATA.XLS  
CLOSED LANDFILL  
ELYRIA, OHIO

FCID	WELL_ID	PARAMETER	SAMP_DATE	CHR_DATA	REAL_DATA	UNITS	DUP_CODE	REP_CODE	METH_CODE	DATA_QUAL
OHD004201091	P-08T	GWL	8/8/2008		743.31	feet				
OHD004201091	P-11	GWL	2/6/2008		742.23	feet				
OHD004201091	P-11	GWL	8/8/2008		741.26	feet				
OHD004201091	P-12	GWL	2/6/2008		748.92	feet				
OHD004201091	P-12	GWL	8/8/2008		744.12	feet				
OHD004201091	P-12TR	GWL	2/6/2008		749.38	feet				
OHD004201091	P-12TR	GWL	8/8/2008		744.3	feet				
OHD004201091	P-13	GWL	2/6/2008		747.23	feet				
OHD004201091	P-13	GWL	8/8/2008		743.65	feet				
OHD004201091	P-13T	GWL	2/6/2008		747.95	feet				
OHD004201091	P-13T	GWL	8/8/2008		743.65	feet				
OHD004201091	P-14	GWL	2/6/2008		748.71	feet				
OHD004201091	P-14	GWL	8/8/2008		744.85	feet				
OHD004201091	P-14T	GWL	2/6/2008		749	feet				
OHD004201091	P-14T	GWL	8/8/2008		744.87	feet				
OHD004201091	P-15	GWL	2/6/2008		749.3	feet				
OHD004201091	P-15	GWL	8/8/2008		744.29	feet				
OHD004201091	P-16T	GWL	2/6/2008		739.48	feet				
OHD004201091	P-16T	GWL	8/8/2008		738.24	feet				
OHD004201091	P-15T	GWL	2/6/2008		749.3	feet				
OHD004201091	P-15T	GWL	8/8/2008		744.26	feet				
OHD004201091	P-16	GWL	2/6/2008		739.43	feet				
OHD004201091	P-16	GWL	8/8/2008		737.91	feet				
OHD004201091	P-17	GWL	2/6/2008		749.04	feet				
OHD004201091	P-17	GWL	8/8/2008		744.15	feet				
OHD004201091	P-18	GWL	2/6/2008		744.62	feet				
OHD004201091	P-18	GWL	8/8/2008		744.83	feet				
OHD004201091	P-19	GWL	2/6/2008		743.36	feet				
OHD004201091	P-19	GWL	8/8/2008		743.42	feet				
OHD004201091	P-20	GWL	2/6/2008		741.03	feet				
OHD004201091	P-20	GWL	8/8/2008		739.69	feet				
OHD004201091	P-21	GWL	2/6/2008		742.38	feet				
OHD004201091	P-21	GWL	8/8/2008		741.54	feet				

APPENDIX B

GROUNDWATER FLOW VELOCITY CALCULATIONS



TABLE B.1

**GROUNDWATER FLOW RATE IN TILL CONTACT WATER-BEARING ZONE  
CLOSED LANDFILL  
ELYRIA, OHIO**

Gradient	$I = \frac{(749.38-739.48)}{655} = 0.015 \text{ ft/ft}$	6-Feb-08
	$I = \frac{(744.87-738.24)}{657} = 0.010 \text{ ft/ft}$	8-Aug-08
	$I = \frac{0.015 + 0.010}{2} = 0.013 \text{ ft/ft}$	Average
Hydraulic Conductivity	$K = 4.1 \times 10^{-4} \text{ cm/sec} = 1.16 \text{ ft/day}$	
Porosity	$n = 0.15^*$	
Flow Rate	$v = \frac{(1.16 \text{ ft/day}) \times (0.013 \text{ ft/ft})}{0.15}$	
	$v = 36.7 \text{ ft/yr}$	

## Note:

- \* Value for sandstone. Till contact wells are partially screened in clay till and partially screened in sandstone. The porosity for sandstone will provide a more conservative value for velocity.

TABLE B.2

**GROUNDWATER FLOW RATE IN BEDROCK WATER-BEARING ZONE  
CLOSED LANDFILL  
ELYRIA, OHIO**

Gradient	$I = \frac{(749.30-738.81)}{863} = 0.012 \text{ ft/ft}$	6-Feb-08
----------	---	----------

$I = \frac{(744.85-737.88)}{669} = 0.010 \text{ ft/ft}$	8-Aug-08
---	----------

$I = \frac{0.011 + 0.012}{2} = 0.011 \text{ ft/ft}$	Average
---	---------

Hydraulic Conductivity	$K = 1.9 \times 10^{-4} \text{ cm/sec} = 5.4 \times 10^{-1} \text{ ft/day}$
---------------------------	---

Porosity	$n = 0.15$
----------	------------

Flow Rate	$v = \frac{(0.54 \text{ ft/day}) \times (0.011 \text{ ft/ft})}{0.15}$
-----------	---

$v = 14.5 \text{ ft/yr}$
--------------------------

APPENDIX C

WELL PURGE FORMS



APPENDIX C-1

WELL PURGE FORMS – FEBRUARY 2008  
(SEMI-ANNUAL EVENT)



01 (1540)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-SO1D11

Date: 2-6-08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: R-BT  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.41

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1500	200	7.41	-	6.87	5.78	0.751	151	2.69	3.8		
1510	↓	↓	0	6.84	5.91	0.746	91	1.73	1.9		
1520	↓	↓	0	6.83	5.94	0.744	69	1.24	8.3		
1525	↓	↓	0	6.81	5.86	0.743	54	0.912	5.72		
1535	↓	↓	0	6.79	5.81	0.742	49	0.971	5.84		
1540	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \cdot 12)(2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .



03 (1750)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**  
 Project Name: LEARN ELYRIA  
 Ref. No.: \_\_\_\_\_

Date: 2-6-08  
 Personnel: D. Newton

**Monitoring Well Data:**  
 Well No.: P-16  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 8.19

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1655	150	8.19	-	-	No readings - flow meter		-	-	64		
1705	150	8.19	0	-	"	"	"	-	43		
1710	150	8.19	0	7.56	6.59	1.24	121	2.03	20		
1720	↓	↓	↓	7.40	6.54	1.23	110	1.80	13		
1730	↓	↓	↓	7.33	6.38	1.23	103	1.59	7.73		
1740	↓	↓	↓	7.24	6.31	1.23	95	1.49	5.64		
1750	collect	sample									

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p/V_s$ .

(1805) #04

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501011

Date: 2-6-08  
 Personnel: D. Norton

**Monitoring Well Data:**

Well No.: P-16T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.92

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1730	100	7.92	-	7.12	5.89	1.79	55	1.01	24.3		
1740	↓	7.95	0.03	7.09	5.87	1.78	47	0.88	18.6		
1750	↓	7.98	0.06	7.07	5.90	1.78	39	0.62	7.11		
1800	↓	8.02	0.10	7.06	5.92	1.77	34	0.51	5.74		
1805	collect		sample								

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12)(2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

05 (0826)

### MONITORING WELL RECORD FOR LOW-FLOW PURGING

**Project Data:**

Project Name: REALM FLYPIA  
 Ref. No.: 12616-71-S21011

Date: 2-7-08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-2  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 5.31

start pump  
0725

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0735	100	5.31	-	6.96	7.44	0.831	93.8	3.30	19		
0745		5.33	0.02	6.98	7.45	0.817	79.3	2.38	12		
0755		5.36	0.04	6.99	7.29	0.803	71.2	1.84	7.1		
0805		5.39	0.08	7.03	7.21	0.793	64	1.13	6.2		
0815		5.41	0.10	7.05	7.15	0.791	56.2	0.99	5.9		
0820	collect	sample									

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12) \times (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

06 (0900)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM EGYPTIA  
 Ref. No.: 12016-71-501011

Date: 2.7.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-2T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 6.25

*start 0800*

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0815	100	6.25	0	6.93	6.96	1.209	141	6.27	41		
0825		6.27	0.02	6.94	6.94	1.225	138	6.25	32		
0835		6.30	0.05	6.95	6.81	1.203	131	6.21	18		
0845		6.32	0.07	6.97	6.59	1.19	120	6.11	12		
0855	↓	6.34	0.09	6.96	6.52	1.17	114	6.06	9.31		
0900	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $No. \text{ of Well Screen Volumes Purged} = V_p / V_s$ .

#07 (1020)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: \_\_\_\_\_

Date: 2.7.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-13  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 3.71

start 0935

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0950	125	3.71	—	6.87	6.09	0.630	-3.2	3.41	13		
1000	125	3.71	0	6.85	6.02	0.630	-5.8	2.91	7.3		
1010	125	3.71	0	6.82	5.98	0.630	-11.9	0.54	5.1		
1020	125	3.71	0	6.81	6.01	0.630	-13.8	0.29	4.5		
	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

68 (1055)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501011

Date: 2.7.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-13T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 2.88

(purge 20 min prior to hook up)

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0945	100	2.88	—	6.64	4.24	0.730	88.1	1.17	73		
0955	↓	↓	0	6.68	4.30	0.724	72.4	1.03	59		
1005	↓	↓		6.73	4.20	0.720	56.3	0.89	46		
1015	↓	↓		6.75	4.04	0.717	43.6	0.71	30		
1025	↓	↓		6.77	4.09	0.714	31.9	0.52	22	clear	
1035	↓	↓	↓	6.74	4.06	0.711	24.6	0.46	24	"	
1045	↓	↓	↓	6.76	4.03	0.709	19.8	0.41	20	"	
1055	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12)(2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

09/MSD (1235)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM EGYPT  
 Ref. No.: 12616-71-501011

Date: 2-7-08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-12  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 2.91

start  
1125

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1140	200	2.91	0	6.94	7.05	0.532	98	3.16	38		
1150	200	2.91	0	6.92	7.27	0.541	87.1	2.88	22		
1200	200	2.91	0	7.03	7.57	0.545	70.5	2.44	15		
1210	↓	↓	↓	7.04	7.48	0.547	63	1.82	10		
1220	↓	↓	↓	7.06	7.43	0.548	50	1.56	5.9		
1230	↓	↓	↓	7.02	7.36	0.548	46	1.40	5.3		
1235	collect	sample									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616.71.50161

Date: 2-7-08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-12TR  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 2.84

start 1205

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1215	200	2.84	0	6.61	7.18	0.662	206	6.93	17		
1225	200	2.84	0	6.63	7.10	0.661	180	5.71	9.1		
1235	200	2.84	0	6.65	7.06	0.661	155	2.81	6.3		
1245				6.67	7.01	0.661	87	1.84	4.8		
1255				6.69	7.02	0.660	69	1.32	2.2		
1305				6.73	6.99	0.660	58	1.13	2.8		
1310	collect		sample								

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length, V<sub>s</sub>=π\*(D/2)<sup>2</sup>\*(5\*12)\*(2.54)<sup>3</sup>
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= V<sub>p</sub>/V<sub>s</sub>.

11 (1445)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: LFALM FLURIA  
 Ref. No.: 12616.71.501011

Date: 2.7.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-14  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 2.93

5 foot  
1340

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1355	200	2.93	-	6.95	7.56	0.46	4.4	0.352	98		
1410	200	2.93	0	6.91	7.57	0.47	3.2	0.471	76		
1420		↓	↓	6.83	7.59	0.48	-7	0.97	61		
1430		↓	↓	6.77	7.55	0.48	-12	1.06	50		
1440		↓	↓	6.79	7.53	0.48	-14	1.14	46		
1445	collect	sample									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

12/13 1520/1650

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-S01011

Date: 2.7.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-14T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 2.68

start 1430

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1450	200	2.68	-	6.79	6.11	0.432	174	2.75	14		
1500	↓	↓	0	6.75	6.04	0.432	171	1.65	9.2		
1510	↓	↓	0	6.67	5.76	0.431	166	1.34	4.3		
1520	↓	↓	0	6.68	5.73	0.431	161	1.26	3.09		
1520	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $No. \text{ of Well Screen Volumes Purged} = V_p / V_s$ .

APPENDIX C-2

WELL PURGE FORMS – APRIL 2008  
(CONFIRMATION EVENT)



(Confirmation Sampling)

Field File 01 (1340)

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: REALM ELYRIA
Ref. No.: 12016-71-501013

Date: 4.1.08
Personnel: D. Newton

Monitoring Well Data:

Well No.: P-8R
Measurement Point:
Constructed Well Depth (ft):
Measured Well Depth (ft):
Depth of Sediment (ft):

Screen Length (ft):
Depth to Pump Intake (ft)(1):
Well Diameter, D (in):
Well Screen Volume, Vs (mL)(2):
Initial Depth to Water (ft): 5.89

Table with columns: Time, Pumping Rate (mL/min), Depth to Water (ft), Drawdown from Initial Water Level (ft), pH, Temperature (°C), Conductivity (mS/cm), ORP (mV), DO (mg/L), Turbidity (NTU), Volume Purged, Vp (mL), No. of Well Screen Volumes Purged (4). Rows contain data from 1245 to 1340.

Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
(2) The well screen volume will be based on a 5-foot screen length, Vs=p\*(D/2)^2\*(5\*12)\*(2.54)^3
(3) The drawdown from the initial water level should not exceed 0.3 ft.
(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

02 (1500)

### MONITORING WELL RECORD FOR LOW-FLOW PURGING

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501013

Date: 4.1.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-8T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 5.11

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1415	150	5.11	-	6.56	9.7	0.984	138	2.79	21.3		
1425				6.57	9.4	0.983	109	2.37	15.6		
1435				6.59	9.2	0.982	94	2.01	9.31		
1445				6.55	8.9	0.978	77	1.61	6.78		
1455				6.53	8.8	0.977	45	1.28	4.41		
1500	collect	sample									

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

03 (1635)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12016-70-S01D13

Date: 4.1.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-16  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.04

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1530	150	7.04	—	6.90	9.6	1.88	81	7.99	121.2		
1540	150	7.14	0.10	6.87	9.5	1.88	57	7.02	93.5		
1550	150	7.19	0.15	6.83	9.8	1.88	32	5.15	71.7		
1600	100	7.27	0.23	6.84	9.4	1.89	25	4.61	48.4		
1610	100	7.38	0.34	6.85	9.1	1.89	18	3.58	40.3		
1620	100	7.46	0.42	6.86	9.2	1.89	13	3.02	36.7		
1625	100	7.51	0.47	6.87	9.0	1.89	8	2.11	34.8		
1630	100	7.56	0.52	6.88	8.9	1.90	6	1.72	29.3		
1635	collect	sample									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = p \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

04 (1820)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501013

Date: 4.1.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-16T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 6.87

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1710	100	6.82	-	6.99	7.8	1.86	93	4.98	50.1		
1720	100	6.93	0.11	6.97	7.6	1.82	97	4.72	27.2		
1730	100	6.99	0.17	6.95	7.5	1.80	106	4.34	11.9		
1740	100	7.08	0.26	6.94	7.7	1.78	112	3.91	6.54		
1750	100	7.17	0.35	6.95	7.8	1.76	120	3.61	5.56		
1800	100	7.25	0.43	6.95	7.5	1.78	126	3.74	5.07		
1810	100	7.31	0.49	6.97	7.4	1.77	128	3.79	5.32		
1815	100	7.39	0.57	6.96	7.3	1.77	130	3.85	4.68		
1820	collect sample	sample									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = p \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

05 (1930)

MONITORING WELL RECORD FOR LOW-FLOW PURGING

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501013

Date: 4.1.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-2T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 5.60

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1840	100	5.60	—	7.09	7.7	2.10	189	7.03	40.1		
1850	100	5.69	0.09	7.05	7.7	2.10	153	6.21	23.2		
1900	100	5.77	0.17	6.99	7.8	2.10	147	4.54	11.93		
1910	100	5.85	0.25	6.95	7.8	2.10	138	3.90	7.22		
1920	100	5.94	0.34	6.93	8.1	2.10	112	3.34	5.91		
1925	100	6.01	0.41	6.95	8.0	2.10	108	3.12	5.13		
1930	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $No. \text{ of Well Screen Volumes Purged} = V_p / V_s$ .

06 (0810)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501013

Date: 4.2.08  
 Personnel: D. Nauter

**Monitoring Well Data:**

Well No.: P-2  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 4.67

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0655	125	4.67	4.67	7.26	8.6	1.38	148	5.72	30		
0705	125	4.67	0	7.27	8.5	1.38	124	4.91	17.1		
0715	125	4.67	0	7.24	8.4	1.39	94	4.45	10.2		
0725	125	4.67	0	7.18	8.4	1.38	74	3.60	6.88		
0735	125	4.67	0	7.16	8.2	1.38	56	2.84	5.12		
0745	125	4.67	0	7.14	8.1	1.38	39	2.29	3.80		
0755	125	4.67	0	7.15	8.3	1.38	31	1.87	3.12		
0805	125	4.67	0	7.13	8.2	1.38	27	1.65	2.87		
0810	collect sample										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501013

Date: 4.2.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-13  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 3.02

*(start purge @ 1056 - very turbid)*

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1120	150	3.02	—	6.99	6.9	1.07	-4	4.21	154		
1130	150	3.02	0	7.00	6.9	1.07	-10	3.27	174		
1140	150	3.02	0	6.97	6.8	1.08	-22	2.54	125		
1150	150	3.02	0	6.96	6.9	1.05	-32	2.44	87.1		
1200	150	3.02	0	6.97	6.9	1.04	-39	2.16	24.2		
1210	150	3.02	0	6.98	6.8	1.05	-43	1.97	8.22		
1220	150	3.02	0	6.99	6.7	1.05	-41	1.94	3.15		
1225	collect sample	3.02	0								

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $No. \text{ of Well Screen Volumes Purged} = V_p / V_s$ .

07/09 (10/1130)

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71-501013

Date: 4-2-08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-13T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 2.70

*(start purge  
0845 - very  
turbid)*

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0905	200	2.70	-	7.05	5.6	1.32	56	3.08	190		
0915	200	2.70	0	7.02	5.7	1.32	50	2.83	204		
0925	200	2.70	0	6.98	5.8	1.33	42	2.05	178		
0935	↓	↓	↓	6.98	5.7	1.37	36	1.69	161		
0945	↓	↓	↓	6.98	5.8	1.39	35	1.60	268		
0955	↓	↓	↓	6.99	5.8	1.39	37	1.81	241		
1005	↓	↓	↓	6.97	5.7	1.38	41	1.95	257		
1010	collect	sample									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = p \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

APPENDIX C-3

WELL PURGE FORMS – AUGUST 2008  
(SEMI-ANNUAL EVENT)



**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: ZEALM ELYRIA  
 Ref. No.: 12616-71-S01011

Date: 8-8-08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-16  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 9.71

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1110	150	9.71	0	6.63	15.8	1.80	-43	4.71	121		
1120		9.74	0.03	6.66	16.6	1.80	-51	4.32	73.1		
1130		9.76	0.05	6.68	16.8	1.80	-57	4.20	51.3		
1140		9.78	0.07	6.69	17.1	1.81	-62	4.12	27.4		
1150		9.80	0.09	6.71	17.3	1.81	-64	4.05	14.8		
1200		9.82	0.11	6.73	17.4	1.81	-67	3.98	9.32		
1210	↓	9.84	0.13	6.73	17.5	1.81	-71	3.97	7.29		
1220		9.86	0.15	6.74	17.6	1.81	-78	3.95	7.96		
1230	c-16st sample	sample	01								

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616 71 SP101

Date: 8-8-08  
 Personnel: \_\_\_\_\_

**Monitoring Well Data:**

Well No.: P-16T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 9.16

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1215	150	9.16	—	6.9	16.1	0.922	229	2.9	164		
1225	↓	9.19	0.03	6.9	16.6	0.921	207	2.6	112		
<del>1240</del>		9.23	0.07	6.9	16.9	0.921	201	2.3	68.7		
1250		9.27	0.11	6.9	17.5	0.921	195	2.0	42.3		
1300		9.30	0.14	6.9	17.7	0.921	187	1.9	33.6		
1310		9.34	0.18	6.8	17.8	0.921	181	1.8	27.2		
1320		9.37	0.21	6.8	17.9	0.921	176	1.7	28.6		
1330		9.41	0.25	6.9	17.9	0.921	171	1.8	24.2		
1330		collected sample	sample	"02"							

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12) \times (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$ .

03/04

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM FLUPIA  
 Ref. No.: 12616-71-501011

Date: 0808  
 Personnel: D Newton

**Monitoring Well Data:**

Well No.: P-8R  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.43

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1310	150	7.43	<del>0.13</del>	7.19	14.9	1.51	72	4.01	63.4		
1320		7.43	—	7.16	14.8	1.51	52	3.73	37.2		
1330		7.43	—	7.12	14.5	1.50	19	2.38	21.8		
1340			—	7.11	14.1	1.50	-37	1.06	12.4		
1350			—	7.09	14.1	1.50	-47	0.98	8.27		
1400			—	7.08	14.2	1.50	-55	0.92	6.92		
1410			—	7.05	14.4	1.50	-63	0.81	5.09		
1420	collect sample	sample "03"									
1450			"04" DUPLICATE								

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: Realn Flynta  
 Ref. No.: 12616-71.0501011

Date: 8 8 08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-8T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.02

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1445	150	7.82	-	6.8	15.7	1.32	245	6.1	49.4		
1505	↓	↓	↓	6.8	15.9	1.43	226	5.8	31.6		
1515	↓	↓	↓	6.7	16.2	1.56	198	4.9	18.1		
1525	↓	↓	↓	6.6	16.4	1.69	181	4.1	10.5		
1535	↓	↓	↓	6.5	16.5	1.66	169	3.7	7.22		
1545	↓	↓	↓	6.6	16.3	1.66	151	3.5	5.89		
1550	↓	↓	↓	6.5	16.1	1.66	143	3.1	5.13		
1555	collect sample	sample	"05"								

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REAM Elyria  
 Ref. No.: 12616-71-501011

Date: 8.9.08  
 Personnel: \_\_\_\_\_

**Monitoring Well Data:**

Well No.: P-2  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 5.93

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0720	150	5.93	—	6.8	17.4	2.81	199	1.81	120		
0730	150	5.99	0.06	6.8	17.8	2.69	184	1.66	81.6		
0740		6.04	0.09	6.8	17.8	2.53	173	1.53	32.9		
0750		6.09	0.16	6.9	17.9	2.31	160	1.54	41.7		
0800		6.13	0.20	6.9	18.1	2.17	151	1.39	21.1		
0810		6.17	0.24	6.9	18.2	2.11	143	1.31	13.8		
0820		6.24	0.31	7.0	18.3	2.04	141	1.22	8.26		
0825		6.28	0.35	7.1	18.0	2.01	133	1.17	4.16		
0830	Collect	Sample	"06"								

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALME ELYRIA  
 Ref. No.: 12616-71 - 501011

Date: 8.9.08  
 Personnel: D Newton

**Monitoring Well Data:**

Well No.: P-ZT  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 6.81

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>	
0810	150	6.81	—	6.51	16.4	2.08	121	3.68	78.1			
0820	↓	6.84	0.03	6.53	16.5	2.07	95	3.81	50.6			
0835		6.88	0.07	6.54	16.6	2.07	65	3.87	31.9			
0845		6.92	0.11	6.55	16.7	2.06	48	3.84	14.8			
0855		6.97	0.16	6.61	16.9	2.06	29	3.89	8.21			
0905		7.02	0.21	6.65	17.3	2.06	13	2.74	5.92			
0910		collect sample	7.06	0.25	6.69	17.4	2.06	9	2.50	3.87		
0915			"07"									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p / V_s$ .



**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM Elyria  
 Ref. No.: 12616-71 & 501011

Date: 8-9-08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-13 T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.18

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1000	150	7.18	—	6.6	22.0	1.58	-38	5.9	221		
1015			—	6.7	21.8	1.58	-54	5.4	106		
1025			—	6.7	21.9	1.57	-67	5.2	86.2		
1035			—	6.8	21.6	1.57	-89	3.9	74.1		
1045			—	6.8	21.4	1.57	-105	2.6	52.3		
1050			—	6.9	23.5	1.57	-114	2.1	33.6		
1055			—	6.9	23.5	1.57	-104	1.9	18.1		
1100			—	6.9	23.6	1.57	-101	1.7	14.6		
1105			—	6.9	23.7	1.57	-99	1.6	9.22		
1110			—	6.8	23.4	1.57	-97	1.7	6.39		
1115			—	6.8	23.2	1.57	-100	1.8	5.51		
1115	collect sample '09'										

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM Elyria  
 Ref. No.: 12616-71-501011

Date: 8.9.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-14  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 6.79

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>		
1240	150	6.79	—	6.91	18.8	0.819	-105	4.40	121				
1245	↓	↓	—	6.88	18.6	0.826	-101	4.39	82.3				
1255				6.81	18.5	0.829	-99	4.38	51.2				
1305				6.73	17.9	0.865	-93	4.56	42.7				
1315				6.75	17.7	0.866	-91	4.59	35.2				
1325				6.77	17.6	0.868	-88	4.59	12.2				
1335				6.78	17.7	0.869	-86	4.61	5.6				
1335				collect	sample	"10"							

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

## MONITORING WELL RECORD FOR LOW-FLOW PURGING

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12-616-71-501011

Date: 8.9.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-14T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 6.81

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>		
1330	150	6.81	—	6.9	17.7	0.479	212	3.9	93.5				
1345	↓	↓	—	6.8	17.4	0.486	204	3.6	145				
1355				6.8	17.5	0.476	199	3.1	78.6				
1405				6.7	17.4	0.441	198	2.1	46.2				
1415				6.7	17.1	0.452	196	1.6	28.7				
1425				6.6	15.9	0.451	191	1.1	21.6				
1435				6.8	15.7	0.451	181	0.98	14.2				
1445				6.8	15.4	0.451	174	0.91	9.26				
1455				6.8	15.6	0.451	163	0.92	4.16				
1500				collect sample	sample "11"								

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RETUM EGYPT  
 Ref. No.: 12616-71-501011

Date: 8.9.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-12  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.71

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1420	150	7.71	—	7.2	16.6	0.27	249	5.9	42.1		
1430	↓	↓	↓	7.1	16.2	1.08	176	5.3	23.7		
1440				7.0	15.6	3.24	77	2.7	16.4		
1450				7.1	15.3	3.27	43	2.5	9.23		
1500				15.0	3.30	27	2.4	11.29			
1520				14.5	3.30	21	2.2	6.34			
1525				14.2	3.32	19	2.1	3.81			
1530				collect sample	"12"						

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-38-50101

Date: 8.9.08  
 Personnel: P. Newton

**Monitoring Well Data:**

Well No.: P-12TR  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.92

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1605	150	7.92	-	6.67	17.1	1.09	102	3.99	57.1		
1615	↓	↓	↓	6.70	16.9	1.07	81	3.98	30.6		
1625	↓	↓	↓	6.71	16.8	1.05	70	3.86	12.2		
1635	↓	↓	↓	6.72	16.6	1.03	53	3.78	7.16		
1645	↓	↓	↓	6.77	16.5	1.02	43	3.65	6.20		
1655	↓	↓	↓	6.82	16.3	1.02	39	3.61	7.09		
1710	collect sample	sample	13"								

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

APPENDIX C-4

WELL PURGE FORMS – SEPTEMBER 2008  
(CONFIRMATION EVENT)



Field File  
 9-08  
 DW

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71

Date: 9-22-08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-0R  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.54

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1450	150	7.54	—	6.89	16.01	1.43	-52	2.87	41.21		
1500	↓	↓	↓	6.96	16.09	1.44	-76	2.18	23.64		
1510	↓	↓	↓	7.15	16.28	1.44	-79	1.39	15.78		
1520	↓	↓	↓	7.33	16.49	1.43	-88	0.88	10.26		
1530	↓	↓	↓	7.35	16.45	1.43	-91	0.86	8.07		
1540	↓	↓	↓	7.34	16.38	1.43	-92	0.81	5.57		
1545	collect sample '01'										

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12)(2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REPLM ELYRIA  
 Ref. No.: 12516-71

Date: 7-22-08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-8T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.40

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1540	150	7.40	-	6.20	18.78	0.921	147	0.61	55.31		
1550	↓	↓	↓	6.45	18.91	0.930	128	0.66	40.26		
1600	↓	↓	↓	6.63	18.74	0.964	98	0.72	21.87		
1610	↓	↓	↓	6.91	18.57	0.984	67	0.79	12.99		
1620	↓	↓	↓	6.83	18.63	0.988	48	0.71	7.64		
1630	↓	↓	↓	6.74	18.70	0.985	31	0.63	4.26		
1635	collect sample	sample "oz"									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM - ELYRIA  
 Ref. No.: 12616.71

Date: 9.22.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-16T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 10.11

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1630	150	10.11	—	6.98	18.71	1.69	48	2.10	92.1		
1640		10.13	0.02	6.97	18.60	1.64	79	2.51	38.26		
1650		10.16	0.05	6.97	18.43	1.61	87	3.09	19.84		
1700		10.20	0.09	6.96	18.22	1.58	98	3.68	11.45		
1710		10.24	0.13	6.96	18.14	1.57	101	3.75	6.52		
1720		10.28	0.17	6.96	18.07	1.56	103	3.89	7.83		
1725		10.33	0.22	6.96	18.04	1.55	105	3.94	5.80		
1725	collet	sample "03"									

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = p \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

04

MONITORING WELL RECORD FOR LOW-FLOW PURGING

**Project Data:**

Project Name: REALM FLYRIA  
 Ref. No.: 12616-71

Date: 9.22.08  
 Personnel: D. Newton

**Monitoring Well Data:**

Well No.: P-16  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 9.05

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>	
1715	150	9.05	-	7.08	16.99	1.74	-41	0.91	132			
1725	↓	9.05	-	7.08	16.95	1.74	-54	0.76	71.23			
1735		9.05	-	7.06	16.77	1.74	-72	0.34	50.68			
1745		↓	↓	↓	7.08	16.80	1.74	-79	0.29	18.26		
1755		↓	↓	↓	7.08	16.82	1.74	-83	0.27	9.37		
1805		↓	↓	↓	7.08	16.84	1.74	-91	0.25	6.29		
1815	collect	sample "04"										

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing),  $\text{No. of Well Screen Volumes Purged} = V_p / V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71

Date: 9.23.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-2T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 8.78

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0730	150	8.78	<del>0</del>	7.07	14.80	1.93	-1	1.29	77.14		
0740		8.83	0.05	7.03	15.04	1.93	-2	1.01	51.36		
0750		8.86	0.08	7.01	15.12	1.93	-2	0.83	22.92		
0800		8.91	0.13	7.02	15.19	1.93	-3	0.67	18.74		
0810		8.95	0.17	6.95	15.26	1.93	-3	0.57	11.33		
0820		9.01	0.23	6.90	15.37	1.93	-4	0.55	5.96		
0830	collect sample "05"										

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid or appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be changing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71

Date: 9.23.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-2  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 7.93

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
0840	150	7.93	-	7.15	14.42	1.21	-22	0.39	112		
0850		7.96	0.03	7.16	14.71	1.22	-39	0.29	80.91		
0900		7.99	0.06	7.16	14.79	1.22	-42	0.24	48.33		
0910		8.03	0.10	7.16	14.86	1.22	-45	0.22	27.29		
0920		8.07	0.14	7.16	14.91	1.22	-49	0.23	16.12		
0930		8.11	0.18	7.16	14.94	1.22	-52	0.23	7.66		
0940		8.15	0.22	7.16	15.01	1.22	-54	0.21	4.18		
0945	collect sample		"06"								
	Duplicate		"07"								

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71

Date: 9.23.08  
 Personnel: D. NEWTON

Monitoring Well Data:

Well No.: P-13  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 10.00

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1000	150	10.0	-	7.00	17.38	1.05	-75	0.58	49.85		
1005				7.00	17.20	1.05	-77	0.58	31.29		
1015				7.01	17.17	1.06	-79	0.45	17.36		
1025				7.02	17.15	1.06	-82	0.42	14.52		
1035				7.02	17.13	1.06	-84	0.39	8.36		
1045				7.01	17.14	1.06	-86	0.37	5.12		
1050	Collect	sample	"08"								

- Notes:
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
  - (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
  - (3) The drawdown from the initial water level should not exceed 0.3 ft.
  - (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: REALM ELYRIA  
 Ref. No.: 12616-71

Date: 9.23.08  
 Personnel: D. NEWTON

**Monitoring Well Data:**

Well No.: P-13 T  
 Measurement Point: \_\_\_\_\_  
 Constructed Well Depth (ft): \_\_\_\_\_  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
 Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
 Well Diameter, D (in): \_\_\_\_\_  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
 Initial Depth to Water (ft): 10.01

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1015	100	10.01	-	6.70	17.64	1.89	-64	0.41	247		
1025		10.09	0.08	6.72	17.73	1.87	-58	0.59	164		
1035		10.16	0.15	6.74	17.98	1.85	-48	0.99	123		
1040		10.22	0.21	6.77	18.13	1.83	-30	1.81	286		
1045		10.30	0.29	6.75	18.19	1.82	-26	1.54	206		
1047	DRY	-	well	went	DRY	-	-	-	-		
	let recharge										
1205	collect		sample	"09"							

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p / V_s$ .

APPENDIX D

LABORATORY ANALYTICAL REPORTS



APPENDIX D-1

LABORATORY ANALYTICAL REPORT – FEBRUARY 2008  
(SEMI-ANNUAL EVENT)



**ANALYTICAL REPORT**

PROJECT NO. 12616-71-501011

REALM ELYRIA

Lot #: A8B090151

Angela Bown

Conestoga-Rovers & Associates  
9033 Meridian Way  
West Chester, OH 45069

TESTAMERICA LABORATORIES, INC.

*Denise Heckler for:*

Amy L. McCormick  
Project Manager

February 21, 2008

# CASE NARRATIVE

A8B090151

The following report contains the analytical results for twenty-one water samples submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Realm Elyria Site, project number 12616-71-501011. The samples were received February 09, 2008, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Angela Bown on February 19, 2008. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Any reference within this document to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.)

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 105.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperatures of the coolers upon sample receipt were 2.9, 3.6, and 2.2°C.

## **CASE NARRATIVE (continued)**

### **METALS**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

Serial dilution of a sample in this lot indicates that physical and chemical interferences were present. Refer to the sample report pages for the affected analytes flagged with "E".

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "J". Refer to the sample report pages for the affected analyte(s).

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for WG-12616-020708-DN-11 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for batch(es) 8042015 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

The matrix spike/matrix spike duplicate(s) for batch(es) 8042015 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GENERAL CHEMISTRY**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. TestAmerica 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.

For SW846/RCRA methods, 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.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### 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. Multi peak responders may not be included in the target spike list due to co-elution. 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. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) 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 in the table.)

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals ICP-MS</u>	<u>Metals ICP Trace</u>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (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.

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.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is 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 surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

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 and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

### **TestAmerica North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio VAP (#CL0024), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit,



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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-020608-DN-01 02/06/08 15:40 001</b>				
Barium - DISSOLVED	0.039 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	76.1 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	8.5 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	34.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.024 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	19.0	5.0	mg/L	SW846 6010B
Barium	0.037 B,J	0.20	mg/L	SW846 6010B
Calcium	74.8 J	5.0	mg/L	SW846 6010B
Iron	0.12	0.10	mg/L	SW846 6010B
Potassium	8.5 J	5.0	mg/L	SW846 6010B
Magnesium	36.1 J	5.0	mg/L	SW846 6010B
Manganese	0.035 J	0.015	mg/L	SW846 6010B
Sodium	10.4	5.0	mg/L	SW846 6010B
Nickel	0.0033 B	0.040	mg/L	SW846 6010B
Chloride	15.4	1.0	mg/L	MCAWW 300.0A
Sulfate	126	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020608-DN-02 02/06/08 16:35 002</b>				
Barium - DISSOLVED	0.088 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	96.5 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.13	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	3.7 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	21.1 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.046 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	183	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.011 B	0.040	mg/L	SW846 6010B
Barium	0.082 B,J	0.20	mg/L	SW846 6010B
Calcium	89.8 J	5.0	mg/L	SW846 6010B
Iron	0.16	0.10	mg/L	SW846 6010B
Potassium	3.3 B,J	5.0	mg/L	SW846 6010B
Magnesium	19.6 J	5.0	mg/L	SW846 6010B
Manganese	0.044 J	0.015	mg/L	SW846 6010B
Sodium	174	5.0	mg/L	SW846 6010B
Nickel	0.0094 B	0.040	mg/L	SW846 6010B
Chloride	162	5.0	mg/L	MCAWW 300.0A
Sulfate	43.8	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-020608-DN-03 02/06/08 17:50 003</b>				
Barium - DISSOLVED	0.047 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	229 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.99	0.10	mg/L	SW846 6010B

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# EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020608-DN-03 02/06/08 17:50 003</b>				
Potassium - DISSOLVED	2.2 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	72.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.21 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	67.3	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.14	0.040	mg/L	SW846 6010B
Barium	0.049 B,J	0.20	mg/L	SW846 6010B
Calcium	224 J	5.0	mg/L	SW846 6010B
Iron	4.7	0.10	mg/L	SW846 6010B
Potassium	2.0 B,J	5.0	mg/L	SW846 6010B
Magnesium	71.1 J	5.0	mg/L	SW846 6010B
Manganese	0.22 J	0.015	mg/L	SW846 6010B
Sodium	65.1	5.0	mg/L	SW846 6010B
Nickel	0.13	0.040	mg/L	SW846 6010B
Chloride	60.6	5.0	mg/L	MCAWW 300.0A
Sulfate	548	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-020608-DN-04 02/06/08 18:05 004</b>				
Barium - DISSOLVED	0.022 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	226 J	5.0	mg/L	SW846 6010B
Chromium - DISSOLVED	0.0044 B	0.010	mg/L	SW846 6010B
Potassium - DISSOLVED	1.6 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	65.7 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.0012	0.015	mg/L	SW846 6010B
	Qualifiers: B,J			
Sodium - DISSOLVED	65.2	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.025 B	0.040	mg/L	SW846 6010B
Barium	0.022 B,J	0.20	mg/L	SW846 6010B
Calcium	229 J	5.0	mg/L	SW846 6010B
Potassium	1.4 B,J	5.0	mg/L	SW846 6010B
Magnesium	66.3 J	5.0	mg/L	SW846 6010B
Manganese	0.0089	0.015	mg/L	SW846 6010B
	Qualifiers: B,J			
Sodium	63.7	5.0	mg/L	SW846 6010B
Nickel	0.023 B	0.040	mg/L	SW846 6010B
Total Cyanide	0.005 B	0.010	mg/L	MCAWW 335.2
Chloride	19.5	5.0	mg/L	MCAWW 300.0A
Sulfate	641	5.0	mg/L	MCAWW 300.0A

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# EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020708-DN-05 02/07/08 08:20 005</b>				
Barium - DISSOLVED	0.049 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	121 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.12	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	4.3 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	44.4 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.25 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	103	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.0062 B	0.040	mg/L	SW846 6010B
Barium	0.049 B,J	0.20	mg/L	SW846 6010B
Calcium	120 J	5.0	mg/L	SW846 6010B
Iron	0.20	0.10	mg/L	SW846 6010B
Potassium	4.4 B,J	5.0	mg/L	SW846 6010B
Magnesium	43.5 J	5.0	mg/L	SW846 6010B
Manganese	0.28 J	0.015	mg/L	SW846 6010B
Sodium	105	5.0	mg/L	SW846 6010B
Nickel	0.0062 B	0.040	mg/L	SW846 6010B
Chloride	29.3	5.0	mg/L	MCAWW 300.0A
Sulfate	284	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-06 02/07/08 09:00 006</b>				
Barium - DISSOLVED	0.019 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	250 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.13	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	1.2 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	105 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.12 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	48.8	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.0084 B	0.040	mg/L	SW846 6010B
Barium	0.020 B,J	0.20	mg/L	SW846 6010B
Calcium	249 J	5.0	mg/L	SW846 6010B
Iron	0.72	0.10	mg/L	SW846 6010B
Potassium	1.1 B,J	5.0	mg/L	SW846 6010B
Magnesium	104 J	5.0	mg/L	SW846 6010B
Manganese	0.15 J	0.015	mg/L	SW846 6010B
Sodium	48.5	5.0	mg/L	SW846 6010B
Nickel	0.0087 B	0.040	mg/L	SW846 6010B
Chloride	101	5.0	mg/L	MCAWW 300.0A
Sulfate	660	5.0	mg/L	MCAWW 300.0A

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# EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020708-DN-07 02/07/08 10:20 007</b>				
Barium - DISSOLVED	0.018 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	149 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	1.5	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	2.5 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	30.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.22 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	38.3	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.042	0.040	mg/L	SW846 6010B
Barium	0.021 B,J	0.20	mg/L	SW846 6010B
Calcium	157 J	5.0	mg/L	SW846 6010B
Iron	3.3	0.10	mg/L	SW846 6010B
Potassium	2.2 B,J	5.0	mg/L	SW846 6010B
Magnesium	31.6 J	5.0	mg/L	SW846 6010B
Manganese	0.24 J	0.015	mg/L	SW846 6010B
Sodium	41.1	5.0	mg/L	SW846 6010B
Nickel	0.046	0.040	mg/L	SW846 6010B
Chloride	23.4	1.0	mg/L	MCAWW 300.0A
Sulfate	126	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-08 02/07/08 10:55 008</b>				
Barium - DISSOLVED	0.024 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	169 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.53	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	8.2 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	48.7 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.22 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	32.6	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.034 B	0.040	mg/L	SW846 6010B
Barium	0.035 B,J	0.20	mg/L	SW846 6010B
Calcium	142 J	5.0	mg/L	SW846 6010B
Chromium	0.012	0.010	mg/L	SW846 6010B
Iron	4.7	0.10	mg/L	SW846 6010B
Potassium	9.1 J	5.0	mg/L	SW846 6010B
Magnesium	45.3 J	5.0	mg/L	SW846 6010B
Manganese	0.28 J	0.015	mg/L	SW846 6010B
Sodium	23.2	5.0	mg/L	SW846 6010B
Nickel	0.028 B	0.040	mg/L	SW846 6010B
Chloride	18.7	5.0	mg/L	MCAWW 300.0A
Sulfate	377	5.0	mg/L	MCAWW 300.0A

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# EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020708-DN-09 02/07/08 12:35 009</b>				
Barium - DISSOLVED	0.033 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	66.9 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.099 B	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	3.6 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	17.7 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.041 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	104	5.0	mg/L	SW846 6010B
Barium	0.030 B,J	0.20	mg/L	SW846 6010B
Calcium	61.0 J	5.0	mg/L	SW846 6010B
Iron	0.086 B	0.10	mg/L	SW846 6010B
Potassium	3.8 B,J	5.0	mg/L	SW846 6010B
Magnesium	16.1 J	5.0	mg/L	SW846 6010B
Manganese	0.021 J	0.015	mg/L	SW846 6010B
Sodium	115	5.0	mg/L	SW846 6010B
Chloride	19.4	1.0	mg/L	MCAWW 300.0A
Sulfate	85.3	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-10 02/07/08 13:10 010</b>				
Barium - DISSOLVED	0.064 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	125 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.26	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	2.1 B,J,E	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	32.6 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.024 J,E	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	51.3	5.0	mg/L	SW846 6010B
Barium	0.067 B,J	0.20	mg/L	SW846 6010B
Calcium	134 J	5.0	mg/L	SW846 6010B
Iron	0.59	0.10	mg/L	SW846 6010B
Potassium	2.1 B,J	5.0	mg/L	SW846 6010B
Magnesium	35.4 J	5.0	mg/L	SW846 6010B
Manganese	0.030 J	0.015	mg/L	SW846 6010B
Sodium	50.4	5.0	mg/L	SW846 6010B
Nickel	0.0036 B	0.040	mg/L	SW846 6010B
Chloride	10.5	1.0	mg/L	MCAWW 300.0A
Sulfate	151	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-11 02/07/08 14:45 011</b>				
Barium - DISSOLVED	0.058 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	117 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	1.7	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	1.2 B,J	5.0	mg/L	SW846 6010B

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A8B090151

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-020708-DN-11 02/07/08 14:45 011</b>				
Magnesium - DISSOLVED	26.5 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.14 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	7.9	5.0	mg/L	SW846 6010B
Barium	0.067 B,J	0.20	mg/L	SW846 6010B
Calcium	118 J	5.0	mg/L	SW846 6010B
Iron	7.4	0.10	mg/L	SW846 6010B
Potassium	1.2 B,J	5.0	mg/L	SW846 6010B
Magnesium	26.6 J	5.0	mg/L	SW846 6010B
Manganese	0.14 J	0.015	mg/L	SW846 6010B
Sodium	8.2	5.0	mg/L	SW846 6010B
Total Cyanide	0.076	0.010	mg/L	MCAWW 335.2
Chloride	7.9	1.0	mg/L	MCAWW 300.0A
Sulfate	65.7	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-12 02/07/08 15:20 012</b>				
Barium - DISSOLVED	0.022 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	114 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	1.1 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	22.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.10 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	14.1	5.0	mg/L	SW846 6010B
Barium	0.027 B,J	0.20	mg/L	SW846 6010B
Calcium	115 J	5.0	mg/L	SW846 6010B
Iron	0.16	0.10	mg/L	SW846 6010B
Potassium	1.0 B,J	5.0	mg/L	SW846 6010B
Magnesium	22.4 J	5.0	mg/L	SW846 6010B
Manganese	1.1 J	0.015	mg/L	SW846 6010B
Sodium	15.4	5.0	mg/L	SW846 6010B
Chloride	3.0	1.0	mg/L	MCAWW 300.0A
Sulfate	47.1	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-13 02/07/08 16:50 013</b>				
Barium - DISSOLVED	0.023 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	118 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	1.0 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	23.8 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.13 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	15.1	5.0	mg/L	SW846 6010B
Barium	0.026 B,J	0.20	mg/L	SW846 6010B
Calcium	117 J	5.0	mg/L	SW846 6010B
Iron	0.098 B	0.10	mg/L	SW846 6010B

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

A8B090151

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-020708-DN-13 02/07/08 16:50 013</b>				
Potassium	1.0 B,J	5.0	mg/L	SW846 6010B
Magnesium	23.2 J	5.0	mg/L	SW846 6010B
Manganese	0.83 J	0.015	mg/L	SW846 6010B
Sodium	14.8	5.0	mg/L	SW846 6010B
Total Cyanide	0.089	0.010	mg/L	MCAWW 335.2
Chloride	3.1	1.0	mg/L	MCAWW 300.0A
Sulfate	47.4	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020708-DN-14 02/07/08 17:25 014</b>				
Barium - DISSOLVED	0.022 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	91.1 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.12	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	593 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	21.6 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.059 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	78.0	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.24	0.040	mg/L	SW846 6010B
Barium	0.023 B,J	0.20	mg/L	SW846 6010B
Calcium	95.5 J	5.0	mg/L	SW846 6010B
Chromium	0.0040 B	0.010	mg/L	SW846 6010B
Iron	0.27	0.10	mg/L	SW846 6010B
Potassium	557 J	25.0	mg/L	SW846 6010B
Magnesium	22.7 J	5.0	mg/L	SW846 6010B
Manganese	0.063 J	0.015	mg/L	SW846 6010B
Sodium	81.4	5.0	mg/L	SW846 6010B
Nickel	0.26	0.040	mg/L	SW846 6010B
Chloride	156	5.0	mg/L	MCAWW 300.0A
Sulfate	921	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-15 02/08/08 17:25 015</b>				
Barium - DISSOLVED	0.016 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	67.1 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	1300 J	100	mg/L	SW846 6010B
Magnesium - DISSOLVED	8.3 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.023 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	188	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.66	0.040	mg/L	SW846 6010B
Barium	0.016 B,J	0.20	mg/L	SW846 6010B
Calcium	65.3 J	5.0	mg/L	SW846 6010B
Potassium	1300 J	100	mg/L	SW846 6010B
Magnesium	8.1 J	5.0	mg/L	SW846 6010B

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A8B090151

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-020808-DN-15 02/08/08 17:25 015</b>				
Manganese	0.023 J	0.015	mg/L	SW846 6010B
Sodium	183	5.0	mg/L	SW846 6010B
Nickel	0.64	0.040	mg/L	SW846 6010B
Chloride	400	10.0	mg/L	MCAWW 300.0A
Sulfate	1920	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-16 02/08/08 09:45 016</b>				
Barium - DISSOLVED	0.014 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	39.8 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.084 B	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	52.1 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	7.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.0047	0.015	mg/L	SW846 6010B
Qualifiers: B,J				
Sodium - DISSOLVED	7.5	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.021 B	0.040	mg/L	SW846 6010B
Barium	0.016 B,J	0.20	mg/L	SW846 6010B
Calcium	34.5 J	5.0	mg/L	SW846 6010B
Iron	1.3	0.10	mg/L	SW846 6010B
Potassium	45.4 J	5.0	mg/L	SW846 6010B
Magnesium	7.0 J	5.0	mg/L	SW846 6010B
Manganese	0.013 B,J	0.015	mg/L	SW846 6010B
Sodium	5.9	5.0	mg/L	SW846 6010B
Nickel	0.020 B	0.040	mg/L	SW846 6010B
Total Cyanide	0.042	0.010	mg/L	MCAWW 335.2
Chloride	12.0	1.0	mg/L	MCAWW 300.0A
Sulfate	96.8	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-17 02/08/08 10:25 017</b>				
Barium - DISSOLVED	0.015 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	56.9 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.088 B	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	191 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	8.1 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.020 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	35.4	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.13	0.040	mg/L	SW846 6010B
Barium	0.016 B,J	0.20	mg/L	SW846 6010B
Calcium	47.8 J	5.0	mg/L	SW846 6010B
Iron	1.3	0.10	mg/L	SW846 6010B
Potassium	162 J	5.0	mg/L	SW846 6010B

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# EXECUTIVE SUMMARY - Detection Highlights

A8B090151

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020808-DN-17 02/08/08 10:25 017</b>				
Magnesium	7.0 J	5.0	mg/L	SW846 6010B
Manganese	0.034 J	0.015	mg/L	SW846 6010B
Sodium	29.5	5.0	mg/L	SW846 6010B
Nickel	0.11	0.040	mg/L	SW846 6010B
Chloride	54.3	5.0	mg/L	MCAWW 300.0A
Sulfate	397	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-18 02/08/08 11:25 018</b>				
Barium - DISSOLVED	0.10 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	213 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.52	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	557 J	25.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	38.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	1.0 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	116	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.52	0.040	mg/L	SW846 6010B
Barium	0.10 B,J	0.20	mg/L	SW846 6010B
Calcium	211 J	5.0	mg/L	SW846 6010B
Iron	0.57	0.10	mg/L	SW846 6010B
Potassium	556 J	25.0	mg/L	SW846 6010B
Magnesium	38.3 J	5.0	mg/L	SW846 6010B
Manganese	0.97 J	0.015	mg/L	SW846 6010B
Sodium	114	5.0	mg/L	SW846 6010B
Nickel	0.52	0.040	mg/L	SW846 6010B
Chloride	208	10.0	mg/L	MCAWW 300.0A
Sulfate	1150	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-19 02/08/08 12:10 019</b>				
Barium - DISSOLVED	0.035 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	363 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.27	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	559 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	87.7 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	4.1 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	152	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.93	0.040	mg/L	SW846 6010B
Barium	0.033 B,J	0.20	mg/L	SW846 6010B
Calcium	338 J	5.0	mg/L	SW846 6010B
Iron	0.28	0.10	mg/L	SW846 6010B
Potassium	508 J	5.0	mg/L	SW846 6010B
Magnesium	81.2 J	5.0	mg/L	SW846 6010B

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# EXECUTIVE SUMMARY - Detection Highlights

A8B090151

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020808-DN-19 02/08/08 12:10 019</b>				
Manganese	3.8 J	0.015	mg/L	SW846 6010B
Sodium	141	5.0	mg/L	SW846 6010B
Nickel	0.86	0.040	mg/L	SW846 6010B
Chloride	284	10.0	mg/L	MCAWW 300.0A
Sulfate	1440	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-20 02/08/08 12:55 020</b>				
Barium - DISSOLVED	0.040 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	204 J	5.0	mg/L	SW846 6010B
Chromium - DISSOLVED	0.0097 B	0.010	mg/L	SW846 6010B
Iron - DISSOLVED	0.10	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	595 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	53.2 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	1.6 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	108	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.68	0.040	mg/L	SW846 6010B
Barium	0.039 B,J	0.20	mg/L	SW846 6010B
Calcium	193 J	5.0	mg/L	SW846 6010B
Chromium	0.0086 B	0.010	mg/L	SW846 6010B
Potassium	565 J	5.0	mg/L	SW846 6010B
Magnesium	50.2 J	5.0	mg/L	SW846 6010B
Manganese	1.4 J	0.015	mg/L	SW846 6010B
Sodium	101	5.0	mg/L	SW846 6010B
Nickel	0.64	0.040	mg/L	SW846 6010B
Chloride	180	10.0	mg/L	MCAWW 300.0A
Sulfate	967	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-020808-DN-21 02/08/08 13:35 021</b>				
Barium - DISSOLVED	0.064 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	341 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.17	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	308 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	83.7 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	8.1 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	104	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.55	0.040	mg/L	SW846 6010B
Barium	0.062 B,J	0.20	mg/L	SW846 6010B
Calcium	328 J	5.0	mg/L	SW846 6010B
Iron	0.15	0.10	mg/L	SW846 6010B
Potassium	310 J	5.0	mg/L	SW846 6010B
Magnesium	81.8 J	5.0	mg/L	SW846 6010B

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# EXECUTIVE SUMMARY - Detection Highlights

A8B090151

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-020808-DN-21 02/08/08 13:35</b>	<b>021</b>			
Manganese	7.4 J	0.015	mg/L	SW846 6010B
Sodium	103	5.0	mg/L	SW846 6010B
Nickel	0.55	0.040	mg/L	SW846 6010B
Chloride	167	10.0	mg/L	MCAWW 300.0A
Sulfate	1340	10.0	mg/L	MCAWW 300.0A

# ANALYTICAL METHODS SUMMARY

A8B090151

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Sulfate	MCAWW 300.0A
Total Cyanide	MCAWW 335.2

## References:

- 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

A8B090151

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KGVR2	001	WG-12616-020608-DN-01	02/06/08	15:40
KGVTA	002	WG-12616-020608-DN-02	02/06/08	16:35
KGVTC	003	WG-12616-020608-DN-03	02/06/08	17:50
KGVTE	004	WG-12616-020608-DN-04	02/06/08	18:05
KGVTH	005	WG-12616-020708-DN-05	02/07/08	08:20
KGVTM	006	WG-12616-020708-DN-06	02/07/08	09:00
KGVTX	007	WG-12616-020708-DN-07	02/07/08	10:20
KGVT0	008	WG-12616-020708-DN-08	02/07/08	10:55
KGVT2	009	WG-12616-020708-DN-09	02/07/08	12:35
KGVT6	010	WG-12616-020708-DN-10	02/07/08	13:10
KGVT7	011	WG-12616-020708-DN-11	02/07/08	14:45
KGVVD	012	WG-12616-020708-DN-12	02/07/08	15:20
KGVVF	013	WG-12616-020708-DN-13	02/07/08	16:50
KGVVG	014	WG-12616-020708-DN-14	02/07/08	17:25
KGVVK	015	WG-12616-020808-DN-15	02/08/08	17:25
KGVVN	016	WG-12616-020808-DN-16	02/08/08	09:45
KGVVP	017	WG-12616-020808-DN-17	02/08/08	10:25
KGVVQ	018	WG-12616-020808-DN-18	02/08/08	11:25
KGVVT	019	WG-12616-020808-DN-19	02/08/08	12:10
KGVV0	020	WG-12616-020808-DN-20	02/08/08	12:55
KGVV1	021	WG-12616-020808-DN-21	02/08/08	13:35

## 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 & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-01

TOTAL Metals

Lot-Sample #...: A8B090151-001

Matrix.....: WG

Date Sampled...: 02/06/08 15:40 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8042011						
Barium	0.037 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AA
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	74.8 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AC
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AD
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.12	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AE
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	8.5 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AJ
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	36.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AF
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.035 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AG
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	10.4	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AK
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0033 B	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AH
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-01

DISSOLVED Metals

Lot-Sample #...: A8B090151-001

Matrix.....: WG

Date Sampled...: 02/06/08 15:40 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Prep Batch #...: 8042011							
Barium	0.039 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AL	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	76.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AM	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AV	
		Dilution Factor: 1		MDL.....: 0.0022			
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AN	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	8.5 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AT	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	34.9 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AP	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.024 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AQ	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	19.0	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AU	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVR21AR	
		Dilution Factor: 1		MDL.....: 0.0032			

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-01

General Chemistry

Lot-Sample #...: A8B090151-001    Work Order #...: KGV2    Matrix.....: WG  
 Date Sampled...: 02/06/08 15:40    Date Received...: 02/09/08

<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	15.4	1.0	mg/L	MCAWW 300.0A	02/11/08	8043286
		Dilution Factor: 1		MDL.....: 0.10		
Sulfate	126	1.0	mg/L	MCAWW 300.0A	02/11/08	8043289
		Dilution Factor: 1		MDL.....: 0.12		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	02/12/08	8043311
		Dilution Factor: 1		MDL.....: 0.005		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-02

TOTAL Metals

Lot-Sample #...: A8B090151-002

Matrix.....: WG

Date Sampled...: 02/06/08 16:35 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8042011					
Barium	0.082 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	89.8 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.16	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	3.3 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	19.6 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.044 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	174	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0094 B	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-02

DISSOLVED Metals

Lot-Sample #...: A8B090151-002

Matrix.....: WG

Date Sampled...: 02/06/08 16:35 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Prep Batch #...: 8042011							
Barium	0.088 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AM	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	96.5 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AN	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AW	
		Dilution Factor: 1		MDL.....: 0.0022			
Iron	0.13	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AP	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	3.7 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AU	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	21.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AQ	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.046 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AR	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	183	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AV	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	0.011 B	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVTA1AT	
		Dilution Factor: 1		MDL.....: 0.0032			

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-02

General Chemistry

Lot-Sample #....: A8B090151-002    Work Order #....: KGVTA    Matrix.....: WG  
 Date Sampled....: 02/06/08 16:35    Date Received...: 02/09/08

<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	162	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.50	02/11/08	8043286
Sulfate	43.8	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.60	02/11/08	8043289
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	02/12/08	8043311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-03

TOTAL Metals

Lot-Sample #...: A8B090151-003

Matrix.....: WG

Date Sampled...: 02/06/08 17:50 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042011					
Barium	0.049 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AC
		Dilution Factor: 1		MDL.....	0.00067	
Calcium	224 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AD
		Dilution Factor: 1		MDL.....	0.13	
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AE
		Dilution Factor: 1		MDL.....	0.0022	
Iron	4.7	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AF
		Dilution Factor: 1		MDL.....	0.081	
Potassium	2.0 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AK
		Dilution Factor: 1		MDL.....	0.072	
Magnesium	71.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AG
		Dilution Factor: 1		MDL.....	0.034	
Manganese	0.22 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AH
		Dilution Factor: 1		MDL.....	0.00041	
Sodium	65.1	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AL
		Dilution Factor: 1		MDL.....	0.59	
Nickel	0.13	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AJ
		Dilution Factor: 1		MDL.....	0.0032	

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-03

DISSOLVED Metals

Lot-Sample #...: A8B090151-003

Matrix.....: WG

Date Sampled...: 02/06/08 17:50 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042011					
Barium	0.047 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	229 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.99	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	2.2 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	72.9 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.21 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	67.3	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.14	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVTC1AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-03

General Chemistry

Lot-Sample #...: A8B090151-003    Work Order #...: KGVTC    Matrix.....: WG  
 Date Sampled...: 02/06/08 17:50    Date Received...: 02/09/08

<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	60.6	5.0	mg/L	MCAWW 300.0A	02/11/08	8043286
			Dilution Factor: 5	MDL.....: 0.50		
Sulfate	548	5.0	mg/L	MCAWW 300.0A	02/11/08	8043289
			Dilution Factor: 5	MDL.....: 0.60		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	02/12/08	8043311
			Dilution Factor: 1	MDL.....: 0.005		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-04

TOTAL Metals

Lot-Sample #...: A8B090151-004

Matrix.....: WG

Date Sampled...: 02/06/08 18:05 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...	8042011						
Barium	0.022 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AC	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	229 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AD	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AE	
		Dilution Factor: 1		MDL.....: 0.0022			
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AF	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	1.4 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AK	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	66.3 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AG	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.0089 B,J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AH	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	63.7	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AL	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	0.023 B	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AJ	
		Dilution Factor: 1		MDL.....: 0.0032			

NOTE(S) :

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-04

DISSOLVED Metals

Lot-Sample #...: A8B090151-004

Matrix.....: WG

Date Sampled...: 02/06/08 18:05 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042011					
Barium	0.022 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	226 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0044 B	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVTE1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.6 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	65.7 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.0012 B,J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	65.2	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.025 B	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVTE1AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020608-DN-04

General Chemistry

Lot-Sample #....: A8B090151-004    Work Order #....: KGVTE    Matrix.....: WG  
Date Sampled....: 02/06/08 18:05    Date Received...: 02/09/08

<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	19.5	5.0	mg/L	MCAWW 300.0A	02/11/08	8043286
			Dilution Factor: 5	MDL.....: 0.50		
Sulfate	641	5.0	mg/L	MCAWW 300.0A	02/11/08	8043289
			Dilution Factor: 5	MDL.....: 0.60		4
Total Cyanide	0.005 B	0.010	mg/L	MCAWW 335.2	02/12/08	8043311
			Dilution Factor: 1	MDL.....: 0.005		

**NOTE(S):**

RL Reporting Limit

B Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-05

TOTAL Metals

Lot-Sample #...: A8B090151-005

Matrix.....: WG

Date Sampled...: 02/07/08 08:20 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8042011						
Barium	0.049 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	120 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.20	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	4.4 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	43.5 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.28 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	105	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0062 B	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-05

DISSOLVED Metals

Lot-Sample #...: A8B090151-005

Matrix.....: WG

Date Sampled...: 02/07/08 08:20 Date Received...: 02/09/08

<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 #...: 8042011						
Barium	0.049 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	121 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.12	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	4.3 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	44.4 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.25 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	103	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0062 B	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVTH1AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE (S) :

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-05

General Chemistry

Lot-Sample #....: A8B090151-005    Work Order #....: KGVTH    Matrix.....: WG  
 Date Sampled...: 02/07/08 08:20    Date Received...: 02/09/08

<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	29.3	5.0	mg/L	MCAWW 300.0A	02/12/08	8043286
				Dilution Factor: 5	MDL.....: 0.50	
Sulfate	284	5.0	mg/L	MCAWW 300.0A	02/12/08	8043289
				Dilution Factor: 5	MDL.....: 0.60	
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	02/12/08	8043311
				Dilution Factor: 1	MDL.....: 0.005	

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-06

TOTAL Metals

Lot-Sample #...: A8B090151-006

Matrix.....: WG

Date Sampled...: 02/07/08 09:00 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...:	8042011					
Barium	0.020 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	249 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.72	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.1 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	104 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.15 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	48.5	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0087 B	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVTMLAJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-06

DISSOLVED Metals

Lot-Sample #...: A8B090151-006

Matrix.....: WG

Date Sampled...: 02/07/08 09:00 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8042011					
Barium	0.019 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	250 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.13	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.2 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	105 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.12 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	48.8	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0084 B	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVTM1AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-06

General Chemistry

Lot-Sample #...: A8B090151-006    Work Order #...: KGVTM    Matrix.....: WG  
Date Sampled...: 02/07/08 09:00    Date Received...: 02/09/08

<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	101	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.50	02/12/08	8043286
Sulfate	660	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.60	02/12/08	8043289
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	02/12/08	8043311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-07

TOTAL Metals

Lot-Sample #...: A8B090151-007

Matrix.....: WG

Date Sampled...: 02/07/08 10:20 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...	8042011					
Barium	0.021 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	157 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	3.3	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	2.2 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	31.6 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.24 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	41.1	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.046	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVTX1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-07

DISSOLVED Metals

Lot-Sample #...: A8B090151-007

Matrix.....: WG

Date Sampled...: 02/07/08 10:20 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8042011							
Barium	0.018 B,J	0.20	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AM
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	149 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AN
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AW
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	1.5	0.10	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AP
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	2.5 B,J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AU
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	30.9 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AQ
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.22 J	0.015	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AR
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	38.3	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AV
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.042	0.040	mg/L		SW846 6010B	02/11-02/13/08	KGVTX1AT
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-07

General Chemistry

Lot-Sample #....: A8B090151-007    Work Order #....: KGVTX    Matrix.....: WG  
 Date Sampled....: 02/07/08 10:20    Date Received...: 02/09/08

<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	23.4	1.0	mg/L	MCAWW 300.0A Dilution Factor: 1 MDL.....: 0.10	02/12/08	8043286
Sulfate	126	1.0	mg/L	MCAWW 300.0A Dilution Factor: 1 MDL.....: 0.12	02/12/08	8043289
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	02/12/08	8043311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-08

TOTAL Metals

Lot-Sample #...: A8B090151-008

Matrix.....: WG

Date Sampled...: 02/07/08 10:55 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8042011							
Barium	0.035 B,J	0.20	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AC
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	142 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AD
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	0.012	0.010	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AE
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	4.7	0.10	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AF
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	9.1 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AK
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	45.3 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AG
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.28 J	0.015	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AH
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	23.2	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AL
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.028 B	0.040	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AJ
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-08

DISSOLVED Metals

Lot-Sample #...: A8B090151-008

Matrix.....: WG

Date Sampled...: 02/07/08 10:55 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...	8042011						
Barium	0.024 B,J	0.20	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AM
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	169 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AN
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AW
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	0.53	0.10	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AP
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	8.2 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AU
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	48.7 J	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AQ
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.22 J	0.015	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AR
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	32.6	5.0	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AV
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.034 B	0.040	mg/L		SW846 6010B	02/11-02/13/08	KGVT01AT
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-08

General Chemistry

Lot-Sample #...: A8B090151-008    Work Order #...: KGVTO    Matrix.....: WG  
Date Sampled...: 02/07/08 10:55    Date Received...: 02/09/08

<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	18.7	5.0	mg/L	MCAWW 300.0A MDL.....: 0.50 Dilution Factor: 5	02/12/08	8043286
Sulfate	377	5.0	mg/L	MCAWW 300.0A MDL.....: 0.60 Dilution Factor: 5	02/12/08	8043289
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005 Dilution Factor: 1	02/12/08	8043311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-09

TOTAL Metals

Lot-Sample #...: A8B090151-009

Matrix.....: WG

Date Sampled...: 02/07/08 12:35 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042011					
Barium	0.030 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AC
		Dilution Factor: 1		MDL.....	0.00067	
Calcium	61.0 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AD
		Dilution Factor: 1		MDL.....	0.13	
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AE
		Dilution Factor: 1		MDL.....	0.0022	
Iron	0.086 B	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AF
		Dilution Factor: 1		MDL.....	0.081	
Potassium	3.8 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AK
		Dilution Factor: 1		MDL.....	0.072	
Magnesium	16.1 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AG
		Dilution Factor: 1		MDL.....	0.034	
Manganese	0.021 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AH
		Dilution Factor: 1		MDL.....	0.00041	
Sodium	115	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AL
		Dilution Factor: 1		MDL.....	0.59	
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AJ
		Dilution Factor: 1		MDL.....	0.0032	

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-09

DISSOLVED Metals

Lot-Sample #...: A8B090151-009

Matrix.....: WG

Date Sampled...: 02/07/08 12:35 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042011					
Barium	0.033 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	66.9 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.099 B	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	3.6 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	17.7 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.041 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	104	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVT21AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-09

General Chemistry

Lot-Sample #...: A8B090151-009    Work Order #...: KGVT2    Matrix.....: WG  
Date Sampled...: 02/07/08 12:35    Date Received...: 02/09/08

<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	19.4	1.0	mg/L	MCAWW 300.0A MDL.....: 0.10 Dilution Factor: 1	02/12/08	8043286
Sulfate	85.3	1.0	mg/L	MCAWW 300.0A MDL.....: 0.12 Dilution Factor: 1	02/12/08	8043289
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005 Dilution Factor: 1	02/12/08	8043311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-10

TOTAL Metals

Lot-Sample #...: A8B090151-010

Matrix.....: WG

Date Sampled...: 02/07/08 13:10 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8042011						
Barium	0.067 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	134 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.59	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	2.1 B,J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	35.4 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.030 J	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	50.4	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0036 B	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-10

DISSOLVED Metals

Lot-Sample #...: A8B090151-010

Matrix.....: WG

Date Sampled...: 02/07/08 13:10 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8042011						
Barium	0.064 B,J	0.20	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	125 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.26	0.10	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	2.1 B,J,E	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	32.6 J	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.024 J,E	0.015	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	51.3	5.0	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/13/08	KGVT61AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-10

General Chemistry

Lot-Sample #...: A8B090151-010    Work Order #...: KGVT6    Matrix.....: WG  
Date Sampled...: 02/07/08 13:10    Date Received...: 02/09/08

<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	10.5	1.0	mg/L	MCAWW 300.0A MDL.....: 0.10 Dilution Factor: 1	02/12/08	8043286
Sulfate	151	1.0	mg/L	MCAWW 300.0A MDL.....: 0.12 Dilution Factor: 1	02/12/08	8043289
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005 Dilution Factor: 1	02/12/08	8043311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-11

TOTAL Metals

Lot-Sample #...: A8B090151-011

Matrix.....: WG

Date Sampled...: 02/07/08 14:45 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...	8042012					
Barium	0.067 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	118 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	7.4	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.2 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	26.6 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.14 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	8.2	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AJ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-11

DISSOLVED Metals

Lot-Sample #...: A8B090151-011

Matrix.....: WG

Date Sampled...: 02/07/08 14:45 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.058 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	117 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	1.7	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.2 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	26.5 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.14 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	7.9	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVT71AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-11

General Chemistry

Lot-Sample #...: A8B090151-011    Work Order #...: KGV7    Matrix.....: WG  
Date Sampled...: 02/07/08 14:45    Date Received...: 02/09/08

<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	7.9	1.0	mg/L	MCAWW 300.0A MDL.....: 0.10	02/12/08	8043286
		Dilution Factor: 1				
Sulfate	65.7	1.0	mg/L	MCAWW 300.0A MDL.....: 0.12	02/12/08	8043289
		Dilution Factor: 1				
Total Cyanide	0.076	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/12/08	8043311
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-12

TOTAL Metals

Lot-Sample #...: A8B090151-012

Matrix.....: WG

Date Sampled...: 02/07/08 15:20 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.027 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	115 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.16	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.0 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	22.4 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.1 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	15.4	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-12

DISSOLVED Metals

Lot-Sample #...: A8B090151-012

Matrix.....: WG

Date Sampled...: 02/07/08 15:20 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.022 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	114 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.1 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	22.9 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.10 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	14.1	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVD1AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-12

General Chemistry

Lot-Sample #...: A8B090151-012    Work Order #...: KGVVD    Matrix.....: WG  
Date Sampled...: 02/07/08 15:20    Date Received...: 02/09/08

<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	3.0	1.0	mg/L	MCAWW 300.0A	02/12/08	8043286
		Dilution Factor: 1		MDL.....: 0.10		
Sulfate	47.1	1.0	mg/L	MCAWW 300.0A	02/12/08	8043289
		Dilution Factor: 1		MDL.....: 0.12		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	02/12/08	8043311
		Dilution Factor: 1		MDL.....: 0.005		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-13

TOTAL Metals

Lot-Sample #...: A8B090151-013

Matrix.....: WG

Date Sampled...: 02/07/08 16:50 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.026 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	117 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.098 B	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.0 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	23.2 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.83 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	14.8	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-13

DISSOLVED Metals

Lot-Sample #...: A8B090151-013

Matrix.....: WG

Date Sampled...: 02/07/08 16:50 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8042012						
Barium	0.023 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	118 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.0 B,J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	23.8 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.13 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	15.1	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVF1AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-13

General Chemistry

Lot-Sample #....: A8B090151-013    Work Order #....: KGVVF    Matrix.....: WG  
 Date Sampled....: 02/07/08 16:50    Date Received...: 02/09/08

<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	MCAWW 300.0A	02/12/08	8043292
			Dilution Factor: 1	MDL.....: 0.10		
Sulfate	47.4	1.0	mg/L	MCAWW 300.0A	02/12/08	8043289
			Dilution Factor: 1	MDL.....: 0.12		
Total Cyanide	0.089	0.010	mg/L	MCAWW 335.2	02/12/08	8043311
			Dilution Factor: 1	MDL.....: 0.005		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-14

TOTAL Metals

Lot-Sample #...: A8B090151-014

Matrix.....: WG

Date Sampled...: 02/07/08 17:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.023 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	95.5 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0040 B	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.27	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	557 J	25.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AK
		Dilution Factor: 5		MDL.....: 0.36		
Magnesium	22.7 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.063 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	81.4	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.26	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-14

DISSOLVED Metals

Lot-Sample #...: A8B090151-014

Matrix.....: WG

Date Sampled...: 02/07/08 17:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.022 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	91.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.12	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	593 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	21.6 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.059 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	78.0	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.24	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVG1AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020708-DN-14

General Chemistry

Lot-Sample #...: A8B090151-014    Work Order #...: KGVVG    Matrix.....: WG  
Date Sampled...: 02/07/08 17:25    Date Received...: 02/09/08

<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	156	5.0	mg/L	MCAWW 300.0A MDL.....: 0.50	02/12/08	8043292
		Dilution Factor: 5				
Sulfate	921	5.0	mg/L	MCAWW 300.0A MDL.....: 0.60	02/12/08	8043289
		Dilution Factor: 5				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/12/08	8043311
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-15

TOTAL Metals

Lot-Sample #...: A8B090151-015

Matrix.....: WG

Date Sampled...: 02/08/08 17:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8042012					
Barium	0.016 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	65.3 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1300 J	100	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AK
		Dilution Factor: 20		MDL.....: 1.4		
Magnesium	8.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.023 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	183	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.64	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVK1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-15

DISSOLVED Metals

Lot-Sample #...: A8B090151-015

Matrix.....: WG

Date Sampled...: 02/08/08 17:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8042012							
Barium	0.016 B,J	0.20	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AM
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	67.1 J	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AN
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AW
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	ND	0.10	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AP
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	1300 J	100	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AU
		Dilution Factor: 20			MDL.....: 1.4		
Magnesium	8.3 J	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AQ
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.023 J	0.015	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AR
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	188	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AV
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.66	0.040	mg/L		SW846 6010B	02/11-02/12/08	KGVVK1AT
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-15

General Chemistry

Lot-Sample #...: A8B090151-015    Work Order #...: KGVVK    Matrix.....: WG  
 Date Sampled...: 02/08/08 17:25    Date Received...: 02/09/08

<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	400	10.0	mg/L	MCAWW 300.0A MDL.....: 1.0	02/12/08	8043292
		Dilution Factor: 10				
Sulfate	1920	10.0	mg/L	MCAWW 300.0A MDL.....: 1.2	02/12/08	8043289
		Dilution Factor: 10				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/13/08	8044354
		Dilution Factor: 1				

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-020808-DN-16**

**TOTAL Metals**

Lot-Sample #...: A8B090151-016

Matrix.....: WG

Date Sampled...: 02/08/08 09:45 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8042012						
Barium	0.016 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	34.5 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	1.3	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	45.4 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	7.0 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.013 B,J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	5.9	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.020 B	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVN1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-16

DISSOLVED Metals

Lot-Sample #...: A8B090151-016

Matrix.....: WG

Date Sampled...: 02/08/08 09:45 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...	8042012						
Barium	0.014 B,J	0.20	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AM
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	39.8 J	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AN
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AW
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	0.084 B	0.10	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AP
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	52.1 J	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AU
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	7.9 J	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AQ
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.0047 B,J	0.015	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AR
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	7.5	5.0	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AV
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.021 B	0.040	mg/L		SW846 6010B	02/11-02/12/08	KGVVN1AT
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-16

General Chemistry

Lot-Sample #...: A8B090151-016    Work Order #...: KGVVN    Matrix.....: WG  
Date Sampled...: 02/08/08 09:45    Date Received..: 02/09/08

<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	12.0	1.0	mg/L	MCAWW 300.0A	02/12/08	8043292
			Dilution Factor: 1	MDL.....: 0.10		
Sulfate	96.8	1.0	mg/L	MCAWW 300.0A	02/12/08	8043289
			Dilution Factor: 1	MDL.....: 0.12		
Total Cyanide	0.042	0.010	mg/L	MCAWW 335.2	02/13/08	8044354
			Dilution Factor: 1	MDL.....: 0.005		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-020808-DN-17

**TOTAL Metals**

Lot-Sample #...: A8B090151-017

Matrix.....: WG

Date Sampled...: 02/08/08 10:25 Date Received...: 02/09/08

<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 #...: 8042012						
Barium	0.016 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	47.8 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	1.3	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	162 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	7.0 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.034 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	29.5	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.11	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-17

DISSOLVED Metals

Lot-Sample #...: A8B090151-017

Matrix.....: WG

Date Sampled...: 02/08/08 10:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8042012							
Barium	0.015 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AM	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	56.9 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AN	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AW	
		Dilution Factor: 1		MDL.....: 0.0022			
Iron	0.088 B	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AP	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	191 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AU	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	8.1 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AQ	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.020 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AR	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	35.4	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AV	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	0.13	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVP1AT	
		Dilution Factor: 1		MDL.....: 0.0032			

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-17

General Chemistry

Lot-Sample #...: A8B090151-017    Work Order #...: KGVVP    Matrix.....: WG  
 Date Sampled...: 02/08/08 10:25    Date Received...: 02/09/08

<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	54.3	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.50	02/12/08	8043292
Sulfate	397	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.60	02/12/08	8043293
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	02/13/08	8044354

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-18

TOTAL Metals

Lot-Sample #...: A8B090151-018

Matrix.....: WG

Date Sampled...: 02/08/08 11:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.10 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	211 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.57	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	556 J	25.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AK
		Dilution Factor: 5		MDL.....: 0.36		
Magnesium	38.3 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.97 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	114	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.52	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-18

DISSOLVED Metals

Lot-Sample #...: A8B090151-018

Matrix.....: WG

Date Sampled...: 02/08/08 11:25 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8042012						
Barium	0.10 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	213 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.52	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	557 J	25.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AU
		Dilution Factor: 5		MDL.....: 0.36		
Magnesium	38.9 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.0 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	116	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.52	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVQ1AT
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-18

General Chemistry

Lot-Sample #...: A8B090151-018    Work Order #...: KGVVQ    Matrix.....: WG  
Date Sampled...: 02/08/08 11:25    Date Received...: 02/09/08

<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	208	10.0	mg/L	MCAWW 300.0A MDL.....: 1.0	02/12/08	8043292
		Dilution Factor: 10				
Sulfate	1150	10.0	mg/L	MCAWW 300.0A MDL.....: 1.2	02/12/08	8043293
		Dilution Factor: 10				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/13/08	8044354
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-19

TOTAL Metals

Sample #: A8B090151-019

Matrix: WG

Sampled: 02/08/08 12:10 Date Received: 02/09/08

AMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
ppm	0.033 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AC
		Dilution Factor: 1		MDL: 0.00067		
mg/L	338 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AD
		Dilution Factor: 1		MDL: 0.13		
mg/L	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AE
		Dilution Factor: 1		MDL: 0.0022		
mg/L	0.28	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AF
		Dilution Factor: 1		MDL: 0.081		
mg/L	508 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AK
		Dilution Factor: 1		MDL: 0.072		
mg/L	81.2 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AG
		Dilution Factor: 1		MDL: 0.034		
mg/L	3.8 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AH
		Dilution Factor: 1		MDL: 0.00041		
mg/L	141	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AL
		Dilution Factor: 1		MDL: 0.59		
mg/L	0.86	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AJ
		Dilution Factor: 1		MDL: 0.0032		

E(S) :

Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-19

DISSOLVED Metals

Lot-Sample #...: A8B090151-019

Matrix.....: WG

Date Sampled...: 02/08/08 12:10 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.035 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	363 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.27	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	559 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	87.7 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	4.1 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	152	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.93	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVVT1AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-19

General Chemistry

Lot-Sample #...: A8B090151-019    Work Order #...: KGVVT    Matrix.....: WG  
 Date Sampled...: 02/08/08 12:10    Date Received...: 02/09/08

<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	284	10.0	mg/L	MCAWW 300.0A MDL.....: 1.0	02/12/08	8043292
		Dilution Factor: 10				
Sulfate	1440	10.0	mg/L	MCAWW 300.0A MDL.....: 1.2	02/12/08	8043293
		Dilution Factor: 10				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/13/08	8044354
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-20

TOTAL Metals

Lot-Sample #...: A8B090151-020

Matrix.....: WG

Date Sampled...: 02/08/08 12:55 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.039 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	193 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0086 B	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	565 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	50.2 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.4 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	101	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.64	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-20

DISSOLVED Metals

Lot-Sample #...: A8B090151-020

Matrix.....: WG

Date Sampled...: 02/08/08 12:55 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042012					
Barium	0.040 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	204 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0097 B	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.10	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	595 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	53.2 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.6 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	108	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.68	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVV01AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-20

General Chemistry

Lot-Sample #...: A8B090151-020    Work Order #...: KGVV0    Matrix.....: WG  
Date Sampled...: 02/08/08 12:55    Date Received...: 02/09/08

<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	180	10.0	mg/L	MCAWW 300.0A MDL.....: 1.0	02/12/08	8043292
		Dilution Factor: 10				
Sulfate	967	10.0	mg/L	MCAWW 300.0A MDL.....: 1.2	02/12/08	8043293
		Dilution Factor: 10				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/13/08	8044354
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-21

TOTAL Metals

Lot-Sample #...: A8B090151-021

Matrix.....: WG

Date Sampled...: 02/08/08 13:35 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042015					
Barium	0.062 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	328 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.15	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	310 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AK
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	81.8 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	7.4 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	103	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.55	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AJ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-21

DISSOLVED Metals

Lot-Sample #...: A8B090151-021

Matrix.....: WG

Date Sampled...: 02/08/08 13:35 Date Received...: 02/09/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8042015					
Barium	0.064 B,J	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	341 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AW
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.17	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AP
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	308 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AU
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	83.7 J	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AQ
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	8.1 J	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AR
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	104	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AV
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.55	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGVV11AT
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-020808-DN-21

General Chemistry

Lot-Sample #...: A8B090151-021    Work Order #...: KGVV1    Matrix.....: WG  
Date Sampled...: 02/08/08 13:35    Date Received...: 02/09/08

<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	167	10.0	mg/L	MCAWW 300.0A MDL.....: 1.0	02/12/08	8043292
		Dilution Factor: 10				
Sulfate	1340	10.0	mg/L	MCAWW 300.0A MDL.....: 1.2	02/12/08	8043293
		Dilution Factor: 10				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	02/13/08	8044354
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A8B090151

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #: A8B110000-011 Prep Batch #...: 8042011</b>						
Barium	0.00099 B	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AA
		Dilution Factor: 1				
Calcium	0.24 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AD
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AE
		Dilution Factor: 1				
Magnesium	0.080 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AF
		Dilution Factor: 1				
Manganese	0.00059 B	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AG
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AH
		Dilution Factor: 1				
Potassium	0.15 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AJ
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AK
		Dilution Factor: 1				
<b>MB Lot-Sample #: A8B110000-012 Prep Batch #...: 8042012</b>						
Barium	0.00097 B	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AA
		Dilution Factor: 1				
Calcium	0.24 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AD
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AE
		Dilution Factor: 1				
Magnesium	0.081 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AF
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A8B090151

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Manganese	0.00053 B	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AG
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AH
		Dilution Factor: 1				
Potassium	0.16 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AJ
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AK
		Dilution Factor: 1				
MB Lot-Sample #: A8B110000-015 Prep Batch #...: 8042015						
Barium	0.0013 B	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A3
		Dilution Factor: 1				
Calcium	0.40 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A4
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A5
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A6
		Dilution Factor: 1				
Magnesium	0.096 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A7
		Dilution Factor: 1				
Manganese	0.00077 B	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A8
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1A9
		Dilution Factor: 1				
Potassium	0.16 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1AX
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CA
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 B Estimated result. Result is less than RL.

**METHOD BLANK REPORT**

**DISSOLVED Metals**

Client Lot #...: A8B090151

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #: A8B110000-011 Prep Batch #...: 8042011</b>						
Barium	0.00099 B	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AL
		Dilution Factor: 1				
Calcium	0.24 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AM
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AV
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AN
		Dilution Factor: 1				
Magnesium	0.080 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AP
		Dilution Factor: 1				
Manganese	0.00059 B	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AQ
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AR
		Dilution Factor: 1				
Potassium	0.15 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AT
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFA1AU
		Dilution Factor: 1				
<b>MB Lot-Sample #: A8B110000-012 Prep Batch #...: 8042012</b>						
Barium	0.00097 B	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AW
		Dilution Factor: 1				
Calcium	0.24 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1AX
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A6
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A0
		Dilution Factor: 1				
Magnesium	0.081 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A1
		Dilution Factor: 1				

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METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A8B090151

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Manganese	0.00053 B	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A2
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A3
		Dilution Factor: 1				
Potassium	0.16 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A4
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFD1A5
		Dilution Factor: 1				
<b>MB Lot-Sample #: A8B110000-015 Prep Batch #...: 8042015</b>						
Barium	0.0013 B	0.20	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CC
		Dilution Factor: 1				
Calcium	0.40 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CD
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CL
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CE
		Dilution Factor: 1				
Magnesium	0.096 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CF
		Dilution Factor: 1				
Manganese	0.00077 B	0.015	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CG
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CH
		Dilution Factor: 1				
Potassium	0.16 B	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CJ
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	02/11-02/12/08	KGWFK1CK
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 B Estimated result. Result is less than RL.

**METHOD BLANK REPORT**

**General Chemistry**

Client Lot #...: A8B090151

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	ND	Work Order #: KG0M61AA 1.0	mg/L	MB Lot-Sample #: A8B120000-286 MCAWW 300.0A	02/11/08	8043286
		Dilution Factor: 1				
Chloride	ND	Work Order #: KG0N11AA 1.0	mg/L	MB Lot-Sample #: A8B120000-292 MCAWW 300.0A	02/12/08	8043292
		Dilution Factor: 1				
Sulfate	ND	Work Order #: KG0NM1AA 1.0	mg/L	MB Lot-Sample #: A8B120000-289 MCAWW 300.0A	02/12/08	8043289
		Dilution Factor: 1				
Sulfate	ND	Work Order #: KG0N41AA 1.0	mg/L	MB Lot-Sample #: A8B120000-293 MCAWW 300.0A	02/12/08	8043293
		Dilution Factor: 1				
Total Cyanide	ND	Work Order #: KG0QC1AA 0.010	mg/L	MB Lot-Sample #: A8B120000-311 MCAWW 335.2	02/12/08	8043311
		Dilution Factor: 1				
Total Cyanide	ND	Work Order #: KG2J51AA 0.010	mg/L	MB Lot-Sample #: A8B130000-354 MCAWW 335.2	02/13/08	8044354
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #...:** A8B090151

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8B110000-011 <b>Prep Batch #...:</b> 8042011					
Barium	86	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1AW
		Dilution Factor: 1			
Calcium	85	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1AX
		Dilution Factor: 1			
Chromium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A0
		Dilution Factor: 1			
Iron	93	(77 - 122)	SW846 6010B	02/11-02/12/08	KGWFA1A1
		Dilution Factor: 1			
Magnesium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A2
		Dilution Factor: 1			
Manganese	93	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A3
		Dilution Factor: 1			
Nickel	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A4
		Dilution Factor: 1			
Potassium	83	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A5
		Dilution Factor: 1			
Sodium	84	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A6
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8B110000-012 <b>Prep Batch #...:</b> 8042012					
Barium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AL
		Dilution Factor: 1			
Calcium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AM
		Dilution Factor: 1			
Chromium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AN
		Dilution Factor: 1			
Iron	96	(77 - 122)	SW846 6010B	02/11-02/12/08	KGWFD1AP
		Dilution Factor: 1			

(Continued on next page)

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #...:** A8B090151

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Magnesium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AQ
		Dilution Factor: 1			
Manganese	94	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AR
		Dilution Factor: 1			
Nickel	84	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AT
		Dilution Factor: 1			
Potassium	84	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AU
		Dilution Factor: 1			
Sodium	85	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1AV
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8B110000-015 <b>Prep Batch #...:</b> 8042015					
Potassium	83	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1CQ
		Dilution Factor: 1			
Barium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1CV
		Dilution Factor: 1			
Calcium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1CW
		Dilution Factor: 1			
Chromium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1CX
		Dilution Factor: 1			
Iron	92	(77 - 122)	SW846 6010B	02/11-02/12/08	KGWFK1C0
		Dilution Factor: 1			
Magnesium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C1
		Dilution Factor: 1			
Manganese	92	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C2
		Dilution Factor: 1			
Nickel	83	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C3
		Dilution Factor: 1			
Sodium	85	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C4
		Dilution Factor: 1			

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A8B090151

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

**Client Lot #...:** A8B090151

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8B110000-011 <b>Prep Batch #...:</b> 8042011					
Barium	86	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A7
		Dilution Factor: 1			
Calcium	85	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1A8
		Dilution Factor: 1			
Iron	93	(77 - 122)	SW846 6010B	02/11-02/12/08	KGWFA1A9
		Dilution Factor: 1			
Magnesium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1CA
		Dilution Factor: 1			
Manganese	93	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1CC
		Dilution Factor: 1			
Nickel	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1CD
		Dilution Factor: 1			
Potassium	83	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1CE
		Dilution Factor: 1			
Sodium	84	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1CF
		Dilution Factor: 1			
Chromium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFA1CG
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8B110000-012 <b>Prep Batch #...:</b> 8042012					
Barium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1A7
		Dilution Factor: 1			
Calcium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1A8
		Dilution Factor: 1			
Iron	96	(77 - 122)	SW846 6010B	02/11-02/12/08	KGWFD1A9
		Dilution Factor: 1			
Magnesium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1CA
		Dilution Factor: 1			

(Continued on next page)

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

**Client Lot #...:** A8B090151

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Manganese	94	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1CC
		Dilution Factor: 1			
Nickel	84	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1CD
		Dilution Factor: 1			
Potassium	84	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1CE
		Dilution Factor: 1			
Sodium	85	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1CF
		Dilution Factor: 1			
Chromium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFD1CG
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8B110000-015 <b>Prep Batch #...:</b> 8042015					
Barium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C5
		Dilution Factor: 1			
Calcium	87	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C6
		Dilution Factor: 1			
Iron	92	(77 - 122)	SW846 6010B	02/11-02/12/08	KGWFK1C7
		Dilution Factor: 1			
Magnesium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C8
		Dilution Factor: 1			
Manganese	92	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1C9
		Dilution Factor: 1			
Nickel	83	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1DA
		Dilution Factor: 1			
Potassium	83	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1DC
		Dilution Factor: 1			
Sodium	85	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1DD
		Dilution Factor: 1			
Chromium	88	(80 - 120)	SW846 6010B	02/11-02/12/08	KGWFK1DE
		Dilution Factor: 1			

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A8B090151

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Lot-Sample #...:** A8B090151

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride		WO#:KG0M61AC-LCS/KG0M61AD-LCSD LCS Lot-Sample#: A8B120000-286					
	100	(90 - 110)			MCAWW 300.0A	02/11/08	8043286
	100	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	02/11/08	8043286
		Dilution Factor: 1					
Chloride		WO#:KG0N11AC-LCS/KG0N11AD-LCSD LCS Lot-Sample#: A8B120000-292					
	102	(90 - 110)			MCAWW 300.0A	02/12/08	8043292
	102	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	02/12/08	8043292
		Dilution Factor: 1					
Sulfate		WO#:KG0NM1AC-LCS/KG0NM1AD-LCSD LCS Lot-Sample#: A8B120000-289					
	101	(90 - 110)			MCAWW 300.0A	02/12/08	8043289
	100	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	02/12/08	8043289
		Dilution Factor: 1					
Sulfate		WO#:KG0N41AC-LCS/KG0N41AD-LCSD LCS Lot-Sample#: A8B120000-293					
	99	(90 - 110)			MCAWW 300.0A	02/12/08	8043293
	99	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	02/12/08	8043293
		Dilution Factor: 1					

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8B090151

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Cyanide	99	(69 - 118)	MCAWW 335.2 Dilution Factor: 1	Work Order #: KG0QC1AC LCS Lot-Sample#: A8B120000-311 02/12/08	8043311
Total Cyanide	103	(69 - 118)	MCAWW 335.2 Dilution Factor: 1	Work Order #: KG2J51AC LCS Lot-Sample#: A8B130000-354 02/13/08	8044354

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8B090151

Matrix.....: WG

Date Sampled...: 02/07/08 12:35 Date Received...: 02/09/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8B090151-009 Prep Batch #...: 8042011</b>						
Barium	107	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21A5
	106	(75 - 125)	0.88 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21A6
			Dilution Factor: 1			
Calcium	103	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21A7
	100	(75 - 125)	1.5 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21A8
			Dilution Factor: 1			
Chromium	106	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21A9
	108	(75 - 125)	1.1 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CA
			Dilution Factor: 1			
Iron	113	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21CC
	115	(75 - 125)	1.5 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CD
			Dilution Factor: 1			
Magnesium	107	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21CE
	105	(75 - 125)	1.2 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CF
			Dilution Factor: 1			
Manganese	113	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21CG
	111	(75 - 125)	1.1 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CH
			Dilution Factor: 1			
Nickel	104	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21CJ
	102	(75 - 125)	1.2 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CK
			Dilution Factor: 1			
Potassium	106	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21CL
	105	(75 - 125)	1.4 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CM
			Dilution Factor: 1			
Sodium	111	(75 - 125)		SW846 6010B	02/11-02/13/08	KGVT21CN
	105	(75 - 125)	1.7 (0-20)	SW846 6010B	02/11-02/13/08	KGVT21CP
			Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8B090151

Matrix.....: WG

Date Sampled...: 02/07/08 14:45 Date Received...: 02/09/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8B090151-011 Prep Batch #...: 8042012</b>							
Barium	104	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71A1
	101	(75 - 125)	3.2	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71A2
			Dilution Factor: 1				
Calcium	92	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71A3
	88	(75 - 125)	1.1	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71A4
			Dilution Factor: 1				
Chromium	104	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71A5
	100	(75 - 125)	3.6	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71A6
			Dilution Factor: 1				
Iron	NC,MSB	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71A7
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	02/11-02/12/08	KGVT71A8
			Dilution Factor: 1				
Magnesium	103	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71A9
	100	(75 - 125)	2.3	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71CA
			Dilution Factor: 1				
Manganese	107	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71CC
	111	(75 - 125)	3.2	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71CD
			Dilution Factor: 1				
Nickel	99	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71CE
	95	(75 - 125)	3.6	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71CF
			Dilution Factor: 1				
Potassium	100	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71CG
	97	(75 - 125)	3.2	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71CH
			Dilution Factor: 1				
Sodium	100	(75 - 125)			SW846 6010B	02/11-02/12/08	KGVT71CJ
	97	(75 - 125)	2.8	(0-20)	SW846 6010B	02/11-02/12/08	KGVT71CK
			Dilution Factor: 1				

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8B090151

Matrix.....: WATER

Date Sampled...: 02/08/08 07:20 Date Received...: 02/08/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8B080119-001 Prep Batch #...: 8042015</b>							
Barium	88	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1CV
	91	(75 - 125)	3.0	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1CW
			Dilution Factor: 1				
Calcium	67 N	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1C0
	78	(75 - 125)	5.4	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1C1
			Dilution Factor: 1				
Chromium	88	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1C3
	91	(75 - 125)	3.4	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1C4
			Dilution Factor: 1				
Iron	88	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1C6
	94	(75 - 125)	4.6	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1C7
			Dilution Factor: 1				
Magnesium	85	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1C9
	89	(75 - 125)	4.2	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1DA
			Dilution Factor: 1				
Manganese	94	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1DD
	98	(75 - 125)	4.1	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1DE
			Dilution Factor: 1				
Nickel	81	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1DG
	85	(75 - 125)	3.4	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1DH
			Dilution Factor: 1				
Potassium	74 N	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1CN
	83	(75 - 125)	5.4	(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1CP
			Dilution Factor: 1				
Sodium	NC,MSB	(75 - 125)			SW846 6010B	02/11-02/12/08	KGRGK1DK
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	02/11-02/12/08	KGRGK1DL
			Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

Client Lot #...: A8B090151

Matrix.....: WG

Date Sampled...: 02/07/08 12:35 Date Received...: 02/09/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8B090151-009 Prep Batch #...: 8042011</b>							
Barium	105	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21CQ
	106	(75 - 125)	1.1	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21CR
			Dilution Factor: 1				
Calcium	99	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21CT
	103	(75 - 125)	1.5	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21CU
			Dilution Factor: 1				
Chromium	104	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21C9
	105	(75 - 125)	0.42	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21DA
			Dilution Factor: 1				
Iron	110	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21CV
	110	(75 - 125)	0.57	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21CW
			Dilution Factor: 1				
Magnesium	104	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21CX
	105	(75 - 125)	0.82	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21C0
			Dilution Factor: 1				
Manganese	110	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21C1
	111	(75 - 125)	0.96	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21C2
			Dilution Factor: 1				
Nickel	101	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21C3
	102	(75 - 125)	0.27	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21C4
			Dilution Factor: 1				
Potassium	103	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21C5
	104	(75 - 125)	0.51	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21C6
			Dilution Factor: 1				
Sodium	103	(75 - 125)			SW846 6010B	02/11-02/13/08	KGVT21C7
	108	(75 - 125)	1.7	(0-20)	SW846 6010B	02/11-02/13/08	KGVT21C8
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A8B090151

Matrix.....: WG

Date Sampled...: 02/08/08 17:25 Date Received...: 02/09/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride			WO#: KGVT21DC-MS/KGVT21DD-MSD MS Lot-Sample #: A8B090151-009				
	108	(80 - 120)			MCAWW 300.0A	02/12/08	8043286
	108	(80 - 120)	0.13	(0-20)	MCAWW 300.0A	02/12/08	8043286
			Dilution Factor: 1				
Sulfate			WO#: KGVT21A1-MS/KGVT21A2-MSD MS Lot-Sample #: A8B090151-009				
	101	(80 - 120)			MCAWW 300.0A	02/12/08	8043289
	102	(80 - 120)	0.14	(0-20)	MCAWW 300.0A	02/12/08	8043289
			Dilution Factor: 1				
Total Cyanide			WO#: KGVT21A3-MS/KGVT21A4-MSD MS Lot-Sample #: A8B090151-009				
	73	(42 - 140)			MCAWW 335.2	02/12/08	8043311
	68	(42 - 140)	7.4	(0-20)	MCAWW 335.2	02/12/08	8043311
			Dilution Factor: 1				
Total Cyanide			WO#: KGVVK1A1-MS/KGVVK1A2-MSD MS Lot-Sample #: A8B090151-015				
	81	(42 - 140)			MCAWW 335.2	02/13/08	8044354
	87	(42 - 140)	7.2	(0-20)	MCAWW 335.2	02/13/08	8044354
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.



(Sample Batch Complete)

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 2

ID # No. 04077

SSOW Ref. Code: R016016

### Required Client Information:

Company: CBA Report To: A. Lavigne  
 Address: Sandy Bay, OH Copy To: A. Brown  
 Invoice To: \_\_\_\_\_  
 P.O.: \_\_\_\_\_  
 Project Name: REALM EYEPATH  
 Project Number: 12616-71501011

Laboratory: Test America  
 Laboratory Location: \_\_\_\_\_  
 Laboratory Contact: \_\_\_\_\_  
 Requested Due Date: \_\_\_\_\_  
 Q/A/QC Requirements: \_\_\_\_\_  
 TAT: \_\_\_\_\_

### Sample Identification:

- WG Groundwater
- WB Borehole Water
- WS Surface Water
- SO Soil
- SE Sediment
- See Back for Additional Codes

Sample Identification	Matrix Code	Date Collected	Time Collected	# Containers	Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	Analysis and Method	Remarks/Lab ID
WG-12616-020608-DN-01	WG	2.6.08	1540	4								
			1635	4								
			1750	4								
			1805	4								
WG-12616-020708-DN-05		2.07.08	0820	4								
			0900	4								
			1020	4								
			1055	4								
			1235	8								
			1310	4								
			1445	4								
			1520	4								
			1650	4								
			1725	4								
WG-12616-020808-DN-15		2.8.08	0900	4								
				TOTAL NUMBER OF CONTAINERS								
				64								

SHIPMENT METHOD: 2 NO. OF COOLERS: 2 RELINQUISHED BY / AFFILIATION: BRAND / CBA DATE: 2.9.08 TIME: 1636

IRBILL NO.: \_\_\_\_\_ RECEIVED BY / AFFILIATION: J. M. ... DATE: 2.9.08 TIME: 10:56 AM

Temp in C	Y/N
Received on Ice	Y/N
Cooled Cooler	Y/N
Imples Intact	Y/N

Additional Comments:

Sampler Name: DON NEWTON  
 Sampler Signature: Don Newton Date: 2.8.08

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy



**TestAmerica Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: 151  
A88 09037

Client CRA Project \_\_\_\_\_ Quote # \_\_\_\_\_  
 Cooler Received on 2-9-08 Opened on 2-9-08 By [Signature]  
 FedEx  Client Drop Off  UPS  DHL  FAS  TestAmerica Courier   
 Stetson  US Cargo  Other \_\_\_\_\_ (Signature)

- TestAmerica Cooler # Back -3 Foam Box  Client Cooler  Other \_\_\_\_\_
- Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were custody seals on the outside of cooler signed and dated? Yes  No  NA   
 Were custody seals on the bottles? Yes  No   
 If YES, are there any exceptions \_\_\_\_\_
  - Shipper's packing slip attached to this form? Yes  No
  - Did custody papers accompany the sample(s)? Yes  No  Relinquished by client? Yes  No
  - Did you sign the custody papers in the appropriate place? Yes  No
  - Packing material used: Bubble Wrap  Foam  None  Other \_\_\_\_\_
  - Cooler temperature upon receipt \_\_\_\_\_ °C (see back of form for multiple coolers/temps)  
 METHOD: IR  Other
  - COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  - Did all bottles arrive in good condition (Unbroken)? Yes  No
  - Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  - Were samples at the correct pH upon receipt? Yes  No  NA
  - Were correct bottles used for the tests indicated? Yes  No
  - Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  - Sufficient quantity received to perform indicated analyses? Yes  No
  - Was a Trip Blank present in the cooler? Yes  No  Were VOAs on the COC? Yes  No
- Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY**  
 The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**15. SAMPLE CONDITION**  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**16. SAMPLE PRESERVATION**  
 Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #071707-HNO3 - Sulfuric Acid Lot # 092006-H2SO4; Sodium Hydroxide Lot # 122805 -NaOH; Hydrochloric Acid Lot # 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot # 050205-CH3COO2ZN/NaOH  
 What time was preservative added to sample(s)? \_\_\_\_\_  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (Notify PM)

Client ID	pH	Date	Initials
1	02 02 712	2-9-08	NS
2	02 02 717		
3	02 02 712		
4	02 02 712		
5	02 02 712		
6	02 02 712		
7	02 02 712		
8	02 02 712		
9	02 02 02 02 712 712		

SOP: NC-SC-0005, Sample Receiving  
 \\cansvr101\public\QAQC\NARRATIVE\TestAmerica\Cooler Receipt TestAmerica\COOLER\_TestAmerica\_Rev 65 103007.doc

**TestAmerica Cooler Receipt Form/Narrative  
North Canton Facility**

<u>Client ID</u>	<u>pH</u>	<u>Date</u>	<u>Initials</u>
10	6.2 6.2 7.2	2-9-08	AS
11	6.2 6.2 7.2		
12	6.2 6.2 7.2		
13	6.2 6.2 7.2		
14	6.2 6.2 7.2		
15	6.2 6.2 7.2		
16	6.2 6.2 7.2		
17	6.2 6.2 7.2		
18	6.2 6.2 7.2		
19	6.2 6.2 7.2		
20	6.2 6.2 7.2		
21	6.2 6.2 7.2		

<u>Cooler</u>	<u>Temp °C</u>	<u>Method</u>	<u>Coolant</u>
L511	2.9	IR	ICE
L318	3.6	↓	↓
L740	2.2	↓	↓

**Discrepancies Cont'd**

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SOP: NC-SC-0005, Sample Receiving  
\\cansvr10\public\QAQC\WARRATIV\TestAmerica\Cooler Receipt TestAmerica\COOLER\_TestAmerica\_Rev 65 103007.doc

***END OF REPORT***



APPENDIX D-2

LABORATORY ANALYTICAL REPORT – APRIL 2008  
(CONFIRMATION EVENT)



**ANALYTICAL REPORT**

**PROJECT NO. 12616-71-501013**


**REALM ELYRIA/R016017**

**Lot #: ASD030167**

**Angela Bown**

**Conestoga-Rovers & Associates  
9033 Meridian Way  
West Chester, OH 45069**

**TESTAMERICA LABORATORIES, INC.**

  
**Amy L. McCormick  
Project Manager**

**April 15, 2008**

# CASE NARRATIVE

A8D030167

The following report contains the analytical results for nine water samples submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Realm Elyria/R016017 Site, project number 12616-71-501013. The samples were received April 03, 2008, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Angela Bown on April 15, 2008. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Any reference within this document to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.)

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 35.

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 2.4°C.

#### **METALS**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "J". Refer to the sample report pages for the affected analyte(s).

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. TestAmerica 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.

For SW846/RCRA methods, 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.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### **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. Multi peak responders may not be included in the target spike list due to co-elution. 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. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) 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 in the table.)

<b><u>Volatile (GC or GC/MS)</u></b>	<b><u>Semivolatile (GC/MS)</u></b>	<b><u>Metals ICP-MS</u></b>	<b><u>Metals ICP Trace</u></b>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (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.

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.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is 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 surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

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 and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

### **TestAmerica North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP  
(#CL0024), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit,



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## EXECUTIVE SUMMARY - Detection Highlights

A8D030167

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-040108-DN-01 04/01/08 13:40 001</b>				
Barium - DISSOLVED	0.088 B,J	0.20	mg/L	SW846 6010B
Sodium - DISSOLVED	191	5.0	mg/L	SW846 6010B
Chloride	175	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-040108-DN-02 04/01/08 15:00 002</b>				
Potassium - DISSOLVED	9.8	5.0	mg/L	SW846 6010B
<b>WG-12616-040108-DN-03 04/01/08 16:35 003</b>				
Calcium - DISSOLVED	226 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	73.4 J	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.11	0.040	mg/L	SW846 6010B
Chloride	53.7	5.0	mg/L	MCAWW 300.0A
Sulfate	604	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-040108-DN-04 04/01/08 18:20 004</b>				
Calcium - DISSOLVED	233 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	68.9 J	5.0	mg/L	SW846 6010B
Sodium - DISSOLVED	60.1	5.0	mg/L	SW846 6010B
Sulfate	684	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-040108-DN-05 04/01/08 19:30 005</b>				
Calcium - DISSOLVED	228 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	98.5 J	5.0	mg/L	SW846 6010B
Chloride	107	5.0	mg/L	MCAWW 300.0A
Sulfate	716	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-040208-DN-06 04/02/08 08:10 006</b>				
Magnesium - DISSOLVED	46.7 J	5.0	mg/L	SW846 6010B
<b>WG-12616-040208-DN-07 04/02/08 10:10 007</b>				
Calcium - DISSOLVED	173 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	11.9	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	55.8 J	5.0	mg/L	SW846 6010B
Sulfate	379	5.0	mg/L	MCAWW 300.0A

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A8D030167

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-040208-DN-08 04/02/08 12:25 008</b>				
Calcium - DISSOLVED	149 J	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.044	0.040	mg/L	SW846 6010B
<b>WG-12616-040208-DN-09 04/02/08 11:30 009</b>				
Calcium - DISSOLVED	172 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	11.9	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	55.4 J	5.0	mg/L	SW846 6010B
Sulfate	377	5.0	mg/L	MCAWW 300.0A

# ANALYTICAL METHODS SUMMARY

A8D030167

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Sulfate	MCAWW 300.0A

## References:

- 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

A8D030167

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KKM1K	001	WG-12616-040108-DN-01	04/01/08	13:40
KKM1M	002	WG-12616-040108-DN-02	04/01/08	15:00
KKM1T	003	WG-12616-040108-DN-03	04/01/08	16:35
KKM1V	004	WG-12616-040108-DN-04	04/01/08	18:20
KKM1X	005	WG-12616-040108-DN-05	04/01/08	19:30
KKM11	006	WG-12616-040208-DN-06	04/02/08	08:10
KKM12	007	WG-12616-040208-DN-07	04/02/08	10:10
KKM13	008	WG-12616-040208-DN-08	04/02/08	12:25
KKM14	009	WG-12616-040208-DN-09	04/02/08	11:30

## **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 & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-01

DISSOLVED Metals

Lot-Sample #...: A8D030167-001

Matrix.....: WG

Date Sampled...: 04/01/08 13:40 Date Received...: 04/03/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 8095013						
Barium	0.088 B,J	0.20	mg/L	SW846 6010B	04/04-04/07/08	KKM1K1AA
		Dilution Factor: 1		MDL.....: 0.00067		
Sodium	191	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM1K1AC
		Dilution Factor: 1		MDL.....: 0.59		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-01

General Chemistry

Lot-Sample #....: A8D030167-001    Work Order #....: KKM1K    Matrix.....: WG  
Date Sampled....: 04/01/08 13:40    Date Received...: 04/03/08

<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	175	5.0	mg/L	MCAWW 300.0A	04/09/08	8100321
		Dilution Factor: 5		MDL.....: 0.50		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-02

DISSOLVED Metals

Lot-Sample #...: A8D030167-002

Matrix.....: WG

Date Sampled...: 04/01/08 15:00 Date Received...: 04/03/08

<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 #...: 8095013						
Potassium	9.8	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM1M1AA
		Dilution Factor: 1		MDL.....: 0.072		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-03

DISSOLVED Metals

Lot-Sample #...: A8D030167-003

Matrix.....: WG

Date Sampled...: 04/01/08 16:35 Date Received...: 04/03/08

<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 #...: 8095013						
Calcium	226 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKMT1AA
		Dilution Factor: 1		MDL.....: 0.13		
Magnesium	73.4 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKMT1AC
		Dilution Factor: 1		MDL.....: 0.034		
Nickel	0.11	0.040	mg/L	SW846 6010B	04/04-04/07/08	KKMT1AD
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-03

General Chemistry

Lot-Sample #...: A8D030167-003    Work Order #...: KKM1T    Matrix.....: WG  
Date Sampled...: 04/01/08 16:35    Date Received...: 04/03/08

<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	53.7	5.0	mg/L	MCAWW 300.0A	04/09/08	8100321
			Dilution Factor: 5	MDL.....: 0.50		
Sulfate	604	5.0	mg/L	MCAWW 300.0A	04/09/08	8100322
			Dilution Factor: 5	MDL.....: 0.60		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-04

DISSOLVED Metals

Lot-Sample #...: A8D030167-004

Matrix.....: WG

Date Sampled...: 04/01/08 18:20 Date Received...: 04/03/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8095013							
Calcium	233 J	5.0	mg/L		SW846 6010B	04/04-04/07/08	KKM1V1AA
		Dilution Factor: 1			MDL.....: 0.13		
Magnesium	68.9 J	5.0	mg/L		SW846 6010B	04/04-04/07/08	KKM1V1AC
		Dilution Factor: 1			MDL.....: 0.034		
Sodium	60.1	5.0	mg/L		SW846 6010B	04/04-04/07/08	KKM1V1AD
		Dilution Factor: 1			MDL.....: 0.59		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-04

General Chemistry

Lot-Sample #...: A8D030167-004    Work Order #...: KKM1V    Matrix.....: WG  
Date Sampled...: 04/01/08 18:20    Date Received...: 04/03/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Sulfate	684	5.0	mg/L	MCAWW 300.0A	04/09/08	8100322
		Dilution Factor: 5		MDL.....: 0.60		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-05

DISSOLVED Metals

Lot-Sample #....: A8D030167-005

Matrix.....: WG

Date Sampled....: 04/01/08 19:30 Date Received...: 04/03/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #....: 8095013						
Calcium	228 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM1X1AA
		Dilution Factor: 1		MDL.....: 0.13		
Magnesium	98.5 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM1X1AC
		Dilution Factor: 1		MDL.....: 0.034		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040108-DN-05

General Chemistry

Lot-Sample #...: A8D030167-005    Work Order #...: KKM1X    Matrix.....: WG  
Date Sampled...: 04/01/08 19:30    Date Received...: 04/03/08

<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	107	5.0	mg/L	MCAWW 300.0A MDL.....: 0.50	04/09/08	8100321
		Dilution Factor: 5				
Sulfate	716	5.0	mg/L	MCAWW 300.0A MDL.....: 0.60	04/09/08	8100322
		Dilution Factor: 5				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040208-DN-06

DISSOLVED Metals

Lot-Sample #...: A8D030167-006

Matrix.....: WG

Date Sampled...: 04/02/08 08:10 Date Received...: 04/03/08

<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 #...: 8095013						
Magnesium	46.7 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM111AA
		Dilution Factor: 1		MDL.....: 0.034		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040208-DN-07

DISSOLVED Metals

Lot-Sample #...: A8D030167-007

Matrix.....: WG

Date Sampled...: 04/02/08 10:10 Date Received...: 04/03/08

<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 #...: 8095013						
Calcium	173 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM121AA
		Dilution Factor: 1		MDL.....: 0.13		
Potassium	11.9	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM121AD
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	55.8 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM121AC
		Dilution Factor: 1		MDL.....: 0.034		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040208-DN-07

General Chemistry

Lot-Sample #...: A8D030167-007    Work Order #...: KKM12    Matrix.....: WG  
Date Sampled...: 04/02/08 10:10    Date Received...: 04/03/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Sulfate	379	5.0	mg/L	MCAWW 300.0A	04/09/08	8100322
		Dilution Factor: 5		MDL.....: 0.60		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040208-DN-08

DISSOLVED Metals

Lot-Sample #...: A8D030167-008

Matrix.....: WG

Date Sampled...: 04/02/08 12:25 Date Received...: 04/03/08

<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 #...: 8095013						
Calcium	149 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM131AA
		Dilution Factor: 1		MDL.....: 0.13		
Nickel	0.044	0.040	mg/L	SW846 6010B	04/04-04/07/08	KKM131AC
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040208-DN-09

DISSOLVED Metals

Lot-Sample #...: A8D030167-009

Matrix.....: WG

Date Sampled...: 04/02/08 11:30 Date Received...: 04/03/08

<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 #...: 8095013						
Calcium	172 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM141AA
		Dilution Factor: 1		MDL.....: 0.13		
Potassium	11.9	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM141AD
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	55.4 J	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKM141AC
		Dilution Factor: 1		MDL.....: 0.034		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-040208-DN-09

General Chemistry

Lot-Sample #...: A8D030167-009    Work Order #...: KKM14    Matrix.....: WG  
Date Sampled...: 04/02/08 11:30    Date Received...: 04/03/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Sulfate	377	5.0	mg/L	MCAWW 300.0A	04/09/08	8100322
		Dilution Factor: 5		MDL.....: 0.60		

***QUALITY CONTROL  
SECTION***

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A8D030167

Matrix.....: WATER

<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>
<b>MB Lot-Sample #: A8D040000-013 Prep Batch #...: 8095013</b>						
Barium	0.00076 B	0.20	mg/L	SW846 6010B	04/04-04/07/08	KKPGG1A4
		Dilution Factor: 1				
Calcium	0.21 B	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKPGG1A7
		Dilution Factor: 1				
Magnesium	0.061 B	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKPGG1A8
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	04/04-04/07/08	KKPGG1A9
		Dilution Factor: 1				
Potassium	ND	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKPGG1A6
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	04/04-04/07/08	KKPGG1A5
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.



METHOD BLANK REPORT

General Chemistry

Client Lot #...: A8D030167

Matrix.....: WATER

<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>PREP</u> <u>BATCH #</u>
Chloride	ND	Work Order #: KK03M1AA 1.0	mg/L	MB Lot-Sample #: MCAWW 300.0A	A8D090000-321 04/09/08	8100321
		Dilution Factor: 1				
Sulfate	ND	Work Order #: KK03P1AA 1.0	mg/L	MB Lot-Sample #: MCAWW 300.0A	A8D090000-322 04/08/08	8100322
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

Client Lot #...: A8D030167

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8D040000-013 <b>Prep Batch #...:</b> 8095013					
Barium	91	(80 - 120)	SW846 6010B	04/04-04/07/08	KKPGG1CG
		Dilution Factor: 1			
Sodium	85	(80 - 120)	SW846 6010B	04/04-04/07/08	KKPGG1CH
		Dilution Factor: 1			
Potassium	89	(80 - 120)	SW846 6010B	04/04-04/07/08	KKPGG1CJ
		Dilution Factor: 1			
Calcium	86	(80 - 120)	SW846 6010B	04/04-04/07/08	KKPGG1CK
		Dilution Factor: 1			
Magnesium	86	(80 - 120)	SW846 6010B	04/04-04/07/08	KKPGG1CL
		Dilution Factor: 1			
Nickel	88	(80 - 120)	SW846 6010B	04/04-04/07/08	KKPGG1CM
		Dilution Factor: 1			

**NOTE (S) :**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Lot-Sample #...**: A8D030167

**Matrix.....**: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride		WO#:KK03M1AC-LCS/KK03M1AD-LCSD		LCS	Lot-Sample#:	A8D090000-321	
	106	(90 - 110)			MCAWW 300.0A	04/09/08	8100321
	105	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	04/09/08	8100321
		Dilution Factor: 1					
Sulfate		WO#:KK03P1AC-LCS/KK03P1AD-LCSD		LCS	Lot-Sample#:	A8D090000-322	
	97	(90 - 110)			MCAWW 300.0A	04/08/08	8100322
	97	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	04/08/08	8100322
		Dilution Factor: 1					

**NOTE(S) :**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

Client Lot #...: A8D030167

Matrix.....: WATER

Date Sampled...: 04/02/08 14:30 Date Received...: 04/03/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #: A8D030102-001 Prep Batch #...: 8095013</b>							
Barium	109	(75 - 125)			SW846 6010B	04/04-04/07/08	KKMFG1C6
	106	(75 - 125)	2.7	(0-20)	SW846 6010B	04/04-04/07/08	KKMFG1C7
			Dilution Factor: 1				
Calcium	101	(75 - 125)			SW846 6010B	04/04-04/07/08	KKMFG1DG
	98	(75 - 125)	0.75	(0-20)	SW846 6010B	04/04-04/07/08	KKMFG1DH
			Dilution Factor: 1				
Magnesium	106	(75 - 125)			SW846 6010B	04/04-04/07/08	KKMFG1DK
	104	(75 - 125)	0.92	(0-20)	SW846 6010B	04/04-04/07/08	KKMFG1DL
			Dilution Factor: 1				
Nickel	105	(75 - 125)			SW846 6010B	04/04-04/07/08	KKMFG1DN
	104	(75 - 125)	1.1	(0-20)	SW846 6010B	04/04-04/07/08	KKMFG1DP
			Dilution Factor: 1				
Potassium	110	(75 - 125)			SW846 6010B	04/04-04/07/08	KKMFG1DD
	109	(75 - 125)	0.94	(0-20)	SW846 6010B	04/04-04/07/08	KKMFG1DE
			Dilution Factor: 1				
Sodium	110	(75 - 125)			SW846 6010B	04/04-04/07/08	KKMFG1C9
	108	(75 - 125)	0.60	(0-20)	SW846 6010B	04/04-04/07/08	KKMFG1DA
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A8D030167

Matrix.....: WATER

Date Sampled...: 04/04/08 11:50 Date Received...: 04/04/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride			WO#: KKQ0N1A2-MS/KKQ0N1A3-MSD MS Lot-Sample #: A8D040274-008				
	108	(80 - 120)			MCAWW 300.0A	04/08/08	8100321
	110	(80 - 120)	1.4	(0-20)	MCAWW 300.0A	04/08/08	8100321
			Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



(Sample batch complete)

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # No 04069

SSOW Ref Code: RD1607

**Required Client Information:**

Company: CPA Report To: A. Lavine  
 Address: Sandusky, OH Copy To: A. Brown  
 Invoice To: P.O.:  
 Project Name: GENM EGYPA  
 Project Number: 12616-71-501013  
 Fax: \_\_\_\_\_  
 E-mail: \_\_\_\_\_

Laboratory: Test America  
 Laboratory Location: N. Canton, OH  
 Laboratory Contact: A. McCormick  
 Requested Due Date: \_\_\_\_\_  
 TAT: Standard  
 QA/QC Requirements: \_\_\_\_\_

**Valid Matrix Codes:**  
 WG Groundwater  
 WB Borehole Water  
 WS Surface Water  
 SO Soil  
 SE Sediment  
 See Back for Additional Codes

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative						Analysis and Method	Remarks/Lab ID
					Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:		
1. W6-12616-040108-DN-01	W6	4.1.08	1340								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	Dis. Metals were field filtered
2. W6-12616-040208-DN-06		4.2.08	0810								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
3. W6-12616-040208-DN-07		4.2.08	1010								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
4. W6-12616-040208-DN-08		4.2.08	1225								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
5. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
6. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
7. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
8. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
9. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
10. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
11. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
12. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
13. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
14. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	
15. W6-12616-040208-DN-09		4.2.08	1130								X Dis. Ba X Dis. Na X Dis. Potassium X Dis. Ca X Dis. Mg X Dis. Ni X Sulfate X Chloride	

**SHIPMENT METHOD** Fed Ex **NO. OF COOLERS** 1 **RELINQUISHED BY / AFFILIATION** Don Newton/CPA **DATE** 4.2.08 **TIME** 1500 **RECEIVED BY / AFFILIATION** Maena Mangrum **DATE** 4/5/08 **TIME** 950

**AIRBILL NO.** \_\_\_\_\_

Sample Condition	
Temp in C	Y / N
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Don Newton  
 Sampler Signature: Don Newton Date: 4.2.08

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

**TestAmerica Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: A8D03016-7

Client CPA Project \_\_\_\_\_ By: Alana Hays  
 Cooler Received on 4/3/08 Opened on 4/3/08 (Signature)

FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_  
 TestAmerica Cooler # 5732 Multiple Coolers  Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler(s)? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_  
 Were custody seals on the outside of cooler(s) signed and dated? Yes  No  NA

Were custody seals on the bottle(s)? Yes  No

If YES, are there any exceptions? \_\_\_\_\_

2. Shippers' packing slip attached to the cooler(s)? Yes  No

3. Did custody papers accompany the sample(s)? Yes  No  Relinquished by client? Yes  No

4. Were the custody papers signed in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other dash bag ice

6. Cooler temperature upon receipt 2.4 °C See back of form for multiple coolers/temps

METHOD: IR  Other

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels be reconciled with the COC? Yes  No

9. Were sample(s) at the correct pH upon receipt? Yes  No  NA

10. Were correct bottle(s) used for the test(s) indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

13. Was a trip blank present in the cooler(s)? Yes  No  Were VOAs on the COC? Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal  Voice Mail  Other

Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving

to meet recommended pH level(s). Nitric Acid Lot# 113007-HNO<sub>3</sub>; Sulfuric Acid Lot# 071707-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot#

073007 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 050205-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH.

What time was preservative added to sample(s)? \_\_\_\_\_

Client ID	pH	Date	Initials
01	~ 2	4/3/08	an
02	~ 2		
03	~ 2		
04	~ 2		
05	~ 2		
06	~ 2		
07	~ 2		
08	~ 2		

SOP: NC-SC-0005, Sample Receiving

N:\QAQC\WARRANTIA\TestAmerica\Cooler Receipt TestAmerica\COOLER\_TestAmerica\_Rev 66 033108.doc



***END OF REPORT***

APPENDIX D-3

LABORATORY ANALYTICAL REPORT – AUGUST 2008  
(SEMI-ANNUAL EVENT)



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

## ANALYTICAL REPORT

PROJECT NO. 12616-70-501011

REALM ELYRIA/R016016

Lot #: A8H110121

Angela Bown

Conestoga-Rovers & Associates  
9033 Meridian Way  
West Chester, OH 45069

TESTAMERICA LABORATORIES, INC.



Amy L. McCormick  
Project Manager

August 25, 2008

# **CASE NARRATIVE**

A8H110121

The following report contains the analytical results for twenty-one water samples submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Realm Elyria/R016016 Site, project number 12616-70-501011. The samples were received August 11, 2008, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Angela Bown on August 22, 2008. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Any reference within this document to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.)

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 115.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The coolers were received at temperatures ranging from 2.3 to 4.6°C.

## **CASE NARRATIVE (continued)**

### **METALS**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

Serial dilution of a sample in this lot indicates that physical and chemical interferences were present. Refer to the sample report pages for the affected analytes flagged with "E".

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "J". Refer to the sample report pages for the affected analyte(s).

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for WG-12616-080808-DN-01 and WG-12616-080908-DN-14 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

Some dissolved metals sample results in this lot are 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**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for WG-12616-080908-DN-14 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

The LCS/LCSD associated with batch(es) 8228324 were broken for TDS. The samples were reported within hold with the blank. The samples were recreated and reset and both sets will be reported.

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. TestAmerica 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.

For SW846/RCRA methods, 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.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### **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. Multi peak responders may not be included in the target spike list due to co-elution. 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. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) 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 in the table.)

<b><u>Volatile (GC or GC/MS)</u></b>	<b><u>Semivolatile (GC/MS)</u></b>	<b><u>Metals ICP-MS</u></b>	<b><u>Metals ICP Trace</u></b>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (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.

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.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is 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 surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

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 and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

### **TestAmerica North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP (#CL0024), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit



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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-080808-DN-01 08/08/08 12:30 001</b>				
Barium - DISSOLVED	0.045 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	218	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	2.9	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	2.7 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	67.5	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.22	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	61.2	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.16	0.040	mg/L	SW846 6010B
Barium	0.047 B	0.20	mg/L	SW846 6010B
Calcium	230	5.0	mg/L	SW846 6010B
Iron	4.7	0.10	mg/L	SW846 6010B
Potassium	2.6 B,J	5.0	mg/L	SW846 6010B
Magnesium	71.6	5.0	mg/L	SW846 6010B
Manganese	0.25	0.015	mg/L	SW846 6010B
Sodium	60.6	5.0	mg/L	SW846 6010B
Nickel	0.15	0.040	mg/L	SW846 6010B
Total Dissolved Solids	1300	10	mg/L	MCAWW 160.1
Total Suspended Solids	10	4.0	mg/L	MCAWW 160.2
Chloride	66.0	5.0	mg/L	MCAWW 300.0A
Sulfate	512	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-080808-DN-02 08/08/08 13:30 002</b>				
Barium - DISSOLVED	0.021 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	221	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	2.0 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	63.0	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.00051 B	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	42.7	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.020 B	0.040	mg/L	SW846 6010B
Barium	0.022 B	0.20	mg/L	SW846 6010B
Calcium	228	5.0	mg/L	SW846 6010B
Potassium	1.9 B,J	5.0	mg/L	SW846 6010B
Magnesium	65.1	5.0	mg/L	SW846 6010B
Manganese	0.0050 B	0.015	mg/L	SW846 6010B
Sodium	42.8	5.0	mg/L	SW846 6010B
Nickel	0.020 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	1200	10	mg/L	MCAWW 160.1
Chloride	16.8	5.0	mg/L	MCAWW 300.0A
Sulfate	573	5.0	mg/L	MCAWW 300.0A

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# EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-080808-DN-03 08/08/08 14:20 003</b>				
Barium - DISSOLVED	0.083 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	91.2	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.13	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	4.3 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	19.2	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.041	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	179	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.010 B	0.040	mg/L	SW846 6010B
Barium	0.084 B	0.20	mg/L	SW846 6010B
Calcium	91.8	5.0	mg/L	SW846 6010B
Iron	0.13	0.10	mg/L	SW846 6010B
Potassium	4.2 B,J	5.0	mg/L	SW846 6010B
Magnesium	19.4	5.0	mg/L	SW846 6010B
Manganese	0.042	0.015	mg/L	SW846 6010B
Sodium	180	5.0	mg/L	SW846 6010B
Nickel	0.010 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	820	10	mg/L	MCAWW 160.1
Chloride	169	5.0	mg/L	MCAWW 300.0A
Sulfate	34.3	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-080808-DN-04 08/08/08 14:50 004</b>				
Barium - DISSOLVED	0.083 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	92.3	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.11	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	4.0 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	19.5	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.043	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	174	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.012 B	0.040	mg/L	SW846 6010B
Barium	0.083 B	0.20	mg/L	SW846 6010B
Calcium	90.6	5.0	mg/L	SW846 6010B
Iron	0.10	0.10	mg/L	SW846 6010B
Potassium	4.1 B,J	5.0	mg/L	SW846 6010B
Magnesium	19.1	5.0	mg/L	SW846 6010B
Manganese	0.041	0.015	mg/L	SW846 6010B
Sodium	177	5.0	mg/L	SW846 6010B
Nickel	0.0089 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	800	10	mg/L	MCAWW 160.1
Chloride	170	5.0	mg/L	MCAWW 300.0A
Sulfate	35.9	5.0	mg/L	MCAWW 300.0A

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-080808-DN-05 08/08/08 15:55 005</b>				
Barium - DISSOLVED	0.057 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	127	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.12	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	11.9 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	39.9	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.24	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	67.2	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.034 B	0.040	mg/L	SW846 6010B
Barium	0.054 B	0.20	mg/L	SW846 6010B
Calcium	121	5.0	mg/L	SW846 6010B
Iron	0.16	0.10	mg/L	SW846 6010B
Potassium	11.0 J	5.0	mg/L	SW846 6010B
Magnesium	38.3	5.0	mg/L	SW846 6010B
Manganese	0.24	0.015	mg/L	SW846 6010B
Sodium	63.9	5.0	mg/L	SW846 6010B
Nickel	0.031 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	740	10	mg/L	MCAWW 160.1
Chloride	57.3	5.0	mg/L	MCAWW 300.0A
Sulfate	160	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-06 08/09/08 08:30 006</b>				
Barium - DISSOLVED	0.048 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	110	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.19	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	5.4 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	38.7	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.36	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	112	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.0053 B	0.040	mg/L	SW846 6010B
Barium	0.045 B	0.20	mg/L	SW846 6010B
Calcium	104	5.0	mg/L	SW846 6010B
Iron	0.21	0.10	mg/L	SW846 6010B
Potassium	4.9 B,J	5.0	mg/L	SW846 6010B
Magnesium	36.5	5.0	mg/L	SW846 6010B
Manganese	0.34	0.015	mg/L	SW846 6010B
Sodium	107	5.0	mg/L	SW846 6010B
Nickel	0.0070 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	790	10	mg/L	MCAWW 160.1
Total Suspended Solids	3.0 B	4.0	mg/L	MCAWW 160.2

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-080908-DN-06 08/09/08 08:30 006</b>				
Chloride	30.9	5.0	mg/L	MCAWW 300.0A
Sulfate	225	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-07 08/09/08 09:15 007</b>				
Barium - DISSOLVED	0.021 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	236	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.28	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	1.4 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	98.6	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.39	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	45.4	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.012 B	0.040	mg/L	SW846 6010B
Barium	0.021 B	0.20	mg/L	SW846 6010B
Calcium	244	5.0	mg/L	SW846 6010B
Iron	0.36	0.10	mg/L	SW846 6010B
Potassium	1.4 B,J	5.0	mg/L	SW846 6010B
Magnesium	101	5.0	mg/L	SW846 6010B
Manganese	0.42	0.015	mg/L	SW846 6010B
Sodium	46.5	5.0	mg/L	SW846 6010B
Nickel	0.0086 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	1400	20	mg/L	MCAWW 160.1
Total Suspended Solids	3.0 B	4.0	mg/L	MCAWW 160.2
Chloride	101	5.0	mg/L	MCAWW 300.0A
Sulfate	679	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-08 08/09/08 10:55 008</b>				
Barium - DISSOLVED	0.018 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	142	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	1.3	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	3.0 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	27.8	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.20	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	36.9	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.039 B	0.040	mg/L	SW846 6010B
Barium	0.019 B	0.20	mg/L	SW846 6010B
Calcium	146	5.0	mg/L	SW846 6010B
Iron	1.4	0.10	mg/L	SW846 6010B
Potassium	3.0 B,J	5.0	mg/L	SW846 6010B
Magnesium	28.8	5.0	mg/L	SW846 6010B

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-080908-DN-08 08/09/08 10:55 008</b>				
Manganese	0.22	0.015	mg/L	SW846 6010B
Sodium	38.0	5.0	mg/L	SW846 6010B
Nickel	0.040	0.040	mg/L	SW846 6010B
Total Dissolved Solids	680	10	mg/L	MCAWW 160.1
Total Suspended Solids	3.0 B	4.0	mg/L	MCAWW 160.2
Chloride	23.3	2.0	mg/L	MCAWW 300.0A
Sulfate	117	2.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-09 08/09/08 11:15 009</b>				
Barium - DISSOLVED	0.018 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	143	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	1.3	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	2.9 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	28.0	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.20	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	36.8	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.040	0.040	mg/L	SW846 6010B
Barium	0.033 B	0.20	mg/L	SW846 6010B
Calcium	181	5.0	mg/L	SW846 6010B
Chromium	0.0032 B	0.010	mg/L	SW846 6010B
Iron	5.5	0.10	mg/L	SW846 6010B
Potassium	14.1 J	5.0	mg/L	SW846 6010B
Magnesium	54.0	5.0	mg/L	SW846 6010B
Manganese	0.82	0.015	mg/L	SW846 6010B
Sodium	30.3	5.0	mg/L	SW846 6010B
Nickel	0.029 B	0.040	mg/L	SW846 6010B
Total Dissolved Solids	750	10	mg/L	MCAWW 160.1
Total Suspended Solids	530	4.0	mg/L	MCAWW 160.2
Chloride	22.8	2.0	mg/L	MCAWW 300.0A
Sulfate	215	2.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-10 08/09/08 13:35 010</b>				
Barium - DISSOLVED	0.063 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	118	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	1.8	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	1.5 B,J,E	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	26.8	5.0	mg/L	SW846 6010B

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-080908-DN-10 08/09/08 13:35 010</b>				
Manganese - DISSOLVED	0.15	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	9.5	5.0	mg/L	SW846 6010B
Barium	0.064 B	0.20	mg/L	SW846 6010B
Calcium	117	5.0	mg/L	SW846 6010B
Iron	4.1	0.10	mg/L	SW846 6010B
Potassium	1.5 B,J	5.0	mg/L	SW846 6010B
Magnesium	26.3	5.0	mg/L	SW846 6010B
Manganese	0.15	0.015	mg/L	SW846 6010B
Sodium	9.1	5.0	mg/L	SW846 6010B
Total Dissolved Solids	480	10	mg/L	MCAWW 160.1
Total Suspended Solids	5.0	4.0	mg/L	MCAWW 160.2
Chloride	6.0	2.0	mg/L	MCAWW 300.0A
Sulfate	64.5	2.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-11 08/09/08 15:00 011</b>				
Barium - DISSOLVED	0.020 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	108 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	1.6 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	20.9 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.54 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	15.4	5.0	mg/L	SW846 6010B
Barium	0.025 B,J	0.20	mg/L	SW846 6010B
Calcium	113 J	5.0	mg/L	SW846 6010B
Iron	0.23	0.10	mg/L	SW846 6010B
Potassium	1.5 B,J	5.0	mg/L	SW846 6010B
Magnesium	22.2 J	5.0	mg/L	SW846 6010B
Manganese	1.5 J	0.015	mg/L	SW846 6010B
Sodium	13.9	5.0	mg/L	SW846 6010B
Total Dissolved Solids	440	10	mg/L	MCAWW 160.1
Total Suspended Solids	6.0	4.0	mg/L	MCAWW 160.2
Chloride	3.0	1.0	mg/L	MCAWW 300.0A
Sulfate	47.1	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-12 08/09/08 15:30 012</b>				
Barium - DISSOLVED	0.029 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	58.3 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.36	0.10	mg/L	SW846 6010B

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-080908-DN-12 08/09/08 15:30 012</b>				
Potassium - DISSOLVED	4.6 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	15.2 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.17 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	115	5.0	mg/L	SW846 6010B
Barium	0.024 B,J	0.20	mg/L	SW846 6010B
Calcium	51.8 J	5.0	mg/L	SW846 6010B
Iron	0.37	0.10	mg/L	SW846 6010B
Potassium	4.9 B,J	5.0	mg/L	SW846 6010B
Magnesium	13.6 J	5.0	mg/L	SW846 6010B
Manganese	0.20 J	0.015	mg/L	SW846 6010B
Sodium	126	5.0	mg/L	SW846 6010B
Total Dissolved	540	10	mg/L	MCAWW 160.1
Solids				
Chloride	19.1	1.0	mg/L	MCAWW 300.0A
Sulfate	79.0	1.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-13 08/09/08 17:10 013</b>				
Barium - DISSOLVED	0.072 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	126 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.11	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	3.0 B,J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	34.0 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.082 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	52.5	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.0035 B	0.040	mg/L	SW846 6010B
Barium	0.072 B,J	0.20	mg/L	SW846 6010B
Calcium	127 J	5.0	mg/L	SW846 6010B
Iron	0.13	0.10	mg/L	SW846 6010B
Potassium	2.9 B,J	5.0	mg/L	SW846 6010B
Magnesium	32.8 J	5.0	mg/L	SW846 6010B
Manganese	0.11 J	0.015	mg/L	SW846 6010B
Sodium	48.7	5.0	mg/L	SW846 6010B
Total Dissolved	610	10	mg/L	MCAWW 160.1
Solids				
Chloride	9.9	5.0	mg/L	MCAWW 300.0A
Sulfate	110	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-14 08/09/08 17:55 014</b>				
Barium - DISSOLVED	0.028 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	101 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.13	0.10	mg/L	SW846 6010B

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-080908-DN-14 08/09/08 17:55 014</b>				
Potassium - DISSOLVED	789 J	25.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	17.8 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.076 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	144	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.47	0.040	mg/L	SW846 6010B
Barium	0.030 B,J	0.20	mg/L	SW846 6010B
Calcium	106 J	5.0	mg/L	SW846 6010B
Chromium	0.0080 B	0.010	mg/L	SW846 6010B
Copper	0.0071 B	0.025	mg/L	SW846 6010B
Iron	0.39	0.10	mg/L	SW846 6010B
Potassium	816 J	25.0	mg/L	SW846 6010B
Magnesium	18.7 J	5.0	mg/L	SW846 6010B
Manganese	0.084 J	0.015	mg/L	SW846 6010B
Sodium	149	5.0	mg/L	SW846 6010B
Nickel	0.49	0.040	mg/L	SW846 6010B
Total Dissolved	2600	40	mg/L	MCAWW 160.1
Solids				
Chloride	269	10.0	mg/L	MCAWW 300.0A
Sulfate	1560	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-080908-DN-15 08/09/08 18:35 015</b>				
Barium - DISSOLVED	0.018 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	66.7 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	1380 J	50.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	4.2 B,J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.015 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	229	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.83	0.040	mg/L	SW846 6010B
Barium	0.019 B,J	0.20	mg/L	SW846 6010B
Calcium	69.1 J	5.0	mg/L	SW846 6010B
Copper	0.0097 B	0.025	mg/L	SW846 6010B
Potassium	1420 J	50.0	mg/L	SW846 6010B
Magnesium	4.4 B,J	5.0	mg/L	SW846 6010B
Manganese	0.016 J	0.015	mg/L	SW846 6010B
Sodium	236	5.0	mg/L	SW846 6010B
Nickel	0.83	0.040	mg/L	SW846 6010B
Total Dissolved	4200	50	mg/L	MCAWW 160.1
Solids				
Chloride	451	20.0	mg/L	MCAWW 300.0A
Sulfate	2390	20.0	mg/L	MCAWW 300.0A

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-081008-DN-16 08/10/08 08:30 016</b>				
Barium - DISSOLVED	0.034 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	72.9 J	5.0	mg/L	SW846 6010B
Potassium - DISSOLVED	1760 J	50.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	15.1 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.052 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	151	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.56	0.040	mg/L	SW846 6010B
Barium	0.036 B,J	0.20	mg/L	SW846 6010B
Calcium	77.4 J	5.0	mg/L	SW846 6010B
Chromium	0.0022 B	0.010	mg/L	SW846 6010B
Copper	0.015 B	0.025	mg/L	SW846 6010B
Iron	0.21	0.10	mg/L	SW846 6010B
Potassium	1780 J	50.0	mg/L	SW846 6010B
Magnesium	16.3 J	5.0	mg/L	SW846 6010B
Manganese	0.058 J	0.015	mg/L	SW846 6010B
Sodium	155	5.0	mg/L	SW846 6010B
Nickel	0.57	0.040	mg/L	SW846 6010B
Total Dissolved	2900	40	mg/L	MCAWW 160.1
Solids				
Chloride	307	10.0	mg/L	MCAWW 300.0A
Sulfate	1740	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-081008-DN-17 08/10/08 09:15 017</b>				
Barium - DISSOLVED	0.028 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	162 J	5.0	mg/L	SW846 6010B
Copper - DISSOLVED	0.0046 B	0.025	mg/L	SW846 6010B
Potassium - DISSOLVED	794 J	25.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	10.7 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.050 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	191	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.61	0.040	mg/L	SW846 6010B
Barium	0.093 B,J	0.20	mg/L	SW846 6010B
Calcium	189 J	5.0	mg/L	SW846 6010B
Chromium	1.1	0.010	mg/L	SW846 6010B
Copper	6.6	0.025	mg/L	SW846 6010B
Iron	38.7	0.10	mg/L	SW846 6010B
Potassium	524 J	5.0	mg/L	SW846 6010B
Magnesium	14.7 J	5.0	mg/L	SW846 6010B
Manganese	0.35 J	0.015	mg/L	SW846 6010B
Sodium	153	5.0	mg/L	SW846 6010B
Nickel	0.89	0.040	mg/L	SW846 6010B
Total Dissolved	3100	40	mg/L	MCAWW 160.1
Solids				

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-081008-DN-17 08/10/08 09:15 017</b>				
Total Suspended Solids	19	4.0	mg/L	MCAWW 160.2
Total Cyanide Chloride	0.006 B	0.010	mg/L	MCAWW 335.2
Sulfate	320	10.0	mg/L	MCAWW 300.0A
	1850	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-081008-DN-18 08/10/08 09:50 018</b>				
Barium - DISSOLVED	0.077 B, J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	189 J	5.0	mg/L	SW846 6010B
Copper - DISSOLVED	0.068	0.025	mg/L	SW846 6010B
Iron - DISSOLVED	0.78	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	360 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	34.8 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	0.79 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	94.5	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.42	0.040	mg/L	SW846 6010B
Barium	0.075 B, J	0.20	mg/L	SW846 6010B
Calcium	196 J	5.0	mg/L	SW846 6010B
Copper	0.12	0.025	mg/L	SW846 6010B
Iron	0.38	0.10	mg/L	SW846 6010B
Potassium	376 J	5.0	mg/L	SW846 6010B
Magnesium	36.2 J	5.0	mg/L	SW846 6010B
Manganese	0.10 J	0.015	mg/L	SW846 6010B
Sodium	99.1	5.0	mg/L	SW846 6010B
Nickel	0.44	0.040	mg/L	SW846 6010B
Total Dissolved Solids	1900	20	mg/L	MCAWW 160.1
Chloride	162	10.0	mg/L	MCAWW 300.0A
Sulfate	954	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-081008-DN-19 08/10/08 10:35 019</b>				
Barium - DISSOLVED	0.046 B, J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	370 J	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	21.5	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	403 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	89.4 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	4.0 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	155	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.94	0.040	mg/L	SW846 6010B
Barium	0.047 B, J	0.20	mg/L	SW846 6010B
Calcium	368 J	5.0	mg/L	SW846 6010B

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## EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-081008-DN-19 08/10/08 10:35 019</b>				
Iron	14.6	0.10	mg/L	SW846 6010B
Potassium	402 J	5.0	mg/L	SW846 6010B
Magnesium	88.8 J	5.0	mg/L	SW846 6010B
Manganese	3.8 J	0.015	mg/L	SW846 6010B
Sodium	155	5.0	mg/L	SW846 6010B
Nickel	0.94	0.040	mg/L	SW846 6010B
Total Dissolved Solids	3300	40	mg/L	MCAWW 160.1
Total Dissolved Solids	3200	40	mg/L	MCAWW 160.1
Total Suspended Solids	6.0	4.0	mg/L	MCAWW 160.2
Chloride	274	10.0	mg/L	MCAWW 300.0A
Sulfate	1440	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-081008-DN-20 08/10/08 11:10 020</b>				
Barium - DISSOLVED	0.041 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	205 J	5.0	mg/L	SW846 6010B
Chromium - DISSOLVED	0.010	0.010	mg/L	SW846 6010B
Iron - DISSOLVED	0.62	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	423 J,E	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	54.4 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	1.4 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	112	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.71	0.040	mg/L	SW846 6010B
Barium	0.037 B,J	0.20	mg/L	SW846 6010B
Calcium	192 J	5.0	mg/L	SW846 6010B
Chromium	0.0077 B	0.010	mg/L	SW846 6010B
Copper	0.022 B	0.025	mg/L	SW846 6010B
Iron	0.67	0.10	mg/L	SW846 6010B
Potassium	404 J	5.0	mg/L	SW846 6010B
Magnesium	51.4 J	5.0	mg/L	SW846 6010B
Manganese	1.2 J	0.015	mg/L	SW846 6010B
Sodium	107	5.0	mg/L	SW846 6010B
Nickel	0.65	0.040	mg/L	SW846 6010B
Total Dissolved Solids	2500	20	mg/L	MCAWW 160.1
Total Dissolved Solids	2500	20	mg/L	MCAWW 160.1
Chloride	208	5.0	mg/L	MCAWW 300.0A
Sulfate	1030	20.0	mg/L	MCAWW 300.0A

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# EXECUTIVE SUMMARY - Detection Highlights

A8H110121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-081008-DN-21 08/10/08 11:50 021</b>				
Barium - DISSOLVED	0.061 B,J	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	306 J	5.0	mg/L	SW846 6010B
Copper - DISSOLVED	0.017 B	0.025	mg/L	SW846 6010B
Iron - DISSOLVED	2.6	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	243 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	74.3 J	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	7.2 J	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	94.7	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.50	0.040	mg/L	SW846 6010B
Barium	0.061 B,J	0.20	mg/L	SW846 6010B
Calcium	320 J	5.0	mg/L	SW846 6010B
Copper	0.11	0.025	mg/L	SW846 6010B
Iron	0.16	0.10	mg/L	SW846 6010B
Potassium	260 J	5.0	mg/L	SW846 6010B
Magnesium	79.5 J	5.0	mg/L	SW846 6010B
Manganese	6.7 J	0.015	mg/L	SW846 6010B
Sodium	102	5.0	mg/L	SW846 6010B
Nickel	0.53	0.040	mg/L	SW846 6010B
Total Dissolved Solids	2600	20	mg/L	MCAWW 160.1
Total Dissolved Solids	2600	20	mg/L	MCAWW 160.1
Chloride	154	10.0	mg/L	MCAWW 300.0A
Sulfate	1320	10.0	mg/L	MCAWW 300.0A

# ANALYTICAL METHODS SUMMARY

A8H110121

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Non-Filterable Residue (TSS)	MCAWW 160.2
Sulfate	MCAWW 300.0A
Total Cyanide	MCAWW 335.2

## References:

- 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

A8H110121

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KTXTX	001	WG-12616-080808-DN-01	08/08/08	12:30
KTXT7	002	WG-12616-080808-DN-02	08/08/08	13:30
KTXVF	003	WG-12616-080808-DN-03	08/08/08	14:20
KTXVG	004	WG-12616-080808-DN-04	08/08/08	14:50
KTXVJ	005	WG-12616-080808-DN-05	08/08/08	15:55
KTXVK	006	WG-12616-080908-DN-06	08/09/08	08:30
KTXVM	007	WG-12616-080908-DN-07	08/09/08	09:15
KTXVN	008	WG-12616-080908-DN-08	08/09/08	10:55
KTXVP	009	WG-12616-080908-DN-09	08/09/08	11:15
KTXVR	010	WG-12616-080908-DN-10	08/09/08	13:35
KTXVT	011	WG-12616-080908-DN-11	08/09/08	15:00
KTXVV	012	WG-12616-080908-DN-12	08/09/08	15:30
KTXVW	013	WG-12616-080908-DN-13	08/09/08	17:10
KTXVX	014	WG-12616-080908-DN-14	08/09/08	17:55
KTXV1	015	WG-12616-080908-DN-15	08/09/08	18:35
KTXV5	016	WG-12616-081008-DN-16	08/10/08	08:30
KTXV7	017	WG-12616-081008-DN-17	08/10/08	09:15
KTXV9	018	WG-12616-081008-DN-18	08/10/08	09:50
KTXWC	019	WG-12616-081008-DN-19	08/10/08	10:35
KTXWD	020	WG-12616-081008-DN-20	08/10/08	11:10
KTXWF	021	WG-12616-081008-DN-21	08/10/08	11:50

## 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 & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-01

TOTAL Metals

Lot-Sample #...: A8H110121-001

Matrix.....: WG

Date Sampled...: 08/08/08 12:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #...: 8225073</b>						
<b>Barium</b>	<b>0.047 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AA</b>
		Dilution Factor: 1		MDL.....: 0.00067		
<b>Calcium</b>	<b>230</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AC</b>
		Dilution Factor: 1		MDL.....: 0.13		
<b>Chromium</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AL</b>
		Dilution Factor: 1		MDL.....: 0.0022		
<b>Copper</b>	<b>ND</b>	<b>0.025</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AD</b>
		Dilution Factor: 1		MDL.....: 0.0045		
<b>Iron</b>	<b>4.7</b>	<b>0.10</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AE</b>
		Dilution Factor: 1		MDL.....: 0.081		
<b>Potassium</b>	<b>2.6 B,J</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AF</b>
		Dilution Factor: 1		MDL.....: 0.072		
<b>Magnesium</b>	<b>71.6</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AG</b>
		Dilution Factor: 1		MDL.....: 0.034		
<b>Manganese</b>	<b>0.25</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AH</b>
		Dilution Factor: 1		MDL.....: 0.00041		
<b>Sodium</b>	<b>60.6</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AJ</b>
		Dilution Factor: 1		MDL.....: 0.59		
<b>Nickel</b>	<b>0.15</b>	<b>0.040</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXTX1AK</b>
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-01

DISSOLVED Metals

Lot-Sample #...: A8H110121-001

Matrix.....: WG

Date Sampled...: 08/08/08 12:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			PREPARATION-	WORK
		LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #
Prep Batch #...	8225073					
Barium	0.045 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AM
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	218	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AN
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AP
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AQ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	2.9	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AR
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	2.7 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AT
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	67.5	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AU
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.22	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AV
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	61.2	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AW
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.16	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXTX1AX
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080808-DN-01**

**General Chemistry**

**Lot-Sample #...: A8H110121-001    Work Order #...: KTXTX    Matrix.....: WG**  
**Date Sampled...: 08/08/08 12:30    Date Received...: 08/11/08**

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
<b>Chloride</b>	<b>66.0</b>	<b>5.0</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>08/21/08</b>	<b>8234278</b>
		Dilution Factor: 5		MDL.....: 0.50		
<b>Sulfate</b>	<b>512</b>	<b>5.0</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>08/21/08</b>	<b>8234279</b>
		Dilution Factor: 5		MDL.....: 0.60		
<b>Total Cyanide</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>	<b>MCAWW 335.2</b>	<b>08/12/08</b>	<b>8225191</b>
		Dilution Factor: 1		MDL.....: 0.005		
<b>Total Dissolved Solids</b>	<b>1300</b>	<b>10</b>	<b>mg/L</b>	<b>MCAWW 160.1</b>	<b>08/14-08/15/08</b>	<b>8227250</b>
		Dilution Factor: 1		MDL.....: 4.6		
<b>Total Suspended Solids</b>	<b>10</b>	<b>4.0</b>	<b>mg/L</b>	<b>MCAWW 160.2</b>	<b>08/14/08</b>	<b>8227243</b>
		Dilution Factor: 1		MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-080808-DN-02

**TOTAL Metals**

Lot-Sample #...: A8H110121-002

Matrix.....: WG

Date Sampled...: 08/08/08 13:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225073						
Barium	0.022 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	228	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.9 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	65.1	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.0050 B	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	42.8	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.020 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-02

DISSOLVED Metals

Lot-Sample #...: A8H110121-002

Matrix.....: WG

Date Sampled...: 08/08/08 13:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8225073					
Barium	0.021 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	221	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXT71AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	2.0 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	63.0	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.00051 B	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXT71A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	42.7	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXT71A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.020 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXT71A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-02

General Chemistry

Lot-Sample #...: A8H110121-002    Work Order #...: KTXT7    Matrix.....: WG  
 Date Sampled...: 08/08/08 13:30    Date Received...: 08/11/08

<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	16.8	5.0	mg/L	MCAWW 300.0A	08/21/08	8234278
			Dilution Factor: 5	MDL.....: 0.50		
Sulfate	573	5.0	mg/L	MCAWW 300.0A	08/21/08	8234279
			Dilution Factor: 5	MDL.....: 0.60		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
			Dilution Factor: 1	MDL.....: 0.005		
Total Dissolved Solids	1200	10	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
			Dilution Factor: 1	MDL.....: 4.6		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
			Dilution Factor: 1	MDL.....: 2.2		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-03

TOTAL Metals

Lot-Sample #...: A8H110121-003

Matrix.....: WG

Date Sampled...: 08/08/08 14:20 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8225073					
Barium	0.084 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AG
		Dilution Factor: 1		MDL.....	0.00067	
Calcium	91.8	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AH
		Dilution Factor: 1		MDL.....	0.13	
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AR
		Dilution Factor: 1		MDL.....	0.0022	
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AJ
		Dilution Factor: 1		MDL.....	0.0045	
Iron	0.13	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AK
		Dilution Factor: 1		MDL.....	0.081	
Potassium	4.2 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AL
		Dilution Factor: 1		MDL.....	0.072	
Magnesium	19.4	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AM
		Dilution Factor: 1		MDL.....	0.034	
Manganese	0.042	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AN
		Dilution Factor: 1		MDL.....	0.00041	
Sodium	180	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AP
		Dilution Factor: 1		MDL.....	0.59	
Nickel	0.010 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVF1AQ
		Dilution Factor: 1		MDL.....	0.0032	

NOTE(S):

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080808-DN-03**

**DISSOLVED Metals**

**Lot-Sample #...: A8H110121-003**

**Matrix.....: WG**

**Date Sampled...: 08/08/08 14:20 Date Received...: 08/11/08**

<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>
<b>Prep Batch #...: 8225073</b>						
<b>Barium</b>	<b>0.083 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1AT</b>
		Dilution Factor: 1		MDL.....: 0.00067		
<b>Calcium</b>	<b>91.2</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1AU</b>
		Dilution Factor: 1		MDL.....: 0.13		
<b>Chromium</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1AV</b>
		Dilution Factor: 1		MDL.....: 0.0022		
<b>Copper</b>	<b>ND</b>	<b>0.025</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1AW</b>
		Dilution Factor: 1		MDL.....: 0.0045		
<b>Iron</b>	<b>0.13</b>	<b>0.10</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1AX</b>
		Dilution Factor: 1		MDL.....: 0.081		
<b>Potassium</b>	<b>4.3 B,J</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1A0</b>
		Dilution Factor: 1		MDL.....: 0.072		
<b>Magnesium</b>	<b>19.2</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1A1</b>
		Dilution Factor: 1		MDL.....: 0.034		
<b>Manganese</b>	<b>0.041</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1A2</b>
		Dilution Factor: 1		MDL.....: 0.00041		
<b>Sodium</b>	<b>179</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1A3</b>
		Dilution Factor: 1		MDL.....: 0.59		
<b>Nickel</b>	<b>0.010 B</b>	<b>0.040</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVF1A4</b>
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-03

General Chemistry

Lot-Sample #...: A8H110121-003    Work Order #...: KTXVF    Matrix.....: WG  
 Date Sampled...: 08/08/08 14:20    Date Received...: 08/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	169	5.0	mg/L	MCAWW 300.0A MDL.....: 0.50	08/21/08	8234278
		Dilution Factor: 5				
Sulfate	34.3	5.0	mg/L	MCAWW 300.0A MDL.....: 0.60	08/21/08	8234279
		Dilution Factor: 5				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	08/12/08	8225191
		Dilution Factor: 1				
Total Dissolved Solids	820	10	mg/L	MCAWW 160.1 MDL.....: 4.6	08/14-08/15/08	8227250
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2 MDL.....: 2.2	08/14/08	8227243
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-04

TOTAL Metals

Lot-Sample #...: A8H110121-004

Matrix.....: WG

Date Sampled...: 08/08/08 14:50 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8225073					
Barium	0.083 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	90.6	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.10	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	4.1 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	19.1	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.041	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	177	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0089 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-04

DISSOLVED Metals

Lot-Sample #...: A8H110121-004

Matrix.....: WG

Date Sampled...: 08/08/08 14:50 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225073						
Barium	0.083 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	92.3	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.11	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	4.0 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	19.5	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.043	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	174	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.012 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVG1A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080808-DN-04**

**General Chemistry**

**Lot-Sample #...: A8H110121-004    Work Order #...: KTXVG    Matrix.....: WG**  
**Date Sampled...: 08/08/08 14:50    Date Received...: 08/11/08**

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
<b>Chloride</b>	<b>170</b>	<b>5.0</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>08/21/08</b>	<b>8234278</b>
		Dilution Factor: 5		MDL.....: 0.50		
<b>Sulfate</b>	<b>35.9</b>	<b>5.0</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>08/21/08</b>	<b>8234279</b>
		Dilution Factor: 5		MDL.....: 0.60		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
		Dilution Factor: 1		MDL.....: 0.005		
<b>Total Dissolved Solids</b>	<b>800</b>	<b>10</b>	<b>mg/L</b>	<b>MCAWW 160.1</b>	<b>08/14-08/15/08</b>	<b>8227250</b>
		Dilution Factor: 1		MDL.....: 4.6		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
		Dilution Factor: 1		MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080808-DN-05**

**TOTAL Metals**

Lot-Sample #...: A8H110121-005

Matrix.....: WG

Date Sampled...: 08/08/08 15:55 Date Received...: 08/11/08

<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 #...: 8225073						
Barium	0.054 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	121	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.16	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	11.0 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	38.3	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.24	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	63.9	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.031 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-080808-DN-05

**DISSOLVED Metals**

Lot-Sample #...: A8H110121-005

Matrix.....: WG

Date Sampled...: 08/08/08 15:55 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8225073						
Barium	0.057 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	127	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.12	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	11.9 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	39.9	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.24	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	67.2	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.034 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVJ1A4
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080808-DN-05

General Chemistry

Lot-Sample #....: A8H110121-005    Work Order #....: KTXVJ    Matrix.....: WG  
 Date Sampled....: 08/08/08 15:55    Date Received...: 08/11/08

<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	57.3	5.0	mg/L	MCAWW 300.0A	08/21/08	8234278
			Dilution Factor: 5	MDL.....: 0.50		
Sulfate	160	5.0	mg/L	MCAWW 300.0A	08/21/08	8234279
			Dilution Factor: 5	MDL.....: 0.60		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
			Dilution Factor: 1	MDL.....: 0.005		
Total Dissolved Solids	740	10	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
			Dilution Factor: 1	MDL.....: 4.6		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
			Dilution Factor: 1	MDL.....: 2.2		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-06

TOTAL Metals

Lot-Sample #...: A8H110121-006

Matrix.....: WG

Date Sampled...: 08/09/08 08:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8225073							
Barium	0.045 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AG	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	104	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AH	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AR	
		Dilution Factor: 1		MDL.....: 0.0022			
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AJ	
		Dilution Factor: 1		MDL.....: 0.0045			
Iron	0.21	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AK	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	4.9 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AL	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	36.5	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AM	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.34	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AN	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	107	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AP	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	0.0070 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AQ	
		Dilution Factor: 1		MDL.....: 0.0032			

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-06

DISSOLVED Metals

Lot-Sample #...: A8H110121-006

Matrix.....: WG

Date Sampled...: 08/09/08 08:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8225073						
Barium	0.048 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	110	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.19	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	5.4 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	38.7	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.36	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	112	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0053 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVK1A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-06

General Chemistry

Lot-Sample #...: A8H110121-006    Work Order #...: KTXVK    Matrix.....: WG  
 Date Sampled...: 08/09/08 08:30    Date Received...: 08/11/08

<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	30.9	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.50	08/21/08	8234278
Sulfate	225	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.60	08/21/08	8234279
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	08/12/08	8225191
Total Dissolved Solids	790	10	mg/L	MCAWW 160.1 Dilution Factor: 1 MDL.....: 4.6	08/14-08/15/08	8227250
Total Suspended Solids	3.0 B	4.0	mg/L	MCAWW 160.2 Dilution Factor: 1 MDL.....: 2.2	08/14/08	8227243

**NOTE(S):**

- RL Reporting Limit
- B Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-07

TOTAL Metals

Lot-Sample #...: A8H110121-007

Matrix.....: WG

Date Sampled...: 08/09/08 09:15 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8225073						
Barium	0.021 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	244	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.36	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.4 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	101	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.42	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	46.5	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0086 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVMLAQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-07

DISSOLVED Metals

Lot-Sample #...: A8H110121-007

Matrix.....: WG

Date Sampled...: 08/09/08 09:15 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8225073							
Barium	0.021 B	0.20	mg/L		SW846 6010B	08/13-08/14/08	KTXVMLAT
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	236	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVMLAU
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1AV
		Dilution Factor: 1			MDL.....: 0.0022		
Copper	ND	0.025	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1AW
		Dilution Factor: 1			MDL.....: 0.0045		
Iron	0.28	0.10	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1AX
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	1.4 B,J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1A0
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	98.6	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1A1
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.39	0.015	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1A2
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	45.4	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1A3
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.012 B	0.040	mg/L		SW846 6010B	08/13-08/14/08	KTXVM1A4
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-07

General Chemistry

Lot-Sample #...: A8H110121-007    Work Order #...: KTXVM    Matrix.....: WG  
 Date Sampled...: 08/09/08 09:15    Date Received...: 08/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	101	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.50	08/21/08	8234278
Sulfate	679	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.60	08/21/08	8234279
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	08/12/08	8225191
Total Dissolved Solids	1400	20	mg/L	MCAWW 160.1 Dilution Factor: 2 MDL.....: 9.2	08/14-08/15/08	8227250
Total Suspended Solids	3.0 B	4.0	mg/L	MCAWW 160.2 Dilution Factor: 1 MDL.....: 2.2	08/14/08	8227243

**NOTE(S) :**

- RL Reporting Limit
- B Estimated result. Result is less than RL.

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080908-DN-08**

**TOTAL Metals**

Lot-Sample #...: A8H110121-008

Matrix.....: WG

Date Sampled...: 08/09/08 10:55 Date Received...: 08/11/08

<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 #...: 8225073						
Barium	0.019 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	146	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	1.4	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	3.0 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	28.8	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.22	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	38.0	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.040	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVN1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-08

DISSOLVED Metals

Lot-Sample #...: A8H110121-008

Matrix.....: WG

Date Sampled...: 08/09/08 10:55 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...	8225073						
Barium	0.018 B	0.20	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1A7
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	142	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1AU
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1AV
		Dilution Factor: 1			MDL.....: 0.0022		
Copper	ND	0.025	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1AW
		Dilution Factor: 1			MDL.....: 0.0045		
Iron	1.3	0.10	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1AX
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	3.0 B,J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1AO
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	27.8	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1A1
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.20	0.015	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1A2
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	36.9	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1A3
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.039 B	0.040	mg/L		SW846 6010B	08/13-08/14/08	KTXVN1A4
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S) :

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-08

General Chemistry

Lot-Sample #...: A8H110121-008    Work Order #...: KTXVN    Matrix.....: WG  
 Date Sampled...: 08/09/08 10:55    Date Received...: 08/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	23.3	2.0	mg/L	MCAWW 300.0A MDL.....: 0.20	08/21/08	8234278
		Dilution Factor: 2				
Sulfate	117	2.0	mg/L	MCAWW 300.0A MDL.....: 0.24	08/21/08	8234279
		Dilution Factor: 2				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	08/12/08	8225191
		Dilution Factor: 1				
Total Dissolved Solids	680	10	mg/L	MCAWW 160.1 MDL.....: 4.6	08/14-08/15/08	8227250
		Dilution Factor: 1				
Total Suspended Solids	3.0 B	4.0	mg/L	MCAWW 160.2 MDL.....: 2.2	08/14/08	8227243
		Dilution Factor: 1				

**NOTE(S):**

- RL Reporting Limit
- B Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-09

TOTAL Metals

Lot-Sample #...: A8H110121-009

Matrix.....: WG

Date Sampled...: 08/09/08 11:15 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225073						
Barium	0.033 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AG
		Dilution Factor: 1		MDL.....: 0.0067		
Calcium	181	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0032 B	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	5.5	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	14.1 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	54.0	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.82	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	30.3	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.029 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVP1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080908-DN-09**

**DISSOLVED Metals**

**Lot-Sample #...: A8H110121-009**  
**Date Sampled...: 08/09/08 11:15**

**Date Received...: 08/11/08**

**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>
<b>Prep Batch #...: 8225073</b>						
<b>Barium</b>	<b>0.018 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1AT</b>
		Dilution Factor: 1		MDL.....: 0.00067		
<b>Calcium</b>	<b>143</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1AU</b>
		Dilution Factor: 1		MDL.....: 0.13		
<b>Chromium</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1AV</b>
		Dilution Factor: 1		MDL.....: 0.0022		
<b>Copper</b>	<b>ND</b>	<b>0.025</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1AW</b>
		Dilution Factor: 1		MDL.....: 0.0045		
<b>Iron</b>	<b>1.3</b>	<b>0.10</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1AX</b>
		Dilution Factor: 1		MDL.....: 0.081		
<b>Potassium</b>	<b>2.9 B,J</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1A0</b>
		Dilution Factor: 1		MDL.....: 0.072		
<b>Magnesium</b>	<b>28.0</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1A1</b>
		Dilution Factor: 1		MDL.....: 0.034		
<b>Manganese</b>	<b>0.20</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1A2</b>
		Dilution Factor: 1		MDL.....: 0.00041		
<b>Sodium</b>	<b>36.8</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1A3</b>
		Dilution Factor: 1		MDL.....: 0.59		
<b>Nickel</b>	<b>0.040</b>	<b>0.040</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVP1A4</b>
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-09

General Chemistry

Lot-Sample #...: A8H110121-009    Work Order #...: KTXVP    Matrix.....: WG  
 Date Sampled...: 08/09/08 11:15    Date Received...: 08/11/08

<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	22.8	2.0	mg/L	MCAWW 300.0A MDL.....: 0.20	08/21/08	8234278
		Dilution Factor: 2				
Sulfate	215	2.0	mg/L	MCAWW 300.0A MDL.....: 0.24	08/21/08	8234279
		Dilution Factor: 2				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	08/12/08	8225191
		Dilution Factor: 1				
Total Dissolved Solids	750	10	mg/L	MCAWW 160.1 MDL.....: 4.6	08/14-08/15/08	8227250
		Dilution Factor: 1				
Total Suspended Solids	530	4.0	mg/L	MCAWW 160.2 MDL.....: 2.2	08/14/08	8227243
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-10

TOTAL Metals

Lot-Sample #...: A8H110121-010

Matrix.....: WG

Date Sampled...: 08/09/08 13:35 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8225073					
Barium	0.064 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	117	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	4.1	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.5 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	26.3	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.15	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	9.1	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-10

DISSOLVED Metals

Lot-Sample #...: A8H110121-010

Matrix.....: WG

Date Sampled...: 08/09/08 13:35 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8225073							
Barium	0.063 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1A7	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	118	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AU	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AV	
		Dilution Factor: 1		MDL.....: 0.0022			
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AW	
		Dilution Factor: 1		MDL.....: 0.0045			
Iron	1.8	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1AX	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	1.5 B,J,E	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1A0	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	26.8	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1A1	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.15	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1A2	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	9.5	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1A3	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVR1A4	
		Dilution Factor: 1		MDL.....: 0.0032			

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-10

General Chemistry

Lot-Sample #...: A8H110121-010    Work Order #...: KTXVR    Matrix.....: WG  
 Date Sampled...: 08/09/08 13:35    Date Received...: 08/11/08

<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	6.0	2.0	mg/L	MCAWW 300.0A	08/21/08	8234278
				Dilution Factor: 2	MDL.....: 0.20	
Sulfate	64.5	2.0	mg/L	MCAWW 300.0A	08/21/08	8234279
				Dilution Factor: 2	MDL.....: 0.24	
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
				Dilution Factor: 1	MDL.....: 0.005	
Total Dissolved Solids	480	10	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
				Dilution Factor: 1	MDL.....: 4.6	
Total Suspended Solids	5.0	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
				Dilution Factor: 1	MDL.....: 2.2	

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-11

TOTAL Metals

Lot-Sample #....: A8H110121-011

Matrix.....: WG

Date Sampled....: 08/09/08 15:00 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #....: 8225074						
Barium	0.025 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	113 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.23	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1.5 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	22.2 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.5 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	13.9	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-11

DISSOLVED Metals

Lot-Sample #...: A8H110121-011

Matrix.....: WG

Date Sampled...: 08/09/08 15:00 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Prep Batch #...:	8225074						
Barium	0.020 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AT	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	108 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AU	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AV	
		Dilution Factor: 1		MDL.....: 0.0022			
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AW	
		Dilution Factor: 1		MDL.....: 0.0045			
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1AX	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	1.6 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1A0	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	20.9 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1A1	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	0.54 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1A2	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	15.4	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1A3	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVT1A4	
		Dilution Factor: 1		MDL.....: 0.0032			

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-11

General Chemistry

Lot-Sample #...: A8H110121-011    Work Order #...: KTXVT    Matrix.....: WG  
 Date Sampled...: 08/09/08 15:00    Date Received...: 08/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	3.0	1.0	mg/L	MCAWW 300.0A	08/21/08	8234278
				Dilution Factor: 1		
				MDL.....: 0.10		
Sulfate	47.1	1.0	mg/L	MCAWW 300.0A	08/21/08	8234279
				Dilution Factor: 1		
				MDL.....: 0.12		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
				Dilution Factor: 1		
				MDL.....: 0.005		
Total Dissolved Solids	440	10	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
				Dilution Factor: 1		
				MDL.....: 4.6		
Total Suspended Solids	6.0	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
				Dilution Factor: 1		
				MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-080908-DN-12

**TOTAL Metals**

Lot-Sample #...: A8H110121-012

Matrix.....: WG

Date Sampled...: 08/09/08 15:30 Date Received...: 08/11/08

<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 #...: 8225074						
Barium	0.024 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	51.8 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.37	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	4.9 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	13.6 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.20 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	126	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE (S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-12

DISSOLVED Metals

Lot-Sample #...: A8H110121-012

Matrix.....: WG

Date Sampled...: 08/09/08 15:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8225074					
Barium	0.029 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	58.3 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.36	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	4.6 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	15.2 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.17 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	115	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVV1A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-12

General Chemistry

Lot-Sample #...: A8H110121-012    Work Order #...: KTXVV    Matrix.....: WG  
 Date Sampled...: 08/09/08 15:30    Date Received...: 08/11/08

<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	19.1	1.0	mg/L	MCAWW 300.0A MDL.....: 0.10	08/21/08	8234278
		Dilution Factor: 1				
Sulfate	79.0	1.0	mg/L	MCAWW 300.0A MDL.....: 0.12	08/21/08	8234279
		Dilution Factor: 1				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	08/12/08	8225191
		Dilution Factor: 1				
Total Dissolved Solids	540	10	mg/L	MCAWW 160.1 MDL.....: 4.6	08/14-08/15/08	8227250
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2 MDL.....: 2.2	08/14/08	8227243
		Dilution Factor: 1				

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-080908-DN-13

**TOTAL Metals**

Lot-Sample #...: A8H110121-013

Matrix.....: WG

Date Sampled...: 08/09/08 17:10 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
<b>Prep Batch #...: 8225074</b>							
<b>Barium</b>	<b>0.072 B,J</b>	<b>0.20</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAG</b>
		Dilution Factor: 1			MDL.....: 0.00067		
<b>Calcium</b>	<b>127 J</b>	<b>5.0</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAH</b>
		Dilution Factor: 1			MDL.....: 0.13		
<b>Chromium</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAR</b>
		Dilution Factor: 1			MDL.....: 0.0022		
<b>Copper</b>	<b>ND</b>	<b>0.025</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAJ</b>
		Dilution Factor: 1			MDL.....: 0.0045		
<b>Iron</b>	<b>0.13</b>	<b>0.10</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAK</b>
		Dilution Factor: 1			MDL.....: 0.081		
<b>Potassium</b>	<b>2.9 B,J</b>	<b>5.0</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAL</b>
		Dilution Factor: 1			MDL.....: 0.072		
<b>Magnesium</b>	<b>32.8 J</b>	<b>5.0</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAM</b>
		Dilution Factor: 1			MDL.....: 0.034		
<b>Manganese</b>	<b>0.11 J</b>	<b>0.015</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAN</b>
		Dilution Factor: 1			MDL.....: 0.00041		
<b>Sodium</b>	<b>48.7</b>	<b>5.0</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAP</b>
		Dilution Factor: 1			MDL.....: 0.59		
<b>Nickel</b>	<b>ND</b>	<b>0.040</b>	<b>mg/L</b>		<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXVWLAQ</b>
		Dilution Factor: 1			MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-13

DISSOLVED Metals

Lot-Sample #...: A8H110121-013

Matrix.....: WG

Date Sampled...: 08/09/08 17:10 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			PREPARATION-	WORK
		LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #
Prep Batch #...: 8225074						
Barium	0.072 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	126 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.11	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	3.0 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	34.0 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.082 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	52.5	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.0035 B	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVW1A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-13

General Chemistry

Lot-Sample #...: A8H110121-013    Work Order #...: KTXVW    Matrix.....: WG  
 Date Sampled...: 08/09/08 17:10    Date Received...: 08/11/08

<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	9.9	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.50	08/21/08	8234278
Sulfate	110	5.0	mg/L	MCAWW 300.0A Dilution Factor: 5 MDL.....: 0.60	08/21/08	8234279
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	08/12/08	8225191
Total Dissolved Solids	610	10	mg/L	MCAWW 160.1 Dilution Factor: 1 MDL.....: 4.6	08/14-08/15/08	8227250
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2 Dilution Factor: 1 MDL.....: 2.2	08/14/08	8227243

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-14

TOTAL Metals

Lot-Sample #...: A8H110121-014

Matrix.....: WG

Date Sampled...: 08/09/08 17:55 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8225074					
Barium	0.030 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1AT
		Dilution Factor: 1		MDL.....: 0.0067		
Calcium	106 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1AW
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0080 B	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CP
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.0071 B	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1A1
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.39	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1A4
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	816 J	25.0	mg/L	SW846 6010B	08/13-08/15/08	KTXVX1A7
		Dilution Factor: 5		MDL.....: 0.36		
Magnesium	18.7 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CA
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.084 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CE
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	149	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CH
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.49	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CL
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080908-DN-14**

**DISSOLVED Metals**

Lot-Sample #...: A8H110121-014

Matrix.....: WG

Date Sampled...: 08/09/08 17:55 Date Received...: 08/11/08

<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 #...: 8225074						
Barium	0.028 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CT
		Dilution Factor: 1		MDL.....: 0.0067		
Calcium	101 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1CW
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1C1
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1C4
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.13	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1C7
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	789 J	25.0	mg/L	SW846 6010B	08/13-08/15/08	KTXVX1DA
		Dilution Factor: 5		MDL.....: 0.36		
Magnesium	17.8 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1DE
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.076 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1DH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	144	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1DL
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.47	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXVX1DP
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-14

General Chemistry

Lot-Sample #...: A8H110121-014    Work Order #...: KTXVX    Matrix.....: WG  
 Date Sampled...: 08/09/08 17:55    Date Received...: 08/11/08

<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	269	10.0	mg/L	MCAWW 300.0A	08/21/08	8234278
		Dilution Factor: 10		MDL.....: 1.0		
Sulfate	1560	10.0	mg/L	MCAWW 300.0A	08/21/08	8234479
		Dilution Factor: 10		MDL.....: 1.2		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
		Dilution Factor: 1		MDL.....: 0.005		
Total Dissolved Solids	2600	40	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
		Dilution Factor: 4		MDL.....: 18		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
		Dilution Factor: 1		MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-080908-DN-15

**TOTAL Metals**

Lot-Sample #...: A8H110121-015

Matrix.....: WG

Date Sampled...: 08/09/08 18:35 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225074						
Barium	0.019 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	69.1 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.0097 B	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1420 J	50.0	mg/L	SW846 6010B	08/13-08/15/08	KTXV11AL
		Dilution Factor: 10		MDL.....: 0.72		
Magnesium	4.4 B,J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.016 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	236	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.83	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXV11AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-080908-DN-15

DISSOLVED Metals

Lot-Sample #...: A8H110121-015

Matrix.....: WG

Date Sampled...: 08/09/08 18:35 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...	8225074						
Barium	0.018 B,J	0.20	mg/L		SW846 6010B	08/13-08/14/08	KTXV11AT
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	66.7 J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV11AU
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	08/13-08/14/08	KTXV11AV
		Dilution Factor: 1			MDL.....: 0.0022		
Copper	ND	0.025	mg/L		SW846 6010B	08/13-08/14/08	KTXV11AW
		Dilution Factor: 1			MDL.....: 0.0045		
Iron	ND	0.10	mg/L		SW846 6010B	08/13-08/14/08	KTXV11AX
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	1380 J	50.0	mg/L		SW846 6010B	08/13-08/15/08	KTXV11A0
		Dilution Factor: 10			MDL.....: 0.72		
Magnesium	4.2 B,J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV11A1
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.015 J	0.015	mg/L		SW846 6010B	08/13-08/14/08	KTXV11A2
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	229	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV11A3
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.83	0.040	mg/L		SW846 6010B	08/13-08/14/08	KTXV11A4
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-080908-DN-15**

**General Chemistry**

**Lot-Sample #....: A8H110121-015    Work Order #....: KTXV1    Matrix.....: WG**  
**Date Sampled....: 08/09/08 18:35    Date Received...: 08/11/08**

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
<b>Chloride</b>	<b>451</b>	<b>20.0</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>08/21/08</b>	<b>8234278</b>
		Dilution Factor: 20		MDL.....: 2.0		
<b>Sulfate</b>	<b>2390</b>	<b>20.0</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>08/21/08</b>	<b>8234279</b>
		Dilution Factor: 20		MDL.....: 2.4		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
		Dilution Factor: 1		MDL.....: 0.005		
<b>Total Dissolved Solids</b>	<b>4200</b>	<b>50</b>	<b>mg/L</b>	<b>MCAWW 160.1</b>	<b>08/14-08/15/08</b>	<b>8227250</b>
		Dilution Factor: 5		MDL.....: 23		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
		Dilution Factor: 1		MDL.....: 2.2		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-16

TOTAL Metals

Lot-Sample #...: A8H110121-016

Matrix.....: WG

Date Sampled...: 08/10/08 08:30 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8225074					
Barium	0.036 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	77.4 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0022 B	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.015 B	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.21	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	1780 J	50.0	mg/L	SW846 6010B	08/13-08/15/08	KTXV51AL
		Dilution Factor: 10		MDL.....: 0.72		
Magnesium	16.3 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.058 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	155	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.57	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXV51AQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-081008-DN-16**

**DISSOLVED Metals**

**Lot-Sample #...: A8H110121-016**

**Matrix.....: WG**

**Date Sampled...: 08/10/08 08:30 Date Received...: 08/11/08**

<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>
<b>Prep Batch #...: 8225074</b>						
<b>Barium</b>	<b>0.034 B,J</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51AT</b>
		Dilution Factor: 1		MDL.....: 0.00067		
<b>Calcium</b>	<b>72.9 J</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51AU</b>
		Dilution Factor: 1		MDL.....: 0.13		
<b>Chromium</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51AV</b>
		Dilution Factor: 1		MDL.....: 0.0022		
<b>Copper</b>	<b>ND</b>	<b>0.025</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51AW</b>
		Dilution Factor: 1		MDL.....: 0.0045		
<b>Iron</b>	<b>ND</b>	<b>0.10</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51AX</b>
		Dilution Factor: 1		MDL.....: 0.081		
<b>Potassium</b>	<b>1760 J</b>	<b>50.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/15/08</b>	<b>KTXV51A0</b>
		Dilution Factor: 10		MDL.....: 0.72		
<b>Magnesium</b>	<b>15.1 J</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51A1</b>
		Dilution Factor: 1		MDL.....: 0.034		
<b>Manganese</b>	<b>0.052 J</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51A2</b>
		Dilution Factor: 1		MDL.....: 0.00041		
<b>Sodium</b>	<b>151</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51A3</b>
		Dilution Factor: 1		MDL.....: 0.59		
<b>Nickel</b>	<b>0.56</b>	<b>0.040</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KTXV51A4</b>
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-16

General Chemistry

Lot-Sample #...: A8H110121-016    Work Order #...: KTXV5    Matrix.....: WG  
 Date Sampled...: 08/10/08 08:30    Date Received...: 08/11/08

<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	307	10.0	mg/L	MCAWW 300.0A	08/21/08	8234278
		Dilution Factor: 10		MDL.....: 1.0		
Sulfate	1740	10.0	mg/L	MCAWW 300.0A	08/21/08	8234279
		Dilution Factor: 10		MDL.....: 1.2		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
		Dilution Factor: 1		MDL.....: 0.005		
Total Dissolved Solids	2900	40	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
		Dilution Factor: 4		MDL.....: 18		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
		Dilution Factor: 1		MDL.....: 2.2		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-17

TOTAL Metals

Lot-Sample #...: A8H110121-017

Matrix.....: WG

Date Sampled...: 08/10/08 09:15 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8225074					
Barium	0.093 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	189 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	1.1	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	6.6	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	38.7	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	524 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	14.7 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.35 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	153	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.89	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-17

DISSOLVED Metals

Lot-Sample #...: A8H110121-017

Matrix.....: WG

Date Sampled...: 08/10/08 09:15 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225074						
Barium	0.028 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AT
		Dilution Factor: 1		MDL.....: 0.0067		
Calcium	162 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.0046 B	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXV71AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	794 J	25.0	mg/L	SW846 6010B	08/13-08/15/08	KTXV71A0
		Dilution Factor: 5		MDL.....: 0.36		
Magnesium	10.7 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.050 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXV71A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	191	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV71A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.61	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXV71A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-17

General Chemistry

Lot-Sample #...: A8H110121-017    Work Order #...: KTXV7    Matrix.....: WG  
 Date Sampled...: 08/10/08 09:15    Date Received...: 08/11/08

<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	320	10.0	mg/L	MCAWW 300.0A Dilution Factor: 10 MDL.....: 1.0	08/21/08	8234278
Sulfate	1850	10.0	mg/L	MCAWW 300.0A Dilution Factor: 10 MDL.....: 1.2	08/21/08	8234279
Total Cyanide	0.006 B	0.010	mg/L	MCAWW 335.2 Dilution Factor: 1 MDL.....: 0.005	08/12/08	8225191
Total Dissolved Solids	3100	40	mg/L	MCAWW 160.1 Dilution Factor: 4 MDL.....: 18	08/14-08/15/08	8227250
Total Suspended Solids	19	4.0	mg/L	MCAWW 160.2 Dilution Factor: 1 MDL.....: 2.2	08/14/08	8227243

**NOTE(S):**

- RL Reporting Limit
- B Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-18

TOTAL Metals

Lot-Sample #...: A8H110121-018

Matrix.....: WG

Date Sampled...: 08/10/08 09:50 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225074						
Barium	0.075 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	196 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.12	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.38	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	376 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	36.2 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.10 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	99.1	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.44	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXV91AQ
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-18

DISSOLVED Metals

Lot-Sample #...: A8H110121-018

Matrix.....: WG

Date Sampled...: 08/10/08 09:50 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8225074							
Barium	0.077 B,J	0.20	mg/L		SW846 6010B	08/13-08/14/08	KTXV91AT
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	189 J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV91AU
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	08/13-08/14/08	KTXV91AV
		Dilution Factor: 1			MDL.....: 0.0022		
Copper	0.068	0.025	mg/L		SW846 6010B	08/13-08/14/08	KTXV91AW
		Dilution Factor: 1			MDL.....: 0.0045		
Iron	0.78	0.10	mg/L		SW846 6010B	08/13-08/14/08	KTXV91AX
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	360 J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV91A0
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	34.8 J	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV91A1
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	0.79 J	0.015	mg/L		SW846 6010B	08/13-08/14/08	KTXV91A2
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	94.5	5.0	mg/L		SW846 6010B	08/13-08/14/08	KTXV91A3
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.42	0.040	mg/L		SW846 6010B	08/13-08/14/08	KTXV91A4
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-18

General Chemistry

Lot-Sample #...: A8H110121-018    Work Order #...: KTXV9    Matrix.....: WG  
 Date Sampled...: 08/10/08 09:50    Date Received...: 08/11/08

<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	162	10.0	mg/L	MCAWW 300.0A	08/21/08	8234278
		Dilution Factor: 10		MDL.....: 1.0		
Sulfate	954	10.0	mg/L	MCAWW 300.0A	08/21/08	8234279
		Dilution Factor: 10		MDL.....: 1.2		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
		Dilution Factor: 1		MDL.....: 0.005		
Total Dissolved Solids	1900	20	mg/L	MCAWW 160.1	08/14-08/15/08	8227250
		Dilution Factor: 2		MDL.....: 9.2		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
		Dilution Factor: 1		MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-081008-DN-19

**TOTAL Metals**

Lot-Sample #...: A8H110121-019

Matrix.....: WG

Date Sampled...: 08/10/08 10:35 Date Received...: 08/11/08

<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 #...: 8225074						
Barium	0.047 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	368 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	14.6	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	402 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	88.8 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	3.8 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	155	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.94	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-19

DISSOLVED Metals

Lot-Sample #...: A8H110121-019

Matrix.....: WG

Date Sampled...: 08/10/08 10:35 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			PREPARATION-	WORK
		LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #
Prep Batch #...: 8225074						
Barium	0.046 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	370 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	21.5	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	403 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	89.4 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	4.0 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	155	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.94	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXWC1A4
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-19

General Chemistry

Lot-Sample #....: A8H110121-019    Work Order #....: KTXWC    Matrix.....: WG  
 Date Sampled...: 08/10/08 10:35    Date Received...: 08/11/08

<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	274	10.0	mg/L	MCAWW 300.0A	08/21/08	8234280
			Dilution Factor: 10	MDL.....: 1.0		
Sulfate	1440	10.0	mg/L	MCAWW 300.0A	08/21/08	8234281
			Dilution Factor: 10	MDL.....: 1.2		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
			Dilution Factor: 1	MDL.....: 0.005		
Total Dissolved Solids	3300	40	mg/L	MCAWW 160.1	08/15-08/19/08	8228324
			Dilution Factor: 4	MDL.....: 18		
Total Dissolved Solids	3200	40	mg/L	MCAWW 160.1	08/18-08/19/08	8232336
			Dilution Factor: 4	MDL.....: 18		
Total Suspended Solids	6.0	4.0	mg/L	MCAWW 160.2	08/15/08	8228323
			Dilution Factor: 1	MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-081008-DN-20

**TOTAL Metals**

Lot-Sample #...: A8H110121-020

Matrix.....: WG

Date Sampled...: 08/10/08 11:10 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8225074						
Barium	0.037 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	192 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0077 B	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.022 B	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.67	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	404 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	51.4 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.2 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	107	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.65	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-081008-DN-20**

**DISSOLVED Metals**

**Lot-Sample #...: A8H110121-020**

**Matrix.....: WG**

**Date Sampled...: 08/10/08 11:10 Date Received...: 08/11/08**

<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 #...: 8225074						
Barium	0.041 B,J	0.20	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AT
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	205 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AU
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.010	0.010	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AV
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AW
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.62	0.10	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1AX
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	423 J,E	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1A0
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	54.4 J	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1A1
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.4 J	0.015	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1A2
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	112	5.0	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1A3
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.71	0.040	mg/L	SW846 6010B	08/13-08/14/08	KTXWD1A4
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-20

General Chemistry

Lot-Sample #...: A8H110121-020    Work Order #...: KTXWD    Matrix.....: WG  
 Date Sampled...: 08/10/08 11:10    Date Received...: 08/11/08

<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	208	5.0	mg/L	MCAWW 300.0A	08/21/08	8234280
				Dilution Factor: 5		
				MDL.....: 0.50		
Sulfate	1030	20.0	mg/L	MCAWW 300.0A	08/21/08	8234479
				Dilution Factor: 20		
				MDL.....: 2.4		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225191
				Dilution Factor: 1		
				MDL.....: 0.005		
Total Dissolved Solids	2500	20	mg/L	MCAWW 160.1	08/15-08/19/08	8228324
				Dilution Factor: 2		
				MDL.....: 9.2		
Total Dissolved Solids	2500	20	mg/L	MCAWW 160.1	08/18-08/20/08	8232336
				Dilution Factor: 2		
				MDL.....: 9.2		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/15/08	8228323
				Dilution Factor: 1		
				MDL.....: 2.2		

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-081008-DN-21

**TOTAL Metals**

Lot-Sample #....: A8H110121-021

Matrix.....: WG

Date Sampled...: 08/10/08 11:50 Date Received...: 08/11/08

<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 #....: 8226078						
Barium	0.061 B,J	0.20	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	320 J	5.0	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AH
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AR
		Dilution Factor: 1		MDL.....: 0.0022		
Copper	0.11	0.025	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AJ
		Dilution Factor: 1		MDL.....: 0.0045		
Iron	0.16	0.10	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AK
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	260 J	5.0	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AL
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	79.5 J	5.0	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AM
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	6.7 J	0.015	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AN
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	102	5.0	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AP
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.53	0.040	mg/L	SW846 6010B	08/14-08/15/08	KTXWF1AQ
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-081008-DN-21

**DISSOLVED Metals**

Lot-Sample #...: A8H110121-021

Matrix.....: WG

Date Sampled...: 08/10/08 11:50 Date Received...: 08/11/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...	8226078						
Barium	0.061 B,J	0.20	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A7
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	306 J	5.0	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A8
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A9
		Dilution Factor: 1			MDL.....: 0.0022		
Copper	0.017 B	0.025	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A0
		Dilution Factor: 1			MDL.....: 0.0045		
Iron	2.6	0.10	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A1
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	243 J	5.0	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A2
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	74.3 J	5.0	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A3
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	7.2 J	0.015	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A4
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	94.7	5.0	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A5
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.50	0.040	mg/L		SW846 6010B	08/14-08/15/08	KTXWF1A6
		Dilution Factor: 1			MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-081008-DN-21

General Chemistry

Lot-Sample #...: A8H110121-021    Work Order #...: KTXWF    Matrix.....: WG  
 Date Sampled...: 08/10/08 11:50    Date Received...: 08/11/08

<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	154	10.0	mg/L	MCAWW 300.0A	08/21/08	8234280
		Dilution Factor: 10		MDL.....: 1.0		
Sulfate	1320	10.0	mg/L	MCAWW 300.0A	08/21/08	8234281
		Dilution Factor: 10		MDL.....: 1.2		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	08/12/08	8225265
		Dilution Factor: 1		MDL.....: 0.005		
Total Dissolved Solids	2600	20	mg/L	MCAWW 160.1	08/15-08/19/08	8228324
		Dilution Factor: 2		MDL.....: 9.2		
Total Dissolved Solids	2600	20	mg/L	MCAWW 160.1	08/18-08/19/08	8232336
		Dilution Factor: 2		MDL.....: 9.2		
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/15/08	8228323
		Dilution Factor: 1		MDL.....: 2.2		

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A8H110121

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #: A8H120000-073 Prep Batch #...: 8225073</b>						
Barium	ND	0.20	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AA
		Dilution Factor: 1				
Calcium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AL
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AD
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AE
		Dilution Factor: 1				
Magnesium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AG
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AH
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AK
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.19 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PH1AF</b>
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1AJ
		Dilution Factor: 1				
<b>MB Lot-Sample #: A8H120000-074 Prep Batch #...: 8225074</b>						
Barium	0.0010 B	0.20	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AA
		Dilution Factor: 1				
Calcium	0.30 B	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AL
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AD
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A8H110121

Matrix.....: WATER

<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>
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AE
		Dilution Factor: 1				
<b>Magnesium</b>	<b>0.068 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AG</b>
		Dilution Factor: 1				
<b>Manganese</b>	<b>0.00079 B</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AH</b>
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AK
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.17 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AF</b>
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AJ
		Dilution Factor: 1				

MB Lot-Sample #: A8H130000-078 Prep Batch #...: 8226078

<b>Barium</b>	<b>0.00096 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1A4</b>
		Dilution Factor: 1				
<b>Calcium</b>	<b>0.34 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1A5</b>
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1AD
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1AE
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1AF
		Dilution Factor: 1				
<b>Magnesium</b>	<b>0.070 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1A7</b>
		Dilution Factor: 1				
<b>Manganese</b>	<b>0.00065 B</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1A8</b>
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1AG
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.20 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1A6</b>
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A8H110121

Matrix.....: WATER

<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>
Sodium	ND	5.0	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1A9

Dilution Factor: 1

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #....: A8H110121

Matrix.....: WATER

<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>
<b>MB Lot-Sample #: A8H120000-073 Prep Batch #....: 8225073</b>						
Barium	ND	0.20	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A0
		Dilution Factor: 1				
Calcium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A1
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A2
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A3
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A4
		Dilution Factor: 1				
Magnesium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A6
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A7
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A9
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.19 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PH1A5</b>
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PH1A8
		Dilution Factor: 1				
<b>MB Lot-Sample #: A8H120000-074 Prep Batch #....: 8225074</b>						
Barium	<b>0.0010 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AM</b>
		Dilution Factor: 1				
Calcium	<b>0.30 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AN</b>
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AP
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AQ
		Dilution Factor: 1				

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METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A8H110121

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Iron	ND	0.10	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AR
		Dilution Factor: 1				
<b>Magnesium</b>	<b>0.068 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AU</b>
		Dilution Factor: 1				
<b>Manganese</b>	<b>0.00079 B</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AV</b>
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AX
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.17 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/13-08/14/08</b>	<b>KT0PK1AT</b>
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	08/13-08/14/08	KT0PK1AW
		Dilution Factor: 1				
<b>MB Lot-Sample #: A8H130000-078 Prep Batch #...: 8226078</b>						
<b>Barium</b>	<b>0.00096 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1CA</b>
		Dilution Factor: 1				
<b>Calcium</b>	<b>0.34 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1CC</b>
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1CD
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1CE
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1CF
		Dilution Factor: 1				
<b>Magnesium</b>	<b>0.070 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1CH</b>
		Dilution Factor: 1				
<b>Manganese</b>	<b>0.00065 B</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1CJ</b>
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1CL
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.20 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>08/14-08/15/08</b>	<b>KT2MR1CG</b>
		Dilution Factor: 1				

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METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A8H110121

Matrix.....: WATER

<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>
Sodium	ND	5.0	mg/L	SW846 6010B	08/14-08/15/08	KT2MR1CK

Dilution Factor: 1

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

**METHOD BLANK REPORT**

**General Chemistry**

Client Lot #....: A8H110121

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Chloride	ND	1.0	mg/L	Work Order #: KVH901AA MB Lot-Sample #: A8H210000-278 MCAWW 300.0A	08/20/08	8234278
				Dilution Factor: 1		
Chloride	ND	1.0	mg/L	Work Order #: KVJHN1AA MB Lot-Sample #: A8H210000-280 MCAWW 300.0A	08/20/08	8234280
				Dilution Factor: 1		
Cyanide, Total	ND	0.010	mg/L	Work Order #: KT1RC1AA MB Lot-Sample #: A8H120000-265 MCAWW 335.2	08/12/08	8225265
				Dilution Factor: 1		
Sulfate	ND	1.0	mg/L	Work Order #: KVJHL1AA MB Lot-Sample #: A8H210000-279 MCAWW 300.0A	08/20/08	8234279
				Dilution Factor: 1		
Sulfate	ND	1.0	mg/L	Work Order #: KVJHP1AA MB Lot-Sample #: A8H210000-281 MCAWW 300.0A	08/20/08	8234281
				Dilution Factor: 1		
Sulfate	ND	1.0	mg/L	Work Order #: KVKMQ1AA MB Lot-Sample #: A8H210000-479 MCAWW 300.0A	08/21/08	8234479
				Dilution Factor: 1		
Total Cyanide	ND	0.010	mg/L	Work Order #: KT05D1AA MB Lot-Sample #: A8H120000-191 MCAWW 335.2	08/12/08	8225191
				Dilution Factor: 1		
Total Dissolved Solids	ND	10	mg/L	Work Order #: KT8XW1AA MB Lot-Sample #: A8H140000-250 MCAWW 160.1	08/14-08/15/08	8227250
				Dilution Factor: 1		
Total Dissolved Solids	ND	10	mg/L	Work Order #: KVD4E1AA MB Lot-Sample #: A8H150000-324 MCAWW 160.1	08/15-08/19/08	8228324
				Dilution Factor: 1		
Total Dissolved Solids	ND	10	mg/L	Work Order #: KVFNK1AA MB Lot-Sample #: A8H190000-336 MCAWW 160.1	08/18-08/19/08	8232336
				Dilution Factor: 1		

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METHOD BLANK REPORT

General Chemistry

Client Lot #...: A8H110121

Matrix.....: WATER

<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>PREP</u> <u>BATCH #</u>
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/14/08	8227243
		Work Order #: KT6CR1AA MB Lot-Sample #: A8H140000-243				
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	08/15/08	8228323
		Work Order #: KT8T51AA MB Lot-Sample #: A8H150000-323				
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #...:** A8H110121

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8H120000-073 <b>Prep Batch #...:</b> 8225073					
Barium	102	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AM
		Dilution Factor: 1			
Calcium	102	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AN
		Dilution Factor: 1			
Copper	100	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AP
		Dilution Factor: 1			
Iron	108	(77 - 122)	SW846 6010B	08/13-08/14/08	KT0PH1AQ
		Dilution Factor: 1			
Potassium	103	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AR
		Dilution Factor: 1			
Magnesium	101	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AT
		Dilution Factor: 1			
Manganese	108	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AU
		Dilution Factor: 1			
Sodium	100	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AV
		Dilution Factor: 1			
Nickel	95	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AW
		Dilution Factor: 1			
Chromium	103	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1AX
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8H120000-074 <b>Prep Batch #...:</b> 8225074					
Barium	89	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1A0
		Dilution Factor: 1			
Calcium	90	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1A1
		Dilution Factor: 1			
Copper	88	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1A2
		Dilution Factor: 1			

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**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #...:** A8H110121

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Iron	97	(77 - 122)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A3
Potassium	92	(80 - 120)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A4
Magnesium	89	(80 - 120)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A5
Manganese	94	(80 - 120)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A6
Sodium	89	(80 - 120)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A7
Nickel	82	(80 - 120)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A8
Chromium	91	(80 - 120)	SW846 6010B Dilution Factor: 1	08/13-08/14/08	KT0PK1A9
<b>LCS Lot-Sample#:</b> A8H130000-078 <b>Prep Batch #...:</b> 8226078					
Chromium	91	(80 - 120)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1AP
Copper	87	(80 - 120)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1AQ
Iron	96	(77 - 122)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1AR
Nickel	83	(80 - 120)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1AT
Barium	88	(80 - 120)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1CW
Calcium	91	(80 - 120)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1CX
Potassium	90	(80 - 120)	SW846 6010B Dilution Factor: 1	08/14-08/15/08	KT2MR1C0

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A8H110121

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Magnesium	89	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C1
		Dilution Factor: 1			
Manganese	95	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C2
		Dilution Factor: 1			
Sodium	88	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C3
		Dilution Factor: 1			

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

**Client Lot #...:** A8H110121

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8H120000-073 <b>Prep Batch #...:</b> 8225073					
Barium	102	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CA
		Dilution Factor: 1			
Calcium	102	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CC
		Dilution Factor: 1			
Chromium	103	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CD
		Dilution Factor: 1			
Copper	100	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CE
		Dilution Factor: 1			
Iron	108	(77 - 122)	SW846 6010B	08/13-08/14/08	KT0PH1CF
		Dilution Factor: 1			
Potassium	103	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CG
		Dilution Factor: 1			
Magnesium	101	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CH
		Dilution Factor: 1			
Manganese	108	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CJ
		Dilution Factor: 1			
Sodium	100	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CK
		Dilution Factor: 1			
Nickel	95	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PH1CL
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8H120000-074 <b>Prep Batch #...:</b> 8225074					
Barium	89	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CA
		Dilution Factor: 1			
Calcium	90	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CC
		Dilution Factor: 1			
Chromium	91	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CD
		Dilution Factor: 1			

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**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

**Client Lot #...:** A8H110121

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Copper	88	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CE
		Dilution Factor: 1			
Iron	97	(77 - 122)	SW846 6010B	08/13-08/14/08	KT0PK1CF
		Dilution Factor: 1			
Potassium	92	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CG
		Dilution Factor: 1			
Magnesium	89	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CH
		Dilution Factor: 1			
Manganese	94	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CJ
		Dilution Factor: 1			
Sodium	89	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CK
		Dilution Factor: 1			
Nickel	82	(80 - 120)	SW846 6010B	08/13-08/14/08	KT0PK1CL
		Dilution Factor: 1			
<b>LCS Lot-Sample#:</b> A8H130000-078 <b>Prep Batch #...:</b> 8226078					
Barium	88	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C4
		Dilution Factor: 1			
Calcium	91	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C5
		Dilution Factor: 1			
Chromium	91	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C6
		Dilution Factor: 1			
Copper	87	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C7
		Dilution Factor: 1			
Iron	96	(77 - 122)	SW846 6010B	08/14-08/15/08	KT2MR1C8
		Dilution Factor: 1			
Potassium	90	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1C9
		Dilution Factor: 1			
Magnesium	89	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1DA
		Dilution Factor: 1			

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A8H110121

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Manganese	95	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1DC
		Dilution Factor: 1			
Sodium	88	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1DD
		Dilution Factor: 1			
Nickel	83	(80 - 120)	SW846 6010B	08/14-08/15/08	KT2MR1DE
		Dilution Factor: 1			

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Lot-Sample #...:** A8H110121

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride		WO#:KVH901AC-LCS/KVH901AD-LCSD LCS Lot-Sample#: A8H210000-278					
	104	(90 - 110)			MCAWW 300.0A	08/20/08	8234278
	104	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	08/20/08	8234278
		Dilution Factor: 1					
Chloride		WO#:KVJHN1AC-LCS/KVJHN1AD-LCSD LCS Lot-Sample#: A8H210000-280					
	105	(90 - 110)			MCAWW 300.0A	08/20/08	8234280
	105	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	08/20/08	8234280
		Dilution Factor: 1					
Sulfate		WO#:KVJHL1AC-LCS/KVJHL1AD-LCSD LCS Lot-Sample#: A8H210000-279					
	99	(90 - 110)			MCAWW 300.0A	08/20/08	8234279
	99	(90 - 110)	0.20	(0-20)	MCAWW 300.0A	08/20/08	8234279
		Dilution Factor: 1					
Sulfate		WO#:KVJHP1AC-LCS/KVJHP1AD-LCSD LCS Lot-Sample#: A8H210000-281					
	98	(90 - 110)			MCAWW 300.0A	08/20/08	8234281
	98	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	08/20/08	8234281
		Dilution Factor: 1					
Sulfate		WO#:KVKMQ1AC-LCS/KVKMQ1AD-LCSD LCS Lot-Sample#: A8H210000-479					
	103	(90 - 110)			MCAWW 300.0A	08/21/08	8234479
	104	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	08/21/08	8234479
		Dilution Factor: 1					

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Client Lot #...: A8H110121**

**Matrix.....: WATER**

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Cyanide, Total	98	Work Order #: KT1RC1AC (69 - 118)	LCS Lot-Sample#: A8H120000-265 MCAWW 335.2	08/12/08	8225265
		Dilution Factor: 1			
Total Cyanide	115	Work Order #: KT05D1AC (69 - 118)	LCS Lot-Sample#: A8H120000-191 MCAWW 335.2	08/12/08	8225191
		Dilution Factor: 1			
Total Dissolved Solids	97	Work Order #: KT8XW1AC (88 - 110)	LCS Lot-Sample#: A8H140000-250 MCAWW 160.1	08/14-08/15/08	8227250
		Dilution Factor: 1			
Total Dissolved Solids	100	Work Order #: KVFNK1AC (88 - 110)	LCS Lot-Sample#: A8H190000-336 MCAWW 160.1	08/18-08/19/08	8232336
		Dilution Factor: 1			
Total Suspended Solids	87	Work Order #: KT6CR1AC (73 - 113)	LCS Lot-Sample#: A8H140000-243 MCAWW 160.2	08/14/08	8227243
		Dilution Factor: 1			
Total Suspended Solids	94	Work Order #: KT8T51AC (73 - 113)	LCS Lot-Sample#: A8H150000-323 MCAWW 160.2	08/15/08	8228323
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8H110121

Matrix.....: WG

Date Sampled...: 08/08/08 12:30 Date Received...: 08/11/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8H110121-001 Prep Batch #...: 8225073</b>							
Barium	103	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1A5
	107	(75 - 125)	3.4	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1A6
			Dilution Factor: 1				
Calcium	NC,MSB	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1A7
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1A8
			Dilution Factor: 1				
Chromium	102	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CQ
	106	(75 - 125)	4.0	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CR
			Dilution Factor: 1				
Copper	103	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1A9
	107	(75 - 125)	3.6	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CA
			Dilution Factor: 1				
Iron	NC,MSB	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CC
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CD
			Dilution Factor: 1				
Magnesium	99	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CG
	110	(75 - 125)	4.6	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CH
			Dilution Factor: 1				
Manganese	106	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CJ
	112	(75 - 125)	3.9	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CK
			Dilution Factor: 1				
Nickel	93	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CN
	98	(75 - 125)	4.1	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CP
			Dilution Factor: 1				
Potassium	106	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CE
	109	(75 - 125)	2.8	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CF
			Dilution Factor: 1				
Sodium	97	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXTX1CL
	106	(75 - 125)	4.0	(0-20)	SW846 6010B	08/13-08/14/08	KTXTX1CM
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8H110121

Matrix.....: WG

Date Sampled...: 08/09/08 17:55 Date Received...: 08/11/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8H110121-014 Prep Batch #...: 8225074</b>							
Barium	103	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1AU
	105	(75 - 125)	1.3	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1AV
			Dilution Factor: 1				
Calcium	95	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1AX
	99	(75 - 125)	1.6	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1A0
			Dilution Factor: 1				
Chromium	103	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CQ
	105	(75 - 125)	1.2	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1CR
			Dilution Factor: 1				
Copper	105	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1A2
	107	(75 - 125)	1.4	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1A3
			Dilution Factor: 1				
Iron	110	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1A5
	112	(75 - 125)	1.2	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1A6
			Dilution Factor: 1				
Magnesium	101	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CC
	103	(75 - 125)	1.6	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1CD
			Dilution Factor: 1				
Manganese	108	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CF
	110	(75 - 125)	1.6	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1CG
			Dilution Factor: 1				
Nickel	91	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CM
	95	(75 - 125)	2.2	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1CN
			Dilution Factor: 1				
Potassium	NC,MSB	(75 - 125)			SW846 6010B	08/13-08/15/08	KTXVX1A8
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	08/13-08/15/08	KTXVX1A9
			Dilution Factor: 5				
Sodium	99	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CJ
	105	(75 - 125)	1.6	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1CK
			Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8H110121

Matrix.....: WATER

Date Sampled...: 08/07/08 17:30 Date Received...: 08/08/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8H080277-001 Prep Batch #...: 8226078</b>							
Barium	96	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31CV
	98	(75 - 125)	1.8	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31CW
			Dilution Factor: 1				
Calcium	98	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31C0
	100	(75 - 125)	1.6	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31C1
			Dilution Factor: 1				
Chromium	99	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31AW
	100	(75 - 125)	1.4	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31AX
			Dilution Factor: 1				
Copper	95	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31A0
	97	(75 - 125)	1.6	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31A1
			Dilution Factor: 1				
Iron	105	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31A2
	107	(75 - 125)	2.2	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31A3
			Dilution Factor: 1				
Magnesium	97	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31C6
	99	(75 - 125)	1.9	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31C7
			Dilution Factor: 1				
Manganese	103	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31C9
	105	(75 - 125)	1.6	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31DA
			Dilution Factor: 1				
Nickel	91	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31A4
	92	(75 - 125)	1.0	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31A5
			Dilution Factor: 1				
Potassium	97	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31C3
	98	(75 - 125)	1.5	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31C4
			Dilution Factor: 1				
Sodium	95	(75 - 125)			SW846 6010B	08/14-08/15/08	KTVW31DD
	96	(75 - 125)	1.7	(0-20)	SW846 6010B	08/14-08/15/08	KTVW31DE
			Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

Client Lot #....: A8H110121

Matrix.....: WG

Date Sampled...: 08/09/08 17:55 Date Received...: 08/11/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8H110121-014 Prep Batch #....: 8225074</b>							
Barium	103	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CU
	101	(75 - 125)	1.8	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1CV
			Dilution Factor: 1				
Calcium	106	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1CX
	100	(75 - 125)	2.0	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1C0
			Dilution Factor: 1				
Chromium	104	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1C2
	102	(75 - 125)	2.1	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1C3
			Dilution Factor: 1				
Copper	106	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1C5
	104	(75 - 125)	1.5	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1C6
			Dilution Factor: 1				
Iron	109	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1C8
	107	(75 - 125)	1.8	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1C9
			Dilution Factor: 1				
Magnesium	102	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1DF
	101	(75 - 125)	1.3	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1DG
			Dilution Factor: 1				
Manganese	109	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1DJ
	106	(75 - 125)	2.0	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1DK
			Dilution Factor: 1				
Nickel	97	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1DQ
	95	(75 - 125)	0.94	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1DR
			Dilution Factor: 1				
Potassium	NC,MSB	(75 - 125)			SW846 6010B	08/13-08/15/08	KTXVX1DC
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	08/13-08/15/08	KTXVX1DD
			Dilution Factor: 5				
Sodium	114	(75 - 125)			SW846 6010B	08/13-08/14/08	KTXVX1DM
	106	(75 - 125)	2.0	(0-20)	SW846 6010B	08/13-08/14/08	KTXVX1DN
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8H110121

Matrix.....: WATER

Date Sampled...: 07/31/08 11:40 Date Received...: 08/01/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Cyanide, Total			WO#:	KTHMC1AF-MS/KTHMC1AG-MSD	MS Lot-Sample #:	A8H010208-001	
	98	(42 - 140)			MCAWW 335.2	08/12/08	8225265
	98	(42 - 140)	0.0	(0-20)	MCAWW 335.2	08/12/08	8225265
			Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A8H110121

Matrix.....: WG

Date Sampled...: 08/09/08 17:55 Date Received...: 08/11/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride			WO#:	KTXVX1AC-MS/KTXVX1AD-MSD		MS Lot-Sample #:	A8H110121-014
	108	(80 - 120)			MCAWW 300.0A	08/21/08	8234278
	112	(80 - 120)	2.4	(0-20)	MCAWW 300.0A	08/21/08	8234278
			Dilution Factor: 10				
Sulfate			WO#:	KTXVX1AF-MS/KTXVX1AG-MSD		MS Lot-Sample #:	A8H110121-014
	NC,MSB	(80 - 120)			MCAWW 300.0A	08/21/08	8234479
	NC,MSB	(80 - 120)		(0-20)	MCAWW 300.0A	08/21/08	8234479
			Dilution Factor: 1				
Total Cyanide			WO#:	KTXVX1AJ-MS/KTXVX1AK-MSD		MS Lot-Sample #:	A8H110121-014
	88	(42 - 140)			MCAWW 335.2	08/12/08	8225191
	85	(42 - 140)	3.4	(0-20)	MCAWW 335.2	08/12/08	8225191
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8H110121

Matrix.....: WG

Date Sampled...: 08/09/08 15:00 Date Received...: 08/11/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	87	Work Order #...: KTXVT1A5 (80 - 120)	MCAWW 300.0A	MS Lot-Sample #: A8H110121-011 08/21/08	8234278
		Dilution Factor: 1			
Sulfate	93	Work Order #...: KTXVT1A6 (80 - 120)	MCAWW 300.0A	MS Lot-Sample #: A8H110121-011 08/21/08	8234279
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.









# Chain of Custody Record

(Sample Batch Complete)

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0408)

Client **CRA**

Project Manager **A. Lavine**

Date **8.11.08**

Chain of Custody Number **017030**

Address **City Sanders Ky State OH Zip Code 44870**

Telephone Number (Area Code)/Fax Number

Lab Number

Page **1** of **2**

Project Name and Location (State) **SSOH # P016016**

Site Contact

Lab Contact

Analysis (Attach list if more space is needed)

Contract/Purchase Order/Quote No. **SSOH # P016016**

Carrier/Trailer Number

Containers & Preservatives

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)

Date

Time

Matrix

Containers & Preservatives

**WB.12616.080908-DN-01**

**8.8.08**

**1230**

**1330**

**\*Dis. Metals were field filtered**

**-02**

**1420**

**1450**

**1555**

**-03**

**1450**

**1555**

**-04**

**1450**

**1555**

**-05**

**1450**

**1555**

**-07**

**0830**

**0915**

**-08**

**0830**

**0915**

**-09**

**0830**

**0915**

**-10**

**0830**

**0915**

**-11**

**0830**

**0915**

**-12**

**0830**

**0915**

Possible Hazard Identification

Non-hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal

Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

24 Hours  48 Hours  7 Days  14 Days  21 Days  Other **Standard**

QC Requirements (Specify)

1. Relinquished By

Date **8.11.08** Time **0815**

Received By **Michael Walters**

Date **8/11/08** Time **0855**

2. Relinquished By

Date \_\_\_\_\_ Time \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

3. Relinquished By

Date \_\_\_\_\_ Time \_\_\_\_\_

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



**TestAmerica Cooler Receipt Form/Narrative**

Lot Number: A8H110121

**North Canton Facility**

Client CPA Project \_\_\_\_\_ By: [Signature]

Cooler Received on 8/11/08 Opened on 8/11/08 (Signature)

FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_

TestAmerica Cooler # \_\_\_\_\_ Multiple Coolers  Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler(s)? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_

Were custody seals on the outside of cooler(s) signed and dated? Yes  No  NA

Were custody seals on the bottle(s)? Yes  No

If YES, are there any exceptions? \_\_\_\_\_

2. Shippers' packing slip attached to the cooler(s)? Yes  No

3. Did custody papers accompany the sample(s)? Yes  No  Relinquished by client? Yes  No

4. Were the custody papers signed in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other \_\_\_\_\_

6. Cooler temperature upon receipt \_\_\_\_\_ °C See back of form for multiple coolers/temps

METHOD: IR  Other

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels be reconciled with the COC? Yes  No

9. Were sample(s) at the correct pH upon receipt? Yes  No  NA

10. Were correct bottle(s) used for the test(s) indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

13. Was a trip blank present in the cooler(s)? Yes  No  Were VOAs on the COC? Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal  Voice Mail  Other

Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:

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

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot# 113007-HNO<sub>3</sub>; Sulfuric Acid Lot# 031808-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot# 073007 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 050205-(CH<sub>3</sub>COO)<sub>2</sub>ZN/NaOH.

What time was preservative added to sample(s)? \_\_\_\_\_

Client ID	pH	Date	Initials
01	4.2 4.2 7.12	8/11/08	[Signature]
02	4.2 4.2 7.12		
03	4.2 4.2 7.12		
04	4.2 4.2 7.12		
05	4.2 4.2 7.12		
06	4.2 4.2 7.12		
07	4.2 4.2 7.12		
08	4.2 4.2 7.12		



***END OF REPORT***



APPENDIX D-4

LABORATORY ANALYTICAL REPORT – SEPTEMBER 2008  
(CONFIRMATION EVENT)



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

**ANALYTICAL REPORT**

PROJECT NO. 12616-71-501013

REALM ELYRIA/R016017

Lot #: A8I240212

Angela Bown

Conestoga-Rovers & Associates  
9033 Meridian Way  
West Chester, OH 45069

TESTAMERICA LABORATORIES, INC.



Amy L. McCormick  
Project Manager

October 8, 2008

# CASE NARRATIVE

A8I240212

The following report contains the analytical results for nine water samples submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Realm Elyria/R016017 Site, project number 12616-71-501013. The samples were received September 24, 2008, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Angela Bown on October 06, 2008. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Any reference within this document to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.)

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 33.

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.2°C.

#### **METALS**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. TestAmerica 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.

For SW846/RCRA methods, 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.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### 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. Multi peak responders may not be included in the target spike list due to co-elution. 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. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) 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 in the table.)

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals ICP-MS</u>	<u>Metals ICP Trace</u>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (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.

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.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is 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 surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

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 and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.



### **TestAmerica North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP (#CL0024), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

N:\QAQC\Customer Service\Narrative - Combined RCRA \_CWA 061807.doc

# EXECUTIVE SUMMARY - Detection Highlights

A8I240212

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-092208-DN-01 09/22/08 15:45 001</b>				
Barium - DISSOLVED	0.087 B	0.20	mg/L	SW846 6010B
Sodium - DISSOLVED	176	5.0	mg/L	SW846 6010B
Chloride	174	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-092208-DN-02 09/22/08 16:35 002</b>				
Potassium - DISSOLVED	14.5	5.0	mg/L	SW846 6010B
Sodium - DISSOLVED	31.0	5.0	mg/L	SW846 6010B
<b>WG-12616-092208-DN-03 09/22/08 17:25 003</b>				
Calcium - DISSOLVED	213	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	61.9	5.0	mg/L	SW846 6010B
Sulfate	592	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-092208-DN-04 09/22/08 18:15 004</b>				
Calcium - DISSOLVED	212	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	64.8	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.19	0.040	mg/L	SW846 6010B
Chloride	92.3	1.0	mg/L	MCAWW 300.0A
Sulfate	515	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-092308-DN-05 09/23/08 08:30 005</b>				
Calcium - DISSOLVED	224	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	90.7	5.0	mg/L	SW846 6010B
Chloride	123	1.0	mg/L	MCAWW 300.0A
Sulfate	680	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-092308-DN-06 09/23/08 09:45 006</b>				
Potassium - DISSOLVED	5.1	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	36.7	5.0	mg/L	SW846 6010B
<b>WG-12616-092308-DN-07 09/23/08 10:25 007</b>				
Potassium - DISSOLVED	4.7 B	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	35.6	5.0	mg/L	SW846 6010B

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A8I240212

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-092308-DN-08 09/23/08 10:50 008</b>				
Calcium - DISSOLVED	142	5.0	mg/L	SW846 6010B
<b>WG-12616-092308-DN-09 09/23/08 12:05 009</b>				
Iron - DISSOLVED	1.5	0.10	mg/L	SW846 6010B

# ANALYTICAL METHODS SUMMARY

A8I240212

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Sulfate	MCAWW 300.0A

## References:

- 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

A8I240212

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KXHNA	001	WG-12616-092208-DN-01	09/22/08	15:45
KXHNN	002	WG-12616-092208-DN-02	09/22/08	16:35
KXHPC	003	WG-12616-092208-DN-03	09/22/08	17:25
KXHPP	004	WG-12616-092208-DN-04	09/22/08	18:15
KXHPR	005	WG-12616-092308-DN-05	09/23/08	08:30
KXHP0	006	WG-12616-092308-DN-06	09/23/08	09:45
KXHP4	007	WG-12616-092308-DN-07	09/23/08	10:25
KXHP6	008	WG-12616-092308-DN-08	09/23/08	10:50
KXHP9	009	WG-12616-092308-DN-09	09/23/08	12:05

## 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 & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-01

DISSOLVED Metals

Lot-Sample #....: A8I240212-001

Matrix.....: WG

Date Sampled....: 09/22/08 15:45 Date Received...: 09/24/08

<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 #....: 8269012						
Barium	0.087 B	0.20	mg/L	SW846 6010B	09/25-09/27/08	KXHNA1AA
		Dilution Factor: 1		MDL.....: 0.00067		
Sodium	176	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHNA1AC
		Dilution Factor: 1		MDL.....: 0.59		

NOTE(S):

B Estimated result. Result is less than RL.



Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-01

General Chemistry

Lot-Sample #...: A8I240212-001    Work Order #...: KXHNA    Matrix.....: WG  
Date Sampled...: 09/22/08 15:45    Date Received...: 09/24/08

<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	174	5.0	mg/L	MCAWW 300.0A	10/03/08	8280281
		Dilution Factor: 5		MDL.....: 0.50		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-02

DISSOLVED Metals

Lot-Sample #...: A8I240212-002

Matrix.....: WG

Date Sampled...: 09/22/08 16:35 Date Received...: 09/24/08

<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 #...: 8269012						
Potassium	14.5	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHNN1AC
		Dilution Factor: 1		MDL.....: 0.072		
Sodium	31.0	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHNN1AA
		Dilution Factor: 1		MDL.....: 0.59		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-03

DISSOLVED Metals

Lot-Sample #...: A8I240212-003

Matrix.....: WG

Date Sampled...: 09/22/08 17:25 Date Received...: 09/24/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 8269012						
Calcium	213	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHPC1AA
		Dilution Factor: 1		MDL.....: 0.13		
Magnesium	61.9	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHPC1AC
		Dilution Factor: 1		MDL.....: 0.034		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-03

General Chemistry

Lot-Sample #...: A8I240212-003    Work Order #...: KXHPC    Matrix.....: WG  
Date Sampled...: 09/22/08 17:25    Date Received...: 09/24/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Sulfate	592	5.0	mg/L	MCAWW 300.0A	10/04/08	8280282
		Dilution Factor: 5		MDL.....: 0.60		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-04

DISSOLVED Metals

Lot-Sample #...: A8I240212-004

Matrix.....: WG

Date Sampled...: 09/22/08 18:15 Date Received...: 09/24/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...	8269012					
Calcium	212	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHPP1AA
		Dilution Factor: 1		MDL.....: 0.13		
Magnesium	64.8	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHPP1AC
		Dilution Factor: 1		MDL.....: 0.034		
Nickel	0.19	0.040	mg/L	SW846 6010B	09/25-09/26/08	KXHPP1AD
		Dilution Factor: 1		MDL.....: 0.0032		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092208-DN-04

General Chemistry

Lot-Sample #...: A8I240212-004    Work Order #...: KXHPP    Matrix.....: WG  
Date Sampled...: 09/22/08 18:15    Date Received...: 09/24/08

<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	92.3	1.0	mg/L	MCAWW 300.0A	10/04/08	8280281
			Dilution Factor: 1	MDL.....: 0.10		
Sulfate	515	5.0	mg/L	MCAWW 300.0A	10/04/08	8280282
			Dilution Factor: 5	MDL.....: 0.60		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092308-DN-05

DISSOLVED Metals

Lot-Sample #...: A8I240212-005

Matrix.....: WG

Date Sampled...: 09/23/08 08:30 Date Received...: 09/24/08

<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 #...: 8269012						
Calcium	224	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHPR1AA
		Dilution Factor: 1		MDL.....: 0.13		
Magnesium	90.7	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHPR1AC
		Dilution Factor: 1		MDL.....: 0.034		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092308-DN-05

General Chemistry

Lot-Sample #....: A8I240212-005    Work Order #....: KXHPR    Matrix.....: WG  
Date Sampled....: 09/23/08 08:30    Date Received...: 09/24/08

<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	123	1.0	mg/L	MCAWW 300.0A	10/04/08	8280281
		Dilution Factor: 1		MDL.....: 0.10		
Sulfate	680	5.0	mg/L	MCAWW 300.0A	10/04/08	8280282
		Dilution Factor: 5		MDL.....: 0.60		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092308-DN-06

DISSOLVED Metals

Lot-Sample #...: A8I240212-006

Matrix.....: WG

Date Sampled...: 09/23/08 09:45 Date Received...: 09/24/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 8269012						
Potassium	5.1	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHP01AC
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	36.7	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHP01AA
		Dilution Factor: 1		MDL.....: 0.034		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092308-DN-07

DISSOLVED Metals

Lot-Sample #...: A8I240212-007

Matrix.....: WG

Date Sampled...: 09/23/08 10:25 Date Received...: 09/24/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 8269012						
Potassium	4.7 B	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHP41AC
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	35.6	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHP41AA
		Dilution Factor: 1		MDL.....: 0.034		

**NOTE(S) :**

B Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092308-DN-08

DISSOLVED Metals

Lot-Sample #...: A8I240212-008

Matrix.....: WG

Date Sampled...: 09/23/08 10:50 Date Received...: 09/24/08

<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 #...: 8269012						
Calcium	142	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXHP61AA
		Dilution Factor: 1		MDL.....: 0.13		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-092308-DN-09

DISSOLVED Metals

Lot-Sample #...: A8I240212-009

Matrix.....: WG

Date Sampled...: 09/23/08 12:05 Date Received...: 09/24/08

<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 #...: 8269012						
Iron	1.5	0.10	mg/L	SW846 6010B	09/25-09/26/08	KXHP91AA
		Dilution Factor: 1		MDL.....: 0.081		

***QUALITY CONTROL  
SECTION***

**METHOD BLANK REPORT**

**DISSOLVED Metals**

Client Lot #...: A8I240212

Matrix.....: WATER

<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>
<b>MB Lot-Sample #: A8I250000-012 Prep Batch #...: 8269012</b>						
Barium	ND	0.20	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A0
		Dilution Factor: 1				
Calcium	ND	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A3
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A6
		Dilution Factor: 1				
Magnesium	ND	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A4
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A5
		Dilution Factor: 1				
Potassium	ND	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A2
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	09/25-09/26/08	KXJQ11A1
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A8I240212

Matrix.....: WATER

<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>PREP</u> <u>BATCH #</u>
Chloride	ND	Work Order #: KX8RX1AA 1.0	mg/L	MB Lot-Sample #: MCAWW 300.0A	A8J060000-281 10/04/08	8280281
		Dilution Factor: 1				
Sulfate	ND	Work Order #: KX8TV1AA 1.0	mg/L	MB Lot-Sample #: MCAWW 300.0A	A8J060000-282 10/04/08	8280282
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

**Client Lot #....:** A8I240212

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8I250000-012 <b>Prep Batch #....:</b> 8269012					
Barium	106	(80 - 120)	SW846 6010B	09/25-09/26/08	KXJQ11CA
		Dilution Factor: 1			
Sodium	100	(80 - 120)	SW846 6010B	09/25-09/26/08	KXJQ11CC
		Dilution Factor: 1			
Potassium	105	(80 - 120)	SW846 6010B	09/25-09/26/08	KXJQ11CD
		Dilution Factor: 1			
Calcium	93	(80 - 120)	SW846 6010B	09/25-09/26/08	KXJQ11CE
		Dilution Factor: 1			
Magnesium	95	(80 - 120)	SW846 6010B	09/25-09/26/08	KXJQ11CF
		Dilution Factor: 1			
Nickel	96	(80 - 120)	SW846 6010B	09/25-09/26/08	KXJQ11CG
		Dilution Factor: 1			
Iron	102	(77 - 122)	SW846 6010B	09/25-09/26/08	KXJQ11CH
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Lot-Sample #...**: A8I240212

**Matrix.....**: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride		WO#:KX8RX1AC-LCS/KX8RX1AD-LCSD		LCS	Lot-Sample#: A8J060000-281		
	105	(90 - 110)			MCAWW 300.0A	10/04/08	8280281
	105	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	10/04/08	8280281
		Dilution Factor: 1					
Sulfate		WO#:KX8TV1AC-LCS/KX8TV1AD-LCSD		LCS	Lot-Sample#: A8J060000-282		
	98	(90 - 110)			MCAWW 300.0A	10/04/08	8280282
	98	(90 - 110)	0.0	(0-20)	MCAWW 300.0A	10/04/08	8280282
		Dilution Factor: 1					

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

Client Lot #...: A8I240212

Matrix.....: WATER

Date Sampled...: 09/24/08 10:25 Date Received...: 09/24/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8I240253-001 Prep Batch #...: 8269012</b>							
Barium	108	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191CK
	108	(75 - 125)	0.33	(0-20)	SW846 6010B	09/25-09/26/08	KXH191CL
			Dilution Factor: 1				
Calcium	96	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191CV
	96	(75 - 125)	0.15	(0-20)	SW846 6010B	09/25-09/26/08	KXH191CW
			Dilution Factor: 1				
Iron	109	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191C6
	105	(75 - 125)	2.7	(0-20)	SW846 6010B	09/25-09/26/08	KXH191C7
			Dilution Factor: 1				
Magnesium	97	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191C0
	96	(75 - 125)	0.66	(0-20)	SW846 6010B	09/25-09/26/08	KXH191C1
			Dilution Factor: 1				
Nickel	101	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191C3
	100	(75 - 125)	0.97	(0-20)	SW846 6010B	09/25-09/26/08	KXH191C4
			Dilution Factor: 1				
Potassium	113	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191CR
	112	(75 - 125)	0.06	(0-20)	SW846 6010B	09/25-09/26/08	KXH191CT
			Dilution Factor: 1				
Sodium	104	(75 - 125)			SW846 6010B	09/25-09/26/08	KXH191CN
	109	(75 - 125)	1.4	(0-20)	SW846 6010B	09/25-09/26/08	KXH191CP
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A8I240212

Matrix.....: WATER

Date Sampled...: 10/01/08 16:55 Date Received...: 10/03/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	116	Work Order #...: KXKA61CE (80 - 120)	MCAWW 300.0A	MS Lot-Sample #: A8I250140-001 10/04/08	8280281
		Dilution Factor: 1			
Chloride	111	Work Order #...: KX5P81AK (80 - 120)	MCAWW 300.0A	MS Lot-Sample #: A8J030242-003 10/03/08	8280281
		Dilution Factor: 1			
Sulfate	108	Work Order #...: KXKA61CF (80 - 120)	MCAWW 300.0A	MS Lot-Sample #: A8I250140-001 10/04/08	8280282
		Dilution Factor: 1			
Sulfate	115	Work Order #...: KX16K1AD (80 - 120)	MCAWW 300.0A	MS Lot-Sample #: A8J020136-003 10/04/08	8280282
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



**TestAmerica Cooler Receipt Form/Narrative**

**North Canton Facility**

Lot Number: A8E240212

Client CRA Project \_\_\_\_\_  
 Cooler Received on 9-24-08 Opened on 9-24-08 By: [Signature]  
 FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_  
 TestAmerica Cooler # NO# Multiple Coolers  Foam Box  Client Cooler  Other \_\_\_\_\_

- Were custody seals on the outside of the cooler(s)? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_ Quantity Unsalvageable \_\_\_\_\_  
 Were custody seals on the outside of cooler(s) signed and dated? Yes  No  NA   
 Were custody seals on the bottle(s)? Yes  No  NA   
 If YES, are there any exceptions? \_\_\_\_\_ Yes  No
  - Shippers' packing slip attached to the cooler(s)? Yes  No
  - Did custody papers accompany the sample(s)? Yes  No
  - Were the custody papers signed in the appropriate place? Yes  No
  - Packing material used: Bubble Wrap  Foam  None  Other \_\_\_\_\_  
 Relinquished by client? Yes  No
  - Cooler temperature upon receipt 4.2 °C See back of form for multiple coolers/temps   
 METHOD: IR  Other   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  - Did all bottles arrive in good condition (Unbroken)? Yes  No
  - Could all bottle labels be reconciled with the COC? Yes  No
  - Were sample(s) at the correct pH upon receipt? Yes  No  NA
  - Were correct bottle(s) used for the test(s) indicated? Yes  No  NA
  - Sufficient quantity received to perform indicated analyses? Yes  No  NA
  - Was a trip blank present in the cooler(s)? Yes  No  Were VOAs on the COC? Yes  No
- Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal  Voice Mail  Other

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:

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**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 031808-HNO<sub>3</sub>; Sulfuric Acid Lot# 031808-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot# 073007 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 050205-(CH<sub>3</sub>COO)<sub>2</sub>ZN/NaOH. What time was preservative added to sample(s)? \_\_\_\_\_

Client ID	pH	Date	Initials
1	CZ		
2	CZ	9-24-08	WS
3	CZ		
4	CZ		
5	CZ		
6	CZ		
7	CZ		
8	CZ		
9	CZ		



***END OF REPORT***

APPENDIX D-5

LABORATORY ANALYTICAL REPORT – MAY 2008  
(SECONDARY SUMP EVENT)



**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

## **ANALYTICAL REPORT**

**PROJECT NO. 12616-71-501012**

**REALM-ELYRIA/R016018**

**Lot #: A8E120120**

**Angela Bown**

**Conestoga-Rovers & Associates  
9033 Meridian Way  
West Chester, OH 45069**

**TESTAMERICA LABORATORIES, INC.**



**Amy L. McCormick  
Project Manager**

**May 27, 2008**

# CASE NARRATIVE

A8E120120

The following report contains the analytical results for five water samples submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Realm-Elyria/R016018 Site, project number 12616-71-501012. The samples were received May 10, 2008, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Angela Bown on May 22, 2008. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Any reference within this document to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.)

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 39.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.7°C.

## **CASE NARRATIVE (continued)**

### **METALS**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "J". Refer to the sample report pages for the affected analyte(s).

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for WG-12616-050808-DN-01 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

Some dissolved metals sample results in this lot are 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**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for batch(es) 8137283 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. TestAmerica 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.

For SW846/RCRA methods, 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.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### **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. Multi peak responders may not be included in the target spike list due to co-elution. 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 repreparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) 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 in the table.)

<b><u>Volatile (GC or GC/MS)</u></b>	<b><u>Semivolatile (GC/MS)</u></b>	<b><u>Metals ICP-MS</u></b>	<b><u>Metals ICP Trace</u></b>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (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.

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.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is 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 surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

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 and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

### **TestAmerica North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP  
(#CL0024), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit,



N:\QAQC\Customer Service\Narrative - Combined RCRA\_CWA 061807.doc

# EXECUTIVE SUMMARY - Detection Highlights

A8E120120

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>WG-12616-050808-DN-01 05/08/08 16:10 001</b>				
Barium - DISSOLVED	0.095 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	208	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	4.2	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	424 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	37.9	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	1.1	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	101	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.51	0.040	mg/L	SW846 6010B
Barium	0.096 B	0.20	mg/L	SW846 6010B
Calcium	212	5.0	mg/L	SW846 6010B
Iron	3.7	0.10	mg/L	SW846 6010B
Potassium	430 J	5.0	mg/L	SW846 6010B
Magnesium	38.5	5.0	mg/L	SW846 6010B
Manganese	1.1	0.015	mg/L	SW846 6010B
Sodium	103	5.0	mg/L	SW846 6010B
Nickel	0.53	0.040	mg/L	SW846 6010B
Chloride	172	5.0	mg/L	MCAWW 300.0A
Sulfate	936	5.0	mg/L	MCAWW 300.0A
<b>WG-12616-050808-DN-02 05/08/08 16:40 002</b>				
Barium - DISSOLVED	0.097 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	213	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	4.1	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	432 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	38.8	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	1.1	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	103	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.53	0.040	mg/L	SW846 6010B
Barium	0.090 B	0.20	mg/L	SW846 6010B
Calcium	202	5.0	mg/L	SW846 6010B
Iron	1.3	0.10	mg/L	SW846 6010B
Potassium	413 J	5.0	mg/L	SW846 6010B
Magnesium	36.9	5.0	mg/L	SW846 6010B
Manganese	0.99	0.015	mg/L	SW846 6010B
Sodium	98.8	5.0	mg/L	SW846 6010B
Nickel	0.51	0.040	mg/L	SW846 6010B
Chloride	171	5.0	mg/L	MCAWW 300.0A
Sulfate	931	5.0	mg/L	MCAWW 300.0A

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

A8E120120

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-050808-DN-03 05/08/08 17:00 003</b>				
Barium - DISSOLVED	0.037 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	361	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.25	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	444 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	85.1	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	3.9	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	149	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.99	0.040	mg/L	SW846 6010B
Barium	0.039 B	0.20	mg/L	SW846 6010B
Calcium	357	5.0	mg/L	SW846 6010B
Iron	0.23	0.10	mg/L	SW846 6010B
Potassium	447 J	5.0	mg/L	SW846 6010B
Magnesium	83.9	5.0	mg/L	SW846 6010B
Manganese	3.8	0.015	mg/L	SW846 6010B
Sodium	148	5.0	mg/L	SW846 6010B
Nickel	0.98	0.040	mg/L	SW846 6010B
Total Cyanide	0.01	0.010	mg/L	MCAWW 335.2
Chloride	250	10.0	mg/L	MCAWW 300.0A
Sulfate	1300	10.0	mg/L	MCAWW 300.0A
<b>WG-12616-050808-DN-04 05/08/08 17:35 004</b>				
Barium - DISSOLVED	0.045 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	216	5.0	mg/L	SW846 6010B
Chromium - DISSOLVED	0.0088 B	0.010	mg/L	SW846 6010B
Iron - DISSOLVED	0.090 B	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	491 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	56.3	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	1.6	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	114	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.81	0.040	mg/L	SW846 6010B
Barium	0.044 B	0.20	mg/L	SW846 6010B
Calcium	214	5.0	mg/L	SW846 6010B
Chromium	0.0090 B	0.010	mg/L	SW846 6010B
Iron	0.15	0.10	mg/L	SW846 6010B
Potassium	490 J	5.0	mg/L	SW846 6010B
Magnesium	54.9	5.0	mg/L	SW846 6010B
Manganese	1.4	0.015	mg/L	SW846 6010B
Sodium	112	5.0	mg/L	SW846 6010B
Nickel	0.77	0.040	mg/L	SW846 6010B
Total Cyanide	0.006 B	0.010	mg/L	MCAWW 335.2
Chloride	191	5.0	mg/L	MCAWW 300.0A
Sulfate	948	5.0	mg/L	MCAWW 300.0A

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A8E120120

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>WG-12616-050808-DN-05 05/08/08 18:10 005</b>				
Barium - DISSOLVED	0.069 B	0.20	mg/L	SW846 6010B
Calcium - DISSOLVED	359	5.0	mg/L	SW846 6010B
Iron - DISSOLVED	0.14	0.10	mg/L	SW846 6010B
Potassium - DISSOLVED	297 J	5.0	mg/L	SW846 6010B
Magnesium - DISSOLVED	86.9	5.0	mg/L	SW846 6010B
Manganese - DISSOLVED	8.3	0.015	mg/L	SW846 6010B
Sodium - DISSOLVED	110	5.0	mg/L	SW846 6010B
Nickel - DISSOLVED	0.65	0.040	mg/L	SW846 6010B
Barium	0.064 B	0.20	mg/L	SW846 6010B
Calcium	333	5.0	mg/L	SW846 6010B
Potassium	284 J	5.0	mg/L	SW846 6010B
Magnesium	81.3	5.0	mg/L	SW846 6010B
Manganese	7.1	0.015	mg/L	SW846 6010B
Sodium	104	5.0	mg/L	SW846 6010B
Nickel	0.61	0.040	mg/L	SW846 6010B
Chloride	158	5.0	mg/L	MCAWW 300.0A
Sulfate	1220	10.0	mg/L	MCAWW 300.0A

# ANALYTICAL METHODS SUMMARY

A8E120120

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Chloride	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Sulfate	MCAWW 300.0A
Total Cyanide	MCAWW 335.2

## References:

- 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

A8E120120

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KM19D	001	WG-12616-050808-DN-01	05/08/08	16:10
KM19F	002	WG-12616-050808-DN-02	05/08/08	16:40
KM19G	003	WG-12616-050808-DN-03	05/08/08	17:00
KM19H	004	WG-12616-050808-DN-04	05/08/08	17:35
KM19J	005	WG-12616-050808-DN-05	05/08/08	18:10

## 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 & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-01

TOTAL Metals

Lot-Sample #...: A8E120120-001

Matrix.....: WG

Date Sampled...: 05/08/08 16:10 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8135013					
Barium	0.096 B	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AA
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	212	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AC
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AD
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	3.7	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AE
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	430 J	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AF
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	38.5	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AG
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.1	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AH
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	103	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AJ
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.53	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM19D1AK
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-050808-DN-01**

**DISSOLVED Metals**

**Lot-Sample #...: A8E120120-001**

**Matrix.....: WG**

**Date Sampled...: 05/08/08 16:10 Date Received...: 05/10/08**

<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>
<b>Prep Batch #...: 8135013</b>						
<b>Barium</b>	<b>0.095 B</b>	<b>0.20</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AP</b>
		Dilution Factor: 1		MDL.....: 0.00067		
<b>Calcium</b>	<b>208</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AQ</b>
		Dilution Factor: 1		MDL.....: 0.13		
<b>Chromium</b>	<b>ND</b>	<b>0.010</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AR</b>
		Dilution Factor: 1		MDL.....: 0.0022		
<b>Iron</b>	<b>4.2</b>	<b>0.10</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AT</b>
		Dilution Factor: 1		MDL.....: 0.081		
<b>Potassium</b>	<b>424 J</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AU</b>
		Dilution Factor: 1		MDL.....: 0.072		
<b>Magnesium</b>	<b>37.9</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AV</b>
		Dilution Factor: 1		MDL.....: 0.034		
<b>Manganese</b>	<b>1.1</b>	<b>0.015</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AW</b>
		Dilution Factor: 1		MDL.....: 0.00041		
<b>Sodium</b>	<b>101</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1AX</b>
		Dilution Factor: 1		MDL.....: 0.59		
<b>Nickel</b>	<b>0.51</b>	<b>0.040</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM19D1A0</b>
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-01

General Chemistry

Lot-Sample #...: A8E120120-001    Work Order #...: KM19D    Matrix.....: WG  
Date Sampled...: 05/08/08 16:10    Date Received...: 05/10/08

<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	172	5.0	mg/L	MCAWW 300.0A	05/16/08	8137283
		Dilution Factor: 5		MDL.....: 0.50		
Sulfate	936	5.0	mg/L	MCAWW 300.0A	05/16/08	8137280
		Dilution Factor: 5		MDL.....: 0.60		
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	05/19/08	8140505
		Dilution Factor: 1		MDL.....: 0.005		

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-02

TOTAL Metals

Lot-Sample #...: A8E120120-002

Matrix.....: WG

Date Sampled...: 05/08/08 16:40 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8135013						
Barium	0.090 B	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	202	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	1.3	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	413 J	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AG
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	36.9	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AH
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	0.99	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AJ
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	98.8	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AK
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.51	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AL
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-02

DISSOLVED Metals

Lot-Sample #...: A8E120120-002

Matrix.....: WG

Date Sampled...: 05/08/08 16:40 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8135013						
Barium	0.097 B	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AQ
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	213	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AR
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AT
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	4.1	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AU
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	432 J	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AV
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	38.8	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AW
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.1	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AX
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	103	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19F1A0
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.53	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM19F1AA
		Dilution Factor: 1		MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-02

General Chemistry

Lot-Sample #...: A8E120120-002    Work Order #...: KM19F    Matrix.....: WG  
Date Sampled...: 05/08/08 16:40    Date Received...: 05/10/08

<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	171	5.0	mg/L	MCAWW 300.0A MDL.....: 0.50	05/16/08	8137283
		Dilution Factor: 5				
Sulfate	931	5.0	mg/L	MCAWW 300.0A MDL.....: 0.60	05/16/08	8137280
		Dilution Factor: 5				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	05/19/08	8140505
		Dilution Factor: 1				

**Conestoga-Rovers & Associates, Inc.**

Client Sample ID: WG-12616-050808-DN-03

**TOTAL Metals**

Lot-Sample #...: A8E120120-003

Matrix.....: WG

Date Sampled...: 05/08/08 17:00 Date Received...: 05/10/08

<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 #...: 8135013						
Barium	0.039 B	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	357	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	ND	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.23	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	447 J	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AG
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	83.9	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AH
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	3.8	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AJ
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	148	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AK
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.98	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM19G1AL
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-03

DISSOLVED Metals

Lot-Sample #...: A8E120120-003

Matrix.....: WG

Date Sampled...: 05/08/08 17:00 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8135013							
Barium	0.037 B	0.20	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AQ
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	361	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AR
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AT
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	0.25	0.10	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AU
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	444 J	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AV
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	85.1	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AW
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	3.9	0.015	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AX
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	149	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19G1A0
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.99	0.040	mg/L		SW846 6010B	05/14-05/15/08	KM19G1AA
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-03

General Chemistry

Lot-Sample #...: A8E120120-003    Work Order #...: KM19G    Matrix.....: WG  
 Date Sampled...: 05/08/08 17:00    Date Received...: 05/10/08

<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	250	10.0	mg/L	MCAWW 300.0A	05/16/08	8137283
			Dilution Factor: 10	MDL.....: 1.0		
Sulfate	1300	10.0	mg/L	MCAWW 300.0A	05/16/08	8137280
			Dilution Factor: 10	MDL.....: 1.2		
Total Cyanide	0.01	0.010	mg/L	MCAWW 335.2	05/19/08	8140505
			Dilution Factor: 1	MDL.....: 0.005		

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: WG-12616-050808-DN-04**

**TOTAL Metals**

Lot-Sample #...: A8E120120-004  
 Date Sampled...: 05/08/08 17:35

Date Received...: 05/10/08

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 #...: 8135013						
Barium	0.044 B	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AC
		Dilution Factor: 1		MDL.....: 0.00067		
Calcium	214	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AD
		Dilution Factor: 1		MDL.....: 0.13		
Chromium	0.0090 B	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AE
		Dilution Factor: 1		MDL.....: 0.0022		
Iron	0.15	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AF
		Dilution Factor: 1		MDL.....: 0.081		
Potassium	490 J	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AG
		Dilution Factor: 1		MDL.....: 0.072		
Magnesium	54.9	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AH
		Dilution Factor: 1		MDL.....: 0.034		
Manganese	1.4	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AJ
		Dilution Factor: 1		MDL.....: 0.00041		
Sodium	112	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AK
		Dilution Factor: 1		MDL.....: 0.59		
Nickel	0.77	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AL
		Dilution Factor: 1		MDL.....: 0.0032		

**NOTE(S):**

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-04

DISSOLVED Metals

Lot-Sample #...: A8E120120-004

Matrix.....: WG

Date Sampled...: 05/08/08 17:35 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8135013							
Barium	0.045 B	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AQ	
		Dilution Factor: 1		MDL.....: 0.00067			
Calcium	216	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AR	
		Dilution Factor: 1		MDL.....: 0.13			
Chromium	0.0088 B	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AT	
		Dilution Factor: 1		MDL.....: 0.0022			
Iron	0.090 B	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AU	
		Dilution Factor: 1		MDL.....: 0.081			
Potassium	491 J	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AV	
		Dilution Factor: 1		MDL.....: 0.072			
Magnesium	56.3	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AW	
		Dilution Factor: 1		MDL.....: 0.034			
Manganese	1.6	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AX	
		Dilution Factor: 1		MDL.....: 0.00041			
Sodium	114	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM19H1A0	
		Dilution Factor: 1		MDL.....: 0.59			
Nickel	0.81	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM19H1AA	
		Dilution Factor: 1		MDL.....: 0.0032			

**NOTE(S) :**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-04

General Chemistry

Lot-Sample #...: A8E120120-004    Work Order #...: KM19H    Matrix.....: WG  
 Date Sampled...: 05/08/08 17:35    Date Received...: 05/10/08

<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	191	5.0	mg/L	MCAWW 300.0A	05/16/08	8137283
			Dilution Factor: 5	MDL.....: 0.50		
Sulfate	948	5.0	mg/L	MCAWW 300.0A	05/16/08	8137280
			Dilution Factor: 5	MDL.....: 0.60		
Total Cyanide	0.006 B	0.010	mg/L	MCAWW 335.2	05/19/08	8140505
			Dilution Factor: 1	MDL.....: 0.005		

**NOTE(S):**

- RL Reporting Limit
- B Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-05

TOTAL Metals

Lot-Sample #...: A8E120120-005

Matrix.....: WG

Date Sampled...: 05/08/08 18:10 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8135013							
Barium	0.064 B	0.20	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AC
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	333	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AD
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AE
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	ND	0.10	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AF
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	284 J	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AG
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	81.3	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AH
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	7.1	0.015	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AJ
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	104	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AK
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.61	0.040	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AL
		Dilution Factor: 1			MDL.....: 0.0032		

NOTE(S):

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-05

DISSOLVED Metals

Lot-Sample #...: A8E120120-005

Matrix.....: WG

Date Sampled...: 05/08/08 18:10 Date Received...: 05/10/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8135013							
Barium	0.069 B	0.20	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AQ
		Dilution Factor: 1			MDL.....: 0.00067		
Calcium	359	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AR
		Dilution Factor: 1			MDL.....: 0.13		
Chromium	ND	0.010	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AT
		Dilution Factor: 1			MDL.....: 0.0022		
Iron	0.14	0.10	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AU
		Dilution Factor: 1			MDL.....: 0.081		
Potassium	297 J	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AV
		Dilution Factor: 1			MDL.....: 0.072		
Magnesium	86.9	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AW
		Dilution Factor: 1			MDL.....: 0.034		
Manganese	8.3	0.015	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AX
		Dilution Factor: 1			MDL.....: 0.00041		
Sodium	110	5.0	mg/L		SW846 6010B	05/14-05/15/08	KM19J1A0
		Dilution Factor: 1			MDL.....: 0.59		
Nickel	0.65	0.040	mg/L		SW846 6010B	05/14-05/15/08	KM19J1AA
		Dilution Factor: 1			MDL.....: 0.0032		

**NOTE(S):**

B Estimated result. Result is less than RL.

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

Conestoga-Rovers & Associates, Inc.

Client Sample ID: WG-12616-050808-DN-05

General Chemistry

Lot-Sample #...: A8E120120-005    Work Order #...: KM19J    Matrix.....: WG  
 Date Sampled...: 05/08/08 18:10    Date Received...: 05/10/08

<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	158	5.0	mg/L	MCAWW 300.0A MDL.....: 0.50	05/16/08	8137283
		Dilution Factor: 5				
Sulfate	1220	10.0	mg/L	MCAWW 300.0A MDL.....: 1.2	05/16/08	8140171
		Dilution Factor: 10				
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2 MDL.....: 0.005	05/19/08	8140505
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

**METHOD BLANK REPORT**

**TOTAL Metals**

Client Lot #...: A8E120120

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
<b>MB Lot-Sample #: A8E140000-013 Prep Batch #...: 8135013</b>						
Barium	ND	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AA
		Dilution Factor: 1				
Calcium	ND	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AD
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AE
		Dilution Factor: 1				
Magnesium	ND	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AG
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AH
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AK
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.17 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM5N11AF</b>
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM5N11AJ
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A8E120120

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #: A8E140000-013 Prep Batch #...: 8135013</b>						
Barium	ND	0.20	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A0
		Dilution Factor: 1				
Calcium	ND	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A1
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A2
		Dilution Factor: 1				
Iron	ND	0.10	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A3
		Dilution Factor: 1				
Magnesium	ND	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A5
		Dilution Factor: 1				
Manganese	ND	0.015	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A6
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A8
		Dilution Factor: 1				
<b>Potassium</b>	<b>0.17 B</b>	<b>5.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>05/14-05/15/08</b>	<b>KM5N11A4</b>
		Dilution Factor: 1				
Sodium	ND	5.0	mg/L	SW846 6010B	05/14-05/15/08	KM5N11A7
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A8E120120

Matrix.....: WATER

<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>PREP</u> <u>BATCH #</u>
Chloride	ND	Work Order #: KNC9G1AA 1.0	mg/L	MB Lot-Sample #: A8E160000-283 MCAWW 300.0A	A8E160000-283 05/16/08	8137283
		Dilution Factor: 1				
Sulfate	ND	Work Order #: KNC9A1AA 1.0	mg/L	MB Lot-Sample #: A8E160000-280 MCAWW 300.0A	A8E160000-280 05/16/08	8137280
		Dilution Factor: 1				
Sulfate	ND	Work Order #: KNF4D1AA 1.0	mg/L	MB Lot-Sample #: A8E190000-171 MCAWW 300.0A	A8E190000-171 05/16/08	8140171
		Dilution Factor: 1				
Total Cyanide	ND	Work Order #: KNGQJ1AA 0.010	mg/L	MB Lot-Sample #: A8E190000-505 MCAWW 335.2	A8E190000-505 05/19/08	8140505
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #...:** A8E120120

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8E140000-013 <b>Prep Batch #...:</b> 8135013					
Barium	111	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AL
		Dilution Factor: 1			
Calcium	103	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AM
		Dilution Factor: 1			
Chromium	103	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AN
		Dilution Factor: 1			
Iron	105	(77 - 122)	SW846 6010B	05/14-05/15/08	KM5N11AP
		Dilution Factor: 1			
Potassium	104	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AQ
		Dilution Factor: 1			
Magnesium	102	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AR
		Dilution Factor: 1			
Manganese	108	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AT
		Dilution Factor: 1			
Sodium	100	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AU
		Dilution Factor: 1			
Nickel	107	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11AV
		Dilution Factor: 1			

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**DISSOLVED Metals**

**Client Lot #...:** A8E120120

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A8E140000-013 <b>Prep Batch #...:</b> 8135013					
Barium	111	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CC
		Dilution Factor: 1			
Calcium	103	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CD
		Dilution Factor: 1			
Chromium	103	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CE
		Dilution Factor: 1			
Iron	105	(77 - 122)	SW846 6010B	05/14-05/15/08	KM5N11CF
		Dilution Factor: 1			
Potassium	104	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CG
		Dilution Factor: 1			
Magnesium	102	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CH
		Dilution Factor: 1			
Manganese	108	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CJ
		Dilution Factor: 1			
Sodium	100	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CK
		Dilution Factor: 1			
Nickel	107	(80 - 120)	SW846 6010B	05/14-05/15/08	KM5N11CL
		Dilution Factor: 1			

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Lot-Sample #...**: A8E120120

**Matrix.....**: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride		WO#:KNC9G1AC-LCS/KNC9G1AD-LCSD LCS Lot-Sample#: A8E160000-283					
	93	(90 - 110)			MCAWW 300.0A	05/16/08	8137283
	93	(90 - 110)	0.21	(0-20)	MCAWW 300.0A	05/16/08	8137283
		Dilution Factor: 1					
Sulfate		WO#:KNC9A1AC-LCS/KNC9A1AD-LCSD LCS Lot-Sample#: A8E160000-280					
	93	(90 - 110)			MCAWW 300.0A	05/16/08	8137280
	93	(90 - 110)	0.21	(0-20)	MCAWW 300.0A	05/16/08	8137280
		Dilution Factor: 1					
Sulfate		WO#:KNF4D1AC-LCS/KNF4D1AD-LCSD LCS Lot-Sample#: A8E190000-171					
	93	(90 - 110)			MCAWW 300.0A	05/16/08	8140171
	93	(90 - 110)	0.21	(0-20)	MCAWW 300.0A	05/16/08	8140171
		Dilution Factor: 1					

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8E120120

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Cyanide	89	(69 - 118)	MCAWW 335.2	05/19/08	8140505

Work Order #: KNGQJ1AC LCS Lot-Sample#: A8E190000-505  
Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A8E120120

Matrix.....: WG

Date Sampled...: 05/08/08 16:10 Date Received...: 05/10/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A8E120120-001 Prep Batch #...: 8135013</b>							
Barium	112	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1A1
	113	(75 - 125)	0.84	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1A2
			Dilution Factor: 1				
Calcium	NC,MSB	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1A3
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	05/14-05/15/08	KM19D1A4
			Dilution Factor: 1				
Chromium	104	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1A5
	105	(75 - 125)	1.2	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1A6
			Dilution Factor: 1				
Iron	93	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1A7
	90	(75 - 125)	0.58	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1A8
			Dilution Factor: 1				
Magnesium	103	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1CC
	104	(75 - 125)	0.39	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1CD
			Dilution Factor: 1				
Manganese	108	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1CE
	107	(75 - 125)	0.13	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1CF
			Dilution Factor: 1				
Nickel	104	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1CJ
	105	(75 - 125)	0.29	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1CK
			Dilution Factor: 1				
Potassium	NC,MSB	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1A9
	NC,MSB	(75 - 125)		(0-20)	SW846 6010B	05/14-05/15/08	KM19D1CA
			Dilution Factor: 1				
Sodium	104	(75 - 125)			SW846 6010B	05/14-05/15/08	KM19D1CG
	102	(75 - 125)	0.66	(0-20)	SW846 6010B	05/14-05/15/08	KM19D1CH
			Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A8E120120

Matrix.....: WATER

Date Sampled...: 05/15/08 06:45 Date Received...: 05/15/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride			WO#:	KM0Q91AU-MS/KM0Q91AV-MSD	MS Lot-Sample #:	A8E100113-011	
	NC,MSB	(80 - 120)			MCAWW 300.0A	05/16/08	8137283
	NC,MSB	(80 - 120)		(0-20)	MCAWW 300.0A	05/16/08	8137283
			Dilution Factor: 1				
Total Cyanide			WO#:	KM8F81A4-MS/KM8F81A5-MSD	MS Lot-Sample #:	A8E150104-001	
	96	(42 - 140)			MCAWW 335.2	05/19/08	8140504
	90	(42 - 140)	6.8	(0-20)	MCAWW 335.2	05/19/08	8140504
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.



\* Sample batch complete

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # N° 04072

SSOW Ref. Code: R016018

**Required Client Information:**

Company: *CEA* Report To: *A. Lavigne*  
 Address: *Sandy* Copy To: *A. Ben N*  
 Invoice To:  
 P.O.:  
 Project Name:  
 Project Number: *12616-71-501912*  
 Phone:  
 Fax:  
 E-mail:

Laboratory: *Test America*  
 Laboratory Location: *N. Carter, OH*  
 Laboratory Contact:  
 Requested Due Date:  
 QA/QC Requirements: *TAT: std.*

**Valid Matrix Codes:**

- WG Groundwater
- WB Borehole Water
- WS Surface Water
- SO Soil
- SE Sediment
- See Back for Additional Codes

**Preservative**

Unpreserved
HCl
H2SO4
HNO3
NaOH
Other:

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	Analysis and Method	Remarks/Lab ID
1. <i>WG 12616-050808-DN-01</i>	<i>WG</i>	<i>5-8-08</i>	<i>1610</i>	<i>4</i>								
2. <i>02</i>			<i>1640</i>	<i>4</i>								
3. <i>03</i>			<i>1700</i>	<i>4</i>								<i>Dis. metals</i>
4. <i>04</i>			<i>1735</i>	<i>4</i>								<i>well field 5thend</i>
5. <i>05</i>			<i>1810</i>	<i>4</i>								
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
TOTAL NUMBER OF CONTAINERS				<i>20</i>								

**SHIPMENT METHOD** *FELIX* **NO. OF COOLERS** *1* **RELINQUISHED BY / AFFILIATION** *DR Norton / CEA*

**AIRBILL NO.**

**DATE** *5-9-08* **TIME** *1600*

**RECEIVED BY / AFFILIATION** *[Signature]* **DATE** *5-9-08* **TIME** *950*

**Sample Condition**

Temp in C	Y/N
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

**Additional Comments:**

**Sampler Name:** *Don Norton*

**Sampler Signature:** *[Signature]* **Date:** *5-9-08*

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

**TestAmerica Cooler Receipt Form/Narrative**

Lot Number: AS-100130

North Canton Facility

Client CDA SANDOSKY Project 12616-71 By: MASE

Cooler Received on 10 May 08 Opened on 10 May 08 (Signature)

FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other

TestAmerica Cooler # L874 Multiple Coolers  Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler(s)? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_  
 Were custody seals on the outside of cooler(s) signed and dated? Yes  No  NA   
 Were custody seals on the bottle(s)? Yes  No

If YES, are there any exceptions? \_\_\_\_\_

2. Shippers' packing slip attached to the cooler(s)? Yes  No

3. Did custody papers accompany the sample(s)? Yes  No  Relinquished by client? Yes  No

4. Were the custody papers signed in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other BAG ICE

6. Cooler temperature upon receipt 5.7 °C See back of form for multiple coolers/temps

METHOD: IR  Other

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels be reconciled with the COC? Yes  No

9. Were sample(s) at the correct pH upon receipt? Yes  No  NA

10. Were correct bottle(s) used for the test(s) indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

13. Was a trip blank present in the cooler(s)? Yes  No  Were VOAs on the COC? Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal  Voice Mail  Other

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:

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**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot# 113007-HNO<sub>3</sub>; Sulfuric Acid Lot# 071707-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot# 073007 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 050205-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH.

What time was preservative added to sample(s)? \_\_\_\_\_

Client ID	pH	Date	Initials
01	22 22 > 12	10 May 08	MASE
02	22 22 > 12		
03	22 22 > 12		
04	22 22 > 12		
05	22 22 > 12		



***END OF REPORT***

APPENDIX E

DATA QUALITY ASSESSMENT AND VALIDATION REPORTS



APPENDIX E-1

DATA QUALITY ASSESSMENT AND VALIDATION REPORT - FEBRUARY 2008  
(SEMI-ANNUAL EVENT)





**CONESTOGA-ROVERS  
& ASSOCIATES**

9033 Meridian Way  
West Chester, OH 45069  
Telephone: (513) 942-4750 Fax: (513) 942-8585  
www.CRAworld.com

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## MEMORANDUM

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TO: Andrew LaVine REF. NO.: 012650-016016

FROM: Angela Bown/jbh/6-NF *AB/jll* DATE: February 28, 2008  
E-Mail and Hard Copy if Requested

C.C.: Mike Okamoto, Karen Partington

RE: **Data Quality Assessment and Reduced Validation  
Semi-Annual Groundwater Monitoring  
REALM - Elyria, Ohio  
February 2008**

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The following details a quality assessment and validation of the analytical data resulting from the collection of 21 groundwater samples, including one field duplicate pair, from the General Motors REALM Site in Elyria, Ohio, in February 2008. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica Laboratories, Inc. in North Canton, Ohio, in accordance with the methodologies presented in Table 2. The QC criteria used to assess the data were established by the methods and the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", United States Environmental Protection Agency (USEPA) 540/R-94-013, February 1994.

The data quality assessment and validation presented in the following subsections were performed based on information obtained from the Chain of Custody forms, finished report forms, blank data, duplicate data, and recovery data for blank and matrix spikes.

### Holding Time Period and Sample Analysis

The holding time criteria are presented in Table 2. All samples were prepared and analyzed within the method-required holding times. All samples were properly preserved and cooled to 4°C ( $\pm 2^\circ\text{C}$ ) after collection.

### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. The blank results were non-detect for all analytes of interest, indicating laboratory contamination was not an issue.

### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared and analyzed with each sample batch. Some LCSs were prepared and analyzed in duplicate.

All LCS recoveries and relative percent differences (RPDs) were within the specified control limits for all parameters demonstrating acceptable overall analytical accuracy and precision.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

To evaluate the effects of sample matrices on the preparation, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. The laboratory prepared the spike samples in duplicate to assess analytical precision. The sample specified for MS/MSD analysis is indicated in Table 1. The laboratory performed additional analyses internally.

All MS/MSD analyses performed were acceptable, demonstrating good analytical accuracy and precision.

### Field Duplicate Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory for analysis as shown in Table 1. The field duplicate results showed adequate reproducibility, indicating satisfactory laboratory and sampling protocol precision with the exception of the cyanide results for sample WG-12616-020708-DN-12 and its field duplicate, WG-12616-020708-DN-13. Table 3 presents the sample data that was qualified due to field duplicate variability.

### Total Versus Dissolved Results for Metals

Most dissolved metals results were less than the total results or were within the normal variability of the method (20 percent RPD). The dissolved results for some samples were greater than the total results and were in exceedance of the method variability. Table 4 presents the sample data that was qualified due to outlying total versus dissolved variability.

### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported with the qualifications noted.

## Herriven, Joanne

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**From:** roddmcminn [roddmcminn@wmgny.com]  
**Sent:** Thursday, February 28, 2008 10:16 AM  
**To:** Herriven, Joanne  
**Subject:** 401k

Hi Joanne,

In follow up to our phone conversation, the distribution check from Securian should reference your social security number. We won't have a contract number to reference before the Securian form is sent in. If you can fax or mail me a copy of the form when Nancy faxes it to Securian, that would be fine. We won't need the original. As long as we have a copy to put with your paperwork for MetLife, that should be sufficient.

Thanks,  
Rodd

Rodd S. McMinn  
Wealth Management Group  
65 Bryant Woods South  
Amherst, NY 14228

Phone: 716-625-4520  
Toll Free: 800-481-2976 (ext. 250)  
Fax: 716-636-5591

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TABLE 1  
 SAMPLE COLLECTION AND ANALYSIS SUMMARY  
 SEMI-ANNUAL GROUNDWATER MONITORING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 FEBRUARY 2008

Sample ID	Location ID	Collection Date (mm/dd/yy)	Collection Time (hr:min)	Analysis/Parameters			Comments
				Total and Dissolved Metals	Chloride, Sulfate	Cyanide	
WG-12616-020608-DN-01	P-8T	02/06/08	15:40	X	X	X	
WG-12616-020608-DN-02	P-8R	02/06/08	16:35	X	X	X	
WG-12616-020608-DN-03	P-16	02/06/08	17:50	X	X	X	
WG-12616-020608-DN-04	P-16T	02/06/08	18:05	X	X	X	
WG-12616-020708-DN-05	P-2	02/07/08	8:20	X	X	X	
WG-12616-020708-DN-06	P-2T	02/07/08	9:00	X	X	X	
WG-12616-020708-DN-07	P-13	02/07/08	10:20	X	X	X	
WG-12616-020708-DN-08	P-13T	02/07/08	10:55	X	X	X	
WG-12616-020708-DN-09	P-12	02/07/08	12:35	X	X	X	MS/MSD
WG-12616-020708-DN-10	P-12TR	02/07/08	13:10	X	X	X	
WG-12616-020708-DN-11	P-14	02/07/08	14:45	X	X	X	MS/MSD
WG-12616-020708-DN-12	P-14T	02/07/08	15:20	X	X	X	
WG-12616-020708-DN-13	P-14T	02/07/08	16:50	X	X	X	Field Duplicate of WG-12616-020708-DN-12
WG-12616-020708-DN-14	NW Primary	02/07/08	17:25	X	X	X	
WG-12616-020808-DN-15	NE Primary	02/08/08	9:00	X	X	X	
WG-12616-020808-DN-16	SE Primary	02/08/08	9:45	X	X	X	
WG-12616-020808-DN-17	SW Primary	02/08/08	10:25	X	X	X	
WG-12616-020808-DN-18	NW Secondary	02/08/08	11:25	X	X	X	
WG-12616-020808-DN-19	NE Secondary	02/08/08	12:10	X	X	X	
WG-12616-020808-DN-20	SE Secondary	02/08/08	12:55	X	X	X	
WG-12616-020808-DN-21	SW Secondary	02/08/08	13:35	X	X	X	

Notes:

MS Matrix Spike.

MSD Matrix Spike Duplicate.

TABLE 2  
 SAMPLE HOLDING TIME CRITERIA AND ANALYTICAL METHODS SUMMARY  
 SEMI-ANNUAL GROUNDWATER MONITORING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 FEBRUARY 2008

<i>Parameter</i>	<i>Analytical Method</i>	<i>Collection to Extraction (Days)</i>	<i>Collection/Extraction to Analysis (Days)</i>
Total Metals	6010B <sup>1</sup>	-	180
Dissolved Metals	6010B <sup>1</sup>	-	180
Chloride	300.0 <sup>2</sup>	-	28
Sulfate	300.0 <sup>2</sup>	-	28
Cyanide	335.2 <sup>2</sup>	-	14

Notes:

- <sup>1</sup> Referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions.
  - <sup>2</sup> Referenced from "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-020, March 1983 with subsequent revisions.
  - Not Applicable.
- USEPA United States Environmental Protection Agency.

TABLE 3  
 QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS  
 SEMI-ANNUAL GROUNDWATER MONITORING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 FEBRUARY 2008

<i>Parameter</i>	<i>Analyte</i>	<i>Original Sample ID</i>	<i>Original Result</i>	<i>Duplicate Sample ID</i>	<i>Duplicate Result</i>	<i>RPD</i>	<i>Units</i>	<i>Qualifier <sup>(1)</sup></i>
General Chemistry	Cyanide (total)	WG-12616-020708-DN-12	0.010 U	WG-12616-020708-DN-13	0.089	160	mg/L	J

Notes:

- <sup>(1)</sup> The qualifier applies to both the original and duplicate results.
- J Estimated.
- U Not detected.

**TABLE 4**  
**QUALIFIED ANALYTICAL DATA DUE TO A DISCREPANCY IN THE TOTAL VS. DISSOLVED RESULTS**  
**SEMI-ANNUAL GROUNDWATER MONITORING**  
**REALM - ELYRIA**  
**ELYRIA, OHIO**  
**FEBRUARY 2008**

<i>Analyte</i>	<i>Sample ID</i>	<i>Total Result</i>	<i>Dissolved Result</i>	<i>Qualified Total Result</i>	<i>Qualified Dissolved Result</i>	<i>Units</i>
Sodium	WG-12616-020608-DN-01	10.4	19.0	10.4 J	19.0 J	mg/L
Sodium	WG-12616-020708-DN-08	23.2	32.6	23.2 J	32.6 J	mg/L
Manganese	WG-12616-020708-DN-09	0.021	0.041	0.021 J	0.041 J	mg/L

Note:  
 J Estimated.

APPENDIX E-2

DATA QUALITY ASSESSMENT AND VALIDATION REPORT - APRIL 2008  
(CONFIRMATION EVENT)





Please note that the CRA logo can only be viewed in 'Page Layout' or Print Preview

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## MEMORANDUM

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TO: Andrew LaVine REF. NO.: 012616 (012650-016017)

FROM: Angela Bown/pga/13-NF *AB pga* DATE: April 18, 2008  
E-Mail and Hard Copy if Requested

C.C.: Mike Okamoto, Karen Partington

RE: **Data Quality Assessment and Validation  
Confirmatory Groundwater Sampling  
REALM - Elyria, Ohio  
April 2008**

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The following details a quality assessment and validation of the analytical data resulting from the collection of nine groundwater samples, including one field duplicate pair, from the General Motors REALM Site in Elyria, Ohio, in April 2008. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio, in accordance with the methodologies presented in Table 2. The QC criteria used to assess the data were established by the methods and the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", United States Environmental Protection Agency (USEPA) 540/R-94-013, February 1994.

The data quality assessment and validation presented in the following subsections were performed based on information obtained from the Chain of Custody forms, finished report forms, blank data, duplicate data, and recovery data for blank and matrix spikes.

### Holding Time Period and Sample Analysis

The holding time criteria are presented in Table 2. All samples were prepared and analyzed within the method-required holding times. All samples were properly preserved and cooled to 4°C (±2°C) after collection.

### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. The blank results were non-detect for most analytes of interest. Low levels of certain dissolved metals were detected in the method blank; however, the investigative samples were not qualified because the results were greater than five times the blank value.

### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared and analyzed with each sample batch. Some LCSs were prepared and analyzed in duplicate.

All LCS recoveries and relative percent differences (RPDs) were within the specified control limits for all parameters demonstrating acceptable overall analytical accuracy and precision.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

To evaluate the effects of sample matrices on the preparation, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. The laboratory prepared the spike samples in duplicate to assess analytical precision. No site-specific samples were chosen for MS/MSD analysis; therefore, evaluation of the data was not performed.

### Field Duplicate Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory for analysis as shown in Table 1. The field duplicate results showed adequate reproducibility, indicating satisfactory laboratory and sampling protocol precision.

### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.

TABLE 1  
 SAMPLE COLLECTION AND ANALYSIS SUMMARY  
 CONFIRMATORY GROUNDWATER SAMPLING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 APRIL 2008

Sample ID	Location ID	Collection Date (mm/dd/yy)	Collection Time (hr:min)	Analysis/Parameters								Comments	
				Dissolved Barium	Dissolved Sodium	Dissolved Potassium	Dissolved Calcium	Dissolved Magnesium	Dissolved Nickel	Sulfate	Chloride		
WG-12616-040108-DN-01	P-8R	04/01/08	13:40	X	X							X	
WG-12616-040108-DN-02	P-8T	04/01/08	15:00			X							
WG-12616-040108-DN-03	P-16	04/01/08	16:35				X	X	X	X	X	X	
WG-12616-040108-DN-04	P-16T	04/01/08	18:20		X		X	X		X			
WG-12616-040108-DN-05	P-2T	04/01/08	19:30				X	X		X		X	
WG-12616-040208-DN-06	P2	04/02/08	8:10					X					
WG-12616-040208-DN-07	P-13T	04/02/08	10:10			X	X	X		X			
WG-12616-040208-DN-08	P-13	04/02/08	12:25				X		X				
WG-12616-040208-DN-09	P-13T	04/02/08	11:30			X	X	X		X			Field Duplicate of WG-12616-040208-DN-07

TABLE 2  
 SAMPLE HOLDING TIME CRITERIA AND ANALYTICAL METHODS SUMMARY  
 CONFIRMATORY GROUNDWATER SAMPLING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 APRIL 2008

<i>Parameter</i>	<i>Analytical Method</i>	<i>Collection to Extraction (Days)</i>	<i>Collection/Extraction to Analysis (Days)</i>
Dissolved Metals	6010B <sup>1</sup>	-	180
Chloride	300.0 <sup>2</sup>	-	28
Sulfate	300.0 <sup>2</sup>	-	28

Notes:

- <sup>1</sup> Referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions.
  - <sup>2</sup> Referenced from "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-020, March 1983 with subsequent revisions.
  - Not Applicable.
- USEPA United States Environmental Protection Agency.

APPENDIX E-3

DATA QUALITY ASSESSMENT AND VALIDATION REPORT - AUGUST 2008  
(SEMI-ANNUAL EVENT)





**CONESTOGA-ROVERS  
& ASSOCIATES**

9033 Meridian Way  
West Chester, OH 45069  
Telephone: (513) 942-4750 Fax: (513) 942-8585  
www.CRAworld.com

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## MEMORANDUM

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TO: Andrew LaVine REF. NO.: 012650-016016

FROM: Angela Bown/bjw/8-NF *AB/bjw* DATE: September 5, 2008

C.C.: Mike Okamoto, Karen Partington E-Mail and Hard Copy if Requested

RE: **Data Quality Assessment and Reduced Validation  
Semi-Annual Groundwater Monitoring  
REALM - Elyria, Ohio  
August 2008**

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The following details a quality assessment and validation of the analytical data resulting from the collection of 21 groundwater samples, including one field duplicate pair, from the General Motors REALM Site in Elyria, Ohio, in August 2008. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica Laboratories, Inc. in North Canton, Ohio, in accordance with the methodologies presented in Table 2. The QC criteria used to assess the data were established by the methods and the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", United States Environmental Protection Agency (USEPA) 540/R-94-013, February 1994.

The data quality assessment and validation presented in the following subsections were performed based on information obtained from the Chain of Custody forms, finished report forms, blank data, duplicate data, and recovery data for blank and matrix spikes.

### Holding Time Period and Sample Analysis

The holding time criteria are presented in Table 2. All samples were prepared and analyzed within the method-required holding times. All samples were properly preserved and cooled to 4°C ( $\pm 2^\circ\text{C}$ ) after collection.

### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. The blank results were non-detect for most analytes of interest. Certain metals were detected in the method blanks for total and dissolved metals. All sample results were greater than five times the value of the method blanks, and qualification of the data was not necessary on this basis.

### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared and analyzed with each sample batch. Some LCSs were prepared and analyzed in duplicate.

All LCS recoveries and relative percent differences (RPDs) were within the specified control limits for all parameters demonstrating acceptable overall analytical accuracy and precision.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

To evaluate the effects of sample matrices on the preparation, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. The laboratory prepared the spike samples in duplicate to assess analytical precision. The sample specified for MS/MSD analysis is indicated in Table 1. The laboratory performed additional analyses internally.

All MS/MSD analyses performed were acceptable, demonstrating good analytical accuracy and precision.

### Field Duplicate Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory for analysis as shown in Table 1. The field duplicate results showed adequate reproducibility, indicating satisfactory laboratory and sampling protocol precision.

### Total Versus Dissolved Results for Metals

Most dissolved metals results were less than the total results or were within the normal variability of the method (20 percent RPD). The dissolved results for some samples were greater than the total results and were in exceedance of the method variability. Table 3 presents the sample data that were qualified due to outlying total versus dissolved variability.

### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported with the qualifications noted.

TABLE 1  
 SAMPLE COLLECTION AND ANALYSIS SUMMARY  
 SEMI-ANNUAL GROUNDWATER MONITORING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 AUGUST 2008

Sample ID	Location ID	Collection Date (mm/dd/yy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>			Comments
				Total and Dissolved Metals	Chloride, Sulfate	Cyanide, TDS, TSS	
WG-12616-080808-DN-01	P-16	08/08/08	12:30	X	X	X	MS/MSD
WG-12616-080808-DN-02	P-16T	08/08/08	13:30	X	X	X	
WG-12616-080808-DN-03	P-8R	08/08/08	14:20	X	X	X	
WG-12616-080808-DN-04	P-8R	08/08/08	14:50	X	X	X	Field Duplicate of WG-12616-080808-DN-03
WG-12616-080808-DN-05	P-8T	08/08/08	15:55	X	X	X	
WG-12616-080908-DN-06	P-2	08/09/08	8:30	X	X	X	
WG-12616-080908-DN-07	P-2T	08/09/08	9:15	X	X	X	
WG-12616-080908-DN-08	P-13	08/09/08	10:55	X	X	X	
WG-12616-080908-DN-09	P-13T	08/09/08	11:15	X	X	X	
WG-12616-080908-DN-10	P-14	08/09/08	13:35	X	X	X	
WG-12616-080908-DN-11	P-14T	08/09/08	15:00	X	X	X	MS/MSD
WG-12616-080908-DN-12	P-12	08/09/08	15:30	X	X	X	
WG-12616-080908-DN-13	P-12TR	08/09/08	17:10	X	X	X	
WG-12616-080908-DN-14	NW Primary	08/09/08	17:55	X	X	X	MS/MSD
WG-12616-080908-DN-15	NE Primary	08/09/08	18:35	X	X	X	
WG-12616-081008-DN-16	SE Primary	08/10/08	8:30	X	X	X	
WG-12616-081008-DN-17	SW Primary	08/10/08	9:15	X	X	X	
WG-12616-081008-DN-18	NW Secondary	08/10/08	9:50	X	X	X	
WG-12616-081008-DN-19	NE Secondary	08/10/08	10:35	X	X	X	
WG-12616-081008-DN-20	SE Secondary	08/10/08	11:10	X	X	X	
WG-12616-081008-DN-21	SW Secondary	08/10/08	11:50	X	X	X	

## Notes:

MS Matrix Spike.  
 MSD Matrix Spike Duplicate.  
 TDS Total Dissolved Solids.  
 TSS Total Suspended Solids.

TABLE 2  
 SAMPLE HOLDING TIME CRITERIA AND ANALYTICAL METHODS SUMMARY  
 SEMI-ANNUAL GROUNDWATER MONITORING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 AUGUST 2008

<i>Parameter</i>	<i>Analytical Method</i>	<i>Collection to Extraction (Days)</i>	<i>Collection/Extraction to Analysis (Days)</i>
Total Metals	6010B <sup>1</sup>	-	180
Dissolved Metals	6010B <sup>1</sup>	-	180
Chloride	300.0 <sup>2</sup>	-	28
Sulfate	300.0 <sup>2</sup>	-	28
Cyanide	335.2 <sup>2</sup>	-	14
Total Dissolved Solids	160.1 <sup>2</sup>	-	7
Total Suspended Solids	160.2 <sup>2</sup>	-	7

## Notes:

<sup>1</sup> Referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions.

<sup>2</sup> Referenced from "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-020, March 1983 with subsequent revisions.

- Not Applicable.

USEPA United States Environmental Protection Agency.

TABLE 3  
QUALIFIED ANALYTICAL DATA DUE TO A DISCREPANCY IN THE TOTAL VS. DISSOLVED RESULTS  
SEMI-ANNUAL GROUNDWATER MONITORING  
REALM - ELYRIA  
ELYRIA, OHIO  
AUGUST 2008

<i>Analyte</i>	<i>Sample ID</i>	<i>Qualified Total Result</i>	<i>Qualified Dissolved Result</i>	<i>Units</i>
Potassium	WG-12616-081008-DN-17	524 J	794 J	mg/L
Sodium	WG-12616-081008-DN-17	153 J	191 J	mg/L
Iron	WG-12616-081008-DN-18	0.38 J	0.78 J	mg/L
Manganese	WG-12616-081008-DN-18	0.10 J	0.79 J	mg/L
Iron	WG-12616-081008-DN-19	14.6 J	21.5 J	mg/L
Iron	WG-12616-081008-DN-21	0.16 J	2.6 J	mg/L

Note:  
J Estimated.



APPENDIX E-4

DATA QUALITY ASSESSMENT AND VALIDATION REPORT - SEPTEMBER 2008  
(CONFIRMATION EVENT)





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## MEMORANDUM

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TO: Andrew LaVine REF. NO.: 012616 (012650-016017)

FROM: Angela Bown/bjw/14-NF *AB/bjw* DATE: October 16, 2008

C.C.: Mike Okamoto, Karen Partington E-Mail and Interoffice Mail

RE: **Data Quality Assessment and Validation  
Confirmatory Groundwater Sampling  
REALM - Elyria, Ohio  
September 2008**

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The following details a quality assessment and validation of the analytical data resulting from the collection of nine groundwater samples, including one field duplicate pair, from the General Motors REALM Site in Elyria, Ohio, in September 2008. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio, in accordance with the methodologies presented in Table 2. The QC criteria used to assess the data were established by the methods and the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", United States Environmental Protection Agency (USEPA) 540/R-94-013, February 1994.

The data quality assessment and validation presented in the following subsections were performed based on information obtained from the Chain of Custody forms, finished report forms, blank data, duplicate data, and recovery data for blank and matrix spikes.

The validated sample results are presented in Table 3.

### Holding Time Period and Sample Analysis

The holding time criteria are presented in Table 2. All samples were prepared and analyzed within the method-required holding times. All samples were properly preserved and cooled to 4°C ( $\pm 2^\circ\text{C}$ ) after collection.

### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. The blank results were non-detect for all analytes of interest.

### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared and analyzed with each sample batch. Some LCSs were prepared and analyzed in duplicate.

All LCS recoveries and relative percent differences (RPDs) were within the specified control limits for all parameters demonstrating acceptable overall analytical accuracy and precision.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

To evaluate the effects of sample matrices on the preparation, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. The laboratory prepared the spike samples in duplicate to assess analytical precision. No site-specific samples were chosen for MS/MSD analyses; therefore, evaluation of the data was not performed.

### Field Duplicate Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory for analysis as shown in Table 1. The field duplicate results showed adequate reproducibility, indicating satisfactory laboratory and sampling protocol precision.

### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.



TABLE 2  
 SAMPLE HOLDING TIME CRITERIA AND ANALYTICAL METHODS SUMMARY  
 CONFIRMATORY GROUNDWATER SAMPLING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 SEPTEMBER 2008

<i>Parameter</i>	<i>Analytical Method</i>	<i>Collection to Extraction (Days)</i>	<i>Collection/Extraction to Analysis (Days)</i>
Dissolved Metals	6010B <sup>1</sup>	-	180
Chloride	300.0 <sup>2</sup>	-	28
Sulfate	300.0 <sup>2</sup>	-	28

## Notes:

- <sup>1</sup> Referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions.
- <sup>2</sup> Referenced from "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-020, March 1983 with subsequent revisions.
- Not Applicable.
- USEPA United States Environmental Protection Agency.

ANALYTICAL RESULTS SUMMARY  
 CONFIRMATORY GROUNDWATER SAMPLING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 SEPTEMBER 2008

<i>Sample Location:</i>		<i>P-02</i>	<i>P-02</i>	<i>P-02T</i>	<i>P-08R</i>	<i>P-08T</i>
<i>Sample ID:</i>		WG-12616-092308-DN-06	WG-12616-092308-DN-07	WG-12616-092308-DN-05	WG-12616-092208-DN-01	WG-12616-092208-DN-02
<i>Sample Date:</i>		9/23/2008	9/23/2008	9/23/2008	9/22/2008	9/22/2008
<i>Parameters:</i>		<i>Units</i>				
<i>Units</i>						
<i>Metals</i>						
Barium (Dissolved)	mg/L	-	-	-	0.087 J	-
Calcium (Dissolved)	mg/L	-	-	224	-	-
Iron (Dissolved)	mg/L	-	-	-	-	-
Magnesium (Dissolved)	mg/L	36.7	35.6	90.7	-	-
Nickel (Dissolved)	mg/L	-	-	-	-	-
Potassium (Dissolved)	mg/L	5.1	4.7 J	-	-	14.5
Sodium (Dissolved)	mg/L	-	-	-	176	31.0
<i>General Chemistry</i>						
Chloride	mg/L	-	-	123	174	-
Sulfate	mg/L	-	-	680	-	-

ANALYTICAL RESULTS SUMMARY  
 CONFIRMATORY GROUNDWATER SAMPLING  
 REALM - ELYRIA  
 ELYRIA, OHIO  
 SEPTEMBER 2008

		<i>P-13</i>	<i>P-13T</i>	<i>P-16</i>	<i>P-16T</i>
	<i>Sample Location:</i>				
	<i>Sample ID:</i>	WG-12616-092308-DN-08	WG-12616-092308-DN-09	WG-12616-092208-DN-04	WG-12616-092208-DN-03
	<i>Sample Date:</i>	9/23/2008	9/23/2008	9/22/2008	9/22/2008
<i>Parameters:</i>	<i>Units</i>				
<i>Metals</i>					
Barium (Dissolved)	mg/L	-	-	-	-
Calcium (Dissolved)	mg/L	142	-	212	213
Iron (Dissolved)	mg/L	-	1.5	-	-
Magnesium (Dissolved)	mg/L	-	-	64.8	61.9
Nickel (Dissolved)	mg/L	-	-	0.19	-
Potassium (Dissolved)	mg/L	-	-	-	-
Sodium (Dissolved)	mg/L	-	-	-	-
<i>General Chemistry</i>					
Chloride	mg/L	-	-	92.3	-
Sulfate	mg/L	-	-	515	592

## Notes:

- Not analyzed.
- J Estimated.

APPENDIX E-5

DATA QUALITY ASSESSMENT AND VALIDATION REPORT - MAY 2008  
(SECONDARY SUMPS EVENT)





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## MEMORANDUM

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TO: Andrew LaVine (Sandusky)

REF. NO.: 012650-016018

FROM: Angela Bown/bjw/7-NF *AB/bjw*

DATE: June 5, 2008

E-Mail and Hard Copy If Requested

RE: **Data Quality Assessment and Verification  
Semi-Annual Monitoring Secondary Sumps  
General Motors Corporation, Elyria, Ohio  
May 2008**

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The following details a quality assessment and validation of the analytical data resulting from the May 2008, collection of four samples, and one quality control (QC) sample from the Elyria Site in Elyria, Ohio. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica, Inc. (TestAmerica) in North Canton, Ohio, in accordance with the methodologies presented in Table 2.

The quality control criteria used to assess the data were established by the methods. Application of quality assurance criteria was consistent with following guidance document: "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Review", United States Environmental Protection Agency (USEPA) 540/R-94/013, February 1994.

This guideline is referred to as "Guideline" in this memorandum.

### Sample Quantitation

The laboratory reported detected concentrations of inorganics below the laboratory's practical quantitation limit (PQL)/report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "B". These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum. The laboratory "B" flags may be disregarded.

### Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in the methods.

All samples were prepared and/or analyzed with the specified holding time periods.

All samples were shipped and maintained in accordance with the samples preservation requirements.

### Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

Certain metals were detected in the method blank sample. No qualification of the data was necessary because the associated sample results were greater than five times the value of the blank sample. The remaining method blank samples were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To assess the long-term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 75 to 125 percent with RPDs less than 20 percent for water samples. Sample WG-121616-050808-DN-01 was selected for spiking for total metals. All acceptance criteria were met for the MS/MSD analysis.

### Laboratory Control Sample (LCS) Analysis

The LCS analysis serves as a monitor of the overall performance in all steps of the sample analysis and is analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

The LCS percent recoveries were within the laboratory control limits indicating that an acceptable level of overall performance was achieved.

### Field Quality Assurance/Quality Control (QA/QC)

The field QA/QC consisted of one field duplicate sample set.

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one times the RL value for water samples.

The data indicate that an adequate level of precision was achieved for the sampling event with the exception of the sample data presented with qualifiers in Table 3.

### Total Versus Dissolved Metals Results

Most dissolved metals results were less than the total results or were within the normal variability of the method (20 percent RPD). Some dissolved results were greater than the total results and were in exceedance of the method variability. The associated results were qualified as estimated (see Table 4).

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision based on the provided information and may be used with the qualifications noted.



**TABLE 1**  
**SAMPLE COLLECTION AND ANALYSIS SUMMARY**  
**SEMI-ANNUAL MONITORING SECONDARY SUMPS**  
**GENERAL MOTORS CORPORATION**  
**ELYRIA, OHIO**  
**MAY 2008**

<i>Sample ID</i>	<i>Location ID</i>	<i>Collection Date (mm/dd/yy)</i>	<i>Collection Time (hr:min)</i>	<i>Analysis/Parameters</i>				<i>Comments</i>
				<i>Total Metals</i>	<i>Dissolved Metals</i>	<i>Chloride, Sulfate</i>	<i>Total Cyanide</i>	
WG-12616-050808-DN-01	NW Secondary Sump	05/08/08	16:10	X	X	X	X	
WG-12616-050808-DN-02	NW Secondary Sump	05/08/08	16:40	X	X	X	X	Field Duplicate of WG-12616-050808-DN-01
WG-12616-050808-DN-03	NE Secondary Sump	05/08/08	17:00	X	X	X	X	
WG-12616-050808-DN-04	SE Secondary Sump	05/08/08	17:35	X	X	X	X	
WG-12616-050808-DN-05	SW Secondary Sump	05/08/08	18:10	X	X	X	X	

**TABLE 2**  
**SUMMARY OF ANALYTICAL METHODOLOGIES**  
**SEMI-ANNUAL MONITORING SECONDARY SUMPS**  
**GENERAL MOTORS CORPORATION**  
**ELYRIA, OHIO**  
**MAY 2008**

<i>Parameter</i>	<i>Method</i>
Total & Dissolved Metals	SW-846 6010B <sup>1</sup>
Chloride	MCAWW 300.0A <sup>2</sup>
Sulfate	MCAWW 300.0A <sup>2</sup>
Total Cyanide	MCAWW 335.2 <sup>2</sup>

Notes:

- 1 "Test Methods for Solid Waste/Physical Chemical Methods," SW-846, 3rd Edition, September 1986 (with all subsequent revisions).
- 2 "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-020, March 1983 (with all subsequent revisions).
- USEPA United States Environmental Protection Agency.

**TABLE 3**  
**QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS**  
**SEMI-ANNUAL MONITORING SECONDARY SUMPS**  
**GENERAL MOTORS CORPORATION**  
**ELYRIA, OHIO**  
**MAY 2008**

<i>Parameter</i>	<i>Analyte</i>	<i>Original Sample ID</i>	<i>Qualified Sample Result</i>	<i>Duplicate Sample ID</i>	<i>Qualified Sample Result</i>	<i>RPD</i>	<i>Units</i>
Metals	Iron	WG-12616-050808-DN-01	3.7 J	WG-12616-050808-DN-02	1.3 J	96	mg/L

Notes:

J Estimated.

RPD Relative Percent Difference.

**TABLE 4**  
**QUALIFIED ANALYTICAL DATA DUE TO A DISCREPANCY IN THE TOTAL VS. DISSOLVED RESULTS**  
**SEMI-ANNUAL MONITORING SECONDARY SUMPS**  
**GENERAL MOTORS CORPORATION**  
**ELYRIA, OHIO**  
**MAY 2008**

<i>Parameter</i>	<i>Analyte</i>	<i>Sample ID</i>	<i>Qualified Total Result</i>	<i>Qualified Dissolved Result</i>	<i>Units</i>
Metals	Iron	WG-12616-050808-DN-02	1.3 J	4.1 J	mg/L

Note:  
 J Estimated.

Notes:  
 J Estimated.  
 U Not detected.  
 UJ Not detected, estimated reporting limit.