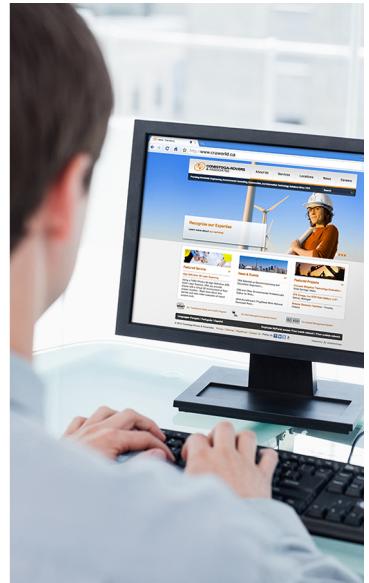




**CONESTOGA-ROVERS
& ASSOCIATES**

www.CRAworld.com



Evaluation of Groundwater Conditions at the Cline Avenue Ditch Site

Cline Avenue Ditch Site
Gary, Indiana

Prepared for: Glenn Springs Holdings, Inc.

Conestoga-Rovers & Associates

8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631

March 2015 • 080439 • Report No. 5



Partners in
Sustainability

Table of Contents

	Page
Executive Summary	1
Section 1.0 Introduction and Background	1
1.1 Site Description	2
Section 2.0 Overview of Site Conditions	2
2.1 Site Geology	2
2.2 Site Hydrogeology	2
Section 3.0 Results of the Groundwater Monitoring Event Completed In November 2014..	4
3.1 Groundwater Sampling Results	5
3.2 Sheen and Petroleum Layer Sampling and Analysis	5
Section 4.0 Assessment of Dilution Factors on the Flow of Surface Water in the Ditch	6
4.1 Evaluation of the Flow of Groundwater to the Cline Avenue Ditch	6
4.2 Estimation of the Effects of Dilution on Contaminants Entering the Cline Avenue Ditch Via Groundwater Beneath the Site	9
4.4 Dilution Factor Qualifications	9
Section 5.0 Screening of Groundwater for Ecological Impacts	10
5.1 Introduction and Purpose	10
5.2 Selection of Ecological Screening Levels Using November 2014 Data.....	10
5.3 Screening Results for November 2014 Groundwater Data	12
5.4 Summary of Ecological Screening of November 2014 Groundwater Data	15
Section 6.0 Conclusions.....	15
Section 7.0 References	16

**List of Figures
(Following Text)**

- Figure 1.1 Site Location
- Figure 1.2 Site Layout
- Figure 2.1 Schematic Geologic Cross-Section
- Figure 2.2 Groundwater Flow Map – QEPI – August 2007 Monitoring Event
- Figure 2.3 Groundwater Flow Map – Weston – September 2011 Monitoring Event
- Figure 2.4 Groundwater Flow Map – CRA – November 2014 Monitoring Event
- Figure 3.1 General Location of Buried Pipelines Near the Ditch
- Figure 4.1 Groundwater-Surface Water Dilution Factors
- Figure 4.2 Schematic Cross Section of Groundwater Flow Paths (East-West)

**List of Tables
(Following Text)**

- Table 1.1 Summary of Monitoring Wells Specifications
- Table 3.1 Summary of Groundwater Elevations – November 2014 Monitoring Event
- Table 3.2 Summary of Groundwater Analytical Data – November 2014 Monitoring Event
- Table 4.1 Summary of Groundwater-Surface Water Dilution Factors
- Table 5.1 Screening of Detected Compounds In Groundwater – November 2014

List of Appendices

- Appendix A 2014 Groundwater Analytical Laboratory Reports
- Appendix B 2014 GW/S Letter Report

Executive Summary

This evaluation of groundwater conditions beneath the Cline Avenue Site (Site) has been prepared by Conestoga-Rovers & Associates (CRA) for Glenn Springs Holdings, Inc. (GSH), in response to a request of the United States Environmental Protection Agency, Region V (USEPA). This report presents an evaluation of data collected in November 2014.

The Site is located near the northeast corner of the intersection of Gary Avenue and Cline Avenue (Indiana Route 912) in Gary, Lake County, Indiana. The Site is bordered by a rail line and the airport property to the north and east, Gary Avenue to the south, and Cline Avenue to the west. An industrial manmade drainage ditch (Ditch) is located along the east side of the Cline Avenue.

A sheen has been periodically observed on water in the Ditch, which flows to the south and into a subterranean pipe/culvert for approximately $\frac{1}{2}$ mile. The Ditch conveys storm water from a highly industrialized area along the western periphery of the airport. The area has contained heavy industry for centuries and, as such, the Ditch itself has limited aquatic habitat value. The USEPA and its contractors are currently maintaining sheen absorbent boom materials (sheen booming) at the Site to control any sheen that may accumulate on the Ditch.

GSH and USEPA met on April 1, 2014 to discuss, among other things, the groundwater conditions at the Site. As a result of the meeting, GSH agreed to collect limited groundwater samples, which were completed in November 2014. A number of new locations were sampled to better identify the nature and extent of any groundwater contamination in the area near the Ditch. In addition, the sample methods minimized contamination with overlying petroleum, and groundwater samples were filtered to remove larger particles and contaminants sorbed to those particles. Dissolved organic carbon was assayed to better estimate truly dissolved species of organics. The resampling and rescreening of these newly collected data corroborated with previous conclusions reached in April 2014. The data indicate the undiluted and unattenuated groundwater would not cause significant ecological effects.

Factoring in the significant dilution and attenuation before and after the discharge into the Ditch, the already negligible concentrations of constituents in groundwater will be greatly reduced. For example, dilution of inflowing groundwater in the Ditch is likely to be greater than 6 fold. Thus, this conclusion of no potential for ecological effects is even more certain for the most proximate downstream natural area. Attenuation is also likely significant. Groundwater beneath the Site discharges through surficial aquatic sediments and the rhizosphere of the emergent plants, both strata are typically very rich in biodegrading microorganisms and nutrients sufficient to degrade PAHs.

Available data are sufficient to dismiss the potential for ecological risk within the Ditch from the Site's inflowing groundwater. Given the compounded conservatisms of the screening, this conclusion has high certainty.

Section 1.0 Introduction and Background

This evaluation of groundwater conditions at the Cline Avenue Site (Site) has been prepared by Conestoga-Rovers & Associates (CRA) for Glenn Springs Holdings, Inc. (GSH). This report presents an evaluation of data collected in November 2014.

GSH and the USEPA met on April 1, 2014 to discuss the groundwater conditions beneath the Site. The assessment of conditions was based upon the existing set of data produced by Weston Solutions, Inc. (Weston) (1) (2), Clean World Engineering (3), EnviroForensics, Inc. (4), and Quality Environmental Professionals Inc. (QEPI) (5). During this meeting an evaluation of the exiting groundwater data was presented by CRA, and the impact analysis on surface water in the Cline Avenue Ditch (Ditch) was discussed with the USEPA. The Ditch is a man-made industrial drainage ditch carrying storm water from highly industrialized and disturbed areas of Gary and has marginal habitat value. The Ditch drains south to the most proximate natural habitat.

Based on previously collected data and reasonable and conservative assumptions¹, CRA and GSH concluded that constituents dissolved in groundwater beneath the Site would not pose risk to aquatic life in the Ditch or the most proximate downstream natural habitat. As a result of this meeting and subsequent discussions with the USEPA, GSH agreed to collect a new reliable set of groundwater data, since the previously collected data ((1), (2), (3), (4), (5)) was collected utilizing sampling techniques that were not appropriate for the purposes of the analysis provided within this report. This new set of groundwater data was to be collected and evaluated to further assess whether, as suggested with the preliminary analysis, the groundwater beneath the Site would not pose risk to aquatic life in the Ditch or the most proximate downstream natural habitat. A Sampling and Analysis Plan (SAP) and associated project plans were prepared by CRA for this additional groundwater sampling event. The USEPA approved the SAP on May 23, 2014 and the new set of groundwater samples were collected at the end of November 2014. CRA has completed the evaluation of the new groundwater data contained in this report. Specifically, this report presents results of CRA's studies of current groundwater conditions beneath the Site and of the impact analysis of this groundwater on Ditch surface water found within the Ditch and the most proximate downstream natural habitat.

¹ For example, concentrations observed in previously collected groundwater were compared to surface water criteria protective of aquatic life. In general, these comparisons conservatively did not consider the very appreciable dilution and attenuation that will occur before and after mixing of groundwater in the Ditch, and even more so, after mixing with the nearest natural habitat downstream.

1.1 Site Description

The Site is located near the northeast corner of the intersection of Gary Avenue and Cline Avenue (Indiana Route 912) in Gary, Lake County, Indiana. The Site is bordered by a rail line and the airport property to the north and east, Gary Avenue to the south, and Cline Avenue to the west. The Site lies within the larger, heavily industrialized area to the west of the airport, which has for centuries contained numerous manufacturing and industrial operations. The Site location and approximate Site boundaries are presented on Figure 1.1. Table 1.1 presents the summary of the monitoring well specifications.

A drainage ditch (Ditch) is located along the east side of the Cline Avenue. Figure 1.2 generally depicts the Site boundaries and Ditch location. A sheen has been periodically observed on water in the Ditch, which flows to the south and into a subterranean pipe/culvert for approximately $\frac{1}{2}$ mile.

The USEPA and its contractors are currently maintaining sheen absorbent boom materials (sheen booming) at the Site to control any sheen that may accumulate on the Ditch.

Section 2.0 Overview of Site Conditions

This section provides an overview of the geology, hydrogeology and current groundwater and soil conditions at or near the Site. Interpretations of the Site geology and hydrogeology are based upon previous investigations performed at and near the Site.

2.1 Site Geology

The geology of the Site is based upon soil boring logs completed at the Site during previous investigations, specifically those performed by QEPI (5). The surface elevation at the Site is approximately 586 feet above mean sea level (AMSL). The deposits underlying the Site consist of approximately 35 feet of uniform fine grained sand (Calumet Aquifer). Below the Calumet Aquifer is up to 120 feet of a regional clay aquitard. Figure 2.1 presents a schematic of the general shallow geology beneath the Site. Underlying the clay unit is the bedrock, consisting of Devonian Muscatatuck Group overlapping and truncating the Silurian Niagaran Salamonie Dolomite (5). The Muscatatuck Group generally consists of dolomite and sandstone (5).

2.2 Site Hydrogeology

Soil boring logs presented in the QEPI CAP (5) and the Weston addendum to the Site Assessment Report (2) indicate that the shallow subsurface geologic deposits (less than 10 feet below ground surface (bgs)) are comprised of a generally uniform fine grained sand (beach and

dune deposits with traces of silt). Slug test results for this sand unit, as provided in the QEPI CAP (5), indicate that the average hydraulic conductivity for the area located north and east of the Ditch is approximately 9 feet/day (3×10^{-3} centimeters/second). The horizontal groundwater flow velocity for this area was calculated by QEPI to be approximately 0.05 feet/day.

The Ditch is located on the western edge of the Site, which receives groundwater from beneath the Site, as well as from other areas to the north and west of the Site. The Ditch also receives surface water flows from these same areas. Alongside the Site, the Ditch is approximately 20 feet wide and is almost completely closed over with a dense stand of common reed, Phragmites austalis, and other plants. Flow in the Ditch maintains a narrow channel in the middle of the vegetation, especially in non-growing seasons. The Ditch ends in a culvert just south of the Site.

The Ditch was constructed in the 1960s (6) and carries surface water run-off from Cline Avenue and surrounding industrial areas and drains to the south. As such, the Ditch is man-made and was constructed generally into the top of the groundwater table at most locations. This Ditch drains to the south, where it discharges at an elevation of approximately 585 ft above mean sea level (AMSL) (6). The ground surface along the Ditch at the northernmost area of the Site area is at elevation of approximately 590 ft AMSL (6). As such, the Ditch intercepts groundwater along its open sections and acts as a “gravity drain”, which flows to the south. Under these conditions there is shallow groundwater flow into the Ditch from the east, west and north within the underlying shallow deposits.

Figure 2.2 presents a groundwater flow map prepared by QEPI based upon a 2007 monitoring event (MW-1 through MW-6). Flow directions across the Site on this figure indicate northeast to southwest trend. More recent monitoring events have focused on the piezometer locations (PZ-1 through PZ-12) near the Ditch². Figure 2.3 presents a September 2011 groundwater flow map prepared by Weston (2). The 2011 monitoring event indicated a groundwater flow direction away from the Ditch and from north to south. Figure 2.4 presents a groundwater flow map prepared by CRA based upon the most recent November 2014 monitoring event. The 2014 monitoring event indicated a groundwater flow towards the Ditch and from southeast to northwest. The variation in groundwater flow direction between the Weston (2) and CRA flow maps is likely due to seasonal recharge or ponding conditions near the Ditch. The general flow conditions beneath the complete Site are expected to be from the northeast to the southwest; with a component of shallow flow into the Ditch.

Based upon previous monitoring events, the depth to the groundwater table east of the Ditch varies from approximately 1 to 2 feet bgs to approximately 8 to 10 feet bgs. During the

² The 2011 and 2014 monitoring events focused on the piezometers located along the length of the Ditch and did not include the monitoring wells located across the Site. Therefore the groundwater data available for contouring purposes was limited in a north to south alignment.

November 2014 monitoring event, the groundwater table measured at the piezometers east of the Ditch were between 5 to 10 feet bgs, and the three piezometers located along the southern portion of the Ditch were between 2 to 4 ft bgs.

A water well record search of the Indiana Department of Natural Resources (IDNR) water well record database was conducted by QEPI and presented in the 2010 CAP (5) for the airport site located directly north of the Site. QEPI indicated that two low-capacity industrial/commercial use water supply wells are located within a 1-mile radius of the airport site and two high-capacity industrial use water wells are located within a 2-mile radius of the Site. Further, QEPI noted that the Site and surrounding area obtains potable water from the Indiana American Water Company.

Section 3.0 Results of the Groundwater Monitoring Event Completed In November 2014

The SAP was designed to determine if dissolved constituents in groundwater beneath the Site pose an unacceptable ecological risk to the surface water biota in the Ditch, and from there the most proximate downstream natural habitat. CRA conducted this groundwater monitoring event in November 2014. CRA sampled two (2) monitoring wells and six (6) piezometers for groundwater analysis. CRA also sampled two (2) piezometer locations and three (3) locations within the Ditch for sheen and petroleum analysis. Figure 1.2 presents the monitoring locations.

Each sample was labeled with a unique sample number that facilitated tracking and cross-referencing of sample information. Samples were shipped via overnight courier under chain-of-custody protocol to Test America (groundwater samples) and GW/S Environmental Consulting (GW/S) (sheen and petroleum samples).

CRA collected groundwater elevations and petroleum thickness, when encountered, at piezometers PZ-1 through PZ-12. Table 3.1 presents the groundwater elevations and petroleum thicknesses collected during the November 2014 monitoring event.

CRA followed the sampling procedures outlined in the SAP. Due to Site conditions at the time of sampling CRA modified the following procedures:

- Turbidity was not used as a determining factor in well stabilization prior to sample collection at piezometers since turbidity values were elevated at the piezometers and all samples were being field-filtered with a 0.45 micron filter. Well stabilization was based on pH, temperature, conductivity, ORP, and dissolved oxygen (DO).

- Purging and field parameter collection was not performed at piezometers with petroleum. Samples were collected without purging the wells to ensure that petroleum was not sampled due to water level drawdown.
- Due to narrow riser diameters in the piezometers, well socks or pads were not installed in piezometers with significant petroleum layers. Instead, $\frac{3}{4}$ " bailers were used to remove petroleum in the piezometers prior to installing sample tubing.
- Throughout purging, drawdown was not measured at piezometers due to the narrow riser diameters.
- PZ-4 was listed as a proposed sampling location in the SAP, but due to minimal water, PZ-3 was sampled instead.

3.1 Groundwater Sampling Results

The monitoring wells sampled for groundwater analysis were MW-2 and MW-3. The piezometers sampled for groundwater analysis were PZ-2, 3, 6, 8, 10, and 12. Figure 1.2 presents these monitoring well locations. These locations were chosen in order to provide a representation of samples flowing beneath the Site and toward the Ditch.

Table 3.2 presents the summary of the analytical groundwater data collected during the November 2014 monitoring event. Groundwater samples were analyzed for VOCs, SVOCs, PAHs, metals and dissolved organic carbon. Appendix A presents the groundwater analytical laboratory report for the samples collected in November 2014.

The laboratory analyses of these groundwater samples were compared to Site-specific Ecological Screening Values (ESV). The determination of ESV is discussed within Section 5.0 of this Report.

3.2 Sheen and Petroleum Layer Sampling and Analysis

GSH also proposed to the USEPA that the petroleum bailed from the monitoring wells and piezometers (during the groundwater sampling event) be analyzed for physical characteristics. CRA discussed this petroleum sampling and analyses with the USEPA in early November 2014. Approval by the USEPA was provided at that time. The primary goals of the analysis were:

1. To determine physical characteristics of the material, such as density and viscosity; which would later be used during the focused feasibility study identified in the SOW.
2. To determine the age and type of the sheen and petroleum, in order to insure that there were no unknown contributions from the nearby buried pipelines.

These nearby buried pipelines include:

- Buckeye Petroleum Pipeline – activity unknown
- BP Petroleum Pipeline – inactive
- NIPSCO Gas Pipeline – active

Figure 3.1 presents the general locations of these pipelines with respect to the Ditch.

Using an oil/water interface probe, CRA measured the top and bottom of the petroleum layer in piezometers PZ-1 through PZ-12. The two piezometers that exhibited the greatest petroleum thickness, PZ-7 and PZ-9, were sampled. A $\frac{3}{4}$ " disposable bailer was utilized for sample collection in the piezometers. The bailer was slowly lowered into the zone that contained petroleum and the material was then transferred from the bailer into unpreserved containers.

The in-Ditch locations were identified as North, Middle, and South, as presented on Figure 1.2. At the North Location, Middle Location, and South Location a depression was constructed to aid in sample collection. CRA submitted the samples to GW/S of Tulsa, Oklahoma. This firm completed the analyses of the samples for age, type, and physical characteristics. Appendix B provides the results from their analyses.

GW/S utilized a gas chromatograph (GC) to analyze the five samples and provided a forensic evaluation of the data. The full report and analytical laboratory analysis of the samples are presented in Appendix B.

Section 4.0 Assessment of Dilution Factors on the Flow of Surface Water in the Ditch

This section presents an assessment of flow into the Ditch and an estimation of the dilution factors of groundwater to surface water.

4.1 Evaluation of the Flow of Groundwater to the Cline Avenue Ditch

When groundwater enters the Cline Avenue Ditch, the groundwater is diluted with the surface water in the Ditch. The dilution factor of a hypothetical contaminant entering the Ditch via groundwater from beneath the Site is calculated below. The calculation of the dilution factors did not take into consideration precipitation into the Ditch or the additional mixing with groundwater. Therefore, the actual dilution factor is likely greater than the value calculated. Table 4.1 presents a summary of the groundwater-surface water dilution factors that are presented below. Figure 4.1 presents an overview of dilution factors calculated below.

Aquifer Characteristics

The Ditch acts like a gravity drain to the shallow groundwater beneath the Site, as discussed in Section 2.2. Given this characteristic, groundwater flowing in the shallow sand deposits near the Ditch will have a component of flow into the Ditch (east to west on the Site). This is documented by the water levels measured by others (5) in the areas east of the Ditch and on the Site.

Groundwater in the immediate vicinity of the Ditch beneath the Site generally flows from north to south, and towards the Ditch as presented in Figures 2.3 and 2.4. As presented in Figure 2.2, the groundwater flow across the Site is northeast to southwest. Figure 4.2 presents an east-west schematic cross section of the groundwater flow paths into the Ditch from the east and west. The seepage velocity (also called the specific discharge) is the average velocity of groundwater flowing through a porous medium. The seepage velocity within the sand at the Site is 19.8 feet per year (ft/y) and the porosity is 0.33, as presented in QEPI's CAP (5).

The following aquifer characteristics were utilized in determining groundwater flow rates:

- Thickness of aquifer presumed to flow into Ditch = 10 ft
- Porosity = 0.33

Groundwater Flow to Ditch from the East (Site only)

The volume of groundwater flowing through the shallow sand aquifer from the east (from beneath the Site only) into the Ditch (groundwater flux) is presented on Figure 4.1 and can be approximated by the following calculation:

- Length of the area of interest = 800 ft (north to south)
- Cross section area is $(10 \text{ ft}) \times (800 \text{ ft}) = 8,000 \text{ ft}^2$
- Saturated pore portion of the cross sectional area = $(8,000 \text{ ft}^2) \times (0.33) = 2,640 \text{ ft}^2$
- Groundwater flux into the Ditch from the east (Site) = $(2,640 \text{ ft}^2) \times (19.8 \text{ ft/y}) = 5.23E+04 \text{ ft}^3/\text{y}$
 $\times 7.48 \text{ gal}/\text{ft}^3 = 3.91E+05 \text{ gal/y}$ (Groundwater beneath Site)

Figure 4.1 presents the volume of groundwater flowing through the shallow sand aquifer from the east.

Groundwater Flow to Ditch from the East (Off-Site only)

The total volume of groundwater flowing through the shallow sand aquifer from the east, including only the offsite area to the north of the Site, into the Ditch (groundwater flux) is presented on Figure 4.1 and can be approximated by the following calculation:

- Length of the area of interest = 725 ft + 725 ft = 1450 ft (north to south)
- Cross section area is $(10 \text{ ft}) \times (1450 \text{ ft}) = 14,500 \text{ ft}^2$
- Saturated pore portion of the cross sectional area = $(14,500 \text{ ft}^2) \times (0.33) = 4,785 \text{ ft}^2$
- Groundwater flux into the Ditch from the west = $(4,785 \text{ ft}^2) \times (19.8 \text{ ft/y}) = 9.47E+04 \text{ ft}^3/\text{y} \times 7.48 \text{ gal}/\text{ft}^3 = 7.09E+05 \text{ gal/y}$ (East Off-site Groundwater)

Groundwater Flow to Ditch from the West

The total volume of groundwater flowing through the shallow sand aquifer from the west into the Ditch (groundwater flux) is presented on Figure 4.1 and can be approximated by the following calculation:

- Length of the area of interest = 800 ft + 725 ft + 725 ft = 2250 ft (north to south)
- Cross section area is $(10 \text{ ft}) \times (2250 \text{ ft}) = 22,500 \text{ ft}^2$
- Saturated pore portion of the cross sectional area = $(22,500 \text{ ft}^2) \times (0.33) = 7,425 \text{ ft}^2$
- Groundwater flux into the Ditch from the west = $(7,425 \text{ ft}^2) \times (19.8 \text{ ft/y}) = 1.47E+05 \text{ ft}^3/\text{y} \times 7.48 \text{ gal}/\text{ft}^3 = 1.10E+06 \text{ gal/y}$ (West Groundwater)

Groundwater flow to Ditch from the North

The volume of groundwater flowing through the shallow sand aquifer from the north into the Ditch (groundwater flux) is presented on Figure 4.1 and can be approximated by the following calculation:

- The length of the area of interest = 10 ft (east to west)
- Cross section area is $(10 \text{ ft}) \times (10 \text{ ft}) = 100 \text{ ft}^2$
- Saturated pore portion of the cross sectional area = $(100 \text{ ft}^2) \times (0.33) = 33 \text{ ft}^2$
- Groundwater flux into the Ditch from the north = $(33 \text{ ft}^2) \times (19.8 \text{ ft/y}) = 653.4 \text{ ft}^3/\text{y} \times 7.48 \text{ gal}/\text{ft}^3 = 4.89E+03 \text{ gal/y}$ (North Groundwater)

Total Groundwater Flow to the Cline Avenue Ditch

Therefore, the total groundwater flux into the Ditch can be approximated by the following calculation:

- Total groundwater flux into Ditch = $(3.91E+05 \text{ gal/y}) + (1.10E+06 \text{ gal/y}) + (7.09E+05 \text{ gal/y}) + (4.89E+03 \text{ gal/y}) = 2.20E+06 \text{ gal/y}$ (Total Groundwater)

4.2 Estimation of the Effects of Dilution on Contaminants Entering the Cline Avenue Ditch Via Groundwater Beneath the Site

Although estimating the dilution requires release-specific information, the general scale of dilution can be illustrated by using dilution factors calculated by the mixing of hypothetical Site contaminants in groundwater flux with the surface water volume of the Ditch. Based upon the calculation described above, the total volume of water in the Ditch is estimated to be $2.20E+06 \text{ gal/y}$ (Ditch Total). The volume of water entering the Ditch from beneath the Site is estimated to be $3.91E+05 \text{ gal/y}$.

A release of dissolved contaminants to the Ditch via groundwater would be diluted by mixing with the existing volume of water in the Ditch. A conservative dilution factor can be estimated by mixing the groundwater beneath the Site flux with the total influx of water to the Ditch. This yields a dilution factor of:

$$\frac{\text{Total Influx to Ditch (Groundwater from Beneath the Site, west, and north)} \left(\frac{\text{gal}}{\text{y}} \right)}{\text{Groundwater Beneath the Site Flux to Ditch (Groundwater Beneath the Site)} \left(\frac{\text{gal}}{\text{y}} \right)} \\ = \frac{2.20E + 06 \left(\frac{\text{gal}}{\text{y}} \right)}{3.91E + 05 \left(\frac{\text{gal}}{\text{y}} \right)} = 6$$

This estimates the dilution factor of approximately 6 for a hypothetical continuous source of groundwater contamination entering the Ditch from beneath the Site. Figure 4.1 presents a summary of the groundwater-surface water dilution factor calculations.

4.4 Dilution Factor Qualifications

The estimated dilution rate is conservative. It does not account for dilution from the overall watershed for the Ditch located upstream; which was discussed during the April 2014 meeting with the USEPA. Factors such as contaminant retardation within the groundwater, surface water runoff into the Ditch and precipitation are not considered in the estimate. Even more important, the estimate does not consider the much more substantial dilution for the Site's

input into the most proximate natural habitat. Therefore, the actual dilution factor is likely greater than estimated here.

Section 5.0 Screening of Groundwater for Ecological Impacts

This section discusses the potential ecological effects of groundwater concentrations of semi-volatile organic compounds (SVOCs), primarily polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs) associated with petroleum releases from and/or near the Site into the groundwater. The following also considers the potential ecological effects of metals contained in the groundwater beneath the Site.

5.1 Introduction and Purpose

As a result of the April 2014 meeting and subsequent discussions with the USEPA, GSH agreed to collect a new set of groundwater data. This new set of groundwater data was intended to supplement earlier sampling events. Following approval of the SAP by the USEPA on May 23, 2014, USEPA ordered the owners to allow GSH access to the property on October 17, 2014. CRA conducted groundwater sampling in November 2014. Evaluation of these newly collected data is presented in Section, 5.3, herein.

The following analysis screens concentrations of detected constituents in groundwater to conservative Ecological Screening Values (ESVs) for surface water. The conservativeness of screening groundwater concentrations to surface water ESVs should be noted and stressed. The surface water ESVs used below are intended to be protective of even the most sensitive aquatic biota, which are exposed to constituents in groundwater only after these media discharge to surface water. This exposure pathway necessarily entails intervening dilution and fate processes before and after the groundwater discharges to the Ditch.

5.2 Selection of Ecological Screening Levels Using November 2014 Data

For metals detected in groundwater, Region V Ecological Screening Levels (ESLs) (7) were used as ESVs with modification for Site-specific conditions. Notably, most Region V ESLs for metals are explicit functions of water hardness. Although no hardness values were assayed in groundwater or surface water, available data from the aquifer by Fenlon and Watson (8) and the Calumet River by Crawford and Wangsness (9) suggest very hard waters³. Based on these studies, a conservative hardness value of 140 mg/L was used to adjust Region V ESLs for local

³ Almost all the groundwater sampled by Fenlon and Watson (8) had hardness above 200 mg/L as CaCO₃, and concentrations in industrial and residential areas tended to be even higher. However, values measured in the Calumet were 140 mg/L, and this more moderate value is used.

water quality. For non-polar organics (SVOCs, VOCs, and PAHs) detected in groundwater, Final Chronic Values (FCVs) based on the narcosis theory were used as ESVs. The FCVs were developed by independent researchers (e.g., (10) (11)) and then proposed by USEPA to assess risk to aquatic life ((12), (13)) after review by its Science Advisory Board. The narcosis theory suggests that most non-polar organics (e.g., BTEX (benzene, toluene, ethylbenzene, and xylenes), PAHs, non-aromatic total petroleum (TPH) fractions, and chlorinated and non-chlorinated VOCs) exert toxicity via a common mechanism – non-polar narcosis⁴. Based on this assumption and an extensive dataset of toxicological data for all non-polar organics, FCVs were derived.

FCVs are similar to water quality criteria (WQC) in their derivation and intent. That is, they are conservative water concentrations that are estimated to be protective of most sensitive aquatic species from the toxicity of the specific narcotic chemical. FCVs differ from water quality criteria in one important manner; since all the narcotics have the same mode of toxicity, the toxic effects of all narcotic chemicals must be considered simultaneously. Specifically, the screening quotients (SQ), which are the ratios of individual chemical's concentrations to their FCVs for all the narcotics, must be estimated and then added together. Inferences about potential toxicity are then based on the sum of the SQ values, the total narcotic quotient, for all the non-polar narcotics as opposed to SQ values for individual chemicals. Total SQ values below or around 1.0 indicate that toxicity is unlikely even to most sensitive aquatic species. Total Narcotic SQ values above 1.0 can suggest the potential for toxicity even if all SVOCs and VOCs individually were below their FCV concentrations.

Note also that FCVs pertain to only truly dissolved chemical concentrations and that toxicity of non-polar chemicals is roughly linearly proportional to hydrophobicity. Together, these two factors underscore the potential for significant exaggeration of toxicity from PAHs sorbed to particulate matter or dissolved organic carbon. The most toxic SVOCs (e.g., the high molecular weight PAHs), with the consequently lowest FCVs, are also the extremely hydrophobic SVOCs that are least likely to actually be soluble in groundwater. In contrast, the much less hydrophobic VOCs, whose total and dissolved concentrations in even sediment-rich groundwater are essentially equal, are much less toxic and, thus, much less likely to cause ecotoxicity.

The potential issue with contamination of potentially sorbed-PAHs was anticipated in the November 2014 samples. Consequently, the groundwater samples were filtered prior to

⁴Consequently, the limited toxicity dataset for any one narcotic chemical (e.g., naphthalene or TCE) on one or a small number of species could be combined with the more extensive data of other narcotic chemicals on other species. By this method, independent researchers and USEPA amassed an extensive toxicity database for many non-polar organics on many species. This dataset included considerable toxicity data for mollusks as well as fish, crustaceans, insects, and worms. This summed toxicity information on all narcotics and all species was then used to generate safe water column concentrations, or final chronic values (FCVs), for each PAH (12) and non-PAH organic compounds (13).

analysis and dissolved organic carbon was assayed in the groundwater samples. As per usual methods, the percent dissolved fraction of a hydrophobic chemical was estimated as:

$$\frac{1}{(1 + f_{oc} * K_{oc})}$$

Where:

- f_{oc} The fraction of the solution that is organic matter
- K_{oc} The water-organic carbon partition coefficient for the constituent

The K_{oc} values for truly dissolved organic carbon (DOC) are lower than that for particulate organic carbon. In his review article, Burkhard (14) found that K_{oc} values to DOC were best estimated as about 1/10th the K_{ow} of the compound. In contrast, K_{oc} values for PAHs and particulate organic carbon are typically about 80% of the K_{ow} values⁵. However, because samples often had to be obtained through an oil lens, there is some uncertainty whether the DOC measured in these groundwater samples is truly dissolved or largely very fine particles of petroleum that passed through the filter. Given this uncertainty, percent dissolved was estimated in two ways. First, percent dissolved for each PAH was estimated with $K_{oc} = 1/10^{th}$ K_{ow} for the constituent as if the measured DOC was all DOC. Percent dissolved was also measured as if all of the measured DOC was actually fine particulates. In this latter case, typical K_{oc} values for PAHs were applied to the measured DOC concentration. The actual percent dissolved is expected to be somewhere between these two estimates.

5.3 Screening Results for November 2014 Groundwater Data

This section presents a comparison of November 2014 with the ESLs and presents an estimation of truly dissolved constituents. The screening of detected compounds in groundwater is presented in Table 5.1.

As discussed in Section 3.0, in November 2014 CRA sampled two (2) monitoring wells and six (6) piezometers for dissolved groundwater. The monitoring wells sampled for groundwater analysis were MW-2 and MW-3. The piezometers sampled for groundwater analysis were PZ-2, 3, 6, 8, 10, and 12. The results of these analyses were presented in Section 3.0 and Table 3.2.

Metals were compared to Region V ESLs. Hardness dependent ESLs were adjusted to Site-specific hardness concentrations, conservatively assumed to be 140 mg/L as CaCO₃.

⁵ This conclusion is based on the typical equation, $\log K_{oc} = 0.0784 + (0.7919 H \log K_{ow})$, and $\log K_{ow}$ values between 4 and 6.5 that are representative of most PAHs.

Many parameters were never or rarely detected. Given the conservatism of comparing groundwater to surface water criteria, these non-detect samples were set equal to zero. Also, the Total Narcotic SQ are presented with both methods of correcting for partitioning of non-polar compounds to DOC. For the metals and Total Narcotic SQs, SQ values > 1.0 are outlined in bold. These exceedances represent samples that would, potentially, pose risk if most sensitive biota were exposed, over the long-term, without dilution or attenuation. SQ values greater than 3 are highlighted; these would pertain to concentrations in which less sensitive benthic organism would potentially face risk, again without dilution or attenuation over the long-term.

The screening of groundwater constituents from monitoring wells and piezometers versus ESVs indicates that none of the metals would pose risk to aquatic life, even if the groundwater were undiluted and un-attenuated before and after discharge to the Ditch⁶.

After adjusting for partitioning to DOC, the Total Narcotic SQ, for groundwater from several piezometers was slightly above 1.0. The worst-case Total Narcotic SQ, a duplicate sample for PZ-3, was only 3 times the ESV of 1.0 using the more conservative correction method for sorption. The average total narcotic quotient for all PZ samples was nominally above 1.0, 1.31 for the more conservative estimate of binding to DOC, and 0.73 for the less conservative estimate of binding to DOC. This average would have been lower if data from upgradient wells were included. Given the conservatism of comparing undiluted/un-attenuated groundwater to surface water, the minor exceedances indicate negligible potential for risk from groundwater discharging to the Cline Avenue Ditch. Thus, the November 2014 data corroborate the conclusions based on previous samples, as presented to USEPA in our meeting. These data also eliminate uncertainties associated with the previous data. On average, discharging groundwater, undiluted and un-attenuated, would not be expected to cause ecologically significant effects. This conclusion is very certain since inflowing groundwater is probably diluted at least 6 fold in the Ditch.

In addition to ignoring the large scale dilution, the screening analysis also included the following compounded conservative assumptions:

- Assumption that there is no attenuation before and after discharge to the Ditch
- Assumption that native species are as sensitive as the most sensitive species used to generate the ESLs

⁶ Detection limits of several metals (e.g., cadmium) were sometimes somewhat above the WQC. However, none of these metals with detection limits above WQC were ever detected, at typical detection limits, so this uncertainty can be dismissed as unimportant.

- Assumption that the Cline Avenue Ditch is prime aquatic habitat

Each of these three factors represents additional moderately conservative assumptions. First, the Ditch is fringed with emergent vegetation; in fact, the Ditch is more marsh than open water. Marshes are very carbon-rich environments that will significantly reduce the bioavailability of PAHs and many metals, especially divalent metals such as lead. Even if truly dissolved SVOCs in groundwater are discharging to the Ditch, much of this dissolved PAH mass will be quickly bound and rendered biologically unavailable by the abundant dissolved and particulate organic carbon in the sediments and water column of the marsh-like Ditch. Prior to discharge to the water column of the ditch, the plants themselves will uptake the soluble PAHs in inflowing groundwater. More importantly for control during the non-growing season, the microflora associated with rhizospheres have been shown to efficiently degrade PAHs (15). The dominant aquatic plants, *Phragmites sp.*, also pumps oxygen down into the sediments. This oxygen will promote further PAH degradation which has stalled in upgradient groundwater due to sub toxic conditions.

Second, the analysis above effectively assumes that the Cline Avenue Ditch is prime aquatic habitat. In fact, the Cline Avenue Ditch is a man-made concrete stormwater conveyance from highly disturbed and heavily industrialized areas. Its habitat value is further constrained by its domination by the invasive *Phragmites sp.*. Consequently, the Ditch itself has minimal aquatic habitat value. The downstream natural habitat that receives the first water from the beneath the Site will have much more substantial dilution of the groundwater beneath the Site than the Cline Avenue Ditch.

Lastly, the aquatic fauna of the Ditch and the first or most proximate natural habitat – warm water fish and soft-sediment benthos – are generally less sensitive to toxicity of narcotics than the very sensitive species that defined these ESVs. Notably, for example, midge larvae and oligochaetes, species likely to dominate these sediments, were about 1/3rd as sensitive to narcotic effects than the most-sensitive species that determined the FCVs (12).

In total, the conservative assumptions represent safety factors that are, individually and certainly collectively, very large. For example, dilution of the Site's inflowing groundwater in the Ditch alone is likely greater than 6 fold, while that for the nearest proximate natural habitat is much greater. Attenuation of dissolved PAHs before and after discharge to the Ditch is also likely very significant. These additional safety factors will greatly reduce the already negligible concentrations found in undiluted groundwater.

5.4 Summary of Ecological Screening of November 2014 Groundwater Data

Concentrations of metals, SVOCs, and VOCs in undiluted and unfiltered groundwater were compared to conservative, scientifically defensible Ecological Screening Values protective of most sensitive aquatic life. No metals were found to be problematic, even in undiluted, unattenuated groundwater.

The total narcotic quotient was estimated for all non-polar organics detected in groundwater samples. The total quotient sums additive toxicity of all the truly dissolved non-polar organics. Concentrations of truly dissolved organics were estimated, with two methods, based on measured concentrations of organics and dissolved organic carbon. The total narcotic quotient was almost entirely due to PAHs. While estimated dissolved concentrations in some nearshore groundwater was slightly above conservative ESVs, average concentrations were not ecologically significant, even for un-diluted, un-attenuated groundwater. These already negligible concentrations will be greatly reduced by dilution and attenuation and potential for ecological risks will be further reduced by other Site-specific conditions. **Thus, potential ecological risk from discharging groundwater can be dismissed with certainty with available information.**

Section 6.0 Conclusions

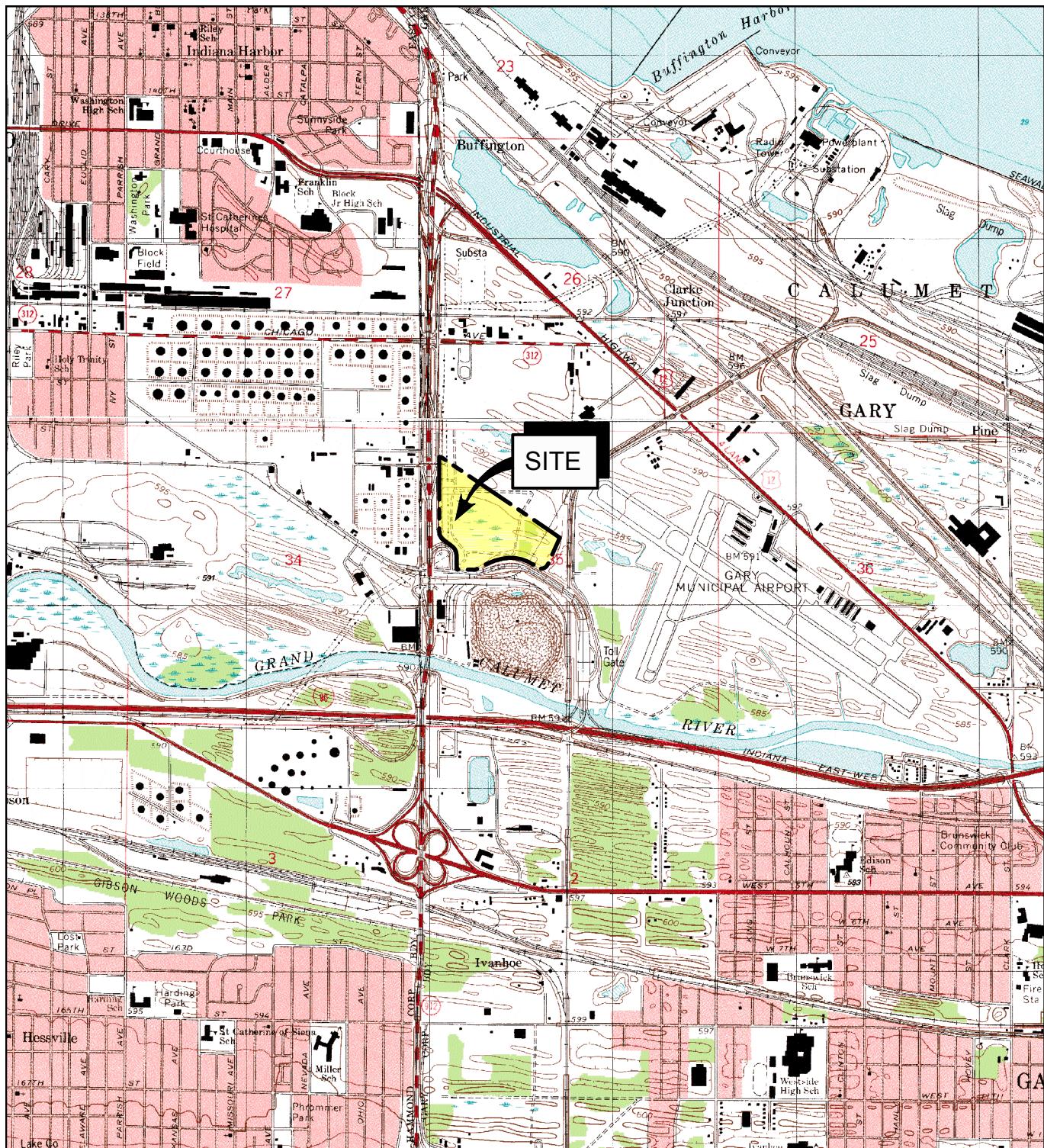
The newly collected data corroborates the previous conclusions reached in April 2014. On average, undiluted and unattenuated groundwater does not cause significant ecological effects.

In addition, these already negligible concentrations of constituents in groundwater will be greatly reduced by dilution and attenuation before and after discharge to the Ditch. For example, dilution of inflowing groundwater in the Ditch is likely to be greater than 6 fold. Thus, this conclusion of no potential for ecological effects is even more certain for the most proximate downstream natural area. Attenuation is also likely significant. Groundwater beneath the Site discharges through surficial aquatic sediments and the rhizosphere of the emergent plants, both strata are typically very rich in biodegrading microorganisms and nutrients sufficient to degrade PAHs.

Available data are sufficient to dismiss the potential for ecological risk from the Site's inflowing groundwater. Given the compounded conservatisms of the screening, this conclusion has high certainty.

Section 7.0 References

1. **Weston Solutions, Inc.** *Site Assessment Report for Cline Avenue Ditch Oil Sheen Site. Prepared for United States Environmental Protection Agency.* Chicago, IL : s.n., July 2011.
2. **Weston Solutions, Inc.** *Site Assessment Report (Revision 1) Addendum 1.* October 2011.
3. **Clean World Engineering.** *Gary/Chicago International Airport Environmental Impact Statement.* 2004.
4. **EnviroForensics, Inc.** *Gary/Chicago International Airport - Further Site Investigation Report.* 2006.
5. **Quality Environmental Professionals Inc.** *Corrective Action Plan. Prepared for NBD Bank Trust/Zaleski Property Cline Avenue, Gary Indiana.* 2010.
6. **USGS.** Highland Quadrangle, Indiana-Lake Co. 7.5 Minute Series (Topographic). Indianapolis, Indiana : s.n., 1959, 1968, 2013.
7. **US EPA Region V . Ecological Screening Levels.**
<http://www.epa.gov/Region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf>. 2003.
8. **Fenlon, J. M. and Watson., L. R.** *Geohydrology and Water Quality of the Calumet Aquifer in the Vicinity of the Grand Calumet River/Indiana Harbor Canal, Northwestern Indiana Water-Resources Investigations Report 92-4115.* Indianapolis, Indiana : s.n., 1993.
9. **Crawford, Charles G. and Wangsness, David J.** *Streamflow and Water Quality of the Grand Calumet River, Lake County, Indiana, and Cook County, Illinois.* s.l. : Prepared in cooperation with the Indiana State Board of Health, 1984.
10. *Technical Basis for establishing sediment quality criteria for nonionic organic chemicals using equilibrium partitioning.* **DiToro, D.M., et al., et al.** 1991, Environ. Toxicol. Chem., Vol. 10, pp. 1541-1583.
11. *Technical Basis for Narcotic Chemicals and Polycyclic Aromatic Hydrocarbon Criteria; II. Mixtures and Sediments.* **DiToro, D.M. and McGrath, J.A.** 2000, Environ. Toxicol. Chem., Vol. 19, pp. 1971-1982.
12. **USEPA.** *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures.* EPA 600 R 02 013. Office of Research and Development, Washington, DC 20460. 2003.
13. —. *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: Compendium of Tier 2 Values for Nonionic Organics.* EPA 600 R 02 016. Office of Research and Development. Washington, DC 20460 : s.n., 2008.
14. *Estimating Dissolved Organic Carbon Partition Coefficients for Nonionic Organic Chemicals.* **Burkhard, L. P.** 2000, Environ Sci Technology, Vol. 34, pp. 4663-4668.
15. *Plant-Rhizosphere-Microflora Association During Phytoremediation of PAH-Contaminated Soil.* **Muratova, A., et al., et al.** 2003, Int. J. Phytoremediation, Vol. 5(2), pp. 137-151.
16. **CRA.** *Sampling and Analysis Plan - Groundwater Monitoring for the Cline Avenue Ditch Oil Sheen Site.* Chicago : s.n., 2014.
17. **USGS.** Streamstats Program. [Online] 2014. <http://water.usgs.gov/osw/streamstats/>.



BASE SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE;
HIGHLAND AND WHITING, INDIANA 1991

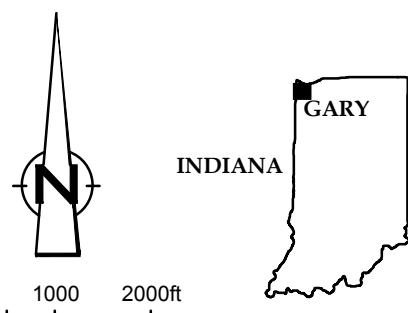
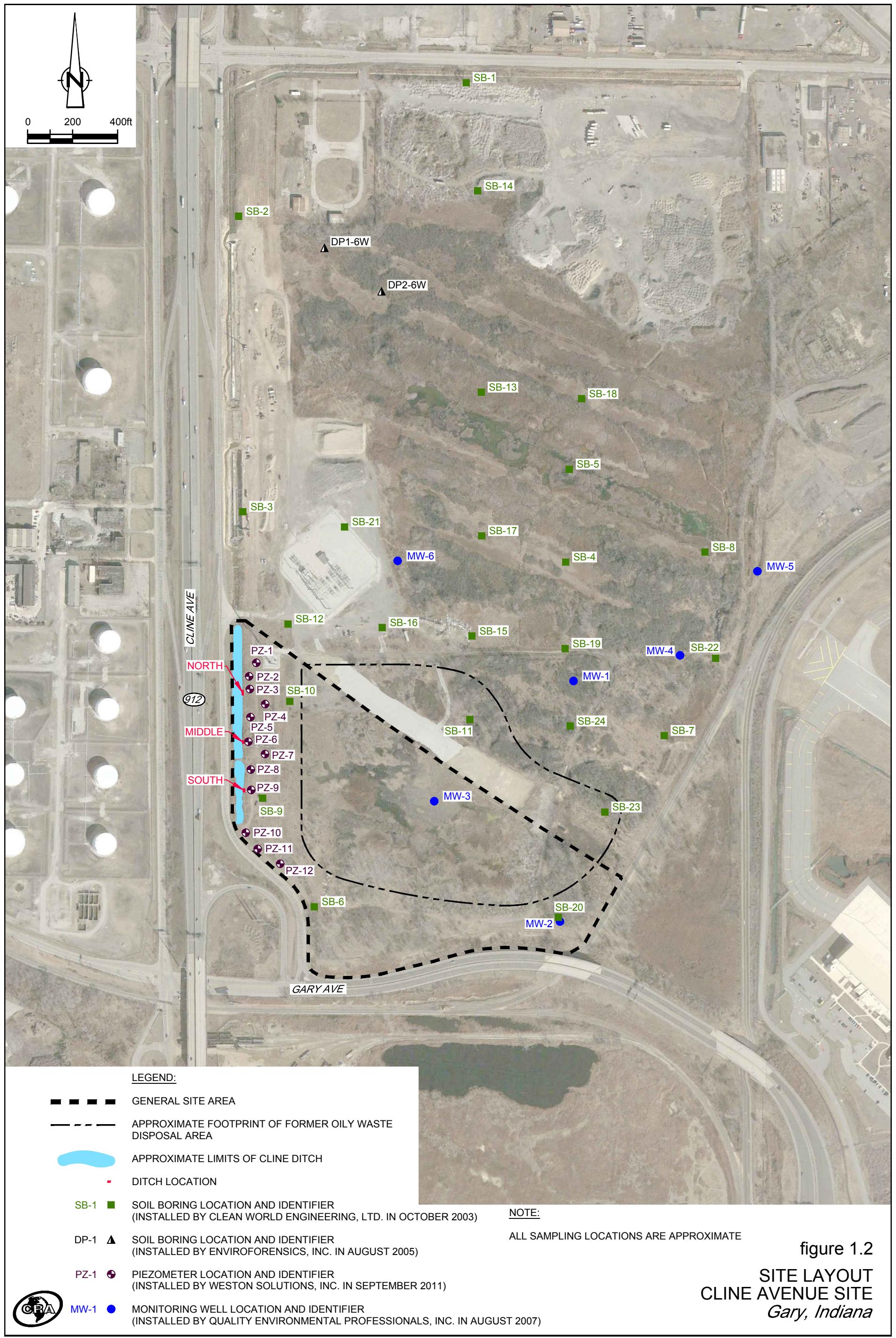
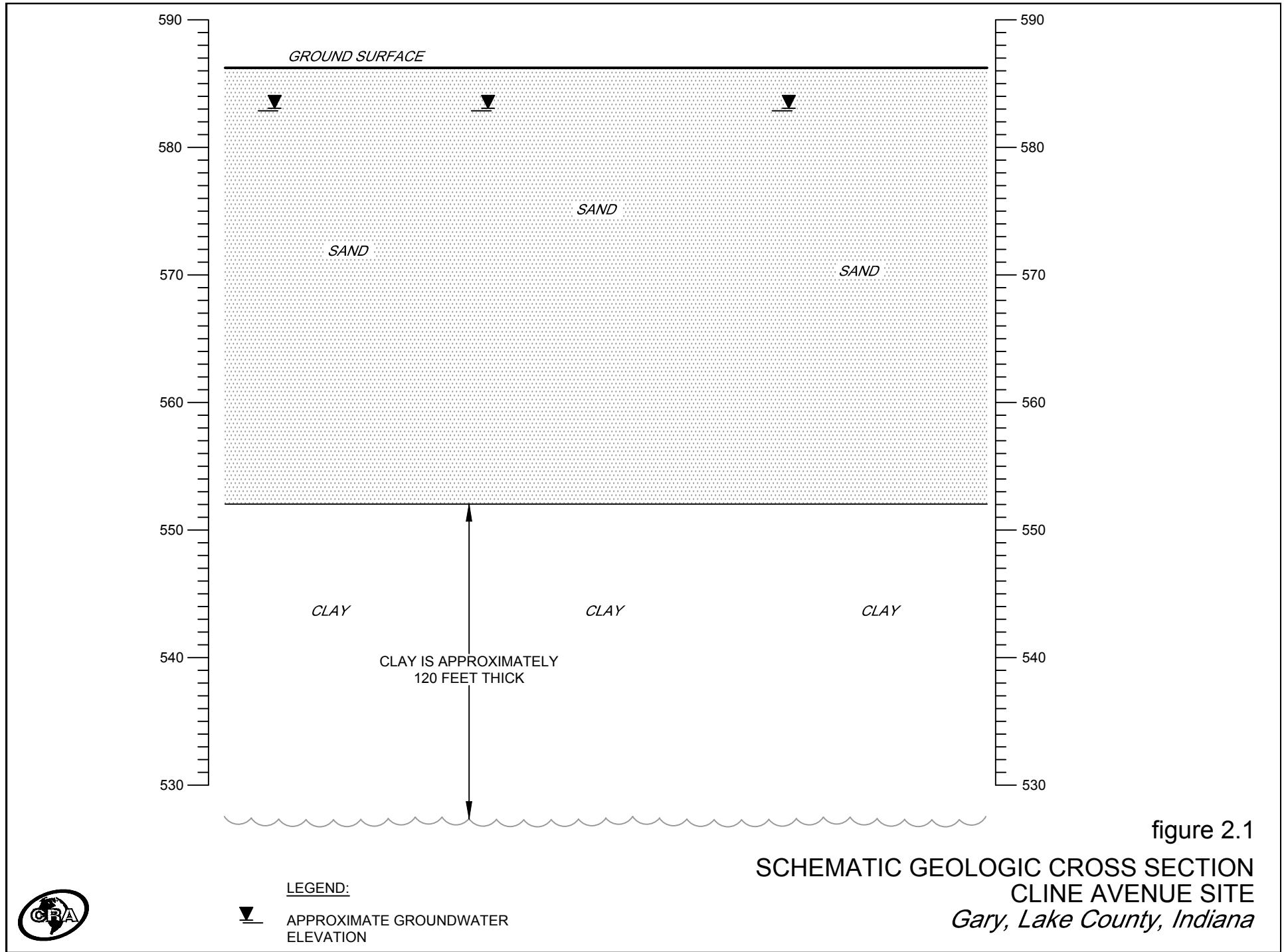
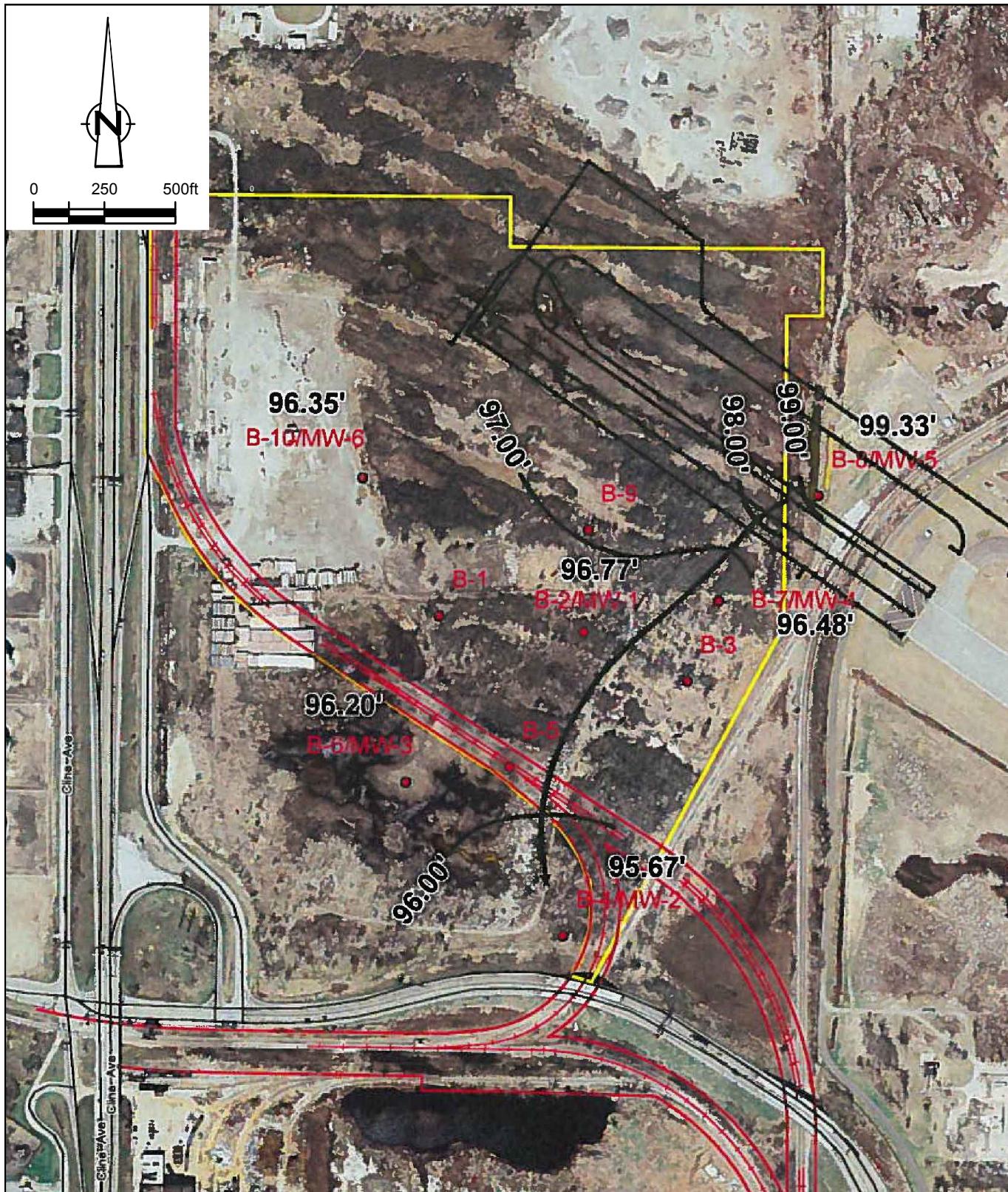


figure 1.1
SITE LOCATION
CLINE AVENUE SITE
Gary, Lake County, Indiana





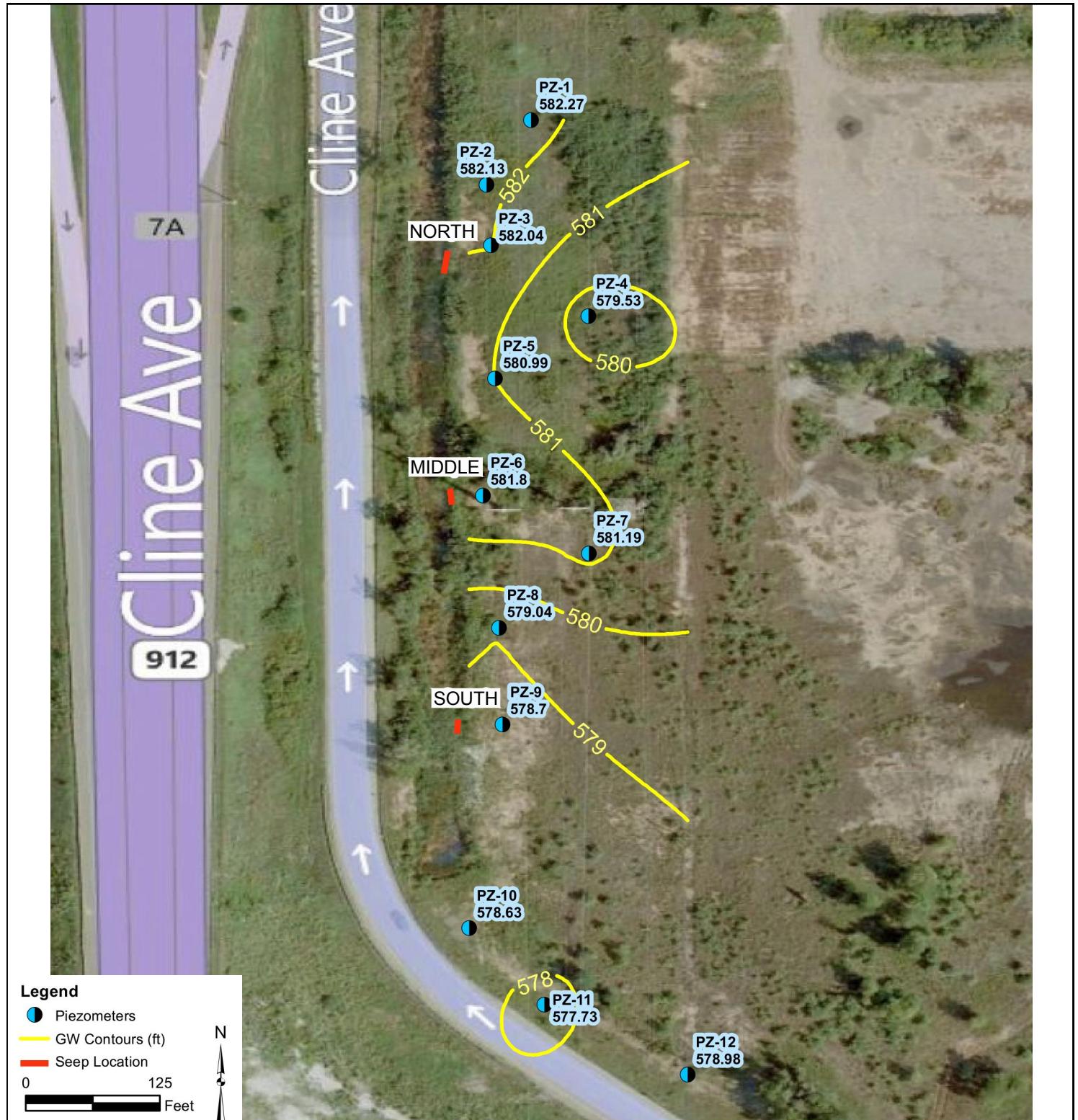


SOURCE: QEPI-CAP 2010

figure 2.2

GROUNDWATER FLOW MAP - QEPI - AUGUST 2007 MONITORING EVENT
CLINE AVENUE SITE
Gary, Lake County, Indiana



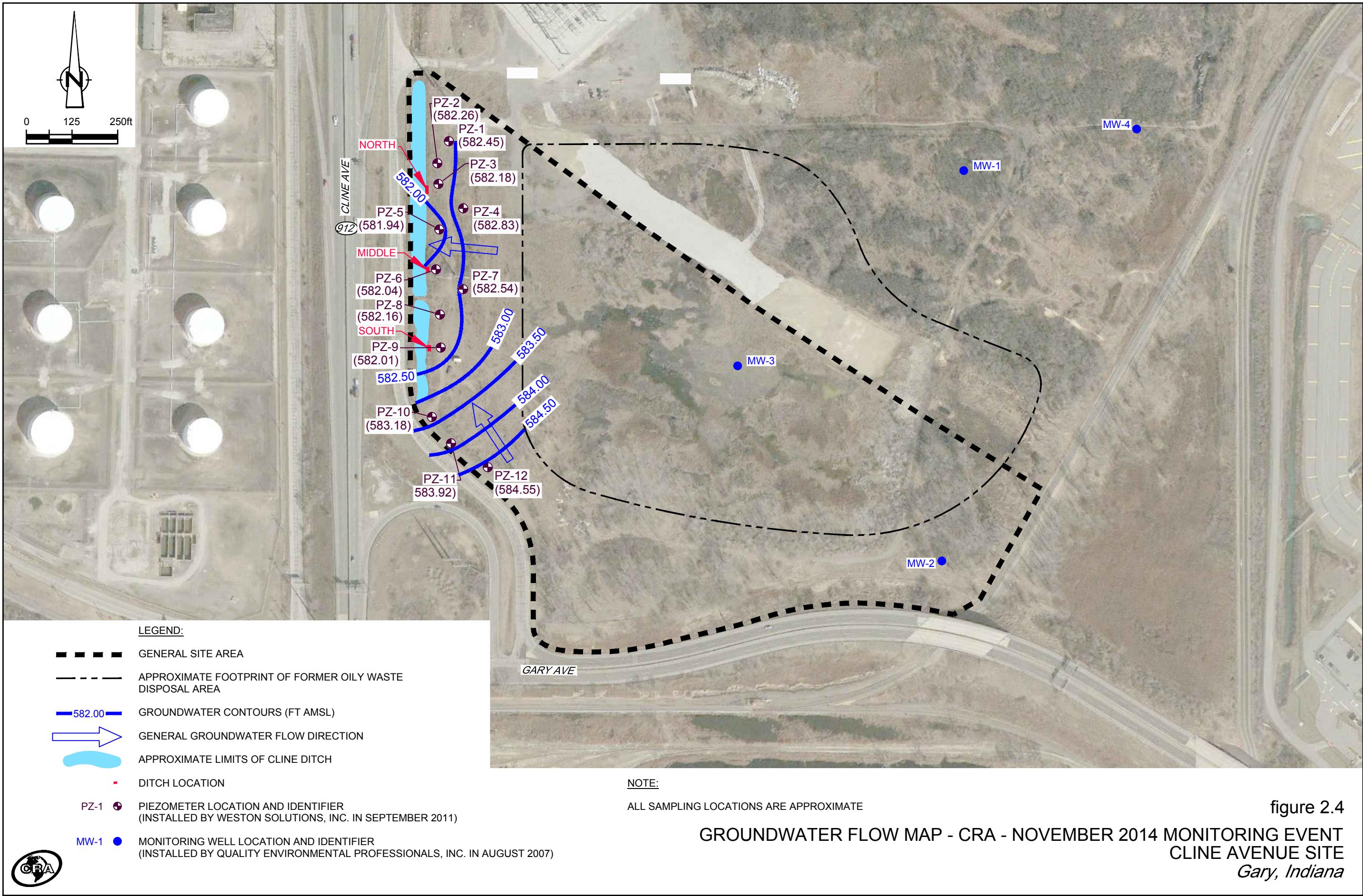


SOURCE: WESTON SOLUTIONS INC.
SEPTEMBER 2011
PREPARED FOR USEPA

figure 2.3

GROUNDWATER FLOW MAP - WESTON - SEPTEMBER 2011 MONITORING EVENT
CLINE AVENUE SITE
Gary, Indiana





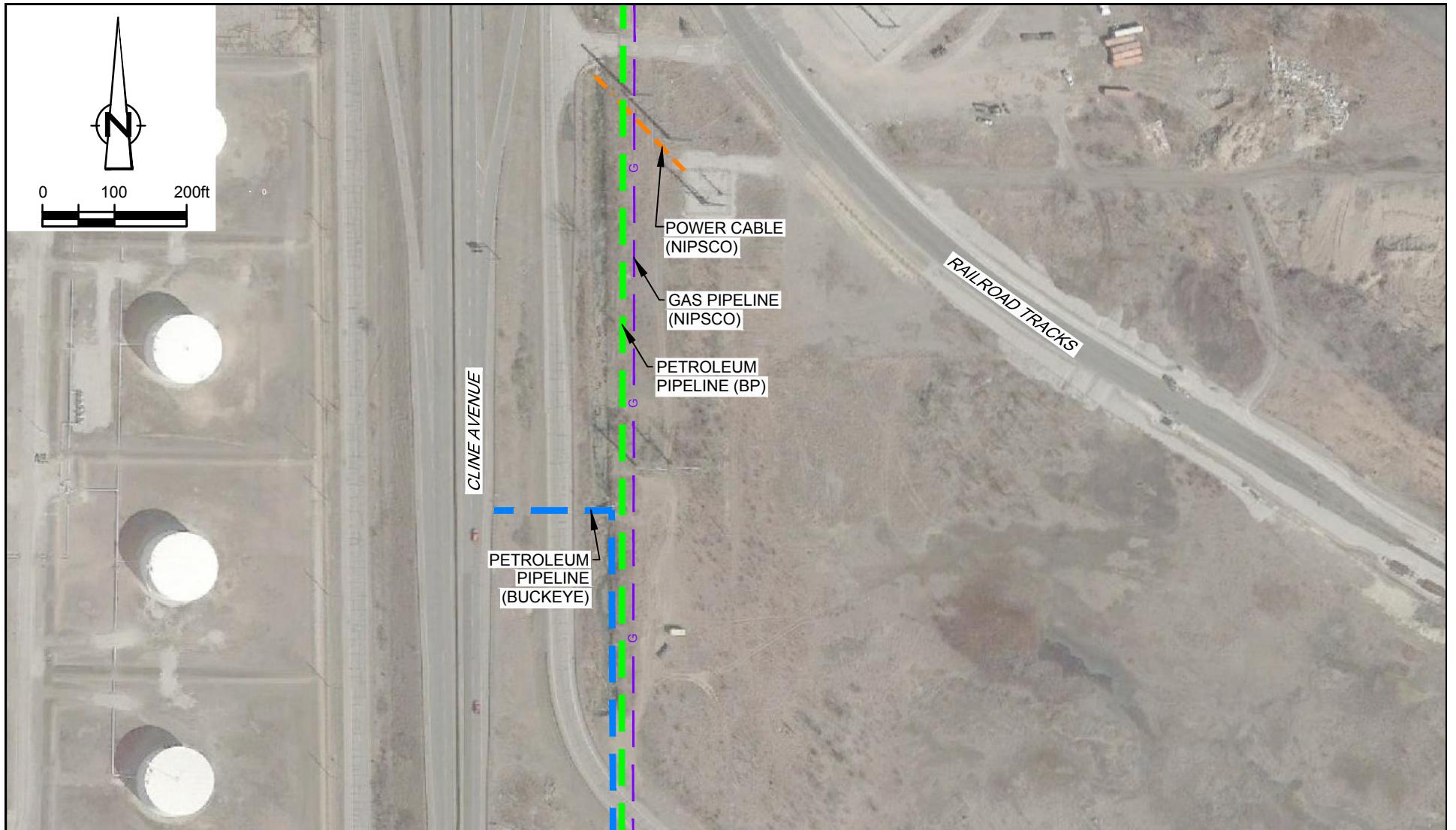
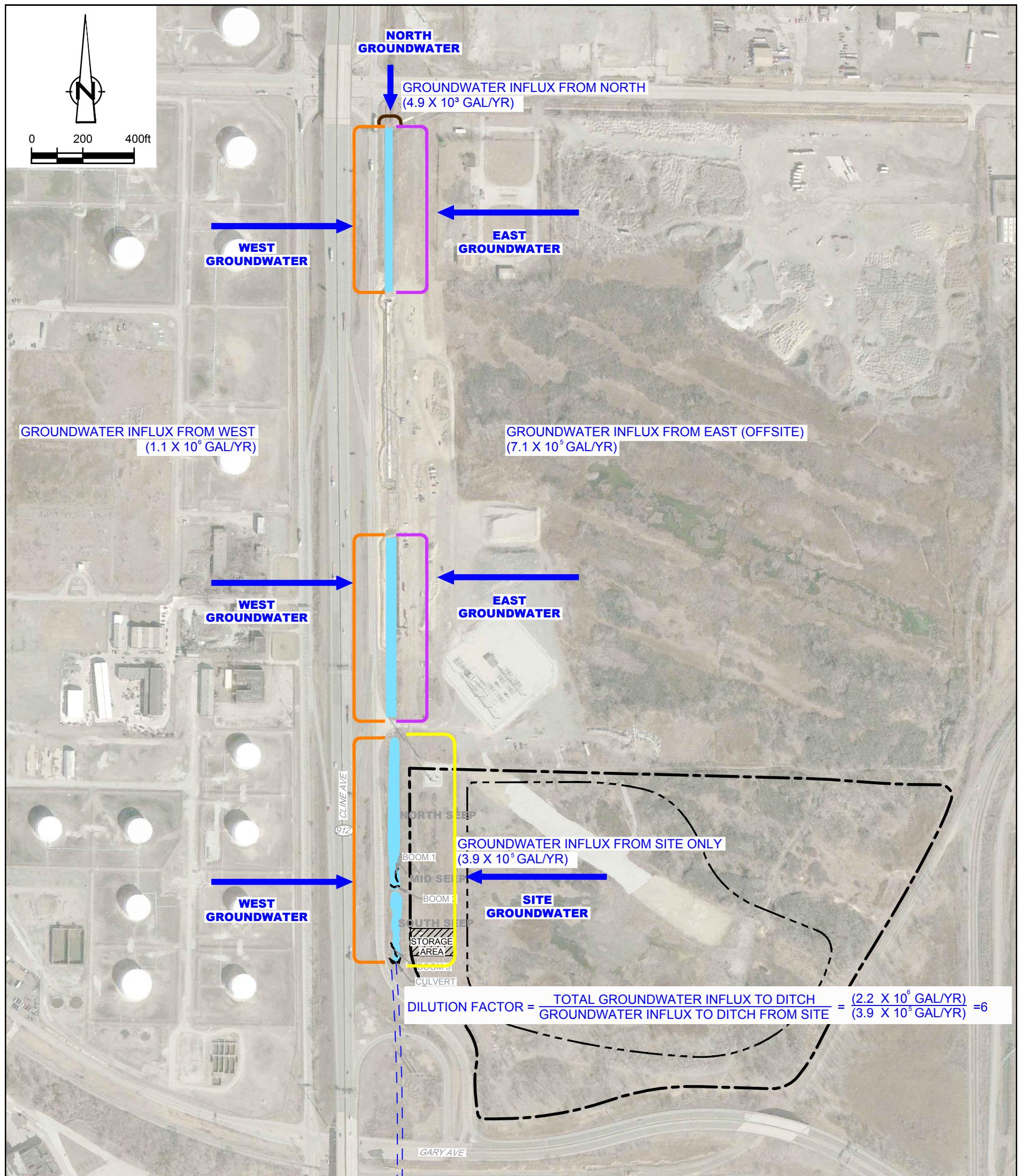


figure 3.1

GENERAL LOCATION OF BURIED PIPELINES NEAR THE DITCH
CLINE AVENUE SITE
Gary, Lake County, Indiana





LEGEND:

- - - APPROXIMATE "SITE" AREA
APPROXIMATE FOOTPRINT OF FORMER TAR DISPOSAL AREA
- LENGTH OF DITCH UTILIZED TO CALCULATE GROUNDWATER INFUX FROM THE NORTH
- LENGTH OF DITCH UTILIZED TO CALCULATE GROUNDWATER INFUX FROM THE WEST
- LENGTH OF DITCH UTILIZED TO CALCULATE GROUNDWATER INFUX FROM THE EAST (OFFSITE)
- LENGTH OF DITCH UTILIZED TO CALCULATE GROUNDWATER INFUX FROM THE SITE

figure 4.1

GROUNDWATER-SURFACE WATER DILUTION FACTORS
CLINE AVENUE SITE
Gary, Lake County, Indiana

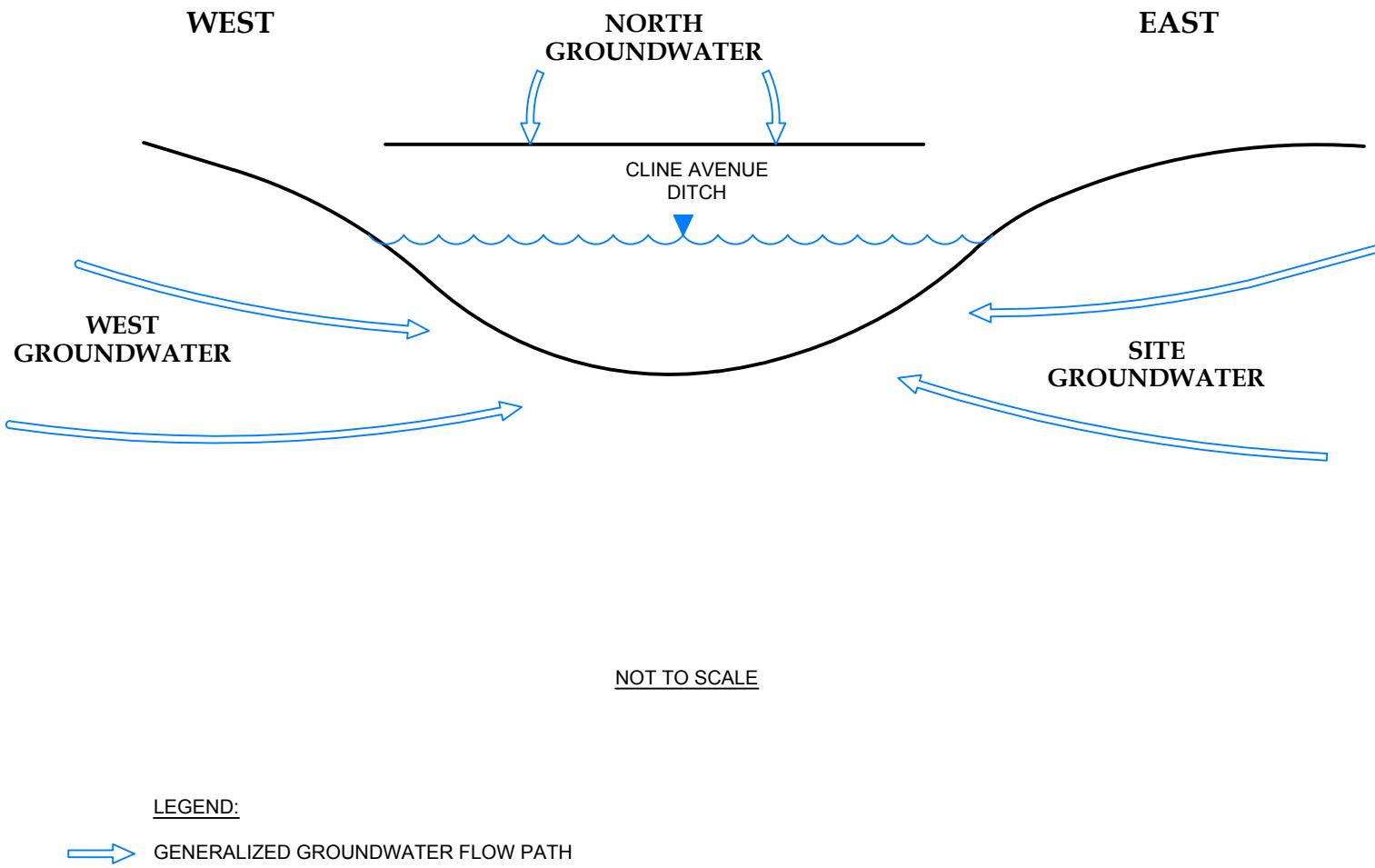


figure 4.2

SCHEMATIC CROSS SECTION OF GROUNDWATER FLOW PATHS
CLINE AVENUE SITE
Gary, Lake County, Indiana



TABLE 1.1

Page 1 of 1

SUMMARY OF MONITORING WELL SPECIFICATIONS
CLINE AVENUE SITE
GARY, INDIANA

Well ID	Soil Boring ID	TOC Elevation (ft AMSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (feet)	Diameter (inches)	Material	Date Installed	Location
MW-1	B-2	99.7	3	13	10	2	PVC	8/7/2007	Off site
MW-2	B-4	100.74	3	13	10	2	PVC	8/7/2007	On-site
MW-3	B-6	99.82	3	13	10	2	PVC	8/7/2007	On-site
MW-4	B-7	100.1	3	13	10	2	PVC	8/7/2007	Off site
MW-5	B-8	109.94	3	13	10	2	PVC	8/7/2007	Off site
MW-6	B-10	100	3	13	10	2	PVC	8/7/2007	Off site
PZ-1		589.08	2	12	10	1	PVC	9/1/2011	On-site
PZ-2		588.29	2	12	10	1	PVC	9/2/2011	On-site
PZ-3		588.96	2	12	10	1	PVC	9/3/2011	On-site
PZ-4		590.85	2	12	10	1	PVC	9/4/2011	On-site
PZ-5		589.2	2	12	10	1	PVC	9/5/2011	On-site
PZ-6		588.02	2	12	10	1	PVC	9/6/2011	On-site
PZ-7		588.33	2	12	10	1	PVC	9/7/2011	On-site
PZ-8		587.39	2	12	10	1	PVC	9/8/2011	On-site
PZ-9		587.81	2	12	10	1	PVC	9/9/2011	On-site
PZ-10		587.2	2	12	10	1	PVC	9/10/2011	On-site
PZ-11		586.28	2	12	10	1	PVC	9/11/2011	On-site
PZ-12		587.89	2	12	10	1	PVC	9/12/2011	On-site

Notes:

TOC Top of casing

ft AMSL feet above mean sea level

ft bgs feet below ground surface

PVC Polyvinyl Chloride

in inch

TABLE 3.1

SUMMARY OF GROUNDWATER ELEVATIONS - NOVEMBER 2014 MONITORING EVENT
CLINE AVENUE SITE
GARY, INDIANA

Location ID	Top of Casing	Depth to	Depth to	Petroleum Layer	Estimated Petroleum	Petroleum Thickness	Estimated	Estimated Water Level
	Elevation (ft AMSL) ¹	Petroleum Layer (feet)	Water (feet)	Thickness (feet)	Density (g/cm ³)	Factor ² (feet)	Depth to Water (feet)	Elevation (ft AMSL)
Monitoring								
Wells								
MW-2	--	--	4.64	--	--	--	--	--
MW-3	--	--	4.15	--	--	--	--	--
Piezometers								
PZ-1	589.08	--	6.63	--	--	--	--	582.45
PZ-2	588.29	--	6.03	--	--	--	--	582.26
PZ-3	588.96	6.60	8.44	1.84	0.90 ³	1.66	6.78	582.18
PZ-4	590.85	7.84	9.60	1.76	0.90	1.58	8.02	582.83
PZ-5	589.20	6.98	9.75	2.77	0.90	2.49	7.26	581.94
PZ-6	588.02	5.89	6.80	0.91	0.90	0.82	5.98	582.04
PZ-7	588.33	5.50	8.39	2.89	0.90	2.60	5.79	582.54
PZ-8	587.39	--	5.23	--	--	--	--	582.16
PZ-9	587.81	5.48	8.70	3.22	0.90	2.90	5.80	582.01
PZ-10	587.20	--	4.02	--	--	--	--	583.18
PZ-11	586.28	--	2.36	--	--	--	--	583.92
PZ-12	587.89	--	3.34	--	--	--	--	584.55

¹ ft AMSL - feet above mean sea level

² The petroleum thickness factor was determined based upon the Archimedes' Principal, as presented in Appendix C of The USEPA Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water.

³ The estimated petroleum density of 0.90 gm/cm³ was determined based upon petroleum compound densities presented in The USEPA Ground Water Issue: Light Nonaqueous Phase Liquids.

TABLE 3.2

SUMMARY OF GROUNDWATER ANALYTICAL DATA – NOVEMBER 2014 MONITORING EVENT
CLINE AVENUE SITE
GARY, INDIANA

Sample Location: Sample ID: Sample Date:	MW-2 GW-112414-AK-02 11/24/2014	MW-3 GW-112414-AK-01 11/24/2014	PZ-10 GW-112414-AK-04 11/24/2014	PZ-12 GW-112414-AK-03 11/24/2014	PZ-2 GW-112514-AK-05 11/25/2014	PZ-3 GW-112514-AK-07 11/25/2014	PZ-3 GW-112514-AK-08 11/25/2014 (Duplicate)	PZ-6 GW-112514-AK-09 11/25/2014	PZ-8 GW-112514-AK-06 11/25/2014	Waste Drum WC-112514-AK-01 11/25/2014
Parameters										
Metals										
Arsenic										
Barium	mg/L	0.010 U	0.0082 J	0.010 U	0.010 U	0.015	0.017	0.013	0.0039 J	0.0036 J
Cadmium	mg/L	0.043	0.039	0.025	0.041	0.077	0.075	0.070	0.086	0.043
Chromium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.082
Lead	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.0010 J	0.010 U	0.010 U	0.010 U	0.020
Mercury	mg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.074
Selenium	mg/L	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.000086 J
Silver	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0052 J
Semi-Volatile Organic Compounds										
1,2,4-Trichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
1,2-Dichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
1,2-Diphenylhydrazine	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
1,3-Dichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
1,4-Dichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
2,4,5-Trichlorophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,4,6-Trichlorophenol	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 UJ	19 U	3.8 U
2,4-Dichlorophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,4-Dimethylphenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,4-Dinitrophenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
2,4-Dinitrotoluene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
2,6-Dichlorophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,6-Dinitrotoluene	ug/L	0.38 U	0.40 U	0.39 U	2.1 U	0.38 U	1.9 U	3.9 U	1.9 U	0.38 U
2-Chloronaphthalene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
2-Chlorophenol	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 UJ	19 U	3.8 U
2-Methylnaphthalene	ug/L	0.38 U	2.7	0.39 U	2.1 U	0.38 U	10	8.0	20	0.27 J
2-Methylphenol	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 UJ	7.5 U	1.5 U
2-Nitroaniline	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
2-Nitrophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
3&4-Methylphenol	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
3,3'-Dichlorobenzidine	ug/L	3.8 UJ	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
3-Nitroaniline	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
4,6-Dinitro-2-methylphenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
4-Bromophenyl phenyl ether	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
4-Chloro-3-methylphenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
4-Chloroaniline	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
4-Chlorophenyl phenyl ether	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
4-Nitroaniline	ug/L	7.7 UJ	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
4-Nitrophenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
Acenaphthene	ug/L	0.77 U	0.80 U	0.56 J	4.1 U	0.75 U	1.8 J	7.8 U	1.3 J	0.76 U
Acenaphthylene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
Acetophenone	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
Aniline	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 U	75 U	15 U
Anthracene	ug/L	0.77 U	0.51 J	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
Benzidine	ug/L	31 U	32 U	31 U	160 U	30 U	150 U	310 U	150 U	30 U
Benzo(a)anthracene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzo(a)pyrene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzo(bifluoranthene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzo(g,h,i)perylene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
Benzo(k)bifluoranthene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzonic acid	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
Benzyl alcohol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
bis(2-Chloroethoxy)methane	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
bis(2-Chloroethyl)ether	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
Butyl benzylphthalate (BBP)	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
Carbazole	ug/L	3.8 U	24	3.9 U	21 U	3.8 U	19 U	39 U	1.6 J	3.8 U
Chrysene	ug/L	0.38 U	0.40 U	0.39 U	2.1 U	0.38 U	1.9 U	3.9 U	1.9 U	0.38 U
Dibenz(a,h)anthracene	ug/L	0.23 U	0.24 U	0.23 U	1.2 U	0.23 U	1.2 U	2.3 U	1.1 U	0.23 U
Dibenzofuran	ug/L	1.5 U	1.3 J	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
Diethyl phthalate	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5				

TABLE 3.2

SUMMARY OF GROUNDWATER ANALYTICAL DATA – NOVEMBER 2014 MONITORING EVENT
CLINE AVENUE SITE
GARY, INDIANA

Footnotes

U Not detected at the associated reporting limit

J Estimated concentration

UJ Not detected; associated reporting limit is estimated.

TABLE 4.1

Page 1 of 1

SUMMARY OF GROUNDWATER-SURFACE WATER DILUTION FACTORS
CLINE AVENUE SITE
GARY, INDIANA

Parameter	Value	Unit	Source
Site Groundwater flux into Ditch			
Saturated thickness	10	ft	
Length of area of interest	800	ft	
Cross section area (10x800)	8,000	ft ²	
Porosity	0.33		CAP, 2010
Saturated pore portion of the cross sectional area	2,640	ft ²	CAP, 2010
Horizontal groundwater velocity	19.8	ft/yr	CAP, 2010
Groundwater flux into Ditch	5.23E+04	ft ³ /yr	
Conversion to gal/yr	7.48	gal/ft ³	
Site Groundwater flux into Ditch	3.91E+05	gal/yr	
Groundwater flux into Ditch from East (Off-Site)			
Saturated thickness	10	ft	
Total length of Ditch	2250	ft	
Cross section area (10x2250)	22500	ft ²	
Porosity	0.33		CAP, 2010
Saturated pore portion of the cross sectional area	7425	ft ²	CAP, 2010
Horizontal groundwater velocity	19.80	ft/yr	CAP, 2010
Groundwater flux into Ditch	147015	ft ³ /yr	CAP, 2010
Conversion to gal/yr	7.48	gal/ft ³	
Influx into Ditch from East side	1.10E+06	gal/yr	
Groundwater flux into Ditch from West			
Saturated thickness	10	ft	
Total length of Ditch	1450	ft	
Cross section area (10x1450)	14500	ft ²	
Porosity	0.33		CAP, 2010
Saturated pore portion of the cross sectional area	4785	ft ²	CAP, 2010
Horizontal groundwater velocity	19.80	ft/yr	CAP, 2010
Groundwater flux into Ditch	94743	ft ³ /yr	CAP, 2010
Conversion to gal/yr	7.48	gal/ft ³	
Influx into Ditch from West (Off-Site)	7.09E+05	gal/yr	
Groundwater flux into Ditch from North			
Saturated thickness	10	ft	
Length of area of interest	10	ft	
Cross section area (10x10)	100	ft ²	
Porosity	0.33		CAP, 2010
Saturated pore portion of the cross sectional area	33.00	ft ²	CAP, 2010
Horizontal groundwater velocity	19.80	ft/yr	CAP, 2010
Groundwater flux into Ditch from north	653.40	ft ³ /yr	
Conversion factor to gal/yr	7.48	gal/ft ³	
Groundwater flux into Ditch from North	4.89E+03	gal/yr	
Total influx into Ditch			
[East (On-Site) East (Off-Site), West, and North]	2.20E+06	gal/yr	
DILUTION FACTOR (Total Influx to Ditch/Flux into Ditch from Site)	6		

References:

(CAP, 2010) -Corrective Action Plan NBD Bank Trust/Zaleski Property Cline Avenue, Gary Indiana.

Prepared by Quality Environmental Professionals, Inc . December 2010.

TABLE 5.1

SCREENING OF DETECTED COMPOUNDS IN GROUNDWATER – NOVEMBER 2014
CLINE AVENUE SITE
GARY, INDIANA

Footnotes:

U Not detected at the association

J Estimated concentration.

UJ Not detected; associated reporting limit is estimated.

$$\frac{S}{E} = \text{Conc}/\text{ESV}$$

SQ > 1.0

SQ > 3

References:

USEPA. "Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH M

USEPA, "Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmark Values," EPA 600 R-02-013, Office of Research and Development, Washington, DC 20460.," 2002.

USEPA, "Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: Compendium of Tier 2 Values for Nonionic Organics. EPA 600 R 02 016. Office of Research and Development," Washington, DC 20460, 2008.

CRA 08043

Appendix A

2014 Groundwater Analytical Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-88490-1

Client Project/Site: Cline Ave. Ditch - 080439

For:

Conestoga-Rovers & Associates, Inc.

6520 Corporate Drive

Indianapolis, Indiana 46278

Attn: Mr. Michael Richardson



Authorized for release by:

12/11/2014 11:33:41 AM

Richard Wright, Senior Project Manager

(708)534-5200

richard.wright@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?

Ask
The
Expert

Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	8
Sample Summary	9
Client Sample Results	10
Definitions	51
QC Association	52
Surrogate Summary	56
QC Sample Results	58
Chronicle	75
Certification Summary	79
Chain of Custody	80
Receipt Checklists	81

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Job ID: 500-88490-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative 500-88490-1

Comments

No additional comments.

Receipt

The samples were received on 11/26/2014 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.6° C, 1.2° C, 3.4° C and 4.1° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The following samples were diluted due to the nature of the sample matrix: GW-112414-AK-03 (500-88490-3), GW-112514-AK-07 (500-88490-7), GW-112514-AK-08 (500-88490-8), GW-112514-AK-09 (500-88490-9), WC-112514-AK-01 (500-88490-10). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 266203 had 1 analyte outside control limits: Benzyl alcohol at 41%; therefore, corrective action was not performed. These results have been reported and qualified. GW-112414-AK-01 (500-88490-1), GW-112414-AK-02 (500-88490-2), GW-112414-AK-02 (500-88490-2 MS), GW-112414-AK-02 (500-88490-2 MSD), GW-112414-AK-03 (500-88490-3), GW-112414-AK-04 (500-88490-4), GW-112514-AK-05 (500-88490-5), GW-112514-AK-06 (500-88490-6), GW-112514-AK-07 (500-88490-7), GW-112514-AK-08 (500-88490-8), GW-112514-AK-09 (500-88490-9), WC-112514-AK-01 (500-88490-10)

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: GW-112514-AK-08 (500-88490-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The sample -10 contained one acid surrogate outside acceptance limits and -5 contained one acid and one base surrogate outside acceptance limits : GW-112514-AK-05 (500-88490-5), WC-112514-AK-01 (500-88490-10). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-01

Lab Sample ID: 500-88490-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.61		0.50	0.074	ug/L	1		8260B	Total/NA
Ethylbenzene	0.40	J	0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	1.5		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	0.50		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	0.35	J	0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	2.0		1.0	0.068	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	2.7		0.40	0.052	ug/L	1		8270D	Total/NA
Anthracene	0.51	J	0.80	0.27	ug/L	1		8270D	Total/NA
Carbazole	24		4.0	0.28	ug/L	1		8270D	Total/NA
Dibenzofuran	1.3	J	1.6	0.21	ug/L	1		8270D	Total/NA
Fluorene	3.2		0.80	0.19	ug/L	1		8270D	Total/NA
Phenanthrene	15		0.80	0.24	ug/L	1		8270D	Total/NA
Arsenic	0.0082	J		0.010	mg/L	1		6010B	Total/NA
Barium	0.039		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.00085	J B		0.0020	0.00026 mg/L	1		6010B	Total/NA
DOC Result 1	47		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Result 2	48		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Dup	48		2.0	0.46	mg/L	2		9060A	Dissolved

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.043		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.00098	J B		0.0020	0.00026 mg/L	1		6010B	Total/NA
DOC Result 1	20		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Result 2	20		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Dup	20		1.0	0.23	mg/L	1		9060A	Dissolved

Client Sample ID: GW-112414-AK-03

Lab Sample ID: 500-88490-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.2		0.50	0.074	ug/L	1		8260B	Total/NA
Ethylbenzene	3.2		0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	4.8		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	2.3		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	2.4		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	7.1		1.0	0.068	ug/L	1		8260B	Total/NA
Barium	0.041		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.0010	J B		0.0020	0.00026 mg/L	1		6010B	Total/NA
Silver	0.00084	J B		0.0050	0.00057 mg/L	1		6010B	Total/NA
DOC Result 1	46		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Result 2	46		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Dup	46		2.0	0.46	mg/L	2		9060A	Dissolved

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.3		5.0	1.3	ug/L	1		8260B	Total/NA
m&p-Xylene	1.6		1.0	0.26	ug/L	1		8260B	Total/NA
Toluene	0.29	J	0.50	0.11	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.

Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-04 (Continued)

Lab Sample ID: 500-88490-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	1.6		1.0	0.068	ug/L	1		8260B	Total/NA
Acenaphthene	0.56	J	0.77	0.24	ug/L	1		8270D	Total/NA
Fluorene	0.30	J	0.77	0.19	ug/L	1		8270D	Total/NA
Barium	0.025		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.00068	J B	0.0020	0.00026	mg/L	1		6010B	Total/NA
DOC Result 1	12		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Result 2	12		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Dup	12		1.0	0.23	mg/L	1		9060A	Dissolved

Client Sample ID: GW-112514-AK-05

Lab Sample ID: 500-88490-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	14		5.0	1.3	ug/L	1		8260B	Total/NA
Benzene	14		0.50	0.074	ug/L	1		8260B	Total/NA
Ethylbenzene	0.44	J	0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	7.3		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	2.5		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	3.5		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	9.8		1.0	0.068	ug/L	1		8260B	Total/NA
Arsenic	0.015		0.010	0.0026	mg/L	1		6010B	Total/NA
Barium	0.077		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.0011	J B	0.0020	0.00026	mg/L	1		6010B	Total/NA
Chromium	0.0010	J	0.010	0.0010	mg/L	1		6010B	Total/NA
Silver	0.00086	J B	0.0050	0.00057	mg/L	1		6010B	Total/NA
DOC Result 1	39		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Result 2	41		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Dup	40		2.0	0.46	mg/L	2		9060A	Dissolved

Client Sample ID: GW-112514-AK-06

Lab Sample ID: 500-88490-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.5		5.0	1.3	ug/L	1		8260B	Total/NA
Benzene	14		0.50	0.074	ug/L	1		8260B	Total/NA
m&p-Xylene	1.5		1.0	0.26	ug/L	1		8260B	Total/NA
Toluene	0.64		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	1.5		1.0	0.068	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	0.27	J	0.38	0.049	ug/L	1		8270D	Total/NA
Arsenic	0.0036	J	0.010	0.0026	mg/L	1		6010B	Total/NA
Barium	0.043		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.00087	J B	0.0020	0.00026	mg/L	1		6010B	Total/NA
Silver	0.00081	J B	0.0050	0.00057	mg/L	1		6010B	Total/NA
DOC Result 1	16		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Result 2	16		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Dup	16		1.0	0.23	mg/L	1		9060A	Dissolved

Client Sample ID: GW-112514-AK-07

Lab Sample ID: 500-88490-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	17		5.0	1.3	ug/L	1		8260B	Total/NA
Benzene	43		0.50	0.074	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-07 (Continued)

Lab Sample ID: 500-88490-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.56		0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	8.5		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	2.9		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	2.1		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	11		1.0	0.068	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	10		1.9	0.25	ug/L	5		8270D	Total/NA
Acenaphthene	1.8 J		3.8	1.2	ug/L	5		8270D	Total/NA
Fluorene	1.7 J		3.8	0.93	ug/L	5		8270D	Total/NA
Arsenic	0.017		0.010	0.0026	mg/L	1		6010B	Total/NA
Barium	0.075		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.00084 J B		0.0020	0.00026	mg/L	1		6010B	Total/NA
Silver	0.00081 J B		0.0050	0.00057	mg/L	1		6010B	Total/NA
DOC Result 1	52		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Result 2	55		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Dup	54		2.0	0.46	mg/L	2		9060A	Dissolved

Client Sample ID: GW-112514-AK-08

Lab Sample ID: 500-88490-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	73		0.50	0.074	ug/L	1		8260B	Total/NA
Ethylbenzene	1.5		0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	31		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	4.6		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	4.2		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	35		1.0	0.068	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	8.0		3.9	0.50	ug/L	10		8270D	Total/NA
Phenanthrene	2.4 J		7.8	2.3	ug/L	10		8270D	Total/NA
Arsenic	0.013		0.010	0.0026	mg/L	1		6010B	Total/NA
Barium	0.070		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.00097 J B		0.0020	0.00026	mg/L	1		6010B	Total/NA
DOC Result 1	49		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Result 2	52		2.0	0.46	mg/L	2		9060A	Dissolved
DOC Dup	50		2.0	0.46	mg/L	2		9060A	Dissolved

Client Sample ID: GW-112514-AK-09

Lab Sample ID: 500-88490-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	13		5.0	1.3	ug/L	1		8260B	Total/NA
Benzene	68		0.50	0.074	ug/L	1		8260B	Total/NA
Ethylbenzene	9.7		0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	40		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	13		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	7.5		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	52		1.0	0.068	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	20		1.9	0.24	ug/L	5		8270D	Total/NA
Acenaphthene	1.3 J		3.7	1.2	ug/L	5		8270D	Total/NA
Carbazole	1.6 J		19	1.3	ug/L	5		8270D	Total/NA
Fluorene	1.6 J		3.7	0.91	ug/L	5		8270D	Total/NA
Arsenic	0.0039 J		0.010	0.0026	mg/L	1		6010B	Total/NA
Barium	0.086		0.010	0.0011	mg/L	1		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-09 (Continued)

Lab Sample ID: 500-88490-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00086	J B	0.0020	0.00026	mg/L	1		6010B	Total/NA
Silver	0.0011	J B	0.0050	0.00057	mg/L	1		6010B	Total/NA
DOC Result 1	34		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Result 2	35		1.0	0.23	mg/L	1		9060A	Dissolved
DOC Dup	34		1.0	0.23	mg/L	1		9060A	Dissolved

Client Sample ID: WC-112514-AK-01

Lab Sample ID: 500-88490-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	19		5.0	1.3	ug/L	1		8260B	Total/NA
Benzene	3.0		0.50	0.074	ug/L	1		8260B	Total/NA
Ethylbenzene	0.56		0.50	0.13	ug/L	1		8260B	Total/NA
m&p-Xylene	2.6		1.0	0.26	ug/L	1		8260B	Total/NA
o-Xylene	1.0		0.50	0.068	ug/L	1		8260B	Total/NA
Toluene	1.0		0.50	0.11	ug/L	1		8260B	Total/NA
Xylenes, Total	3.6		1.0	0.068	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	4.8		1.9	0.24	ug/L	5		8270D	Total/NA
Acenaphthene	1.4 J		3.7	1.1	ug/L	5		8270D	Total/NA
Anthracene	1.4 J		3.7	1.2	ug/L	5		8270D	Total/NA
Benzo[a]anthracene	3.1		0.74	0.21	ug/L	5		8270D	Total/NA
Benzo[a]pyrene	2.3		0.74	0.37	ug/L	5		8270D	Total/NA
Benzo[b]fluoranthene	2.0		0.74	0.30	ug/L	5		8270D	Total/NA
Carbazole	3.7 J		19	1.3	ug/L	5		8270D	Total/NA
Chrysene	5.3		1.9	0.25	ug/L	5		8270D	Total/NA
Dibenz(a,h)anthracene	0.86 J		1.1	0.19	ug/L	5		8270D	Total/NA
Fluorene	2.6 J		3.7	0.91	ug/L	5		8270D	Total/NA
Phenanthrene	8.9		3.7	1.1	ug/L	5		8270D	Total/NA
Pyrene	5.0		3.7	1.6	ug/L	5		8270D	Total/NA
Arsenic	0.011		0.010	0.0026	mg/L	1		6010B	Total/NA
Barium	0.082		0.010	0.0011	mg/L	1		6010B	Total/NA
Cadmium	0.0014 J B		0.0020	0.00026	mg/L	1		6010B	Total/NA
Chromium	0.020		0.010	0.0010	mg/L	1		6010B	Total/NA
Lead	0.074		0.0050	0.0023	mg/L	1		6010B	Total/NA
Selenium	0.0052 J		0.010	0.0046	mg/L	1		6010B	Total/NA
Mercury	0.000086 J		0.00020	0.000072	mg/L	1		7470A	Total/NA
Flashpoint	>176		40.0	40.0	Degrees F	1		1010A	Total/NA
corrosivity by pH	7.03 HF		0.200	0.200	SU	1		9040C	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 500-88490-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
1010A	Ignitability, Pensky-Martens Closed Cup Method	SW846	TAL CHI
9040C	pH	SW846	TAL CHI
9060A	Organic Carbon, Dissolved (DOC)	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-88490-1	GW-112414-AK-01	Water	11/24/14 13:15	11/26/14 10:25
500-88490-2	GW-112414-AK-02	Water	11/24/14 14:10	11/26/14 10:25
500-88490-3	GW-112414-AK-03	Water	11/24/14 15:35	11/26/14 10:25
500-88490-4	GW-112414-AK-04	Water	11/24/14 16:40	11/26/14 10:25
500-88490-5	GW-112514-AK-05	Water	11/25/14 08:55	11/26/14 10:25
500-88490-6	GW-112514-AK-06	Water	11/25/14 10:00	11/26/14 10:25
500-88490-7	GW-112514-AK-07	Water	11/25/14 11:35	11/26/14 10:25
500-88490-8	GW-112514-AK-08	Water	11/25/14 12:00	11/26/14 10:25
500-88490-9	GW-112514-AK-09	Water	11/25/14 12:15	11/26/14 10:25
500-88490-10	WC-112514-AK-01	Water	11/25/14 17:10	11/26/14 10:25
500-88490-11	Trip Blank	Water	11/24/14 00:00	11/26/14 10:25

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-01

Lab Sample ID: 500-88490-1

Matrix: Water

Date Collected: 11/24/14 13:15

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/28/14 21:56	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/28/14 21:56	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/28/14 21:56	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 21:56	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/28/14 21:56	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/28/14 21:56	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 21:56	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/28/14 21:56	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/28/14 21:56	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/28/14 21:56	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/28/14 21:56	1
Acetone	<5.0		5.0	1.3	ug/L			11/28/14 21:56	1
Acrolein	<100		100	11	ug/L			11/28/14 21:56	1
Acrylonitrile	<20		20	2.6	ug/L			11/28/14 21:56	1
Benzene	0.61		0.50	0.074	ug/L			11/28/14 21:56	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/28/14 21:56	1
Bromoform	<1.0		1.0	0.28	ug/L			11/28/14 21:56	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/28/14 21:56	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/28/14 21:56	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/28/14 21:56	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/28/14 21:56	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/28/14 21:56	1
Chloroform	<1.0		1.0	0.20	ug/L			11/28/14 21:56	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/28/14 21:56	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/28/14 21:56	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/28/14 21:56	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/28/14 21:56	1
Ethylbenzene	0.40 J		0.50	0.13	ug/L			11/28/14 21:56	1
m&p-Xylene	1.5		1.0	0.26	ug/L			11/28/14 21:56	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/28/14 21:56	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/28/14 21:56	1
o-Xylene	0.50		0.50	0.068	ug/L			11/28/14 21:56	1
Styrene	<1.0		1.0	0.10	ug/L			11/28/14 21:56	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/28/14 21:56	1
Toluene	0.35 J		0.50	0.11	ug/L			11/28/14 21:56	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/28/14 21:56	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/28/14 21:56	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/28/14 21:56	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/28/14 21:56	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/28/14 21:56	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/28/14 21:56	1
Xylenes, Total	2.0		1.0	0.068	ug/L			11/28/14 21:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	95		75 - 125				11/28/14 21:56	1	
4-Bromofluorobenzene (Surr)	104		75 - 120				11/28/14 21:56	1	
Dibromofluoromethane	87		75 - 120				11/28/14 21:56	1	
Toluene-d8 (Surr)	98		75 - 120				11/28/14 21:56	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-01
Date Collected: 11/24/14 13:15
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<1.6		1.6	0.19	ug/L	11/26/14 19:10	12/10/14 03:05		1
1,2-Dichlorobenzene	<1.6		1.6	0.20	ug/L	11/26/14 19:10	12/10/14 03:05		1
1,2-Diphenylhydrazine	<4.0		4.0	0.49	ug/L	11/26/14 19:10	12/10/14 03:05		1
1,3-Dichlorobenzene	<1.6		1.6	0.17	ug/L	11/26/14 19:10	12/10/14 03:05		1
1,4-Dichlorobenzene	<1.6		1.6	0.17	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,2'-oxybis[1-chloropropane]	<1.6		1.6	0.30	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,4,5-Trichlorophenol	<8.0		8.0	2.0	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,4,6-Trichlorophenol	<4.0		4.0	0.57	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,4-Dichlorophenol	<8.0		8.0	2.1	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,4-Dimethylphenol	<8.0		8.0	1.4	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,4-Dinitrophenol	<16		16	6.9	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,4-Dinitrotoluene	<0.80		0.80	0.20	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,6-Dichlorophenol	<8.0		8.0	2.8	ug/L	11/26/14 19:10	12/10/14 03:05		1
2,6-Dinitrotoluene	<0.40		0.40	0.059	ug/L	11/26/14 19:10	12/10/14 03:05		1
2-Chloronaphthalene	<1.6		1.6	0.19	ug/L	11/26/14 19:10	12/10/14 03:05		1
2-Chlorophenol	<4.0		4.0	0.45	ug/L	11/26/14 19:10	12/10/14 03:05		1
2-Methylnaphthalene	2.7		0.40	0.052	ug/L	11/26/14 19:10	12/10/14 03:05		1
2-Methylphenol	<1.6		1.6	0.24	ug/L	11/26/14 19:10	12/10/14 03:05		1
2-Nitroaniline	<4.0		4.0	1.0	ug/L	11/26/14 19:10	12/10/14 03:05		1
2-Nitrophenol	<8.0		8.0	2.0	ug/L	11/26/14 19:10	12/10/14 03:05		1
3 & 4 Methylphenol	<1.6		1.6	0.36	ug/L	11/26/14 19:10	12/10/14 03:05		1
3,3'-Dichlorobenzidine	<4.0		4.0	1.4	ug/L	11/26/14 19:10	12/10/14 03:05		1
3-Nitroaniline	<8.0		8.0	1.4	ug/L	11/26/14 19:10	12/10/14 03:05		1
4,6-Dinitro-2-methylphenol	<16		16	4.7	ug/L	11/26/14 19:10	12/10/14 03:05		1
4-Bromophenyl phenyl ether	<4.0		4.0	0.43	ug/L	11/26/14 19:10	12/10/14 03:05		1
4-Chloro-3-methylphenol	<8.0		8.0	1.8	ug/L	11/26/14 19:10	12/10/14 03:05		1
4-Chloroaniline	<8.0		8.0	1.6	ug/L	11/26/14 19:10	12/10/14 03:05		1
4-Chlorophenyl phenyl ether	<4.0		4.0	0.51	ug/L	11/26/14 19:10	12/10/14 03:05		1
4-Nitroaniline	<8.0		8.0	1.3	ug/L	11/26/14 19:10	12/10/14 03:05		1
4-Nitrophenol	<16		16	5.9	ug/L	11/26/14 19:10	12/10/14 03:05		1
Acenaphthene	<0.80		0.80	0.25	ug/L	11/26/14 19:10	12/10/14 03:05		1
Acenaphthylene	<0.80		0.80	0.21	ug/L	11/26/14 19:10	12/10/14 03:05		1
Acetophenone	<4.0		4.0	0.53	ug/L	11/26/14 19:10	12/10/14 03:05		1
Aniline	<16		16	4.2	ug/L	11/26/14 19:10	12/10/14 03:05		1
Anthracene	0.51 J		0.80	0.27	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzidine	<32		32	5.5	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzo[a]anthracene	<0.16		0.16	0.045	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzo[a]pyrene	<0.16		0.16	0.079	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzo[b]fluoranthene	<0.16		0.16	0.064	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzo[g,h,i]perylene	<0.80		0.80	0.30	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzo[k]fluoranthene	<0.16		0.16	0.051	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzoic acid	<16		16	4.6	ug/L	11/26/14 19:10	12/10/14 03:05		1
Benzyl alcohol	<16 *		16	4.8	ug/L	11/26/14 19:10	12/10/14 03:05		1
Bis(2-chloroethoxy)methane	<1.6		1.6	0.23	ug/L	11/26/14 19:10	12/10/14 03:05		1
Bis(2-chloroethyl)ether	<1.6		1.6	0.23	ug/L	11/26/14 19:10	12/10/14 03:05		1
Bis(2-ethylhexyl) phthalate	<8.0		8.0	1.4	ug/L	11/26/14 19:10	12/10/14 03:05		1
Butyl benzyl phthalate	<1.6		1.6	0.38	ug/L	11/26/14 19:10	12/10/14 03:05		1
Carbazole	24		4.0	0.28	ug/L	11/26/14 19:10	12/10/14 03:05		1
Chrysene	<0.40		0.40	0.054	ug/L	11/26/14 19:10	12/10/14 03:05		1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-01
Date Collected: 11/24/14 13:15
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<0.24		0.24	0.041	ug/L		11/26/14 19:10	12/10/14 03:05	1
Dibenzofuran	1.3 J		1.6	0.21	ug/L		11/26/14 19:10	12/10/14 03:05	1
Diethyl phthalate	<1.6		1.6	0.29	ug/L		11/26/14 19:10	12/10/14 03:05	1
Dimethyl phthalate	<1.6		1.6	0.25	ug/L		11/26/14 19:10	12/10/14 03:05	1
Di-n-butyl phthalate	<4.0		4.0	0.58	ug/L		11/26/14 19:10	12/10/14 03:05	1
Di-n-octyl phthalate	<8.0		8.0	0.84	ug/L		11/26/14 19:10	12/10/14 03:05	1
Fluoranthene	<0.80		0.80	0.36	ug/L		11/26/14 19:10	12/10/14 03:05	1
Fluorene	3.2		0.80	0.19	ug/L		11/26/14 19:10	12/10/14 03:05	1
Hexachlorobenzene	<0.40		0.40	0.063	ug/L		11/26/14 19:10	12/10/14 03:05	1
Hexachlorobutadiene	<4.0		4.0	0.41	ug/L		11/26/14 19:10	12/10/14 03:05	1
Hexachlorocyclopentadiene	<16		16	5.1	ug/L		11/26/14 19:10	12/10/14 03:05	1
Hexachloroethane	<4.0		4.0	0.48	ug/L		11/26/14 19:10	12/10/14 03:05	1
Indeno[1,2,3-cd]pyrene	<0.16		0.16	0.060	ug/L		11/26/14 19:10	12/10/14 03:05	1
Isophorone	<1.6		1.6	0.30	ug/L		11/26/14 19:10	12/10/14 03:05	1
Naphthalene	<0.80		0.80	0.25	ug/L		11/26/14 19:10	12/10/14 03:05	1
Nitrobenzene	<0.80		0.80	0.36	ug/L		11/26/14 19:10	12/10/14 03:05	1
N-Nitrosodiethylamine	<16		16	6.9	ug/L		11/26/14 19:10	12/10/14 03:05	1
N-Nitrosodi-n-propylamine	<0.40		0.40	0.12	ug/L		11/26/14 19:10	12/10/14 03:05	1
N-Nitrosodiphenylamine	<0.80		0.80	0.30	ug/L		11/26/14 19:10	12/10/14 03:05	1
Pentachlorophenol	<16		16	3.1	ug/L		11/26/14 19:10	12/10/14 03:05	1
Phenanthrene	15		0.80	0.24	ug/L		11/26/14 19:10	12/10/14 03:05	1
Phenol	<4.0		4.0	0.54	ug/L		11/26/14 19:10	12/10/14 03:05	1
Pyrene	<0.80		0.80	0.34	ug/L		11/26/14 19:10	12/10/14 03:05	1
Pyridine	<16		16	4.0	ug/L		11/26/14 19:10	12/10/14 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	80		53 - 150	11/26/14 19:10	12/10/14 03:05	1
2-Fluorobiphenyl	52		41 - 132	11/26/14 19:10	12/10/14 03:05	1
2-Fluorophenol (Surr)	43		32 - 110	11/26/14 19:10	12/10/14 03:05	1
Nitrobenzene-d5 (Surr)	70		47 - 134	11/26/14 19:10	12/10/14 03:05	1
Phenol-d5 (Surr)	37		25 - 100	11/26/14 19:10	12/10/14 03:05	1
Terphenyl-d14 (Surr)	89		59 - 150	11/26/14 19:10	12/10/14 03:05	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0082 J		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 21:58	1
Barium	0.039		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 21:58	1
Cadmium	0.00085 J B		0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 21:58	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 21:58	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 21:58	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 21:58	1
Silver	<0.0050		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 21:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 09:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	47		2.0	0.46	mg/L		12/08/14 20:49		2

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-01
Date Collected: 11/24/14 13:15
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-1
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	48		2.0	0.46	mg/L			12/08/14 20:49	2
DOC Dup	48		2.0	0.46	mg/L			12/08/14 20:49	2

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Matrix: Water

Date Collected: 11/24/14 14:10

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/28/14 22:23	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/28/14 22:23	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/28/14 22:23	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 22:23	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/28/14 22:23	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/28/14 22:23	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 22:23	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/28/14 22:23	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/28/14 22:23	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/28/14 22:23	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/28/14 22:23	1
Acetone	<5.0		5.0	1.3	ug/L			11/28/14 22:23	1
Acrolein	<100		100	11	ug/L			11/28/14 22:23	1
Acrylonitrile	<20		20	2.6	ug/L			11/28/14 22:23	1
Benzene	<0.50		0.50	0.074	ug/L			11/28/14 22:23	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/28/14 22:23	1
Bromoform	<1.0		1.0	0.28	ug/L			11/28/14 22:23	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/28/14 22:23	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/28/14 22:23	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/28/14 22:23	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/28/14 22:23	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/28/14 22:23	1
Chloroform	<1.0		1.0	0.20	ug/L			11/28/14 22:23	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/28/14 22:23	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/28/14 22:23	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/28/14 22:23	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/28/14 22:23	1
Ethylbenzene	<0.50		0.50	0.13	ug/L			11/28/14 22:23	1
m&p-Xylene	<1.0		1.0	0.26	ug/L			11/28/14 22:23	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/28/14 22:23	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/28/14 22:23	1
o-Xylene	<0.50		0.50	0.068	ug/L			11/28/14 22:23	1
Styrene	<1.0		1.0	0.10	ug/L			11/28/14 22:23	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/28/14 22:23	1
Toluene	<0.50		0.50	0.11	ug/L			11/28/14 22:23	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/28/14 22:23	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/28/14 22:23	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/28/14 22:23	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/28/14 22:23	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/28/14 22:23	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/28/14 22:23	1
Xylenes, Total	<1.0		1.0	0.068	ug/L			11/28/14 22:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	93		75 - 125				11/28/14 22:23	1	
4-Bromofluorobenzene (Surr)	102		75 - 120				11/28/14 22:23	1	
Dibromofluoromethane	87		75 - 120				11/28/14 22:23	1	
Toluene-d8 (Surr)	98		75 - 120				11/28/14 22:23	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-02
Date Collected: 11/24/14 14:10
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 08:50		1
1,2-Dichlorobenzene	<1.5		1.5	0.19	ug/L	11/26/14 19:10	12/10/14 08:50		1
1,2-Diphenylhydrazine	<3.8		3.8	0.47	ug/L	11/26/14 19:10	12/10/14 08:50		1
1,3-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 08:50		1
1,4-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,4,5-Trichlorophenol	<7.7		7.7	2.0	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,4,6-Trichlorophenol	<3.8		3.8	0.55	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,4-Dichlorophenol	<7.7		7.7	2.0	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,4-Dimethylphenol	<7.7		7.7	1.4	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,4-Dinitrophenol	<15		15	6.6	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,4-Dinitrotoluene	<0.77		0.77	0.19	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,6-Dichlorophenol	<7.7		7.7	2.7	ug/L	11/26/14 19:10	12/10/14 08:50		1
2,6-Dinitrotoluene	<0.38		0.38	0.057	ug/L	11/26/14 19:10	12/10/14 08:50		1
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 08:50		1
2-Chlorophenol	<3.8		3.8	0.43	ug/L	11/26/14 19:10	12/10/14 08:50		1
2-Methylnaphthalene	<0.38		0.38	0.050	ug/L	11/26/14 19:10	12/10/14 08:50		1
2-Methylphenol	<1.5		1.5	0.23	ug/L	11/26/14 19:10	12/10/14 08:50		1
2-Nitroaniline	<3.8		3.8	0.99	ug/L	11/26/14 19:10	12/10/14 08:50		1
2-Nitrophenol	<7.7		7.7	1.9	ug/L	11/26/14 19:10	12/10/14 08:50		1
3 & 4 Methylphenol	<1.5		1.5	0.35	ug/L	11/26/14 19:10	12/10/14 08:50		1
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L	11/26/14 19:10	12/10/14 08:50		1
3-Nitroaniline	<7.7		7.7	1.4	ug/L	11/26/14 19:10	12/10/14 08:50		1
4,6-Dinitro-2-methylphenol	<15		15	4.5	ug/L	11/26/14 19:10	12/10/14 08:50		1
4-Bromophenyl phenyl ether	<3.8		3.8	0.42	ug/L	11/26/14 19:10	12/10/14 08:50		1
4-Chloro-3-methylphenol	<7.7		7.7	1.8	ug/L	11/26/14 19:10	12/10/14 08:50		1
4-Chloroaniline	<7.7		7.7	1.5	ug/L	11/26/14 19:10	12/10/14 08:50		1
4-Chlorophenyl phenyl ether	<3.8		3.8	0.49	ug/L	11/26/14 19:10	12/10/14 08:50		1
4-Nitroaniline	<7.7		7.7	1.3	ug/L	11/26/14 19:10	12/10/14 08:50		1
4-Nitrophenol	<15		15	5.7	ug/L	11/26/14 19:10	12/10/14 08:50		1
Acenaphthene	<0.77		0.77	0.24	ug/L	11/26/14 19:10	12/10/14 08:50		1
Acenaphthylene	<0.77		0.77	0.21	ug/L	11/26/14 19:10	12/10/14 08:50		1
Acetophenone	<3.8		3.8	0.51	ug/L	11/26/14 19:10	12/10/14 08:50		1
Aniline	<15		15	4.0	ug/L	11/26/14 19:10	12/10/14 08:50		1
Anthracene	<0.77		0.77	0.26	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzidine	<31		31	5.3	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzo[a]anthracene	<0.15		0.15	0.044	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzo[a]pyrene	<0.15		0.15	0.076	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzo[b]fluoranthene	<0.15		0.15	0.062	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzo[g,h,i]perylene	<0.77		0.77	0.29	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzo[k]fluoranthene	<0.15		0.15	0.049	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzoic acid	<15		15	4.4	ug/L	11/26/14 19:10	12/10/14 08:50		1
Benzyl alcohol	<15 *		15	4.6	ug/L	11/26/14 19:10	12/10/14 08:50		1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.22	ug/L	11/26/14 19:10	12/10/14 08:50		1
Bis(2-chloroethyl)ether	<1.5		1.5	0.23	ug/L	11/26/14 19:10	12/10/14 08:50		1
Bis(2-ethylhexyl) phthalate	<7.7		7.7	1.3	ug/L	11/26/14 19:10	12/10/14 08:50		1
Butyl benzyl phthalate	<1.5		1.5	0.37	ug/L	11/26/14 19:10	12/10/14 08:50		1
Carbazole	<3.8		3.8	0.27	ug/L	11/26/14 19:10	12/10/14 08:50		1
Chrysene	<0.38		0.38	0.052	ug/L	11/26/14 19:10	12/10/14 08:50		1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Date Collected: 11/24/14 14:10

Matrix: Water

Date Received: 11/26/14 10:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<0.23		0.23	0.039	ug/L		11/26/14 19:10	12/10/14 08:50	1
Dibenzofuran	<1.5		1.5	0.20	ug/L		11/26/14 19:10	12/10/14 08:50	1
Diethyl phthalate	<1.5		1.5	0.28	ug/L		11/26/14 19:10	12/10/14 08:50	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		11/26/14 19:10	12/10/14 08:50	1
Di-n-butyl phthalate	<3.8		3.8	0.56	ug/L		11/26/14 19:10	12/10/14 08:50	1
Di-n-octyl phthalate	<7.7		7.7	0.81	ug/L		11/26/14 19:10	12/10/14 08:50	1
Fluoranthene	<0.77		0.77	0.35	ug/L		11/26/14 19:10	12/10/14 08:50	1
Fluorene	<0.77		0.77	0.19	ug/L		11/26/14 19:10	12/10/14 08:50	1
Hexachlorobenzene	<0.38		0.38	0.061	ug/L		11/26/14 19:10	12/10/14 08:50	1
Hexachlorobutadiene	<3.8		3.8	0.40	ug/L		11/26/14 19:10	12/10/14 08:50	1
Hexachlorocyclopentadiene	<15		15	4.9	ug/L		11/26/14 19:10	12/10/14 08:50	1
Hexachloroethane	<3.8		3.8	0.46	ug/L		11/26/14 19:10	12/10/14 08:50	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.058	ug/L		11/26/14 19:10	12/10/14 08:50	1
Isophorone	<1.5		1.5	0.29	ug/L		11/26/14 19:10	12/10/14 08:50	1
Naphthalene	<0.77		0.77	0.24	ug/L		11/26/14 19:10	12/10/14 08:50	1
Nitrobenzene	<0.77		0.77	0.35	ug/L		11/26/14 19:10	12/10/14 08:50	1
N-Nitrosodiethylamine	<15		15	6.6	ug/L		11/26/14 19:10	12/10/14 08:50	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		11/26/14 19:10	12/10/14 08:50	1
N-Nitrosodiphenylamine	<0.77		0.77	0.28	ug/L		11/26/14 19:10	12/10/14 08:50	1
Pentachlorophenol	<15		15	3.0	ug/L		11/26/14 19:10	12/10/14 08:50	1
Phenanthrene	<0.77		0.77	0.23	ug/L		11/26/14 19:10	12/10/14 08:50	1
Phenol	<3.8		3.8	0.52	ug/L		11/26/14 19:10	12/10/14 08:50	1
Pyrene	<0.77		0.77	0.33	ug/L		11/26/14 19:10	12/10/14 08:50	1
Pyridine	<15		15	3.8	ug/L		11/26/14 19:10	12/10/14 08:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		53 - 150				11/26/14 19:10	12/10/14 08:50	1
2-Fluorobiphenyl	69		41 - 132				11/26/14 19:10	12/10/14 08:50	1
2-Fluorophenol (Surr)	46		32 - 110				11/26/14 19:10	12/10/14 08:50	1
Nitrobenzene-d5 (Surr)	71		47 - 134				11/26/14 19:10	12/10/14 08:50	1
Phenol-d5 (Surr)	35		25 - 100				11/26/14 19:10	12/10/14 08:50	1
Terphenyl-d14 (Surr)	78		59 - 150				11/26/14 19:10	12/10/14 08:50	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:02	1
Barium	0.043		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:02	1
Cadmium	0.00098	J B	0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:02	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:02	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:02	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:02	1
Silver	<0.0050		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 09:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	20		1.0	0.23	mg/L			12/08/14 17:59	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-02
Date Collected: 11/24/14 14:10
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-2
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	20		1.0	0.23	mg/L			12/08/14 17:59	1
DOC Dup	20		1.0	0.23	mg/L			12/08/14 17:59	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-03

Lab Sample ID: 500-88490-3

Matrix: Water

Date Collected: 11/24/14 15:35

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/28/14 22:49	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/28/14 22:49	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/28/14 22:49	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 22:49	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/28/14 22:49	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/28/14 22:49	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 22:49	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/28/14 22:49	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/28/14 22:49	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/28/14 22:49	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/28/14 22:49	1
Acetone	<5.0		5.0	1.3	ug/L			11/28/14 22:49	1
Acrolein	<100		100	11	ug/L			11/28/14 22:49	1
Acrylonitrile	<20		20	2.6	ug/L			11/28/14 22:49	1
Benzene	1.2		0.50	0.074	ug/L			11/28/14 22:49	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/28/14 22:49	1
Bromoform	<1.0		1.0	0.28	ug/L			11/28/14 22:49	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/28/14 22:49	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/28/14 22:49	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/28/14 22:49	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/28/14 22:49	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/28/14 22:49	1
Chloroform	<1.0		1.0	0.20	ug/L			11/28/14 22:49	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/28/14 22:49	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/28/14 22:49	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/28/14 22:49	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/28/14 22:49	1
Ethylbenzene	3.2		0.50	0.13	ug/L			11/28/14 22:49	1
m&p-Xylene	4.8		1.0	0.26	ug/L			11/28/14 22:49	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/28/14 22:49	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/28/14 22:49	1
o-Xylene	2.3		0.50	0.068	ug/L			11/28/14 22:49	1
Styrene	<1.0		1.0	0.10	ug/L			11/28/14 22:49	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/28/14 22:49	1
Toluene	2.4		0.50	0.11	ug/L			11/28/14 22:49	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/28/14 22:49	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/28/14 22:49	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/28/14 22:49	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/28/14 22:49	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/28/14 22:49	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/28/14 22:49	1
Xylenes, Total	7.1		1.0	0.068	ug/L			11/28/14 22:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	97		75 - 125				11/28/14 22:49	1	
4-Bromofluorobenzene (Surr)	103		75 - 120				11/28/14 22:49	1	
Dibromofluoromethane	88		75 - 120				11/28/14 22:49	1	
Toluene-d8 (Surr)	99		75 - 120				11/28/14 22:49	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-03
Date Collected: 11/24/14 15:35
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<8.2		8.2	0.97	ug/L		11/26/14 19:10	12/10/14 03:29	5
1,2-Dichlorobenzene	<8.2		8.2	1.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
1,2-Diphenylhydrazine	<21		21	2.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
1,3-Dichlorobenzene	<8.2		8.2	0.86	ug/L		11/26/14 19:10	12/10/14 03:29	5
1,4-Dichlorobenzene	<8.2		8.2	0.86	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,2'-oxybis[1-chloropropane]	<8.2		8.2	1.6	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,4,5-Trichlorophenol	<41		41	11	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,4,6-Trichlorophenol	<21		21	2.9	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,4-Dichlorophenol	<41		41	11	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,4-Dimethylphenol	<41		41	7.4	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,4-Dinitrophenol	<82		82	35	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,4-Dinitrotoluene	<4.1		4.1	1.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,6-Dichlorophenol	<41		41	14	ug/L		11/26/14 19:10	12/10/14 03:29	5
2,6-Dinitrotoluene	<2.1		2.1	0.30	ug/L		11/26/14 19:10	12/10/14 03:29	5
2-Chloronaphthalene	<8.2		8.2	0.96	ug/L		11/26/14 19:10	12/10/14 03:29	5
2-Chlorophenol	<21		21	2.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
2-Methylnaphthalene	<2.1		2.1	0.27	ug/L		11/26/14 19:10	12/10/14 03:29	5
2-Methylphenol	<8.2		8.2	1.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
2-Nitroaniline	<21		21	5.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
2-Nitrophenol	<41		41	10	ug/L		11/26/14 19:10	12/10/14 03:29	5
3 & 4 Methylphenol	<8.2		8.2	1.8	ug/L		11/26/14 19:10	12/10/14 03:29	5
3,3'-Dichlorobenzidine	<21		21	7.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
3-Nitroaniline	<41		41	7.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
4,6-Dinitro-2-methylphenol	<82		82	24	ug/L		11/26/14 19:10	12/10/14 03:29	5
4-Bromophenyl phenyl ether	<21		21	2.2	ug/L		11/26/14 19:10	12/10/14 03:29	5
4-Chloro-3-methylphenol	<41		41	9.4	ug/L		11/26/14 19:10	12/10/14 03:29	5
4-Chloroaniline	<41		41	8.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
4-Chlorophenyl phenyl ether	<21		21	2.6	ug/L		11/26/14 19:10	12/10/14 03:29	5
4-Nitroaniline	<41		41	6.8	ug/L		11/26/14 19:10	12/10/14 03:29	5
4-Nitrophenol	<82		82	30	ug/L		11/26/14 19:10	12/10/14 03:29	5
Acenaphthene	<4.1		4.1	1.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
Acenaphthylene	<4.1		4.1	1.1	ug/L		11/26/14 19:10	12/10/14 03:29	5
Acetophenone	<21		21	2.7	ug/L		11/26/14 19:10	12/10/14 03:29	5
Aniline	<82		82	22	ug/L		11/26/14 19:10	12/10/14 03:29	5
Anthracene	<4.1		4.1	1.4	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzidine	<160		160	28	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzo[a]anthracene	<0.82		0.82	0.23	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzo[a]pyrene	<0.82		0.82	0.41	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzo[b]fluoranthene	<0.82		0.82	0.33	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzo[g,h,i]perylene	<4.1		4.1	1.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzo[k]fluoranthene	<0.82		0.82	0.26	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzoic acid	<82		82	24	ug/L		11/26/14 19:10	12/10/14 03:29	5
Benzyl alcohol	<82 *		82	25	ug/L		11/26/14 19:10	12/10/14 03:29	5
Bis(2-chloroethoxy)methane	<8.2		8.2	1.2	ug/L		11/26/14 19:10	12/10/14 03:29	5
Bis(2-chloroethyl)ether	<8.2		8.2	1.2	ug/L		11/26/14 19:10	12/10/14 03:29	5
Bis(2-ethylhexyl) phthalate	<41		41	7.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
Butyl benzyl phthalate	<8.2		8.2	2.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
Carbazole	<21		21	1.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
Chrysene	<2.1		2.1	0.28	ug/L		11/26/14 19:10	12/10/14 03:29	5

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-03
Date Collected: 11/24/14 15:35
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<1.2		1.2	0.21	ug/L		11/26/14 19:10	12/10/14 03:29	5
Dibenzofuran	<8.2		8.2	1.1	ug/L		11/26/14 19:10	12/10/14 03:29	5
Diethyl phthalate	<8.2		8.2	1.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
Dimethyl phthalate	<8.2		8.2	1.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
Di-n-butyl phthalate	<21		21	3.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
Di-n-octyl phthalate	<41		41	4.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
Fluoranthene	<4.1		4.1	1.9	ug/L		11/26/14 19:10	12/10/14 03:29	5
Fluorene	<4.1		4.1	1.0	ug/L		11/26/14 19:10	12/10/14 03:29	5
Hexachlorobenzene	<2.1		2.1	0.33	ug/L		11/26/14 19:10	12/10/14 03:29	5
Hexachlorobutadiene	<21		21	2.1	ug/L		11/26/14 19:10	12/10/14 03:29	5
Hexachlorocyclopentadiene	<82		82	26	ug/L		11/26/14 19:10	12/10/14 03:29	5
Hexachloroethane	<21		21	2.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
Indeno[1,2,3-cd]pyrene	<0.82		0.82	0.31	ug/L		11/26/14 19:10	12/10/14 03:29	5
Isophorone	<8.2		8.2	1.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
Naphthalene	<4.1		4.1	1.3	ug/L		11/26/14 19:10	12/10/14 03:29	5
Nitrobenzene	<4.1		4.1	1.8	ug/L		11/26/14 19:10	12/10/14 03:29	5
N-Nitrosodiethylamine	<82		82	35	ug/L		11/26/14 19:10	12/10/14 03:29	5
N-Nitrosodi-n-propylamine	<2.1		2.1	0.63	ug/L		11/26/14 19:10	12/10/14 03:29	5
N-Nitrosodiphenylamine	<4.1		4.1	1.5	ug/L		11/26/14 19:10	12/10/14 03:29	5
Pentachlorophenol	<82		82	16	ug/L		11/26/14 19:10	12/10/14 03:29	5
Phenanthrene	<4.1		4.1	1.2	ug/L		11/26/14 19:10	12/10/14 03:29	5
Phenol	<21		21	2.8	ug/L		11/26/14 19:10	12/10/14 03:29	5
Pyrene	<4.1		4.1	1.7	ug/L		11/26/14 19:10	12/10/14 03:29	5
Pyridine	<82		82	21	ug/L		11/26/14 19:10	12/10/14 03:29	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	119		53 - 150	11/26/14 19:10	12/10/14 03:29	5
2-Fluorobiphenyl	79		41 - 132	11/26/14 19:10	12/10/14 03:29	5
2-Fluorophenol (Surr)	40		32 - 110	11/26/14 19:10	12/10/14 03:29	5
Nitrobenzene-d5 (Surr)	62		47 - 134	11/26/14 19:10	12/10/14 03:29	5
Phenol-d5 (Surr)	37		25 - 100	11/26/14 19:10	12/10/14 03:29	5
Terphenyl-d14 (Surr)	92		59 - 150	11/26/14 19:10	12/10/14 03:29	5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:23	1
Barium	0.041		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:23	1
Cadmium	0.0010 J B		0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:23	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:23	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:23	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:23	1
Silver	0.00084 J B		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	46		2.0	0.46	mg/L			12/08/14 21:05	2

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-03
Date Collected: 11/24/14 15:35
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-3
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	46		2.0	0.46	mg/L			12/08/14 21:05	2
DOC Dup	46		2.0	0.46	mg/L			12/08/14 21:05	2

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Matrix: Water

Date Collected: 11/24/14 16:40

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/28/14 23:15	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/28/14 23:15	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/28/14 23:15	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 23:15	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/28/14 23:15	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/28/14 23:15	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 23:15	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/28/14 23:15	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/28/14 23:15	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/28/14 23:15	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/28/14 23:15	1
Acetone	6.3		5.0	1.3	ug/L			11/28/14 23:15	1
Acrolein	<100		100	11	ug/L			11/28/14 23:15	1
Acrylonitrile	<20		20	2.6	ug/L			11/28/14 23:15	1
Benzene	<0.50		0.50	0.074	ug/L			11/28/14 23:15	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/28/14 23:15	1
Bromoform	<1.0		1.0	0.28	ug/L			11/28/14 23:15	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/28/14 23:15	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/28/14 23:15	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/28/14 23:15	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/28/14 23:15	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/28/14 23:15	1
Chloroform	<1.0		1.0	0.20	ug/L			11/28/14 23:15	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/28/14 23:15	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/28/14 23:15	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/28/14 23:15	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/28/14 23:15	1
Ethylbenzene	<0.50		0.50	0.13	ug/L			11/28/14 23:15	1
m&p-Xylene	1.6		1.0	0.26	ug/L			11/28/14 23:15	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/28/14 23:15	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/28/14 23:15	1
o-Xylene	<0.50		0.50	0.068	ug/L			11/28/14 23:15	1
Styrene	<1.0		1.0	0.10	ug/L			11/28/14 23:15	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/28/14 23:15	1
Toluene	0.29 J		0.50	0.11	ug/L			11/28/14 23:15	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/28/14 23:15	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/28/14 23:15	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/28/14 23:15	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/28/14 23:15	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/28/14 23:15	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/28/14 23:15	1
Xylenes, Total	1.6		1.0	0.068	ug/L			11/28/14 23:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	93		75 - 125				11/28/14 23:15	1	
4-Bromofluorobenzene (Surr)	102		75 - 120				11/28/14 23:15	1	
Dibromofluoromethane	88		75 - 120				11/28/14 23:15	1	
Toluene-d8 (Surr)	96		75 - 120				11/28/14 23:15	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-04
Date Collected: 11/24/14 16:40
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 03:54	1	1
1,2-Dichlorobenzene	<1.5		1.5	0.19	ug/L	11/26/14 19:10	12/10/14 03:54	1	2
1,2-Diphenylhydrazine	<3.9		3.9	0.47	ug/L	11/26/14 19:10	12/10/14 03:54	1	3
1,3-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 03:54	1	4
1,4-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 03:54	1	5
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L	11/26/14 19:10	12/10/14 03:54	1	6
2,4,5-Trichlorophenol	<7.7		7.7	2.0	ug/L	11/26/14 19:10	12/10/14 03:54	1	7
2,4,6-Trichlorophenol	<3.9		3.9	0.55	ug/L	11/26/14 19:10	12/10/14 03:54	1	8
2,4-Dichlorophenol	<7.7		7.7	2.0	ug/L	11/26/14 19:10	12/10/14 03:54	1	9
2,4-Dimethylphenol	<7.7		7.7	1.4	ug/L	11/26/14 19:10	12/10/14 03:54	1	10
2,4-Dinitrophenol	<15		15	6.6	ug/L	11/26/14 19:10	12/10/14 03:54	1	11
2,4-Dinitrotoluene	<0.77		0.77	0.19	ug/L	11/26/14 19:10	12/10/14 03:54	1	12
2,6-Dichlorophenol	<7.7		7.7	2.7	ug/L	11/26/14 19:10	12/10/14 03:54	1	13
2,6-Dinitrotoluene	<0.39		0.39	0.057	ug/L	11/26/14 19:10	12/10/14 03:54	1	14
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 03:54	1	15
2-Chlorophenol	<3.9		3.9	0.43	ug/L	11/26/14 19:10	12/10/14 03:54	1	16
2-Methylnaphthalene	<0.39		0.39	0.050	ug/L	11/26/14 19:10	12/10/14 03:54	1	17
2-Methylphenol	<1.5		1.5	0.23	ug/L	11/26/14 19:10	12/10/14 03:54	1	18
2-Nitroaniline	<3.9		3.9	0.99	ug/L	11/26/14 19:10	12/10/14 03:54	1	19
2-Nitrophenol	<7.7		7.7	1.9	ug/L	11/26/14 19:10	12/10/14 03:54	1	20
3 & 4 Methylphenol	<1.5		1.5	0.35	ug/L	11/26/14 19:10	12/10/14 03:54	1	21
3,3'-Dichlorobenzidine	<3.9		3.9	1.3	ug/L	11/26/14 19:10	12/10/14 03:54	1	22
3-Nitroaniline	<7.7		7.7	1.4	ug/L	11/26/14 19:10	12/10/14 03:54	1	23
4,6-Dinitro-2-methylphenol	<15		15	4.5	ug/L	11/26/14 19:10	12/10/14 03:54	1	24
4-Bromophenyl phenyl ether	<3.9		3.9	0.42	ug/L	11/26/14 19:10	12/10/14 03:54	1	25
4-Chloro-3-methylphenol	<7.7		7.7	1.8	ug/L	11/26/14 19:10	12/10/14 03:54	1	26
4-Chloroaniline	<7.7		7.7	1.6	ug/L	11/26/14 19:10	12/10/14 03:54	1	27
4-Chlorophenyl phenyl ether	<3.9		3.9	0.49	ug/L	11/26/14 19:10	12/10/14 03:54	1	28
4-Nitroaniline	<7.7		7.7	1.3	ug/L	11/26/14 19:10	12/10/14 03:54	1	29
4-Nitrophenol	<15		15	5.7	ug/L	11/26/14 19:10	12/10/14 03:54	1	30
Acenaphthene	0.56 J		0.77	0.24	ug/L	11/26/14 19:10	12/10/14 03:54	1	31
Acenaphthylene	<0.77		0.77	0.21	ug/L	11/26/14 19:10	12/10/14 03:54	1	32
Acetophenone	<3.9		3.9	0.51	ug/L	11/26/14 19:10	12/10/14 03:54	1	33
Aniline	<15		15	4.1	ug/L	11/26/14 19:10	12/10/14 03:54	1	34
Anthracene	<0.77		0.77	0.26	ug/L	11/26/14 19:10	12/10/14 03:54	1	35
Benzidine	<31		31	5.3	ug/L	11/26/14 19:10	12/10/14 03:54	1	36
Benzo[a]anthracene	<0.15		0.15	0.044	ug/L	11/26/14 19:10	12/10/14 03:54	1	37
Benzo[a]pyrene	<0.15		0.15	0.076	ug/L	11/26/14 19:10	12/10/14 03:54	1	38
Benzo[b]fluoranthene	<0.15		0.15	0.062	ug/L	11/26/14 19:10	12/10/14 03:54	1	39
Benzo[g,h,i]perylene	<0.77		0.77	0.29	ug/L	11/26/14 19:10	12/10/14 03:54	1	40
Benzo[k]fluoranthene	<0.15		0.15	0.049	ug/L	11/26/14 19:10	12/10/14 03:54	1	41
Benzoic acid	<15		15	4.4	ug/L	11/26/14 19:10	12/10/14 03:54	1	42
Benzyl alcohol	<15 *		15	4.7	ug/L	11/26/14 19:10	12/10/14 03:54	1	43
Bis(2-chloroethoxy)methane	<1.5		1.5	0.22	ug/L	11/26/14 19:10	12/10/14 03:54	1	44
Bis(2-chloroethyl)ether	<1.5		1.5	0.23	ug/L	11/26/14 19:10	12/10/14 03:54	1	45
Bis(2-ethylhexyl) phthalate	<7.7		7.7	1.3	ug/L	11/26/14 19:10	12/10/14 03:54	1	46
Butyl benzyl phthalate	<1.5		1.5	0.37	ug/L	11/26/14 19:10	12/10/14 03:54	1	47
Carbazole	<3.9		3.9	0.27	ug/L	11/26/14 19:10	12/10/14 03:54	1	48
Chrysene	<0.39		0.39	0.052	ug/L	11/26/14 19:10	12/10/14 03:54	1	49

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Matrix: Water

Date Collected: 11/24/14 16:40
Date Received: 11/26/14 10:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<0.23		0.23	0.039	ug/L		11/26/14 19:10	12/10/14 03:54	1
Dibenzofuran	<1.5		1.5	0.20	ug/L		11/26/14 19:10	12/10/14 03:54	1
Diethyl phthalate	<1.5		1.5	0.28	ug/L		11/26/14 19:10	12/10/14 03:54	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		11/26/14 19:10	12/10/14 03:54	1
Di-n-butyl phthalate	<3.9		3.9	0.56	ug/L		11/26/14 19:10	12/10/14 03:54	1
Di-n-octyl phthalate	<7.7		7.7	0.81	ug/L		11/26/14 19:10	12/10/14 03:54	1
Fluoranthene	<0.77		0.77	0.35	ug/L		11/26/14 19:10	12/10/14 03:54	1
Fluorene	0.30 J		0.77	0.19	ug/L		11/26/14 19:10	12/10/14 03:54	1
Hexachlorobenzene	<0.39		0.39	0.061	ug/L		11/26/14 19:10	12/10/14 03:54	1
Hexachlorobutadiene	<3.9		3.9	0.40	ug/L		11/26/14 19:10	12/10/14 03:54	1
Hexachlorocyclopentadiene	<15		15	4.9	ug/L		11/26/14 19:10	12/10/14 03:54	1
Hexachloroethane	<3.9		3.9	0.46	ug/L		11/26/14 19:10	12/10/14 03:54	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.058	ug/L		11/26/14 19:10	12/10/14 03:54	1
Isophorone	<1.5		1.5	0.29	ug/L		11/26/14 19:10	12/10/14 03:54	1
Naphthalene	<0.77		0.77	0.24	ug/L		11/26/14 19:10	12/10/14 03:54	1
Nitrobenzene	<0.77		0.77	0.35	ug/L		11/26/14 19:10	12/10/14 03:54	1
N-Nitrosodiethylamine	<15		15	6.6	ug/L		11/26/14 19:10	12/10/14 03:54	1
N-Nitrosodi-n-propylamine	<0.39		0.39	0.12	ug/L		11/26/14 19:10	12/10/14 03:54	1
N-Nitrosodiphenylamine	<0.77		0.77	0.29	ug/L		11/26/14 19:10	12/10/14 03:54	1
Pentachlorophenol	<15		15	3.0	ug/L		11/26/14 19:10	12/10/14 03:54	1
Phenanthrene	<0.77		0.77	0.23	ug/L		11/26/14 19:10	12/10/14 03:54	1
Phenol	<3.9		3.9	0.52	ug/L		11/26/14 19:10	12/10/14 03:54	1
Pyrene	<0.77		0.77	0.33	ug/L		11/26/14 19:10	12/10/14 03:54	1
Pyridine	<15		15	3.9	ug/L		11/26/14 19:10	12/10/14 03:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	89		53 - 150	11/26/14 19:10	12/10/14 03:54	1
2-Fluorobiphenyl	72		41 - 132	11/26/14 19:10	12/10/14 03:54	1
2-Fluorophenol (Surr)	47		32 - 110	11/26/14 19:10	12/10/14 03:54	1
Nitrobenzene-d5 (Surr)	77		47 - 134	11/26/14 19:10	12/10/14 03:54	1
Phenol-d5 (Surr)	40		25 - 100	11/26/14 19:10	12/10/14 03:54	1
Terphenyl-d14 (Surr)	71		59 - 150	11/26/14 19:10	12/10/14 03:54	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:27	1
Barium	0.025		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:27	1
Cadmium	0.00068 J B		0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:27	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:27	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:27	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:27	1
Silver	<0.0050		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	12		1.0	0.23	mg/L			12/08/14 18:51	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Date Collected: 11/24/14 16:40

Matrix: Water

Date Received: 11/26/14 10:25

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	12		1.0	0.23	mg/L			12/08/14 18:51	1
DOC Dup	12		1.0	0.23	mg/L			12/08/14 18:51	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-05

Lab Sample ID: 500-88490-5

Matrix: Water

Date Collected: 11/25/14 08:55

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L		11/28/14 23:42		1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L		11/28/14 23:42		1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L		11/28/14 23:42		1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L		11/28/14 23:42		1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L		11/28/14 23:42		1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L		11/28/14 23:42		1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L		11/28/14 23:42		1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L		11/28/14 23:42		1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L		11/28/14 23:42		1
2-Hexanone	<5.0		5.0	0.56	ug/L		11/28/14 23:42		1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L		11/28/14 23:42		1
Acetone	14		5.0	1.3	ug/L		11/28/14 23:42		1
Acrolein	<100		100	11	ug/L		11/28/14 23:42		1
Acrylonitrile	<20		20	2.6	ug/L		11/28/14 23:42		1
Benzene	14		0.50	0.074	ug/L		11/28/14 23:42		1
Bromodichloromethane	<1.0		1.0	0.17	ug/L		11/28/14 23:42		1
Bromoform	<1.0		1.0	0.28	ug/L		11/28/14 23:42		1
Bromomethane	<1.0		1.0	0.31	ug/L		11/28/14 23:42		1
Carbon disulfide	<5.0		5.0	0.43	ug/L		11/28/14 23:42		1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L		11/28/14 23:42		1
Chlorobenzene	<1.0		1.0	0.14	ug/L		11/28/14 23:42		1
Chloroethane	<1.0		1.0	0.34	ug/L		11/28/14 23:42		1
Chloroform	<1.0		1.0	0.20	ug/L		11/28/14 23:42		1
Chloromethane	<1.0		1.0	0.18	ug/L		11/28/14 23:42		1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L		11/28/14 23:42		1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L		11/28/14 23:42		1
Dibromochloromethane	<1.0		1.0	0.32	ug/L		11/28/14 23:42		1
Ethylbenzene	0.44 J		0.50	0.13	ug/L		11/28/14 23:42		1
m&p-Xylene	7.3		1.0	0.26	ug/L		11/28/14 23:42		1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L		11/28/14 23:42		1
Methylene Chloride	<5.0		5.0	0.68	ug/L		11/28/14 23:42		1
o-Xylene	2.5		0.50	0.068	ug/L		11/28/14 23:42		1
Styrene	<1.0		1.0	0.10	ug/L		11/28/14 23:42		1
Tetrachloroethene	<1.0		1.0	0.17	ug/L		11/28/14 23:42		1
Toluene	3.5		0.50	0.11	ug/L		11/28/14 23:42		1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L		11/28/14 23:42		1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L		11/28/14 23:42		1
Trichloroethene	<0.50		0.50	0.19	ug/L		11/28/14 23:42		1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L		11/28/14 23:42		1
Vinyl acetate	<2.0		2.0	0.33	ug/L		11/28/14 23:42		1
Vinyl chloride	<0.50		0.50	0.10	ug/L		11/28/14 23:42		1
Xylenes, Total	9.8		1.0	0.068	ug/L		11/28/14 23:42		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	97		75 - 125				11/28/14 23:42		1
4-Bromofluorobenzene (Surr)	101		75 - 120				11/28/14 23:42		1
Dibromofluoromethane	90		75 - 120				11/28/14 23:42		1
Toluene-d8 (Surr)	100		75 - 120				11/28/14 23:42		1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-05
Date Collected: 11/25/14 08:55
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 04:18		1
1,2-Dichlorobenzene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 04:18		1
1,2-Diphenylhydrazine	<3.8		3.8	0.46	ug/L	11/26/14 19:10	12/10/14 04:18		1
1,3-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 04:18		1
1,4-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,4,5-Trichlorophenol	<7.5		7.5	1.9	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,4,6-Trichlorophenol	<3.8		3.8	0.54	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,4-Dichlorophenol	<7.5		7.5	2.0	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,4-Dimethylphenol	<7.5		7.5	1.4	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,4-Dinitrophenol	<15		15	6.4	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,4-Dinitrotoluene	<0.75		0.75	0.18	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,6-Dichlorophenol	<7.5		7.5	2.6	ug/L	11/26/14 19:10	12/10/14 04:18		1
2,6-Dinitrotoluene	<0.38		0.38	0.055	ug/L	11/26/14 19:10	12/10/14 04:18		1
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 04:18		1
2-Chlorophenol	<3.8		3.8	0.42	ug/L	11/26/14 19:10	12/10/14 04:18		1
2-Methylnaphthalene	<0.38		0.38	0.049	ug/L	11/26/14 19:10	12/10/14 04:18		1
2-Methylphenol	<1.5		1.5	0.23	ug/L	11/26/14 19:10	12/10/14 04:18		1
2-Nitroaniline	<3.8		3.8	0.97	ug/L	11/26/14 19:10	12/10/14 04:18		1
2-Nitrophenol	<7.5		7.5	1.9	ug/L	11/26/14 19:10	12/10/14 04:18		1
3 & 4 Methylphenol	<1.5		1.5	0.34	ug/L	11/26/14 19:10	12/10/14 04:18		1
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L	11/26/14 19:10	12/10/14 04:18		1
3-Nitroaniline	<7.5		7.5	1.3	ug/L	11/26/14 19:10	12/10/14 04:18		1
4,6-Dinitro-2-methylphenol	<15		15	4.4	ug/L	11/26/14 19:10	12/10/14 04:18		1
4-Bromophenyl phenyl ether	<3.8		3.8	0.41	ug/L	11/26/14 19:10	12/10/14 04:18		1
4-Chloro-3-methylphenol	<7.5		7.5	1.7	ug/L	11/26/14 19:10	12/10/14 04:18		1
4-Chloroaniline	<7.5		7.5	1.5	ug/L	11/26/14 19:10	12/10/14 04:18		1
4-Chlorophenyl phenyl ether	<3.8		3.8	0.48	ug/L	11/26/14 19:10	12/10/14 04:18		1
4-Nitroaniline	<7.5		7.5	1.2	ug/L	11/26/14 19:10	12/10/14 04:18		1
4-Nitrophenol	<15		15	5.6	ug/L	11/26/14 19:10	12/10/14 04:18		1
Acenaphthene	<0.75		0.75	0.23	ug/L	11/26/14 19:10	12/10/14 04:18		1
Acenaphthylene	<0.75		0.75	0.20	ug/L	11/26/14 19:10	12/10/14 04:18		1
Acetophenone	<3.8		3.8	0.50	ug/L	11/26/14 19:10	12/10/14 04:18		1
Aniline	<15		15	4.0	ug/L	11/26/14 19:10	12/10/14 04:18		1
Anthracene	<0.75		0.75	0.25	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzidine	<30		30	5.2	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzo[a]anthracene	<0.15		0.15	0.043	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzo[a]pyrene	<0.15		0.15	0.074	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzo[b]fluoranthene	<0.15		0.15	0.061	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzo[g,h,i]perylene	<0.75		0.75	0.28	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzo[k]fluoranthene	<0.15		0.15	0.048	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzoic acid	<15		15	4.3	ug/L	11/26/14 19:10	12/10/14 04:18		1
Benzyl alcohol	<15 *		15	4.5	ug/L	11/26/14 19:10	12/10/14 04:18		1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L	11/26/14 19:10	12/10/14 04:18		1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L	11/26/14 19:10	12/10/14 04:18		1
Bis(2-ethylhexyl) phthalate	<7.5		7.5	1.3	ug/L	11/26/14 19:10	12/10/14 04:18		1
Butyl benzyl phthalate	<1.5		1.5	0.36	ug/L	11/26/14 19:10	12/10/14 04:18		1
Carbazole	<3.8		3.8	0.27	ug/L	11/26/14 19:10	12/10/14 04:18		1
Chrysene	<0.38		0.38	0.051	ug/L	11/26/14 19:10	12/10/14 04:18		1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-05
Date Collected: 11/25/14 08:55
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<0.23		0.23	0.038	ug/L		11/26/14 19:10	12/10/14 04:18	1
Dibenzofuran	<1.5		1.5	0.20	ug/L		11/26/14 19:10	12/10/14 04:18	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		11/26/14 19:10	12/10/14 04:18	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		11/26/14 19:10	12/10/14 04:18	1
Di-n-butyl phthalate	<3.8		3.8	0.55	ug/L		11/26/14 19:10	12/10/14 04:18	1
Di-n-octyl phthalate	<7.5		7.5	0.79	ug/L		11/26/14 19:10	12/10/14 04:18	1
Fluoranthene	<0.75		0.75	0.34	ug/L		11/26/14 19:10	12/10/14 04:18	1
Fluorene	<0.75		0.75	0.18	ug/L		11/26/14 19:10	12/10/14 04:18	1
Hexachlorobenzene	<0.38		0.38	0.060	ug/L		11/26/14 19:10	12/10/14 04:18	1
Hexachlorobutadiene	<3.8		3.8	0.39	ug/L		11/26/14 19:10	12/10/14 04:18	1
Hexachlorocyclopentadiene	<15		15	4.8	ug/L		11/26/14 19:10	12/10/14 04:18	1
Hexachloroethane	<3.8		3.8	0.45	ug/L		11/26/14 19:10	12/10/14 04:18	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.056	ug/L		11/26/14 19:10	12/10/14 04:18	1
Isophorone	<1.5		1.5	0.28	ug/L		11/26/14 19:10	12/10/14 04:18	1
Naphthalene	<0.75		0.75	0.23	ug/L		11/26/14 19:10	12/10/14 04:18	1
Nitrobenzene	<0.75		0.75	0.34	ug/L		11/26/14 19:10	12/10/14 04:18	1
N-Nitrosodiethylamine	<15		15	6.4	ug/L		11/26/14 19:10	12/10/14 04:18	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		11/26/14 19:10	12/10/14 04:18	1
N-Nitrosodiphenylamine	<0.75		0.75	0.28	ug/L		11/26/14 19:10	12/10/14 04:18	1
Pentachlorophenol	<15		15	3.0	ug/L		11/26/14 19:10	12/10/14 04:18	1
Phenanthrene	<0.75		0.75	0.23	ug/L		11/26/14 19:10	12/10/14 04:18	1
Phenol	<3.8		3.8	0.50	ug/L		11/26/14 19:10	12/10/14 04:18	1
Pyrene	<0.75		0.75	0.32	ug/L		11/26/14 19:10	12/10/14 04:18	1
Pyridine	<15		15	3.8	ug/L		11/26/14 19:10	12/10/14 04:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	49	X	53 - 150				11/26/14 19:10	12/10/14 04:18	1
2-Fluorobiphenyl	30	X	41 - 132				11/26/14 19:10	12/10/14 04:18	1
2-Fluorophenol (Surr)	43		32 - 110				11/26/14 19:10	12/10/14 04:18	1
Nitrobenzene-d5 (Surr)	61		47 - 134				11/26/14 19:10	12/10/14 04:18	1
Phenol-d5 (Surr)	34		25 - 100				11/26/14 19:10	12/10/14 04:18	1
Terphenyl-d14 (Surr)	75		59 - 150				11/26/14 19:10	12/10/14 04:18	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:31	1
Barium	0.077		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:31	1
Cadmium	0.0011 J B		0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:31	1
Chromium	0.0010 J		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:31	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:31	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:31	1
Silver	0.00086 J B		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:31	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	39		2.0	0.46	mg/L			12/08/14 21:48	2

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-05
Date Collected: 11/25/14 08:55
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-5
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	41		2.0	0.46	mg/L			12/08/14 21:48	2
DOC Dup	40		2.0	0.46	mg/L			12/08/14 21:48	2

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-06

Lab Sample ID: 500-88490-6

Matrix: Water

Date Collected: 11/25/14 10:00

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/29/14 00:08	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/29/14 00:08	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/29/14 00:08	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 00:08	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/29/14 00:08	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/29/14 00:08	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 00:08	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/29/14 00:08	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/29/14 00:08	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/29/14 00:08	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/29/14 00:08	1
Acetone	6.5		5.0	1.3	ug/L			11/29/14 00:08	1
Acrolein	<100		100	11	ug/L			11/29/14 00:08	1
Acrylonitrile	<20		20	2.6	ug/L			11/29/14 00:08	1
Benzene	14		0.50	0.074	ug/L			11/29/14 00:08	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/29/14 00:08	1
Bromoform	<1.0		1.0	0.28	ug/L			11/29/14 00:08	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/29/14 00:08	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/29/14 00:08	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/29/14 00:08	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/29/14 00:08	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/29/14 00:08	1
Chloroform	<1.0		1.0	0.20	ug/L			11/29/14 00:08	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/29/14 00:08	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/29/14 00:08	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/29/14 00:08	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/29/14 00:08	1
Ethylbenzene	<0.50		0.50	0.13	ug/L			11/29/14 00:08	1
m&p-Xylene	1.5		1.0	0.26	ug/L			11/29/14 00:08	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/29/14 00:08	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/29/14 00:08	1
o-Xylene	<0.50		0.50	0.068	ug/L			11/29/14 00:08	1
Styrene	<1.0		1.0	0.10	ug/L			11/29/14 00:08	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/29/14 00:08	1
Toluene	0.64		0.50	0.11	ug/L			11/29/14 00:08	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/29/14 00:08	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/29/14 00:08	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/29/14 00:08	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/29/14 00:08	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/29/14 00:08	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/29/14 00:08	1
Xylenes, Total	1.5		1.0	0.068	ug/L			11/29/14 00:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	95		75 - 125				11/29/14 00:08	1	
4-Bromofluorobenzene (Surr)	101		75 - 120				11/29/14 00:08	1	
Dibromofluoromethane	89		75 - 120				11/29/14 00:08	1	
Toluene-d8 (Surr)	98		75 - 120				11/29/14 00:08	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-06
Date Collected: 11/25/14 10:00
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 04:43	1	1
1,2-Dichlorobenzene	<1.5		1.5	0.19	ug/L	11/26/14 19:10	12/10/14 04:43	1	2
1,2-Diphenylhydrazine	<3.8		3.8	0.46	ug/L	11/26/14 19:10	12/10/14 04:43	1	3
1,3-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 04:43	1	4
1,4-Dichlorobenzene	<1.5		1.5	0.16	ug/L	11/26/14 19:10	12/10/14 04:43	1	5
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L	11/26/14 19:10	12/10/14 04:43	1	6
2,4,5-Trichlorophenol	<7.6		7.6	1.9	ug/L	11/26/14 19:10	12/10/14 04:43	1	7
2,4,6-Trichlorophenol	<3.8		3.8	0.54	ug/L	11/26/14 19:10	12/10/14 04:43	1	8
2,4-Dichlorophenol	<7.6		7.6	2.0	ug/L	11/26/14 19:10	12/10/14 04:43	1	9
2,4-Dimethylphenol	<7.6		7.6	1.4	ug/L	11/26/14 19:10	12/10/14 04:43	1	10
2,4-Dinitrophenol	<15		15	6.5	ug/L	11/26/14 19:10	12/10/14 04:43	1	11
2,4-Dinitrotoluene	<0.76		0.76	0.19	ug/L	11/26/14 19:10	12/10/14 04:43	1	12
2,6-Dichlorophenol	<7.6		7.6	2.6	ug/L	11/26/14 19:10	12/10/14 04:43	1	13
2,6-Dinitrotoluene	<0.38		0.38	0.056	ug/L	11/26/14 19:10	12/10/14 04:43	1	14
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L	11/26/14 19:10	12/10/14 04:43	1	15
2-Chlorophenol	<3.8		3.8	0.42	ug/L	11/26/14 19:10	12/10/14 04:43	1	16
2-Methylnaphthalene	0.27 J		0.38	0.049	ug/L	11/26/14 19:10	12/10/14 04:43	1	17
2-Methylphenol	<1.5		1.5	0.23	ug/L	11/26/14 19:10	12/10/14 04:43	1	18
2-Nitroaniline	<3.8		3.8	0.98	ug/L	11/26/14 19:10	12/10/14 04:43	1	19
2-Nitrophenol	<7.6		7.6	1.9	ug/L	11/26/14 19:10	12/10/14 04:43	1	20
3 & 4 Methylphenol	<1.5		1.5	0.34	ug/L	11/26/14 19:10	12/10/14 04:43	1	21
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L	11/26/14 19:10	12/10/14 04:43	1	22
3-Nitroaniline	<7.6		7.6	1.4	ug/L	11/26/14 19:10	12/10/14 04:43	1	23
4,6-Dinitro-2-methylphenol	<15		15	4.5	ug/L	11/26/14 19:10	12/10/14 04:43	1	24
4-Bromophenyl phenyl ether	<3.8		3.8	0.41	ug/L	11/26/14 19:10	12/10/14 04:43	1	25
4-Chloro-3-methylphenol	<7.6		7.6	1.7	ug/L	11/26/14 19:10	12/10/14 04:43	1	26
4-Chloroaniline	<7.6		7.6	1.5	ug/L	11/26/14 19:10	12/10/14 04:43	1	27
4-Chlorophenyl phenyl ether	<3.8		3.8	0.48	ug/L	11/26/14 19:10	12/10/14 04:43	1	28
4-Nitroaniline	<7.6		7.6	1.3	ug/L	11/26/14 19:10	12/10/14 04:43	1	29
4-Nitrophenol	<15		15	5.6	ug/L	11/26/14 19:10	12/10/14 04:43	1	30
Acenaphthene	<0.76		0.76	0.23	ug/L	11/26/14 19:10	12/10/14 04:43	1	31
Acenaphthylene	<0.76		0.76	0.20	ug/L	11/26/14 19:10	12/10/14 04:43	1	32
Acetophenone	<3.8		3.8	0.50	ug/L	11/26/14 19:10	12/10/14 04:43	1	33
Aniline	<15		15	4.0	ug/L	11/26/14 19:10	12/10/14 04:43	1	34
Anthracene	<0.76		0.76	0.25	ug/L	11/26/14 19:10	12/10/14 04:43	1	35
Benzidine	<30		30	5.2	ug/L	11/26/14 19:10	12/10/14 04:43	1	36
Benzo[a]anthracene	<0.15		0.15	0.043	ug/L	11/26/14 19:10	12/10/14 04:43	1	37
Benzo[a]pyrene	<0.15		0.15	0.075	ug/L	11/26/14 19:10	12/10/14 04:43	1	38
Benzo[b]fluoranthene	<0.15		0.15	0.061	ug/L	11/26/14 19:10	12/10/14 04:43	1	39
Benzo[g,h,i]perylene	<0.76		0.76	0.28	ug/L	11/26/14 19:10	12/10/14 04:43	1	40
Benzo[k]fluoranthene	<0.15		0.15	0.049	ug/L	11/26/14 19:10	12/10/14 04:43	1	41
Benzoic acid	<15		15	4.4	ug/L	11/26/14 19:10	12/10/14 04:43	1	42
Benzyl alcohol	<15 *		15	4.6	ug/L	11/26/14 19:10	12/10/14 04:43	1	43
Bis(2-chloroethoxy)methane	<1.5		1.5	0.22	ug/L	11/26/14 19:10	12/10/14 04:43	1	44
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L	11/26/14 19:10	12/10/14 04:43	1	45
Bis(2-ethylhexyl) phthalate	<7.6		7.6	1.3	ug/L	11/26/14 19:10	12/10/14 04:43	1	46
Butyl benzyl phthalate	<1.5		1.5	0.36	ug/L	11/26/14 19:10	12/10/14 04:43	1	47
Carbazole	<3.8		3.8	0.27	ug/L	11/26/14 19:10	12/10/14 04:43	1	48
Chrysene	<0.38		0.38	0.052	ug/L	11/26/14 19:10	12/10/14 04:43	1	49

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-06
Date Collected: 11/25/14 10:00
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<0.23		0.23	0.039	ug/L		11/26/14 19:10	12/10/14 04:43	1
Dibenzofuran	<1.5		1.5	0.20	ug/L		11/26/14 19:10	12/10/14 04:43	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		11/26/14 19:10	12/10/14 04:43	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		11/26/14 19:10	12/10/14 04:43	1
Di-n-butyl phthalate	<3.8		3.8	0.55	ug/L		11/26/14 19:10	12/10/14 04:43	1
Di-n-octyl phthalate	<7.6		7.6	0.80	ug/L		11/26/14 19:10	12/10/14 04:43	1
Fluoranthene	<0.76		0.76	0.34	ug/L		11/26/14 19:10	12/10/14 04:43	1
Fluorene	<0.76		0.76	0.19	ug/L		11/26/14 19:10	12/10/14 04:43	1
Hexachlorobenzene	<0.38		0.38	0.060	ug/L		11/26/14 19:10	12/10/14 04:43	1
Hexachlorobutadiene	<3.8		3.8	0.39	ug/L		11/26/14 19:10	12/10/14 04:43	1
Hexachlorocyclopentadiene	<15		15	4.8	ug/L		11/26/14 19:10	12/10/14 04:43	1
Hexachloroethane	<3.8		3.8	0.45	ug/L		11/26/14 19:10	12/10/14 04:43	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.057	ug/L		11/26/14 19:10	12/10/14 04:43	1
Isophorone	<1.5		1.5	0.28	ug/L		11/26/14 19:10	12/10/14 04:43	1
Naphthalene	<0.76		0.76	0.23	ug/L		11/26/14 19:10	12/10/14 04:43	1
Nitrobenzene	<0.76		0.76	0.34	ug/L		11/26/14 19:10	12/10/14 04:43	1
N-Nitrosodiethylamine	<15		15	6.5	ug/L		11/26/14 19:10	12/10/14 04:43	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		11/26/14 19:10	12/10/14 04:43	1
N-Nitrosodiphenylamine	<0.76		0.76	0.28	ug/L		11/26/14 19:10	12/10/14 04:43	1
Pentachlorophenol	<15		15	3.0	ug/L		11/26/14 19:10	12/10/14 04:43	1
Phenanthrene	<0.76		0.76	0.23	ug/L		11/26/14 19:10	12/10/14 04:43	1
Phenol	<3.8		3.8	0.51	ug/L		11/26/14 19:10	12/10/14 04:43	1
Pyrene	<0.76		0.76	0.32	ug/L		11/26/14 19:10	12/10/14 04:43	1
Pyridine	<15		15	3.8	ug/L		11/26/14 19:10	12/10/14 04:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	81		53 - 150				11/26/14 19:10	12/10/14 04:43	1
2-Fluorobiphenyl	58		41 - 132				11/26/14 19:10	12/10/14 04:43	1
2-Fluorophenol (Surr)	44		32 - 110				11/26/14 19:10	12/10/14 04:43	1
Nitrobenzene-d5 (Surr)	64		47 - 134				11/26/14 19:10	12/10/14 04:43	1
Phenol-d5 (Surr)	37		25 - 100				11/26/14 19:10	12/10/14 04:43	1
Terphenyl-d14 (Surr)	69		59 - 150				11/26/14 19:10	12/10/14 04:43	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0036	J	0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:42	1
Barium	0.043		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:42	1
Cadmium	0.00087	J B	0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:42	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:42	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:42	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:42	1
Silver	0.00081	J B	0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:42	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	16		1.0	0.23	mg/L			12/08/14 19:24	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-06
Date Collected: 11/25/14 10:00
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-6
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	16		1.0	0.23	mg/L			12/08/14 19:24	1
DOC Dup	16		1.0	0.23	mg/L			12/08/14 19:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-07

Lab Sample ID: 500-88490-7

Matrix: Water

Date Collected: 11/25/14 11:35

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/29/14 00:34	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/29/14 00:34	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/29/14 00:34	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 00:34	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/29/14 00:34	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/29/14 00:34	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 00:34	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/29/14 00:34	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/29/14 00:34	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/29/14 00:34	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/29/14 00:34	1
Acetone	17		5.0	1.3	ug/L			11/29/14 00:34	1
Acrolein	<100		100	11	ug/L			11/29/14 00:34	1
Acrylonitrile	<20		20	2.6	ug/L			11/29/14 00:34	1
Benzene	43		0.50	0.074	ug/L			11/29/14 00:34	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/29/14 00:34	1
Bromoform	<1.0		1.0	0.28	ug/L			11/29/14 00:34	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/29/14 00:34	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/29/14 00:34	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/29/14 00:34	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/29/14 00:34	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/29/14 00:34	1
Chloroform	<1.0		1.0	0.20	ug/L			11/29/14 00:34	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/29/14 00:34	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/29/14 00:34	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/29/14 00:34	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/29/14 00:34	1
Ethylbenzene	0.56		0.50	0.13	ug/L			11/29/14 00:34	1
m&p-Xylene	8.5		1.0	0.26	ug/L			11/29/14 00:34	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/29/14 00:34	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/29/14 00:34	1
o-Xylene	2.9		0.50	0.068	ug/L			11/29/14 00:34	1
Styrene	<1.0		1.0	0.10	ug/L			11/29/14 00:34	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/29/14 00:34	1
Toluene	2.1		0.50	0.11	ug/L			11/29/14 00:34	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/29/14 00:34	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/29/14 00:34	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/29/14 00:34	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/29/14 00:34	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/29/14 00:34	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/29/14 00:34	1
Xylenes, Total	11		1.0	0.068	ug/L			11/29/14 00:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	97		75 - 125				11/29/14 00:34	1	
4-Bromofluorobenzene (Surr)	104		75 - 120				11/29/14 00:34	1	
Dibromofluoromethane	89		75 - 120				11/29/14 00:34	1	
Toluene-d8 (Surr)	98		75 - 120				11/29/14 00:34	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-07
Date Collected: 11/25/14 11:35
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<7.7		7.7	0.91	ug/L		11/26/14 19:10	12/10/14 05:07	5
1,2-Dichlorobenzene	<7.7		7.7	0.94	ug/L		11/26/14 19:10	12/10/14 05:07	5
1,2-Diphenylhydrazine	<19		19	2.3	ug/L		11/26/14 19:10	12/10/14 05:07	5
1,3-Dichlorobenzene	<7.7		7.7	0.80	ug/L		11/26/14 19:10	12/10/14 05:07	5
1,4-Dichlorobenzene	<7.7		7.7	0.80	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,2'-oxybis[1-chloropropane]	<7.7		7.7	1.5	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,4,5-Trichlorophenol	<38		38	9.8	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,4,6-Trichlorophenol	<19		19	2.7	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,4-Dichlorophenol	<38		38	10	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,4-Dimethylphenol	<38		38	6.9	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,4-Dinitrophenol	<77		77	33	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,4-Dinitrotoluene	<3.8		3.8	0.94	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,6-Dichlorophenol	<38		38	13	ug/L		11/26/14 19:10	12/10/14 05:07	5
2,6-Dinitrotoluene	<1.9		1.9	0.28	ug/L		11/26/14 19:10	12/10/14 05:07	5
2-Chloronaphthalene	<7.7		7.7	0.90	ug/L		11/26/14 19:10	12/10/14 05:07	5
2-Chlorophenol	<19		19	2.1	ug/L		11/26/14 19:10	12/10/14 05:07	5
2-Methylnaphthalene	10		1.9	0.25	ug/L		11/26/14 19:10	12/10/14 05:07	5
2-Methylphenol	<7.7		7.7	1.2	ug/L		11/26/14 19:10	12/10/14 05:07	5
2-Nitroaniline	<19		19	4.9	ug/L		11/26/14 19:10	12/10/14 05:07	5
2-Nitrophenol	<38		38	9.6	ug/L		11/26/14 19:10	12/10/14 05:07	5
3 & 4 Methylphenol	<7.7		7.7	1.7	ug/L		11/26/14 19:10	12/10/14 05:07	5
3,3'-Dichlorobenzidine	<19		19	6.6	ug/L		11/26/14 19:10	12/10/14 05:07	5
3-Nitroaniline	<38		38	6.9	ug/L		11/26/14 19:10	12/10/14 05:07	5
4,6-Dinitro-2-methylphenol	<77		77	23	ug/L		11/26/14 19:10	12/10/14 05:07	5
4-Bromophenyl phenyl ether	<19		19	2.1	ug/L		11/26/14 19:10	12/10/14 05:07	5
4-Chloro-3-methylphenol	<38		38	8.8	ug/L		11/26/14 19:10	12/10/14 05:07	5
4-Chloroaniline	<38		38	7.7	ug/L		11/26/14 19:10	12/10/14 05:07	5
4-Chlorophenyl phenyl ether	<19		19	2.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
4-Nitroaniline	<38		38	6.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
4-Nitrophenol	<77		77	28	ug/L		11/26/14 19:10	12/10/14 05:07	5
Acenaphthene	1.8 J		3.8	1.2	ug/L		11/26/14 19:10	12/10/14 05:07	5
Acenaphthylene	<3.8		3.8	1.0	ug/L		11/26/14 19:10	12/10/14 05:07	5
Acetophenone	<19		19	2.5	ug/L		11/26/14 19:10	12/10/14 05:07	5
Aniline	<77		77	20	ug/L		11/26/14 19:10	12/10/14 05:07	5
Anthracene	<3.8		3.8	1.3	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzidine	<150		150	26	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzo[a]anthracene	<0.77		0.77	0.22	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzo[a]pyrene	<0.77		0.77	0.38	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzo[b]fluoranthene	<0.77		0.77	0.31	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzo[g,h,i]perylene	<3.8		3.8	1.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzo[k]fluoranthene	<0.77		0.77	0.25	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzoic acid	<77		77	22	ug/L		11/26/14 19:10	12/10/14 05:07	5
Benzyl alcohol	<77 *		77	23	ug/L		11/26/14 19:10	12/10/14 05:07	5
Bis(2-chloroethoxy)methane	<7.7		7.7	1.1	ug/L		11/26/14 19:10	12/10/14 05:07	5
Bis(2-chloroethyl)ether	<7.7		7.7	1.1	ug/L		11/26/14 19:10	12/10/14 05:07	5
Bis(2-ethylhexyl) phthalate	<38		38	6.6	ug/L		11/26/14 19:10	12/10/14 05:07	5
Butyl benzyl phthalate	<7.7		7.7	1.8	ug/L		11/26/14 19:10	12/10/14 05:07	5
Carbazole	<19		19	1.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
Chrysene	<1.9		1.9	0.26	ug/L		11/26/14 19:10	12/10/14 05:07	5

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-07
Date Collected: 11/25/14 11:35
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<1.2		1.2	0.19	ug/L		11/26/14 19:10	12/10/14 05:07	5
Dibenzofuran	<7.7		7.7	1.0	ug/L		11/26/14 19:10	12/10/14 05:07	5
Diethyl phthalate	<7.7		7.7	1.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
Dimethyl phthalate	<7.7		7.7	1.2	ug/L		11/26/14 19:10	12/10/14 05:07	5
Di-n-butyl phthalate	<19		19	2.8	ug/L		11/26/14 19:10	12/10/14 05:07	5
Di-n-octyl phthalate	<38		38	4.0	ug/L		11/26/14 19:10	12/10/14 05:07	5
Fluoranthene	<3.8		3.8	1.7	ug/L		11/26/14 19:10	12/10/14 05:07	5
Fluorene	1.7 J		3.8	0.93	ug/L		11/26/14 19:10	12/10/14 05:07	5
Hexachlorobenzene	<1.9		1.9	0.30	ug/L		11/26/14 19:10	12/10/14 05:07	5
Hexachlorobutadiene	<19		19	2.0	ug/L		11/26/14 19:10	12/10/14 05:07	5
Hexachlorocyclopentadiene	<77		77	24	ug/L		11/26/14 19:10	12/10/14 05:07	5
Hexachloroethane	<19		19	2.3	ug/L		11/26/14 19:10	12/10/14 05:07	5
Indeno[1,2,3-cd]pyrene	<0.77		0.77	0.29	ug/L		11/26/14 19:10	12/10/14 05:07	5
Isophorone	<7.7		7.7	1.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
Naphthalene	<3.8		3.8	1.2	ug/L		11/26/14 19:10	12/10/14 05:07	5
Nitrobenzene	<3.8		3.8	1.7	ug/L		11/26/14 19:10	12/10/14 05:07	5
N-Nitrosodiethylamine	<77		77	33	ug/L		11/26/14 19:10	12/10/14 05:07	5
N-Nitrosodi-n-propylamine	<1.9		1.9	0.59	ug/L		11/26/14 19:10	12/10/14 05:07	5
N-Nitrosodiphenylamine	<3.8		3.8	1.4	ug/L		11/26/14 19:10	12/10/14 05:07	5
Pentachlorophenol	<77		77	15	ug/L		11/26/14 19:10	12/10/14 05:07	5
Phenanthrene	<3.8		3.8	1.2	ug/L		11/26/14 19:10	12/10/14 05:07	5
Phenol	<19		19	2.6	ug/L		11/26/14 19:10	12/10/14 05:07	5
Pyrene	<3.8		3.8	1.6	ug/L		11/26/14 19:10	12/10/14 05:07	5
Pyridine	<77		77	19	ug/L		11/26/14 19:10	12/10/14 05:07	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		53 - 150				11/26/14 19:10	12/10/14 05:07	5
2-Fluorobiphenyl	67		41 - 132				11/26/14 19:10	12/10/14 05:07	5
2-Fluorophenol (Surr)	51		32 - 110				11/26/14 19:10	12/10/14 05:07	5
Nitrobenzene-d5 (Surr)	68		47 - 134				11/26/14 19:10	12/10/14 05:07	5
Phenol-d5 (Surr)	44		25 - 100				11/26/14 19:10	12/10/14 05:07	5
Terphenyl-d14 (Surr)	74		59 - 150				11/26/14 19:10	12/10/14 05:07	5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.017		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:46	1
Barium	0.075		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:46	1
Cadmium	0.00084 J B		0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:46	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:46	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:46	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:46	1
Silver	0.00081 J B		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	52		2.0	0.46	mg/L			12/08/14 22:32	2

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-07
Date Collected: 11/25/14 11:35
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-7
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	55		2.0	0.46	mg/L			12/08/14 22:32	2
DOC Dup	54		2.0	0.46	mg/L			12/08/14 22:32	2

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-08

Lab Sample ID: 500-88490-8

Matrix: Water

Date Collected: 11/25/14 12:00

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			12/01/14 11:12	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			12/01/14 11:12	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			12/01/14 11:12	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			12/01/14 11:12	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			12/01/14 11:12	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			12/01/14 11:12	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			12/01/14 11:12	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			12/01/14 11:12	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			12/01/14 11:12	1
2-Hexanone	<5.0		5.0	0.56	ug/L			12/01/14 11:12	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			12/01/14 11:12	1
Acetone	<5.0		5.0	1.3	ug/L			12/01/14 11:12	1
Acrolein	<100		100	11	ug/L			12/01/14 11:12	1
Acrylonitrile	<20		20	2.6	ug/L			12/01/14 11:12	1
Benzene	73		0.50	0.074	ug/L			12/01/14 11:12	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			12/01/14 11:12	1
Bromoform	<1.0		1.0	0.28	ug/L			12/01/14 11:12	1
Bromomethane	<1.0		1.0	0.31	ug/L			12/01/14 11:12	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			12/01/14 11:12	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			12/01/14 11:12	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			12/01/14 11:12	1
Chloroethane	<1.0		1.0	0.34	ug/L			12/01/14 11:12	1
Chloroform	<1.0		1.0	0.20	ug/L			12/01/14 11:12	1
Chloromethane	<1.0		1.0	0.18	ug/L			12/01/14 11:12	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			12/01/14 11:12	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			12/01/14 11:12	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			12/01/14 11:12	1
Ethylbenzene	1.5		0.50	0.13	ug/L			12/01/14 11:12	1
m&p-Xylene	31		1.0	0.26	ug/L			12/01/14 11:12	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			12/01/14 11:12	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			12/01/14 11:12	1
o-Xylene	4.6		0.50	0.068	ug/L			12/01/14 11:12	1
Styrene	<1.0		1.0	0.10	ug/L			12/01/14 11:12	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			12/01/14 11:12	1
Toluene	4.2		0.50	0.11	ug/L			12/01/14 11:12	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			12/01/14 11:12	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			12/01/14 11:12	1
Trichloroethene	<0.50		0.50	0.19	ug/L			12/01/14 11:12	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			12/01/14 11:12	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			12/01/14 11:12	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			12/01/14 11:12	1
Xylenes, Total	35		1.0	0.068	ug/L			12/01/14 11:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	95		75 - 125				12/01/14 11:12	1	
4-Bromofluorobenzene (Surr)	102		75 - 120				12/01/14 11:12	1	
Dibromofluoromethane	89		75 - 120				12/01/14 11:12	1	
Toluene-d8 (Surr)	96		75 - 120				12/01/14 11:12	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-08
Date Collected: 11/25/14 12:00
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-8
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<16		16	1.8	ug/L		11/26/14 19:10	12/10/14 23:02	10
1,2-Dichlorobenzene	<16		16	1.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
1,2-Diphenylhydrazine	<39		39	4.7	ug/L		11/26/14 19:10	12/10/14 23:02	10
1,3-Dichlorobenzene	<16		16	1.6	ug/L		11/26/14 19:10	12/10/14 23:02	10
1,4-Dichlorobenzene	<16		16	1.6	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,2'-oxybis[1-chloropropane]	<16		16	2.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,4,5-Trichlorophenol	<78		78	20	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,4,6-Trichlorophenol	<39		39	5.6	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,4-Dichlorophenol	<78		78	20	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,4-Dimethylphenol	<78		78	14	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,4-Dinitrophenol	<160		160	67	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,4-Dinitrotoluene	<7.8		7.8	1.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,6-Dichlorophenol	<78		78	27	ug/L		11/26/14 19:10	12/10/14 23:02	10
2,6-Dinitrotoluene	<3.9		3.9	0.57	ug/L		11/26/14 19:10	12/10/14 23:02	10
2-Chloronaphthalene	<16		16	1.8	ug/L		11/26/14 19:10	12/10/14 23:02	10
2-Chlorophenol	<39		39	4.3	ug/L		11/26/14 19:10	12/10/14 23:02	10
2-Methylnaphthalene	8.0		3.9	0.50	ug/L		11/26/14 19:10	12/10/14 23:02	10
2-Methylphenol	<16		16	2.4	ug/L		11/26/14 19:10	12/10/14 23:02	10
2-Nitroaniline	<39		39	10	ug/L		11/26/14 19:10	12/10/14 23:02	10
2-Nitrophenol	<78		78	19	ug/L		11/26/14 19:10	12/10/14 23:02	10
3 & 4 Methylphenol	<16		16	3.5	ug/L		11/26/14 19:10	12/10/14 23:02	10
3,3'-Dichlorobenzidine	<39		39	13	ug/L		11/26/14 19:10	12/10/14 23:02	10
3-Nitroaniline	<78		78	14	ug/L		11/26/14 19:10	12/10/14 23:02	10
4,6-Dinitro-2-methylphenol	<160		160	46	ug/L		11/26/14 19:10	12/10/14 23:02	10
4-Bromophenyl phenyl ether	<39		39	4.2	ug/L		11/26/14 19:10	12/10/14 23:02	10
4-Chloro-3-methylphenol	<78		78	18	ug/L		11/26/14 19:10	12/10/14 23:02	10
4-Chloroaniline	<78		78	16	ug/L		11/26/14 19:10	12/10/14 23:02	10
4-Chlorophenyl phenyl ether	<39		39	4.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
4-Nitroaniline	<78		78	13	ug/L		11/26/14 19:10	12/10/14 23:02	10
4-Nitrophenol	<160		160	58	ug/L		11/26/14 19:10	12/10/14 23:02	10
Acenaphthene	<7.8		7.8	2.4	ug/L		11/26/14 19:10	12/10/14 23:02	10
Acenaphthylene	<7.8		7.8	2.1	ug/L		11/26/14 19:10	12/10/14 23:02	10
Acetophenone	<39		39	5.1	ug/L		11/26/14 19:10	12/10/14 23:02	10
Aniline	<160		160	41	ug/L		11/26/14 19:10	12/10/14 23:02	10
Anthracene	<7.8		7.8	2.6	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzidine	<310		310	53	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzo[a]anthracene	<1.6		1.6	0.44	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzo[a]pyrene	<1.6		1.6	0.77	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzo[b]fluoranthene	<1.6		1.6	0.63	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzo[g,h,i]perylene	<7.8		7.8	2.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzo[k]fluoranthene	<1.6		1.6	0.50	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzoic acid	<160		160	45	ug/L		11/26/14 19:10	12/10/14 23:02	10
Benzyl alcohol	<160 *		160	47	ug/L		11/26/14 19:10	12/10/14 23:02	10
Bis(2-chloroethoxy)methane	<16		16	2.2	ug/L		11/26/14 19:10	12/10/14 23:02	10
Bis(2-chloroethyl)ether	<16		16	2.3	ug/L		11/26/14 19:10	12/10/14 23:02	10
Bis(2-ethylhexyl) phthalate	<78		78	13	ug/L		11/26/14 19:10	12/10/14 23:02	10
Butyl benzyl phthalate	<16		16	3.7	ug/L		11/26/14 19:10	12/10/14 23:02	10
Carbazole	<39		39	2.7	ug/L		11/26/14 19:10	12/10/14 23:02	10
Chrysene	<3.9		3.9	0.53	ug/L		11/26/14 19:10	12/10/14 23:02	10

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-08
Date Collected: 11/25/14 12:00
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-8
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<2.3		2.3	0.39	ug/L		11/26/14 19:10	12/10/14 23:02	10
Dibenzofuran	<16		16	2.0	ug/L		11/26/14 19:10	12/10/14 23:02	10
Diethyl phthalate	<16		16	2.8	ug/L		11/26/14 19:10	12/10/14 23:02	10
Dimethyl phthalate	<16		16	2.4	ug/L		11/26/14 19:10	12/10/14 23:02	10
Di-n-butyl phthalate	<39		39	5.7	ug/L		11/26/14 19:10	12/10/14 23:02	10
Di-n-octyl phthalate	<78		78	8.1	ug/L		11/26/14 19:10	12/10/14 23:02	10
Fluoranthene	<7.8		7.8	3.5	ug/L		11/26/14 19:10	12/10/14 23:02	10
Fluorene	<7.8		7.8	1.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
Hexachlorobenzene	<3.9		3.9	0.62	ug/L		11/26/14 19:10	12/10/14 23:02	10
Hexachlorobutadiene	<39		39	4.0	ug/L		11/26/14 19:10	12/10/14 23:02	10
Hexachlorocyclopentadiene	<160		160	49	ug/L		11/26/14 19:10	12/10/14 23:02	10
Hexachloroethane	<39		39	4.6	ug/L		11/26/14 19:10	12/10/14 23:02	10
Indeno[1,2,3-cd]pyrene	<1.6		1.6	0.58	ug/L		11/26/14 19:10	12/10/14 23:02	10
Isophorone	<16		16	2.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
Naphthalene	<7.8		7.8	2.4	ug/L		11/26/14 19:10	12/10/14 23:02	10
Nitrobenzene	<7.8		7.8	3.5	ug/L		11/26/14 19:10	12/10/14 23:02	10
N-Nitrosodiethylamine	<160		160	67	ug/L		11/26/14 19:10	12/10/14 23:02	10
N-Nitrosodi-n-propylamine	<3.9		3.9	1.2	ug/L		11/26/14 19:10	12/10/14 23:02	10
N-Nitrosodiphenylamine	<7.8		7.8	2.9	ug/L		11/26/14 19:10	12/10/14 23:02	10
Pentachlorophenol	<160		160	31	ug/L		11/26/14 19:10	12/10/14 23:02	10
Phenanthrene	2.4 J		7.8	2.3	ug/L		11/26/14 19:10	12/10/14 23:02	10
Phenol	<39		39	5.2	ug/L		11/26/14 19:10	12/10/14 23:02	10
Pyrene	<7.8		7.8	3.3	ug/L		11/26/14 19:10	12/10/14 23:02	10
Pyridine	<160		160	39	ug/L		11/26/14 19:10	12/10/14 23:02	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	84		53 - 150	11/26/14 19:10	12/10/14 23:02	10
2-Fluorobiphenyl	57		41 - 132	11/26/14 19:10	12/10/14 23:02	10
2-Fluorophenol (Surr)	27 X		32 - 110	11/26/14 19:10	12/10/14 23:02	10
Nitrobenzene-d5 (Surr)	49		47 - 134	11/26/14 19:10	12/10/14 23:02	10
Phenol-d5 (Surr)	22 X		25 - 100	11/26/14 19:10	12/10/14 23:02	10
Terphenyl-d14 (Surr)	62		59 - 150	11/26/14 19:10	12/10/14 23:02	10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.013		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:50	1
Barium	0.070		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:50	1
Cadmium	0.00097 J B		0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:50	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:50	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:50	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:50	1
Silver	<0.0050		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	49		2.0	0.46	mg/L			12/08/14 23:06	2

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-08
Date Collected: 11/25/14 12:00
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-8
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	52		2.0	0.46	mg/L			12/08/14 23:06	2
DOC Dup	50		2.0	0.46	mg/L			12/08/14 23:06	2

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-09

Lab Sample ID: 500-88490-9

Matrix: Water

Date Collected: 11/25/14 12:15

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/29/14 01:00	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/29/14 01:00	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/29/14 01:00	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 01:00	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/29/14 01:00	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/29/14 01:00	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 01:00	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/29/14 01:00	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/29/14 01:00	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/29/14 01:00	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/29/14 01:00	1
Acetone	13		5.0	1.3	ug/L			11/29/14 01:00	1
Acrolein	<100		100	11	ug/L			11/29/14 01:00	1
Acrylonitrile	<20		20	2.6	ug/L			11/29/14 01:00	1
Benzene	68		0.50	0.074	ug/L			11/29/14 01:00	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/29/14 01:00	1
Bromoform	<1.0		1.0	0.28	ug/L			11/29/14 01:00	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/29/14 01:00	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/29/14 01:00	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/29/14 01:00	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/29/14 01:00	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/29/14 01:00	1
Chloroform	<1.0		1.0	0.20	ug/L			11/29/14 01:00	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/29/14 01:00	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/29/14 01:00	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/29/14 01:00	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/29/14 01:00	1
Ethylbenzene	9.7		0.50	0.13	ug/L			11/29/14 01:00	1
m&p-Xylene	40		1.0	0.26	ug/L			11/29/14 01:00	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/29/14 01:00	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/29/14 01:00	1
o-Xylene	13		0.50	0.068	ug/L			11/29/14 01:00	1
Styrene	<1.0		1.0	0.10	ug/L			11/29/14 01:00	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/29/14 01:00	1
Toluene	7.5		0.50	0.11	ug/L			11/29/14 01:00	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/29/14 01:00	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/29/14 01:00	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/29/14 01:00	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/29/14 01:00	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/29/14 01:00	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/29/14 01:00	1
Xylenes, Total	52		1.0	0.068	ug/L			11/29/14 01:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	100		75 - 125				11/29/14 01:00	1	
4-Bromofluorobenzene (Surr)	106		75 - 120				11/29/14 01:00	1	
Dibromofluoromethane	88		75 - 120				11/29/14 01:00	1	
Toluene-d8 (Surr)	99		75 - 120				11/29/14 01:00	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-09
Date Collected: 11/25/14 12:15
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<7.5		7.5	0.88	ug/L		11/26/14 19:10	12/10/14 07:25	5
1,2-Dichlorobenzene	<7.5		7.5	0.92	ug/L		11/26/14 19:10	12/10/14 07:25	5
1,2-Diphenylhydrazine	<19		19	2.3	ug/L		11/26/14 19:10	12/10/14 07:25	5
1,3-Dichlorobenzene	<7.5		7.5	0.78	ug/L		11/26/14 19:10	12/10/14 07:25	5
1,4-Dichlorobenzene	<7.5		7.5	0.78	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,2'-oxybis[1-chloropropane]	<7.5		7.5	1.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,4,5-Trichlorophenol	<37		37	9.6	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,4,6-Trichlorophenol	<19		19	2.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,4-Dichlorophenol	<37		37	9.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,4-Dimethylphenol	<37		37	6.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,4-Dinitrophenol	<75		75	32	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,4-Dinitrotoluene	<3.7		3.7	0.92	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,6-Dichlorophenol	<37		37	13	ug/L		11/26/14 19:10	12/10/14 07:25	5
2,6-Dinitrotoluene	<1.9		1.9	0.28	ug/L		11/26/14 19:10	12/10/14 07:25	5
2-Chloronaphthalene	<7.5		7.5	0.88	ug/L		11/26/14 19:10	12/10/14 07:25	5
2-Chlorophenol	<19		19	2.1	ug/L		11/26/14 19:10	12/10/14 07:25	5
2-Methylnaphthalene	20		1.9	0.24	ug/L		11/26/14 19:10	12/10/14 07:25	5
2-Methylphenol	<7.5		7.5	1.1	ug/L		11/26/14 19:10	12/10/14 07:25	5
2-Nitroaniline	<19		19	4.8	ug/L		11/26/14 19:10	12/10/14 07:25	5
2-Nitrophenol	<37		37	9.3	ug/L		11/26/14 19:10	12/10/14 07:25	5
3 & 4 Methylphenol	<7.5		7.5	1.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
3,3'-Dichlorobenzidine	<19		19	6.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
3-Nitroaniline	<37		37	6.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
4,6-Dinitro-2-methylphenol	<75		75	22	ug/L		11/26/14 19:10	12/10/14 07:25	5
4-Bromophenyl phenyl ether	<19		19	2.0	ug/L		11/26/14 19:10	12/10/14 07:25	5
4-Chloro-3-methylphenol	<37		37	8.6	ug/L		11/26/14 19:10	12/10/14 07:25	5
4-Chloroaniline	<37		37	7.5	ug/L		11/26/14 19:10	12/10/14 07:25	5
4-Chlorophenyl phenyl ether	<19		19	2.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
4-Nitroaniline	<37		37	6.2	ug/L		11/26/14 19:10	12/10/14 07:25	5
4-Nitrophenol	<75		75	28	ug/L		11/26/14 19:10	12/10/14 07:25	5
Acenaphthene	1.3 J		3.7	1.2	ug/L		11/26/14 19:10	12/10/14 07:25	5
Acenaphthylene	<3.7		3.7	1.0	ug/L		11/26/14 19:10	12/10/14 07:25	5
Acetophenone	<19		19	2.5	ug/L		11/26/14 19:10	12/10/14 07:25	5
Aniline	<75		75	20	ug/L		11/26/14 19:10	12/10/14 07:25	5
Anthracene	<3.7		3.7	1.2	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzidine	<150		150	26	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzo[a]anthracene	<0.75		0.75	0.21	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzo[a]pyrene	<0.75		0.75	0.37	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzo[b]fluoranthene	<0.75		0.75	0.30	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzo[g,h,i]perylene	<3.7		3.7	1.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzo[k]fluoranthene	<0.75		0.75	0.24	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzoic acid	<75		75	22	ug/L		11/26/14 19:10	12/10/14 07:25	5
Benzyl alcohol	<75 *		75	23	ug/L		11/26/14 19:10	12/10/14 07:25	5
Bis(2-chloroethoxy)methane	<7.5		7.5	1.1	ug/L		11/26/14 19:10	12/10/14 07:25	5
Bis(2-chloroethyl)ether	<7.5		7.5	1.1	ug/L		11/26/14 19:10	12/10/14 07:25	5
Bis(2-ethylhexyl) phthalate	<37		37	6.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
Butyl benzyl phthalate	<7.5		7.5	1.8	ug/L		11/26/14 19:10	12/10/14 07:25	5
Carbazole	1.6 J		19	1.3	ug/L		11/26/14 19:10	12/10/14 07:25	5
Chrysene	<1.9		1.9	0.25	ug/L		11/26/14 19:10	12/10/14 07:25	5

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-09
Date Collected: 11/25/14 12:15
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	<1.1		1.1	0.19	ug/L		11/26/14 19:10	12/10/14 07:25	5
Dibenzofuran	<7.5		7.5	0.98	ug/L		11/26/14 19:10	12/10/14 07:25	5
Diethyl phthalate	<7.5		7.5	1.3	ug/L		11/26/14 19:10	12/10/14 07:25	5
Dimethyl phthalate	<7.5		7.5	1.2	ug/L		11/26/14 19:10	12/10/14 07:25	5
Di-n-butyl phthalate	<19		19	2.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
Di-n-octyl phthalate	<37		37	3.9	ug/L		11/26/14 19:10	12/10/14 07:25	5
Fluoranthene	<3.7		3.7	1.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
Fluorene	1.6	J	3.7	0.91	ug/L		11/26/14 19:10	12/10/14 07:25	5
Hexachlorobenzene	<1.9		1.9	0.30	ug/L		11/26/14 19:10	12/10/14 07:25	5
Hexachlorobutadiene	<19		19	1.9	ug/L		11/26/14 19:10	12/10/14 07:25	5
Hexachlorocyclopentadiene	<75		75	24	ug/L		11/26/14 19:10	12/10/14 07:25	5
Hexachloroethane	<19		19	2.2	ug/L		11/26/14 19:10	12/10/14 07:25	5
Indeno[1,2,3-cd]pyrene	<0.75		0.75	0.28	ug/L		11/26/14 19:10	12/10/14 07:25	5
Isophorone	<7.5		7.5	1.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
Naphthalene	<3.7		3.7	1.2	ug/L		11/26/14 19:10	12/10/14 07:25	5
Nitrobenzene	<3.7		3.7	1.7	ug/L		11/26/14 19:10	12/10/14 07:25	5
N-Nitrosodiethylamine	<75		75	32	ug/L		11/26/14 19:10	12/10/14 07:25	5
N-Nitrosodi-n-propylamine	<1.9		1.9	0.57	ug/L		11/26/14 19:10	12/10/14 07:25	5
N-Nitrosodiphenylamine	<3.7		3.7	1.4	ug/L		11/26/14 19:10	12/10/14 07:25	5
Pentachlorophenol	<75		75	15	ug/L		11/26/14 19:10	12/10/14 07:25	5
Phenanthrene	<3.7		3.7	1.1	ug/L		11/26/14 19:10	12/10/14 07:25	5
Phenol	<19		19	2.5	ug/L		11/26/14 19:10	12/10/14 07:25	5
Pyrene	<3.7		3.7	1.6	ug/L		11/26/14 19:10	12/10/14 07:25	5
Pyridine	<75		75	19	ug/L		11/26/14 19:10	12/10/14 07:25	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	95		53 - 150				11/26/14 19:10	12/10/14 07:25	5
2-Fluorobiphenyl	69		41 - 132				11/26/14 19:10	12/10/14 07:25	5
2-Fluorophenol (Surr)	46		32 - 110				11/26/14 19:10	12/10/14 07:25	5
Nitrobenzene-d5 (Surr)	73		47 - 134				11/26/14 19:10	12/10/14 07:25	5
Phenol-d5 (Surr)	45		25 - 100				11/26/14 19:10	12/10/14 07:25	5
Terphenyl-d14 (Surr)	85		59 - 150				11/26/14 19:10	12/10/14 07:25	5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0039	J	0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:54	1
Barium	0.086		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:54	1
Cadmium	0.00086	J B	0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:54	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:54	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:54	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:54	1
Silver	0.0011	J B	0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 1	34		1.0	0.23	mg/L			12/08/14 20:33	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-09
Date Collected: 11/25/14 12:15
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-9
Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DOC Result 2	35		1.0	0.23	mg/L			12/08/14 20:33	1
DOC Dup	34		1.0	0.23	mg/L			12/08/14 20:33	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: WC-112514-AK-01

Lab Sample ID: 500-88490-10

Matrix: Water

Date Collected: 11/25/14 17:10

Date Received: 11/26/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/29/14 01:27	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/29/14 01:27	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/29/14 01:27	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 01:27	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/29/14 01:27	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/29/14 01:27	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/29/14 01:27	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/29/14 01:27	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/29/14 01:27	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/29/14 01:27	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/29/14 01:27	1
Acetone	19		5.0	1.3	ug/L			11/29/14 01:27	1
Acrolein	<100		100	11	ug/L			11/29/14 01:27	1
Acrylonitrile	<20		20	2.6	ug/L			11/29/14 01:27	1
Benzene	3.0		0.50	0.074	ug/L			11/29/14 01:27	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/29/14 01:27	1
Bromoform	<1.0		1.0	0.28	ug/L			11/29/14 01:27	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/29/14 01:27	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/29/14 01:27	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/29/14 01:27	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/29/14 01:27	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/29/14 01:27	1
Chloroform	<1.0		1.0	0.20	ug/L			11/29/14 01:27	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/29/14 01:27	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/29/14 01:27	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/29/14 01:27	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/29/14 01:27	1
Ethylbenzene	0.56		0.50	0.13	ug/L			11/29/14 01:27	1
m&p-Xylene	2.6		1.0	0.26	ug/L			11/29/14 01:27	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/29/14 01:27	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/29/14 01:27	1
o-Xylene	1.0		0.50	0.068	ug/L			11/29/14 01:27	1
Styrene	<1.0		1.0	0.10	ug/L			11/29/14 01:27	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/29/14 01:27	1
Toluene	1.0		0.50	0.11	ug/L			11/29/14 01:27	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/29/14 01:27	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/29/14 01:27	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/29/14 01:27	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/29/14 01:27	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/29/14 01:27	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/29/14 01:27	1
Xylenes, Total	3.6		1.0	0.068	ug/L			11/29/14 01:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	99		75 - 125				11/29/14 01:27	1	
4-Bromofluorobenzene (Surr)	104		75 - 120				11/29/14 01:27	1	
Dibromofluoromethane	90		75 - 120				11/29/14 01:27	1	
Toluene-d8 (Surr)	97		75 - 120				11/29/14 01:27	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: WC-112514-AK-01
Date Collected: 11/25/14 17:10
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-10
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<7.4		7.4	0.88	ug/L		11/26/14 19:10	12/10/14 08:26	5
1,2-Dichlorobenzene	<7.4		7.4	0.92	ug/L		11/26/14 19:10	12/10/14 08:26	5
1,2-Diphenylhydrazine	<19		19	2.3	ug/L		11/26/14 19:10	12/10/14 08:26	5
1,3-Dichlorobenzene	<7.4		7.4	0.78	ug/L		11/26/14 19:10	12/10/14 08:26	5
1,4-Dichlorobenzene	<7.4		7.4	0.78	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,2'-oxybis[1-chloropropane]	<7.4		7.4	1.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,4,5-Trichlorophenol	<37		37	9.5	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,4,6-Trichlorophenol	<19		19	2.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,4-Dichlorophenol	<37		37	9.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,4-Dimethylphenol	<37		37	6.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,4-Dinitrophenol	<74		74	32	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,4-Dinitrotoluene	<3.7		3.7	0.91	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,6-Dichlorophenol	<37		37	13	ug/L		11/26/14 19:10	12/10/14 08:26	5
2,6-Dinitrotoluene	<1.9		1.9	0.27	ug/L		11/26/14 19:10	12/10/14 08:26	5
2-Chloronaphthalene	<7.4		7.4	0.87	ug/L		11/26/14 19:10	12/10/14 08:26	5
2-Chlorophenol	<19		19	2.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
2-Methylnaphthalene	4.8		1.9	0.24	ug/L		11/26/14 19:10	12/10/14 08:26	5
2-Methylphenol	<7.4		7.4	1.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
2-Nitroaniline	<19		19	4.8	ug/L		11/26/14 19:10	12/10/14 08:26	5
2-Nitrophenol	<37		37	9.3	ug/L		11/26/14 19:10	12/10/14 08:26	5
3 & 4 Methylphenol	<7.4		7.4	1.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
3,3'-Dichlorobenzidine	<19		19	6.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
3-Nitroaniline	<37		37	6.6	ug/L		11/26/14 19:10	12/10/14 08:26	5
4,6-Dinitro-2-methylphenol	<74		74	22	ug/L		11/26/14 19:10	12/10/14 08:26	5
4-Bromophenyl phenyl ether	<19		19	2.0	ug/L		11/26/14 19:10	12/10/14 08:26	5
4-Chloro-3-methylphenol	<37		37	8.5	ug/L		11/26/14 19:10	12/10/14 08:26	5
4-Chloroaniline	<37		37	7.5	ug/L		11/26/14 19:10	12/10/14 08:26	5
4-Chlorophenyl phenyl ether	<19		19	2.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
4-Nitroaniline	<37		37	6.2	ug/L		11/26/14 19:10	12/10/14 08:26	5
4-Nitrophenol	<74		74	28	ug/L		11/26/14 19:10	12/10/14 08:26	5
Acenaphthene	1.4 J		3.7	1.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
Acenaphthylene	<3.7		3.7	0.99	ug/L		11/26/14 19:10	12/10/14 08:26	5
Acetophenone	<19		19	2.5	ug/L		11/26/14 19:10	12/10/14 08:26	5
Aniline	<74		74	20	ug/L		11/26/14 19:10	12/10/14 08:26	5
Anthracene	1.4 J		3.7	1.2	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzidine	<150		150	26	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzo[a]anthracene	3.1		0.74	0.21	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzo[a]pyrene	2.3		0.74	0.37	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzo[b]fluoranthene	2.0		0.74	0.30	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzo[g,h,i]perylene	<3.7		3.7	1.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzo[k]fluoranthene	<0.74		0.74	0.24	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzoic acid	<74		74	21	ug/L		11/26/14 19:10	12/10/14 08:26	5
Benzyl alcohol	<74 *		74	22	ug/L		11/26/14 19:10	12/10/14 08:26	5
Bis(2-chloroethoxy)methane	<7.4		7.4	1.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
Bis(2-chloroethyl)ether	<7.4		7.4	1.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
Bis(2-ethylhexyl) phthalate	<37		37	6.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
Butyl benzyl phthalate	<7.4		7.4	1.8	ug/L		11/26/14 19:10	12/10/14 08:26	5
Carbazole	3.7 J		19	1.3	ug/L		11/26/14 19:10	12/10/14 08:26	5
Chrysene	5.3		1.9	0.25	ug/L		11/26/14 19:10	12/10/14 08:26	5

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: WC-112514-AK-01

Lab Sample ID: 500-88490-10

Matrix: Water

Date Collected: 11/25/14 17:10

Date Received: 11/26/14 10:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.86	J	1.1	0.19	ug/L		11/26/14 19:10	12/10/14 08:26	5
Dibenzofuran	<7.4		7.4	0.98	ug/L		11/26/14 19:10	12/10/14 08:26	5
Diethyl phthalate	<7.4		7.4	1.3	ug/L		11/26/14 19:10	12/10/14 08:26	5
Dimethyl phthalate	<7.4		7.4	1.2	ug/L		11/26/14 19:10	12/10/14 08:26	5
Di-n-butyl phthalate	<19		19	2.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
Di-n-octyl phthalate	<37		37	3.9	ug/L		11/26/14 19:10	12/10/14 08:26	5
Fluoranthene	<3.7		3.7	1.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
Fluorene	2.6	J	3.7	0.91	ug/L		11/26/14 19:10	12/10/14 08:26	5
Hexachlorobenzene	<1.9		1.9	0.29	ug/L		11/26/14 19:10	12/10/14 08:26	5
Hexachlorobutadiene	<19		19	1.9	ug/L		11/26/14 19:10	12/10/14 08:26	5
Hexachlorocyclopentadiene	<74		74	24	ug/L		11/26/14 19:10	12/10/14 08:26	5
Hexachloroethane	<19		19	2.2	ug/L		11/26/14 19:10	12/10/14 08:26	5
Indeno[1,2,3-cd]pyrene	<0.74		0.74	0.28	ug/L		11/26/14 19:10	12/10/14 08:26	5
Isophorone	<7.4		7.4	1.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
Naphthalene	<3.7		3.7	1.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
Nitrobenzene	<3.7		3.7	1.7	ug/L		11/26/14 19:10	12/10/14 08:26	5
N-Nitrosodiethylamine	<74		74	32	ug/L		11/26/14 19:10	12/10/14 08:26	5
N-Nitrosodi-n-propylamine	<1.9		1.9	0.57	ug/L		11/26/14 19:10	12/10/14 08:26	5
N-Nitrosodiphenylamine	<3.7		3.7	1.4	ug/L		11/26/14 19:10	12/10/14 08:26	5
Pentachlorophenol	<74		74	15	ug/L		11/26/14 19:10	12/10/14 08:26	5
Phenanthrene	8.9		3.7	1.1	ug/L		11/26/14 19:10	12/10/14 08:26	5
Phenol	<19		19	2.5	ug/L		11/26/14 19:10	12/10/14 08:26	5
Pyrene	5.0		3.7	1.6	ug/L		11/26/14 19:10	12/10/14 08:26	5
Pyridine	<74		74	19	ug/L		11/26/14 19:10	12/10/14 08:26	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	92		53 - 150				11/26/14 19:10	12/10/14 08:26	5
2-Fluorobiphenyl	61		41 - 132				11/26/14 19:10	12/10/14 08:26	5
2-Fluorophenol (Surr)	31	X	32 - 110				11/26/14 19:10	12/10/14 08:26	5
Nitrobenzene-d5 (Surr)	52		47 - 134				11/26/14 19:10	12/10/14 08:26	5
Phenol-d5 (Surr)	28		25 - 100				11/26/14 19:10	12/10/14 08:26	5
Terphenyl-d14 (Surr)	71		59 - 150				11/26/14 19:10	12/10/14 08:26	5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.011		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 22:58	1
Barium	0.082		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 22:58	1
Cadmium	0.0014	J B	0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 22:58	1
Chromium	0.020		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 22:58	1
Lead	0.074		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 22:58	1
Selenium	0.0052	J	0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 22:58	1
Silver	<0.0050		0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 22:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000086	J	0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 10:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176		40.0	40.0	Degrees F			11/26/14 16:30	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: WC-112514-AK-01
Date Collected: 11/25/14 17:10
Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-10
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
corrosivity by pH	7.03	HF	0.200	0.200	SU			11/26/14 12:26	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: Trip Blank

Date Collected: 11/24/14 00:00

Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			11/28/14 21:30	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			11/28/14 21:30	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			11/28/14 21:30	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 21:30	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			11/28/14 21:30	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			11/28/14 21:30	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			11/28/14 21:30	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			11/28/14 21:30	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			11/28/14 21:30	1
2-Hexanone	<5.0		5.0	0.56	ug/L			11/28/14 21:30	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			11/28/14 21:30	1
Acetone	<5.0		5.0	1.3	ug/L			11/28/14 21:30	1
Acrolein	<100		100	11	ug/L			11/28/14 21:30	1
Acrylonitrile	<20		20	2.6	ug/L			11/28/14 21:30	1
Benzene	<0.50		0.50	0.074	ug/L			11/28/14 21:30	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			11/28/14 21:30	1
Bromoform	<1.0		1.0	0.28	ug/L			11/28/14 21:30	1
Bromomethane	<1.0		1.0	0.31	ug/L			11/28/14 21:30	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			11/28/14 21:30	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			11/28/14 21:30	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			11/28/14 21:30	1
Chloroethane	<1.0		1.0	0.34	ug/L			11/28/14 21:30	1
Chloroform	<1.0		1.0	0.20	ug/L			11/28/14 21:30	1
Chloromethane	<1.0		1.0	0.18	ug/L			11/28/14 21:30	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			11/28/14 21:30	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			11/28/14 21:30	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			11/28/14 21:30	1
Ethylbenzene	<0.50		0.50	0.13	ug/L			11/28/14 21:30	1
m&p-Xylene	<1.0		1.0	0.26	ug/L			11/28/14 21:30	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			11/28/14 21:30	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			11/28/14 21:30	1
o-Xylene	<0.50		0.50	0.068	ug/L			11/28/14 21:30	1
Styrene	<1.0		1.0	0.10	ug/L			11/28/14 21:30	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			11/28/14 21:30	1
Toluene	<0.50		0.50	0.11	ug/L			11/28/14 21:30	1
trans-1,2-Dichloroethene	<1.0		1.0	0.25	ug/L			11/28/14 21:30	1
trans-1,3-Dichloropropene	<1.0		1.0	0.21	ug/L			11/28/14 21:30	1
Trichloroethene	<0.50		0.50	0.19	ug/L			11/28/14 21:30	1
Trichlorofluoromethane	<1.0		1.0	0.19	ug/L			11/28/14 21:30	1
Vinyl acetate	<2.0		2.0	0.33	ug/L			11/28/14 21:30	1
Vinyl chloride	<0.50		0.50	0.10	ug/L			11/28/14 21:30	1
Xylenes, Total	<1.0		1.0	0.068	ug/L			11/28/14 21:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 125		11/28/14 21:30	1
4-Bromofluorobenzene (Surr)	102		75 - 120		11/28/14 21:30	1
Dibromofluoromethane	88		75 - 120		11/28/14 21:30	1
Toluene-d8 (Surr)	98		75 - 120		11/28/14 21:30	1

TestAmerica Chicago

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD exceeds the control limits
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
F1	MS and/or MSD Recovery exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
D	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

GC/MS VOA

Analysis Batch: 266355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	8260B	
500-88490-2	GW-112414-AK-02	Total/NA	Water	8260B	
500-88490-3	GW-112414-AK-03	Total/NA	Water	8260B	
500-88490-4	GW-112414-AK-04	Total/NA	Water	8260B	
500-88490-5	GW-112514-AK-05	Total/NA	Water	8260B	
500-88490-6	GW-112514-AK-06	Total/NA	Water	8260B	
500-88490-7	GW-112514-AK-07	Total/NA	Water	8260B	
500-88490-9	GW-112514-AK-09	Total/NA	Water	8260B	
500-88490-10	WC-112514-AK-01	Total/NA	Water	8260B	
500-88490-11	Trip Blank	Total/NA	Water	8260B	
LCS 500-266355/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-266355/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 266421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	8260B	
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	8260B	
500-88490-8	GW-112514-AK-08	Total/NA	Water	8260B	
LCS 500-266421/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-266421/6	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 266203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	3510C	
500-88490-2	GW-112414-AK-02	Total/NA	Water	3510C	
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	3510C	
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	3510C	
500-88490-3	GW-112414-AK-03	Total/NA	Water	3510C	
500-88490-4	GW-112414-AK-04	Total/NA	Water	3510C	
500-88490-5	GW-112514-AK-05	Total/NA	Water	3510C	
500-88490-6	GW-112514-AK-06	Total/NA	Water	3510C	
500-88490-7	GW-112514-AK-07	Total/NA	Water	3510C	
500-88490-8	GW-112514-AK-08	Total/NA	Water	3510C	
500-88490-9	GW-112514-AK-09	Total/NA	Water	3510C	
500-88490-10	WC-112514-AK-01	Total/NA	Water	3510C	
LCS 500-266203/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 500-266203/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 267788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	8270D	266203
500-88490-2	GW-112414-AK-02	Total/NA	Water	8270D	266203
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	8270D	266203
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	8270D	266203
500-88490-3	GW-112414-AK-03	Total/NA	Water	8270D	266203
500-88490-4	GW-112414-AK-04	Total/NA	Water	8270D	266203
500-88490-5	GW-112514-AK-05	Total/NA	Water	8270D	266203
500-88490-6	GW-112514-AK-06	Total/NA	Water	8270D	266203

TestAmerica Chicago

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

GC/MS Semi VOA (Continued)

Analysis Batch: 267788 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-7	GW-112514-AK-07	Total/NA	Water	8270D	266203
500-88490-9	GW-112514-AK-09	Total/NA	Water	8270D	266203
500-88490-10	WC-112514-AK-01	Total/NA	Water	8270D	266203
LCS 500-266203/2-A	Lab Control Sample	Total/NA	Water	8270D	266203
MB 500-266203/1-A	Method Blank	Total/NA	Water	8270D	266203

Analysis Batch: 267967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-8	GW-112514-AK-08	Total/NA	Water	8270D	266203

Metals

Prep Batch: 266491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	7470A	11
500-88490-2	GW-112414-AK-02	Total/NA	Water	7470A	12
500-88490-2 DU	GW-112414-AK-02	Total/NA	Water	7470A	13
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	7470A	14
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	7470A	15
500-88490-3	GW-112414-AK-03	Total/NA	Water	7470A	
500-88490-4	GW-112414-AK-04	Total/NA	Water	7470A	
500-88490-5	GW-112514-AK-05	Total/NA	Water	7470A	
500-88490-6	GW-112514-AK-06	Total/NA	Water	7470A	
500-88490-7	GW-112514-AK-07	Total/NA	Water	7470A	
500-88490-8	GW-112514-AK-08	Total/NA	Water	7470A	
500-88490-9	GW-112514-AK-09	Total/NA	Water	7470A	
500-88490-10	WC-112514-AK-01	Total/NA	Water	7470A	
LCS 500-266491/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-266491/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 266662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	7470A	266491
500-88490-2	GW-112414-AK-02	Total/NA	Water	7470A	266491
500-88490-2 DU	GW-112414-AK-02	Total/NA	Water	7470A	266491
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	7470A	266491
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	7470A	266491
500-88490-3	GW-112414-AK-03	Total/NA	Water	7470A	266491
500-88490-4	GW-112414-AK-04	Total/NA	Water	7470A	266491
500-88490-5	GW-112514-AK-05	Total/NA	Water	7470A	266491
500-88490-6	GW-112514-AK-06	Total/NA	Water	7470A	266491
500-88490-7	GW-112514-AK-07	Total/NA	Water	7470A	266491
500-88490-8	GW-112514-AK-08	Total/NA	Water	7470A	266491
500-88490-9	GW-112514-AK-09	Total/NA	Water	7470A	266491
500-88490-10	WC-112514-AK-01	Total/NA	Water	7470A	266491
LCS 500-266491/13-A	Lab Control Sample	Total/NA	Water	7470A	266491
MB 500-266491/12-A	Method Blank	Total/NA	Water	7470A	266491

TestAmerica Chicago

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Metals (Continued)

Prep Batch: 267380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	3010A	5
500-88490-2	GW-112414-AK-02	Total/NA	Water	3010A	6
500-88490-2 DU	GW-112414-AK-02	Total/NA	Water	3010A	7
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	3010A	8
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	3010A	9
500-88490-3	GW-112414-AK-03	Total/NA	Water	3010A	10
500-88490-4	GW-112414-AK-04	Total/NA	Water	3010A	11
500-88490-5	GW-112514-AK-05	Total/NA	Water	3010A	12
500-88490-6	GW-112514-AK-06	Total/NA	Water	3010A	13
500-88490-7	GW-112514-AK-07	Total/NA	Water	3010A	14
500-88490-8	GW-112514-AK-08	Total/NA	Water	3010A	15
500-88490-9	GW-112514-AK-09	Total/NA	Water	3010A	
500-88490-10	WC-112514-AK-01	Total/NA	Water	3010A	
LCS 500-267380/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-267380/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 267459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total/NA	Water	6010B	267380
500-88490-2	GW-112414-AK-02	Total/NA	Water	6010B	267380
500-88490-2 DU	GW-112414-AK-02	Total/NA	Water	6010B	267380
500-88490-2 MS	GW-112414-AK-02	Total/NA	Water	6010B	267380
500-88490-2 MSD	GW-112414-AK-02	Total/NA	Water	6010B	267380
500-88490-3	GW-112414-AK-03	Total/NA	Water	6010B	267380
500-88490-4	GW-112414-AK-04	Total/NA	Water	6010B	267380
500-88490-5	GW-112514-AK-05	Total/NA	Water	6010B	267380
500-88490-6	GW-112514-AK-06	Total/NA	Water	6010B	267380
500-88490-7	GW-112514-AK-07	Total/NA	Water	6010B	267380
500-88490-8	GW-112514-AK-08	Total/NA	Water	6010B	267380
500-88490-9	GW-112514-AK-09	Total/NA	Water	6010B	267380
500-88490-10	WC-112514-AK-01	Total/NA	Water	6010B	267380
LCS 500-267380/2-A	Lab Control Sample	Total/NA	Water	6010B	267380
MB 500-267380/1-A	Method Blank	Total/NA	Water	6010B	267380

General Chemistry

Analysis Batch: 266223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-10	WC-112514-AK-01	Total/NA	Water	1010A	

Analysis Batch: 266225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-10	WC-112514-AK-01	Total/NA	Water	9040C	
500-88490-10 DU	WC-112514-AK-01	Total/NA	Water	9040C	

Analysis Batch: 267606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Dissolved	Water	9060A	
500-88490-2	GW-112414-AK-02	Dissolved	Water	9060A	
500-88490-2 MS	GW-112414-AK-02	Dissolved	Water	9060A	

TestAmerica Chicago

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

General Chemistry (Continued)

Analysis Batch: 267606 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-2 MSD	GW-112414-AK-02	Dissolved	Water	9060A	5
500-88490-3	GW-112414-AK-03	Dissolved	Water	9060A	6
500-88490-4	GW-112414-AK-04	Dissolved	Water	9060A	7
500-88490-5	GW-112514-AK-05	Dissolved	Water	9060A	8
500-88490-6	GW-112514-AK-06	Dissolved	Water	9060A	9
500-88490-7	GW-112514-AK-07	Dissolved	Water	9060A	10
500-88490-8	GW-112514-AK-08	Dissolved	Water	9060A	11
500-88490-9	GW-112514-AK-09	Dissolved	Water	9060A	12
LCS 500-267606/5	Lab Control Sample	Dissolved	Water	9060A	13
MB 500-267606/4	Method Blank	Dissolved	Water	9060A	14

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-125)	BFB (75-120)	DBFM (75-120)	TOL (75-120)
500-88490-1	GW-112414-AK-01	95	104	87	98
500-88490-2	GW-112414-AK-02	93	102	87	98
500-88490-2 MS	GW-112414-AK-02	98	108	99	95
500-88490-2 MSD	GW-112414-AK-02	96	112	99	96
500-88490-3	GW-112414-AK-03	97	103	88	99
500-88490-4	GW-112414-AK-04	93	102	88	96
500-88490-5	GW-112514-AK-05	97	101	90	100
500-88490-6	GW-112514-AK-06	95	101	89	98
500-88490-7	GW-112514-AK-07	97	104	89	98
500-88490-8	GW-112514-AK-08	95	102	89	96
500-88490-9	GW-112514-AK-09	100	106	88	99
500-88490-10	WC-112514-AK-01	99	104	90	97
500-88490-11	Trip Blank	94	102	88	98
LCS 500-266355/4	Lab Control Sample	94	102	95	97
LCS 500-266421/4	Lab Control Sample	91	101	93	98
MB 500-266355/6	Method Blank	94	99	88	97
MB 500-266421/6	Method Blank	92	101	89	97

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (53-150)	FBP (41-132)	2FP (32-110)	NBZ (47-134)	PHL (25-100)	TPH (59-150)
500-88490-1	GW-112414-AK-01	80	52	43	70	37	89
500-88490-2	GW-112414-AK-02	91	69	46	71	35	78
500-88490-2 MS	GW-112414-AK-02	88	67	54	72	52	82
500-88490-2 MSD	GW-112414-AK-02	83	62	47	68	44	74
500-88490-3	GW-112414-AK-03	119	79	40	62	37	92
500-88490-4	GW-112414-AK-04	89	72	47	77	40	71
500-88490-5	GW-112514-AK-05	49 X	30 X	43	61	34	75
500-88490-6	GW-112514-AK-06	81	58	44	64	37	69
500-88490-7	GW-112514-AK-07	91	67	51	68	44	74
500-88490-8	GW-112514-AK-08	84	57	27 X	49	22 X	62
500-88490-9	GW-112514-AK-09	95	69	46	73	45	85
500-88490-10	WC-112514-AK-01	92	61	31 X	52	28	71
LCS 500-266203/2-A	Lab Control Sample	91	72	51	79	43	80
MB 500-266203/1-A	Method Blank	69	62	44	70	39	72

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

TestAmerica Chicago

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-266355/6

Matrix: Water

Analysis Batch: 266355

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
1,1,1,2-Tetrachloroethane	<1.0				1.0	0.25	ug/L			11/28/14 21:04	1
1,1,1-Trichloroethane	<1.0				1.0	0.20	ug/L			11/28/14 21:04	1
1,1,2,2-Tetrachloroethane	<1.0				1.0	0.23	ug/L			11/28/14 21:04	1
1,1,2-Trichloroethane	<1.0				1.0	0.28	ug/L			11/28/14 21:04	1
1,1-Dichloroethane	<1.0				1.0	0.19	ug/L			11/28/14 21:04	1
1,1-Dichloroethene	<1.0				1.0	0.31	ug/L			11/28/14 21:04	1
1,2-Dichloroethane	<1.0				1.0	0.28	ug/L			11/28/14 21:04	1
1,2-Dichloropropane	<1.0				1.0	0.20	ug/L			11/28/14 21:04	1
2-Butanone (MEK)	<5.0				5.0	1.5	ug/L			11/28/14 21:04	1
2-Hexanone	<5.0				5.0	0.56	ug/L			11/28/14 21:04	1
4-Methyl-2-pentanone (MIBK)	<5.0				5.0	0.33	ug/L			11/28/14 21:04	1
Acetone	<5.0				5.0	1.3	ug/L			11/28/14 21:04	1
Acrolein	<100				100	11	ug/L			11/28/14 21:04	1
Acrylonitrile	<20				20	2.6	ug/L			11/28/14 21:04	1
Benzene	<0.50				0.50	0.074	ug/L			11/28/14 21:04	1
Bromodichloromethane	<1.0				1.0	0.17	ug/L			11/28/14 21:04	1
Bromoform	<1.0				1.0	0.28	ug/L			11/28/14 21:04	1
Bromomethane	<1.0				1.0	0.31	ug/L			11/28/14 21:04	1
Carbon disulfide	<5.0				5.0	0.43	ug/L			11/28/14 21:04	1
Carbon tetrachloride	<1.0				1.0	0.26	ug/L			11/28/14 21:04	1
Chlorobenzene	<1.0				1.0	0.14	ug/L			11/28/14 21:04	1
Chloroethane	<1.0				1.0	0.34	ug/L			11/28/14 21:04	1
Chloroform	<1.0				1.0	0.20	ug/L			11/28/14 21:04	1
Chloromethane	<1.0				1.0	0.18	ug/L			11/28/14 21:04	1
cis-1,2-Dichloroethene	<1.0				1.0	0.12	ug/L			11/28/14 21:04	1
cis-1,3-Dichloropropene	<1.0				1.0	0.18	ug/L			11/28/14 21:04	1
Dibromochloromethane	<1.0				1.0	0.32	ug/L			11/28/14 21:04	1
Ethylbenzene	<0.50				0.50	0.13	ug/L			11/28/14 21:04	1
m&p-Xylene	<1.0				1.0	0.26	ug/L			11/28/14 21:04	1
Methyl tert-butyl ether	<1.0				1.0	0.24	ug/L			11/28/14 21:04	1
Methylene Chloride	<5.0				5.0	0.68	ug/L			11/28/14 21:04	1
o-Xylene	<0.50				0.50	0.068	ug/L			11/28/14 21:04	1
Styrene	<1.0				1.0	0.10	ug/L			11/28/14 21:04	1
Tetrachloroethene	<1.0				1.0	0.17	ug/L			11/28/14 21:04	1
Toluene	<0.50				0.50	0.11	ug/L			11/28/14 21:04	1
trans-1,2-Dichloroethene	<1.0				1.0	0.25	ug/L			11/28/14 21:04	1
trans-1,3-Dichloropropene	<1.0				1.0	0.21	ug/L			11/28/14 21:04	1
Trichloroethene	<0.50				0.50	0.19	ug/L			11/28/14 21:04	1
Trichlorofluoromethane	<1.0				1.0	0.19	ug/L			11/28/14 21:04	1
Vinyl acetate	<2.0				2.0	0.33	ug/L			11/28/14 21:04	1
Vinyl chloride	<0.50				0.50	0.10	ug/L			11/28/14 21:04	1
Xylenes, Total	<1.0				1.0	0.068	ug/L			11/28/14 21:04	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2-Dichloroethane-d4 (Surr)	94		75 - 125				11/28/14 21:04	1
4-Bromofluorobenzene (Surr)	99		75 - 120				11/28/14 21:04	1
Dibromofluoromethane	88		75 - 120				11/28/14 21:04	1

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-266355/6

Matrix: Water

Analysis Batch: 266355

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surrogate)			97		75 - 120		11/28/14 21:04	1

Lab Sample ID: LCS 500-266355/4

Matrix: Water

Analysis Batch: 266355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits	
	Added	Result	Qualifier					
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	75 - 122	
1,1,1-Trichloroethane	50.0	50.3		ug/L		101	72 - 130	
1,1,2,2-Tetrachloroethane	50.0	59.5		ug/L		119	72 - 130	
1,1,2-Trichloroethane	50.0	57.1		ug/L		114	75 - 120	
1,1-Dichloroethane	50.0	50.1		ug/L		100	75 - 120	
1,1-Dichloroethene	50.0	45.0		ug/L		90	69 - 120	
1,2-Dichloroethane	50.0	49.2		ug/L		98	69 - 130	
1,2-Dichloropropane	50.0	52.2		ug/L		104	75 - 120	
2-Butanone (MEK)	50.0	43.9		ug/L		88	53 - 142	
2-Hexanone	50.0	42.6		ug/L		85	55 - 140	
4-Methyl-2-pentanone (MIBK)	50.0	42.7		ug/L		85	58 - 135	
Acetone	50.0	43.4		ug/L		87	48 - 149	
Acrolein	2000	1520		ug/L		76	40 - 150	
Acrylonitrile	500	508		ug/L		102	67 - 136	
Benzene	50.0	48.4		ug/L		97	75 - 120	
Bromodichloromethane	50.0	54.7		ug/L		109	77 - 121	
Bromoform	50.0	58.4		ug/L		117	68 - 126	
Bromomethane	50.0	43.3		ug/L		87	45 - 169	
Carbon disulfide	50.0	42.3		ug/L		85	56 - 130	
Carbon tetrachloride	50.0	49.4		ug/L		99	70 - 130	
Chlorobenzene	50.0	51.7		ug/L		103	75 - 120	
Chloroethane	50.0	43.1		ug/L		86	58 - 147	
Chloroform	50.0	50.8		ug/L		102	76 - 120	
Chloromethane	50.0	33.7		ug/L		67	63 - 133	
cis-1,2-Dichloroethene	50.0	50.9		ug/L		102	75 - 120	
cis-1,3-Dichloropropene	50.0	54.4		ug/L		109	78 - 130	
Dibromochloromethane	50.0	53.1		ug/L		106	71 - 126	
Ethylbenzene	50.0	50.4		ug/L		101	75 - 120	
m&p-Xylene	50.0	52.1		ug/L		104	75 - 120	
Methyl tert-butyl ether	50.0	50.4		ug/L		101	75 - 130	
Methylene Chloride	50.0	48.1		ug/L		96	73 - 130	
o-Xylene	50.0	52.0		ug/L		104	75 - 120	
Styrene	50.0	54.9		ug/L		110	75 - 120	
Tetrachloroethene	50.0	48.6		ug/L		97	75 - 120	
Toluene	50.0	52.1		ug/L		104	75 - 120	
trans-1,2-Dichloroethene	50.0	47.5		ug/L		95	77 - 120	
trans-1,3-Dichloropropene	50.0	55.6		ug/L		111	74 - 130	
Trichloroethene	50.0	52.2		ug/L		104	75 - 120	
Trichlorofluoromethane	50.0	39.7		ug/L		79	71 - 130	
Vinyl acetate	50.0	59.2		ug/L		118	40 - 137	
Vinyl chloride	50.0	41.0		ug/L		82	72 - 123	

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-266355/4

Matrix: Water

Analysis Batch: 266355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte		Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Added	Result	Qualifier				
Xylenes, Total		100	104		ug/L		104	75 - 120
Surrogate								
1,2-Dichloroethane-d4 (Surr)	94			75 - 125				
4-Bromofluorobenzene (Surr)	102			75 - 120				
Dibromofluoromethane	95			75 - 120				
Toluene-d8 (Surr)	97			75 - 120				

Lab Sample ID: MB 500-266421/6

Matrix: Water

Analysis Batch: 266421

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<1.0		1.0	0.25	ug/L			12/01/14 10:46	1
1,1,1-Trichloroethane	<1.0		1.0	0.20	ug/L			12/01/14 10:46	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.23	ug/L			12/01/14 10:46	1
1,1,2-Trichloroethane	<1.0		1.0	0.28	ug/L			12/01/14 10:46	1
1,1-Dichloroethane	<1.0		1.0	0.19	ug/L			12/01/14 10:46	1
1,1-Dichloroethene	<1.0		1.0	0.31	ug/L			12/01/14 10:46	1
1,2-Dichloroethane	<1.0		1.0	0.28	ug/L			12/01/14 10:46	1
1,2-Dichloropropane	<1.0		1.0	0.20	ug/L			12/01/14 10:46	1
2-Butanone (MEK)	<5.0		5.0	1.5	ug/L			12/01/14 10:46	1
2-Hexanone	<5.0		5.0	0.56	ug/L			12/01/14 10:46	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	0.33	ug/L			12/01/14 10:46	1
Acetone	<5.0		5.0	1.3	ug/L			12/01/14 10:46	1
Acrolein	<100		100	11	ug/L			12/01/14 10:46	1
Acrylonitrile	<20		20	2.6	ug/L			12/01/14 10:46	1
Benzene	<0.50		0.50	0.074	ug/L			12/01/14 10:46	1
Bromodichloromethane	<1.0		1.0	0.17	ug/L			12/01/14 10:46	1
Bromoform	<1.0		1.0	0.28	ug/L			12/01/14 10:46	1
Bromomethane	<1.0		1.0	0.31	ug/L			12/01/14 10:46	1
Carbon disulfide	<5.0		5.0	0.43	ug/L			12/01/14 10:46	1
Carbon tetrachloride	<1.0		1.0	0.26	ug/L			12/01/14 10:46	1
Chlorobenzene	<1.0		1.0	0.14	ug/L			12/01/14 10:46	1
Chloroethane	<1.0		1.0	0.34	ug/L			12/01/14 10:46	1
Chloroform	<1.0		1.0	0.20	ug/L			12/01/14 10:46	1
Chloromethane	<1.0		1.0	0.18	ug/L			12/01/14 10:46	1
cis-1,2-Dichloroethene	<1.0		1.0	0.12	ug/L			12/01/14 10:46	1
cis-1,3-Dichloropropene	<1.0		1.0	0.18	ug/L			12/01/14 10:46	1
Dibromochloromethane	<1.0		1.0	0.32	ug/L			12/01/14 10:46	1
Ethylbenzene	<0.50		0.50	0.13	ug/L			12/01/14 10:46	1
m&p-Xylene	<1.0		1.0	0.26	ug/L			12/01/14 10:46	1
Methyl tert-butyl ether	<1.0		1.0	0.24	ug/L			12/01/14 10:46	1
Methylene Chloride	<5.0		5.0	0.68	ug/L			12/01/14 10:46	1
o-Xylene	<0.50		0.50	0.068	ug/L			12/01/14 10:46	1
Styrene	<1.0		1.0	0.10	ug/L			12/01/14 10:46	1
Tetrachloroethene	<1.0		1.0	0.17	ug/L			12/01/14 10:46	1
Toluene	<0.50		0.50	0.11	ug/L			12/01/14 10:46	1

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-266421/6

Matrix: Water

Analysis Batch: 266421

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
trans-1,2-Dichloroethene	<1.0				1.0	0.25	ug/L			12/01/14 10:46	1
trans-1,3-Dichloropropene	<1.0				1.0	0.21	ug/L			12/01/14 10:46	1
Trichloroethene	<0.50				0.50	0.19	ug/L			12/01/14 10:46	1
Trichlorofluoromethane	<1.0				1.0	0.19	ug/L			12/01/14 10:46	1
Vinyl acetate	<2.0				2.0	0.33	ug/L			12/01/14 10:46	1
Vinyl chloride	<0.50				0.50	0.10	ug/L			12/01/14 10:46	1
Xylenes, Total	<1.0				1.0	0.068	ug/L			12/01/14 10:46	1
Surrogate											
1,2-Dichloroethane-d4 (Surr)	92				75 - 125				Prepared	12/01/14 10:46	1
4-Bromofluorobenzene (Surr)	101				75 - 120					12/01/14 10:46	1
Dibromofluoromethane	89				75 - 120					12/01/14 10:46	1
Toluene-d8 (Surr)	97				75 - 120					12/01/14 10:46	1

Lab Sample ID: LCS 500-266421/4

Matrix: Water

Analysis Batch: 266421

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.
	Added	Result	Qualifier							
1,1,1,2-Tetrachloroethane	50.0	48.5		ug/L				97	75 - 122	
1,1,1-Trichloroethane	50.0	49.0		ug/L				98	72 - 130	
1,1,2,2-Tetrachloroethane	50.0	50.5		ug/L				101	72 - 130	
1,1,2-Trichloroethane	50.0	48.0		ug/L				96	75 - 120	
1,1-Dichloroethane	50.0	47.1		ug/L				94	75 - 120	
1,1-Dichloroethene	50.0	44.4		ug/L				89	69 - 120	
1,2-Dichloroethane	50.0	43.9		ug/L				88	69 - 130	
1,2-Dichloropropane	50.0	47.1		ug/L				94	75 - 120	
2-Butanone (MEK)	50.0	42.4		ug/L				85	53 - 142	
2-Hexanone	50.0	43.3		ug/L				87	55 - 140	
4-Methyl-2-pentanone (MIBK)	50.0	42.4		ug/L				85	58 - 135	
Acetone	50.0	45.9		ug/L				92	48 - 149	
Acrolein	2000	1810		ug/L				91	40 - 150	
Acrylonitrile	500	441		ug/L				88	67 - 136	
Benzene	50.0	45.6		ug/L				91	75 - 120	
Bromodichloromethane	50.0	48.9		ug/L				98	77 - 121	
Bromoform	50.0	52.0		ug/L				104	68 - 126	
Bromomethane	50.0	44.0		ug/L				88	45 - 169	
Carbon disulfide	50.0	41.5		ug/L				83	56 - 130	
Carbon tetrachloride	50.0	49.0		ug/L				98	70 - 130	
Chlorobenzene	50.0	46.4		ug/L				93	75 - 120	
Chloroethane	50.0	48.6		ug/L				97	58 - 147	
Chloroform	50.0	47.0		ug/L				94	76 - 120	
Chloromethane	50.0	31.8		ug/L				64	63 - 133	
cis-1,2-Dichloroethene	50.0	47.6		ug/L				95	75 - 120	
cis-1,3-Dichloropropene	50.0	49.9		ug/L				100	78 - 130	
Dibromochloromethane	50.0	47.5		ug/L				95	71 - 126	
Ethylbenzene	50.0	46.9		ug/L				94	75 - 120	
m&p-Xylene	50.0	48.6		ug/L				97	75 - 120	

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-266421/4

Matrix: Water

Analysis Batch: 266421

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.
		Result	Qualifier				
Methyl tert-butyl ether	50.0	44.6		ug/L		89	75 - 130
Methylene Chloride	50.0	44.9		ug/L		90	73 - 130
o-Xylene	50.0	47.7		ug/L		95	75 - 120
Styrene	50.0	49.8		ug/L		100	75 - 120
Tetrachloroethene	50.0	47.2		ug/L		94	75 - 120
Toluene	50.0	49.3		ug/L		99	75 - 120
trans-1,2-Dichloroethene	50.0	45.4		ug/L		91	77 - 120
trans-1,3-Dichloropropene	50.0	49.3		ug/L		99	74 - 130
Trichloroethene	50.0	49.6		ug/L		99	75 - 120
Trichlorofluoromethane	50.0	47.1		ug/L		94	71 - 130
Vinyl acetate	50.0	67.8		ug/L		136	40 - 137
Vinyl chloride	50.0	42.3		ug/L		85	72 - 123
Xylenes, Total	100	96.2		ug/L		96	75 - 120

Surrogate	LCS		Limits
	LCS	%Recovery	
1,2-Dichloroethane-d4 (Surr)	91		75 - 125
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane	93		75 - 120
Toluene-d8 (Surr)	98		75 - 120

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 266421

Client Sample ID: GW-112414-AK-02
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	<1.0		50.0	54.7		ug/L		109	75 - 122
1,1,1-Trichloroethane	<1.0		50.0	51.8		ug/L		104	72 - 130
1,1,2,2-Tetrachloroethane	<1.0		50.0	64.6		ug/L		129	72 - 130
1,1,2-Trichloroethane	<1.0		50.0	55.8		ug/L		112	75 - 120
1,1-Dichloroethane	<1.0		50.0	52.4		ug/L		105	75 - 120
1,1-Dichloroethene	<1.0		50.0	47.8		ug/L		96	69 - 120
1,2-Dichloroethane	<1.0		50.0	51.8		ug/L		104	69 - 130
1,2-Dichloropropane	<1.0		50.0	54.2		ug/L		108	75 - 120
2-Butanone (MEK)	<5.0		50.0	49.4		ug/L		99	53 - 142
2-Hexanone	<5.0		50.0	47.8		ug/L		96	55 - 140
4-Methyl-2-pentanone (MIBK)	<5.0		50.0	47.4		ug/L		95	58 - 135
Acetone	<5.0		50.0	45.4		ug/L		91	48 - 149
Acrolein	<100		2000	1370		ug/L		69	40 - 150
Acrylonitrile	<20		500	527		ug/L		105	67 - 136
Benzene	<0.50		50.0	50.1		ug/L		100	75 - 120
Bromodichloromethane	<1.0		50.0	55.2		ug/L		110	77 - 121
Bromoform	<1.0		50.0	59.6		ug/L		119	68 - 126
Bromomethane	<1.0		50.0	43.2		ug/L		86	45 - 169
Carbon disulfide	<5.0		50.0	42.8		ug/L		86	56 - 130
Carbon tetrachloride	<1.0		50.0	49.1		ug/L		98	70 - 130
Chlorobenzene	<1.0		50.0	49.4		ug/L		99	75 - 120
Chloroethane	<1.0		50.0	44.6		ug/L		89	58 - 147
Chloroform	<1.0		50.0	53.3		ug/L		107	76 - 120

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 266421

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Chloromethane	<1.0		50.0	34.3		ug/L		69	63 - 133
cis-1,2-Dichloroethene	<1.0		50.0	53.8		ug/L		108	75 - 120
cis-1,3-Dichloropropene	<1.0		50.0	49.7		ug/L		99	78 - 130
Dibromochloromethane	<1.0		50.0	51.9		ug/L		104	71 - 126
Ethylbenzene	<0.50		50.0	48.3		ug/L		97	75 - 120
m&p-Xylene	<1.0		50.0	48.8		ug/L		98	75 - 120
Methyl tert-butyl ether	<1.0		50.0	54.0		ug/L		108	75 - 130
Methylene Chloride	<5.0		50.0	52.6		ug/L		105	73 - 130
o-Xylene	<0.50		50.0	50.7		ug/L		101	75 - 120
Styrene	<1.0		50.0	53.3		ug/L		107	75 - 120
Tetrachloroethene	<1.0		50.0	43.8		ug/L		88	75 - 120
Toluene	<0.50		50.0	50.0		ug/L		100	75 - 120
trans-1,2-Dichloroethene	<1.0		50.0	49.6		ug/L		99	77 - 120
trans-1,3-Dichloropropene	<1.0		50.0	50.4		ug/L		101	74 - 130
Trichloroethene	<0.50		50.0	51.5		ug/L		103	75 - 120
Trichlorofluoromethane	<1.0		50.0	38.4		ug/L		77	71 - 130
Vinyl acetate	<2.0		50.0	50.4		ug/L		101	40 - 137
Vinyl chloride	<0.50		50.0	41.9		ug/L		84	72 - 123
Xylenes, Total	<1.0		100	99.5		ug/L		99	75 - 120
<hr/>									
Surrogate		MS	MS						
		%Recovery	Qualifier			Limits			
1,2-Dichloroethane-d4 (Surr)		98		75 - 125					
4-Bromofluorobenzene (Surr)		108		75 - 120					
Dibromofluoromethane		99		75 - 120					
Toluene-d8 (Surr)		95		75 - 120					

Lab Sample ID: 500-88490-2 MSD

Matrix: Water

Analysis Batch: 266421

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	<1.0		50.0	51.2		ug/L		102	75 - 122	7	20
1,1,1-Trichloroethane	<1.0		50.0	49.6		ug/L		99	72 - 130	4	20
1,1,2,2-Tetrachloroethane	<1.0		50.0	67.1	F1	ug/L		134	72 - 130	4	20
1,1,2-Trichloroethane	<1.0		50.0	52.8		ug/L		106	75 - 120	6	20
1,1-Dichloroethane	<1.0		50.0	49.1		ug/L		98	75 - 120	6	20
1,1-Dichloroethene	<1.0		50.0	43.8		ug/L		88	69 - 120	9	20
1,2-Dichloroethane	<1.0		50.0	48.3		ug/L		97	69 - 130	7	20
1,2-Dichloropropane	<1.0		50.0	50.2		ug/L		100	75 - 120	8	20
2-Butanone (MEK)	<5.0		50.0	48.7		ug/L		97	53 - 142	1	20
2-Hexanone	<5.0		50.0	45.9		ug/L		92	55 - 140	4	20
4-Methyl-2-pentanone (MIBK)	<5.0		50.0	45.2		ug/L		90	58 - 135	5	20
Acetone	<5.0		50.0	46.5		ug/L		93	48 - 149	2	20
Acrolein	<100		2000	1300		ug/L		65	40 - 150	5	20
Acrylonitrile	<20		500	505		ug/L		101	67 - 136	4	20
Benzene	<0.50		50.0	46.7		ug/L		93	75 - 120	7	20
Bromodichloromethane	<1.0		50.0	51.4		ug/L		103	77 - 121	7	20
Bromoform	<1.0		50.0	56.8		ug/L		114	68 - 126	5	20

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-88490-2 MSD

Matrix: Water

Analysis Batch: 266421

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Bromomethane	<1.0		50.0	47.6		ug/L		95	45 - 169	10	20
Carbon disulfide	<5.0		50.0	40.7		ug/L		81	56 - 130	5	20
Carbon tetrachloride	<1.0		50.0	46.5		ug/L		93	70 - 130	5	20
Chlorobenzene	<1.0		50.0	46.7		ug/L		93	75 - 120	6	20
Chloroethane	<1.0		50.0	47.1		ug/L		94	58 - 147	6	20
Chloroform	<1.0		50.0	49.4		ug/L		99	76 - 120	8	20
Chloromethane	<1.0		50.0	37.1		ug/L		74	63 - 133	8	20
cis-1,2-Dichloroethene	<1.0		50.0	49.7		ug/L		99	75 - 120	8	20
cis-1,3-Dichloropropene	<1.0		50.0	47.9		ug/L		96	78 - 130	4	20
Dibromochloromethane	<1.0		50.0	49.9		ug/L		100	71 - 126	4	20
Ethylbenzene	<0.50		50.0	45.1		ug/L		90	75 - 120	7	20
m&p-Xylene	<1.0		50.0	45.8		ug/L		92	75 - 120	6	20
Methyl tert-butyl ether	<1.0		50.0	51.2		ug/L		102	75 - 130	5	20
Methylene Chloride	<5.0		50.0	49.1		ug/L		98	73 - 130	7	20
o-Xylene	<0.50		50.0	47.7		ug/L		95	75 - 120	6	20
Styrene	<1.0		50.0	49.1		ug/L		98	75 - 120	8	20
Tetrachloroethene	<1.0		50.0	40.6		ug/L		81	75 - 120	8	20
Toluene	<0.50		50.0	48.4		ug/L		97	75 - 120	3	20
trans-1,2-Dichloroethene	<1.0		50.0	46.0		ug/L		92	77 - 120	7	20
trans-1,3-Dichloropropene	<1.0		50.0	48.3		ug/L		97	74 - 130	4	20
Trichloroethene	<0.50		50.0	47.2		ug/L		94	75 - 120	9	20
Trichlorofluoromethane	<1.0		50.0	40.9		ug/L		82	71 - 130	6	20
Vinyl acetate	<2.0		50.0	50.2		ug/L		100	40 - 137	1	20
Vinyl chloride	<0.50		50.0	46.2		ug/L		92	72 - 123	10	20
Xylenes, Total	<1.0		100	93.5		ug/L		93	75 - 120	6	20

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		75 - 125
4-Bromofluorobenzene (Surr)	112		75 - 120
Dibromofluoromethane	99		75 - 120
Toluene-d8 (Surr)	96		75 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-266203/1-A

Matrix: Water

Analysis Batch: 267788

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266203

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,4-Trichlorobenzene	<1.6		1.6	0.19	ug/L		11/26/14 19:10	12/10/14 01:51	1
1,2-Dichlorobenzene	<1.6		1.6	0.20	ug/L		11/26/14 19:10	12/10/14 01:51	1
1,2-Diphenylhydrazine	<4.0		4.0	0.49	ug/L		11/26/14 19:10	12/10/14 01:51	1
1,3-Dichlorobenzene	<1.6		1.6	0.17	ug/L		11/26/14 19:10	12/10/14 01:51	1
1,4-Dichlorobenzene	<1.6		1.6	0.17	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,2'-oxybis[1-chloropropane]	<1.6		1.6	0.30	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,4,5-Trichlorophenol	<8.0		8.0	2.1	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,4,6-Trichlorophenol	<4.0		4.0	0.57	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,4-Dichlorophenol	<8.0		8.0	2.1	ug/L		11/26/14 19:10	12/10/14 01:51	1

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-266203/1-A

Matrix: Water

Analysis Batch: 267788

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266203

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	<8.0				8.0	1.4	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,4-Dinitrophenol	<16				16	6.9	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,4-Dinitrotoluene	<0.80				0.80	0.20	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,6-Dichlorophenol	<8.0				8.0	2.8	ug/L		11/26/14 19:10	12/10/14 01:51	1
2,6-Dinitrotoluene	<0.40				0.40	0.059	ug/L		11/26/14 19:10	12/10/14 01:51	1
2-Chloronaphthalene	<1.6				1.6	0.19	ug/L		11/26/14 19:10	12/10/14 01:51	1
2-Chlorophenol	<4.0				4.0	0.45	ug/L		11/26/14 19:10	12/10/14 01:51	1
2-Methylnaphthalene	<0.40				0.40	0.052	ug/L		11/26/14 19:10	12/10/14 01:51	1
2-Methylphenol	<1.6				1.6	0.24	ug/L		11/26/14 19:10	12/10/14 01:51	1
2-Nitroaniline	<4.0				4.0	1.0	ug/L		11/26/14 19:10	12/10/14 01:51	1
2-Nitrophenol	<8.0				8.0	2.0	ug/L		11/26/14 19:10	12/10/14 01:51	1
3 & 4 Methylphenol	<1.6				1.6	0.36	ug/L		11/26/14 19:10	12/10/14 01:51	1
3,3'-Dichlorobenzidine	<4.0				4.0	1.4	ug/L		11/26/14 19:10	12/10/14 01:51	1
3-Nitroaniline	<8.0				8.0	1.4	ug/L		11/26/14 19:10	12/10/14 01:51	1
4,6-Dinitro-2-methylphenol	<16				16	4.7	ug/L		11/26/14 19:10	12/10/14 01:51	1
4-Bromophenyl phenyl ether	<4.0				4.0	0.43	ug/L		11/26/14 19:10	12/10/14 01:51	1
4-Chloro-3-methylphenol	<8.0				8.0	1.8	ug/L		11/26/14 19:10	12/10/14 01:51	1
4-Chloroaniline	<8.0				8.0	1.6	ug/L		11/26/14 19:10	12/10/14 01:51	1
4-Chlorophenyl phenyl ether	<4.0				4.0	0.51	ug/L		11/26/14 19:10	12/10/14 01:51	1
4-Nitroaniline	<8.0				8.0	1.3	ug/L		11/26/14 19:10	12/10/14 01:51	1
4-Nitrophenol	<16				16	5.9	ug/L		11/26/14 19:10	12/10/14 01:51	1
Acenaphthene	<0.80				0.80	0.25	ug/L		11/26/14 19:10	12/10/14 01:51	1
Acenaphthylene	<0.80				0.80	0.21	ug/L		11/26/14 19:10	12/10/14 01:51	1
Acetophenone	<4.0				4.0	0.53	ug/L		11/26/14 19:10	12/10/14 01:51	1
Aniline	<16				16	4.2	ug/L		11/26/14 19:10	12/10/14 01:51	1
Anthracene	<0.80				0.80	0.27	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzidine	<32				32	5.5	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzo[a]anthracene	<0.16				0.16	0.045	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzo[a]pyrene	<0.16				0.16	0.079	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzo[b]fluoranthene	<0.16				0.16	0.065	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzo[g,h,i]perylene	<0.80				0.80	0.30	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzo[k]fluoranthene	<0.16				0.16	0.051	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzoic acid	<16				16	4.6	ug/L		11/26/14 19:10	12/10/14 01:51	1
Benzyl alcohol	<16				16	4.8	ug/L		11/26/14 19:10	12/10/14 01:51	1
Bis(2-chloroethoxy)methane	<1.6				1.6	0.23	ug/L		11/26/14 19:10	12/10/14 01:51	1
Bis(2-chloroethyl)ether	<1.6				1.6	0.23	ug/L		11/26/14 19:10	12/10/14 01:51	1
Bis(2-ethylhexyl) phthalate	<8.0				8.0	1.4	ug/L		11/26/14 19:10	12/10/14 01:51	1
Butyl benzyl phthalate	<1.6				1.6	0.38	ug/L		11/26/14 19:10	12/10/14 01:51	1
Carbazole	<4.0				4.0	0.28	ug/L		11/26/14 19:10	12/10/14 01:51	1
Chrysene	<0.40				0.40	0.055	ug/L		11/26/14 19:10	12/10/14 01:51	1
Dibenz(a,h)anthracene	<0.24				0.24	0.041	ug/L		11/26/14 19:10	12/10/14 01:51	1
Dibenzofuran	<1.6				1.6	0.21	ug/L		11/26/14 19:10	12/10/14 01:51	1
Diethyl phthalate	<1.6				1.6	0.29	ug/L		11/26/14 19:10	12/10/14 01:51	1
Dimethyl phthalate	<1.6				1.6	0.25	ug/L		11/26/14 19:10	12/10/14 01:51	1
Di-n-butyl phthalate	<4.0				4.0	0.58	ug/L		11/26/14 19:10	12/10/14 01:51	1
Di-n-octyl phthalate	<8.0				8.0	0.84	ug/L		11/26/14 19:10	12/10/14 01:51	1
Fluoranthene	<0.80				0.80	0.36	ug/L		11/26/14 19:10	12/10/14 01:51	1
Fluorene	<0.80				0.80	0.20	ug/L		11/26/14 19:10	12/10/14 01:51	1

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-266203/1-A

Matrix: Water

Analysis Batch: 267788

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266203

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							Prepared	Analyzed	Dil Fac
Hexachlorobenzene	<0.40		0.40		0.40	0.064	ug/L		11/26/14 19:10	12/10/14 01:51	1
Hexachlorobutadiene	<4.0				4.0	0.41	ug/L		11/26/14 19:10	12/10/14 01:51	1
Hexachlorocyclopentadiene	<16				16	5.1	ug/L		11/26/14 19:10	12/10/14 01:51	1
Hexachloroethane	<4.0				4.0	0.48	ug/L		11/26/14 19:10	12/10/14 01:51	1
Indeno[1,2,3-cd]pyrene	<0.16				0.16	0.060	ug/L		11/26/14 19:10	12/10/14 01:51	1
Isophorone	<1.6				1.6	0.30	ug/L		11/26/14 19:10	12/10/14 01:51	1
Naphthalene	<0.80				0.80	0.25	ug/L		11/26/14 19:10	12/10/14 01:51	1
Nitrobenzene	<0.80				0.80	0.36	ug/L		11/26/14 19:10	12/10/14 01:51	1
N-Nitrosodiethylamine	<16				16	6.9	ug/L		11/26/14 19:10	12/10/14 01:51	1
N-Nitrosodi-n-propylamine	<0.40				0.40	0.12	ug/L		11/26/14 19:10	12/10/14 01:51	1
N-Nitrosodiphenylamine	<0.80				0.80	0.30	ug/L		11/26/14 19:10	12/10/14 01:51	1
Pentachlorophenol	<16				16	3.2	ug/L		11/26/14 19:10	12/10/14 01:51	1
Phenanthrene	<0.80				0.80	0.24	ug/L		11/26/14 19:10	12/10/14 01:51	1
Phenol	<4.0				4.0	0.54	ug/L		11/26/14 19:10	12/10/14 01:51	1
Pyrene	<0.80				0.80	0.34	ug/L		11/26/14 19:10	12/10/14 01:51	1
Pyridine	<16				16	4.0	ug/L		11/26/14 19:10	12/10/14 01:51	1
Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier									
2,4,6-Tribromophenol (Surr)	69		53 - 150			11/26/14 19:10	12/10/14 01:51	1			
2-Fluorobiphenyl	62		41 - 132			11/26/14 19:10	12/10/14 01:51	1			
2-Fluorophenol (Surr)	44		32 - 110			11/26/14 19:10	12/10/14 01:51	1			
Nitrobenzene-d5 (Surr)	70		47 - 134			11/26/14 19:10	12/10/14 01:51	1			
Phenol-d5 (Surr)	39		25 - 100			11/26/14 19:10	12/10/14 01:51	1			
Terphenyl-d14 (Surr)	72		59 - 150			11/26/14 19:10	12/10/14 01:51	1			

Lab Sample ID: LCS 500-266203/2-A

Matrix: Water

Analysis Batch: 267788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	%Rec.	
	Added	Result	Qualifier						Limits	
1,2,4-Trichlorobenzene				32.0	19.3	ug/L		60	36 - 98	
1,2-Dichlorobenzene				32.0	17.1	ug/L		53	36 - 96	
1,2-Diphenylhydrazine				32.0	23.7	ug/L		74	55 - 126	
1,3-Dichlorobenzene				32.0	16.6	ug/L		52	31 - 95	
1,4-Dichlorobenzene				32.0	17.0	ug/L		53	35 - 95	
2,2'-oxybis[1-chloropropane]				32.0	17.6	ug/L		55	24 - 115	
2,4,5-Trichlorophenol				32.0	22.9	ug/L		72	59 - 132	
2,4,6-Trichlorophenol				32.0	24.3	ug/L		76	61 - 125	
2,4-Dichlorophenol				32.0	24.8	ug/L		78	61 - 122	
2,4-Dimethylphenol				32.0	22.5	ug/L		70	49 - 117	
2,4-Dinitrophenol				64.0	57.9	ug/L		90	47 - 161	
2,4-Dinitrotoluene				32.0	26.9	ug/L		84	71 - 127	
2,6-Dinitrotoluene				32.0	27.5	ug/L		86	67 - 124	
2-Chloronaphthalene				32.0	21.4	ug/L		67	40 - 114	
2-Chlorophenol				32.0	19.6	ug/L		61	57 - 108	
2-Methylnaphthalene				32.0	20.8	ug/L		65	35 - 113	
2-Methylphenol				32.0	20.0	ug/L		62	54 - 109	
2-Nitroaniline				32.0	28.2	ug/L		88	59 - 129	

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-266203/2-A

Matrix: Water

Analysis Batch: 267788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Spike	LCS		Unit	D	%Rec	Limits
	Added	Result	Qualifier				
2-Nitrophenol	32.0	27.8		ug/L	87	62 - 117	
3 & 4 Methylphenol	32.0	20.7		ug/L	65	54 - 107	
3,3'-Dichlorobenzidine	32.0	24.9		ug/L	78	49 - 127	
3-Nitroaniline	32.0	22.8		ug/L	71	53 - 126	
4,6-Dinitro-2-methylphenol	64.0	52.9		ug/L	83	66 - 143	
4-Bromophenyl phenyl ether	32.0	24.0		ug/L	75	61 - 123	
4-Chloro-3-methylphenol	32.0	24.2		ug/L	76	64 - 129	
4-Chloroaniline	32.0	18.7		ug/L	59	15 - 141	
4-Chlorophenyl phenyl ether	32.0	23.0		ug/L	72	58 - 120	
4-Nitroaniline	32.0	21.4		ug/L	67	60 - 148	
4-Nitrophenol	64.0	30.7		ug/L	48	35 - 112	
Acenaphthene	32.0	20.8		ug/L	65	41 - 120	
Acenaphthylene	32.0	23.0		ug/L	72	47 - 112	
Acetophenone	32.0	22.4		ug/L	70	50 - 150	
Aniline	32.0	16.0		ug/L	50	21 - 100	
Anthracene	32.0	23.1		ug/L	72	56 - 124	
Benzidine	32.0	<32		ug/L	12	10 - 63	
Benzo[a]anthracene	32.0	23.0		ug/L	72	60 - 122	
Benzo[a]pyrene	32.0	27.3		ug/L	85	66 - 116	
Benzo[b]fluoranthene	32.0	25.3		ug/L	79	66 - 120	
Benzo[g,h,i]perylene	32.0	28.4		ug/L	89	42 - 164	
Benzo[k]fluoranthene	32.0	26.5		ug/L	83	52 - 123	
Benzoic acid	32.0	7.70 J		ug/L	24	18 - 91	
Benzyl alcohol	32.0	13.2 J*		ug/L	41	52 - 119	
Bis(2-chloroethoxy)methane	32.0	22.9		ug/L	72	57 - 115	
Bis(2-chloroethyl)ether	32.0	18.5		ug/L	58	50 - 105	
Bis(2-ethylhexyl) phthalate	32.0	23.2		ug/L	73	69 - 123	
Butyl benzyl phthalate	32.0	22.7		ug/L	71	69 - 123	
Carbazole	32.0	27.9		ug/L	87	63 - 135	
Chrysene	32.0	24.3		ug/L	76	59 - 126	
Dibenz(a,h)anthracene	32.0	27.2		ug/L	85	53 - 149	
Dibenzofuran	32.0	23.5		ug/L	74	54 - 120	
Diethyl phthalate	32.0	24.7		ug/L	77	54 - 140	
Dimethyl phthalate	32.0	24.1		ug/L	75	60 - 130	
Di-n-butyl phthalate	32.0	22.5		ug/L	70	64 - 125	
Di-n-octyl phthalate	32.0	22.0		ug/L	69	62 - 132	
Fluoranthene	32.0	24.0		ug/L	75	68 - 114	
Fluorene	32.0	23.5		ug/L	73	50 - 125	
Hexachlorobenzene	32.0	24.5		ug/L	76	59 - 122	
Hexachlorobutadiene	32.0	18.3		ug/L	57	25 - 104	
Hexachlorocyclopentadiene	32.0	19.6		ug/L	61	14 - 106	
Hexachloroethane	32.0	16.9		ug/L	53	25 - 96	
Indeno[1,2,3-cd]pyrene	32.0	28.0		ug/L	87	53 - 151	
Isophorone	32.0	23.8		ug/L	74	61 - 112	
Naphthalene	32.0	20.4		ug/L	64	41 - 106	
Nitrobenzene	32.0	25.1		ug/L	78	52 - 112	
N-Nitrosodi-n-propylamine	32.0	21.8		ug/L	68	47 - 113	
N-Nitrosodiphenylamine	32.0	22.5		ug/L	70	50 - 117	

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-266203/2-A

Matrix: Water

Analysis Batch: 267788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Spike Added	LCS		Unit	D	%Rec.	Limits
		Result	Qualifier				
Pentachlorophenol	64.0	36.5		ug/L	57	55 - 129	
Phenanthrene	32.0	22.9		ug/L	72	55 - 126	
Phenol	32.0	14.5		ug/L	45	34 - 89	
Pyrene	32.0	24.4		ug/L	76	62 - 118	
Pyridine	32.0	13.7	J	ug/L	43	14 - 88	

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surrogate)	91		53 - 150
2-Fluorobiphenyl	72		41 - 132
2-Fluorophenol (Surrogate)	51		32 - 110
Nitrobenzene-d5 (Surrogate)	79		47 - 134
Phenol-d5 (Surrogate)	43		25 - 100
Terphenyl-d14 (Surrogate)	80		59 - 150

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 267788

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2,4-Trichlorobenzene	<1.5		64.0	40.9		ug/L	64	36 - 98	
1,2-Dichlorobenzene	<1.5		64.0	37.2		ug/L	58	36 - 96	
1,2-Diphenylhydrazine	<3.8		64.0	44.5		ug/L	69	55 - 126	
1,3-Dichlorobenzene	<1.5		64.0	36.3		ug/L	57	31 - 95	
1,4-Dichlorobenzene	<1.5		64.0	36.4		ug/L	57	35 - 95	
2,2'-oxybis[1-chloropropane]	<1.5		64.0	36.0		ug/L	56	24 - 115	
2,4,5-Trichlorophenol	<7.7		64.0	46.1		ug/L	72	59 - 132	
2,4,6-Trichlorophenol	<3.8		64.0	49.5		ug/L	77	61 - 125	
2,4-Dichlorophenol	<7.7		64.0	49.5		ug/L	77	61 - 122	
2,4-Dimethylphenol	<7.7		64.0	47.9		ug/L	75	49 - 117	
2,4-Dinitrophenol	<15		128	105		ug/L	82	47 - 161	
2,4-Dinitrotoluene	<0.77		64.0	52.2		ug/L	82	71 - 127	
2,6-Dinitrotoluene	<0.38		64.0	53.6		ug/L	84	67 - 124	
2-Chloronaphthalene	<1.5		64.0	43.5		ug/L	68	40 - 114	
2-Chlorophenol	<3.8		64.0	40.8		ug/L	64	57 - 108	
2-Methylnaphthalene	<0.38		64.0	43.5		ug/L	68	35 - 113	
2-Methylphenol	<1.5		64.0	40.5		ug/L	63	54 - 109	
2-Nitroaniline	<3.8		64.0	56.1		ug/L	88	59 - 129	
2-Nitrophenol	<7.7		64.0	55.6		ug/L	87	62 - 117	
3 & 4 Methylphenol	<1.5		64.0	44.6		ug/L	70	54 - 107	
3,3'-Dichlorobenzidine	<3.8		64.0	<8.0	F1	ug/L	0	49 - 127	
3-Nitroaniline	<7.7		64.0	42.5		ug/L	66	53 - 126	
4,6-Dinitro-2-methylphenol	<15		128	95.3		ug/L	74	66 - 143	
4-Bromophenyl phenyl ether	<3.8		64.0	47.1		ug/L	74	61 - 123	
4-Chloro-3-methylphenol	<7.7		64.0	48.5		ug/L	76	64 - 129	
4-Chloroaniline	<7.7		64.0	19.5		ug/L	30	15 - 141	
4-Chlorophenyl phenyl ether	<3.8		64.0	45.3		ug/L	71	58 - 120	
4-Nitroaniline	<7.7		64.0	33.0	F1	ug/L	51	60 - 148	
4-Nitrophenol	<15		128	77.4		ug/L	60	35 - 112	

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 267788

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Acenaphthene	<0.77		64.0	40.6		ug/L	63	41 - 120	
Acenaphthylene	<0.77		64.0	46.0		ug/L	72	47 - 112	
Acetophenone	<3.8		64.0	44.5		ug/L	70	50 - 150	
Aniline	<15		64.0	23.4	J	ug/L	37	21 - 100	
Anthracene	<0.77		64.0	44.3		ug/L	69	56 - 124	
Benzidine	<31		64.0	<64	F1	ug/L	0	10 - 63	
Benzo[a]anthracene	<0.15		64.0	50.0		ug/L	78	60 - 122	
Benzo[a]pyrene	<0.15		64.0	55.6		ug/L	87	66 - 116	
Benzo[b]fluoranthene	<0.15		64.0	64.9		ug/L	101	66 - 120	
Benzo[g,h,i]perylene	<0.77		64.0	35.1		ug/L	55	42 - 164	
Benzo[k]fluoranthene	<0.15		64.0	63.8		ug/L	100	52 - 123	
Benzoic acid	<15		64.0	30.6	J	ug/L	48	18 - 91	
Benzyl alcohol	<15 *		64.0	39.7		ug/L	62	52 - 119	
Bis(2-chloroethoxy)methane	<1.5		64.0	43.9		ug/L	69	57 - 115	
Bis(2-chloroethyl)ether	<1.5		64.0	39.5		ug/L	62	50 - 105	
Bis(2-ethylhexyl) phthalate	<7.7		64.0	51.2		ug/L	80	69 - 123	
Butyl benzyl phthalate	<1.5		64.0	50.1		ug/L	78	69 - 123	
Carbazole	<3.8		64.0	67.7		ug/L	106	63 - 135	
Chrysene	<0.38		64.0	49.7		ug/L	78	59 - 126	
Dibenz(a,h)anthracene	<0.23		64.0	38.3		ug/L	60	53 - 149	
Dibenzofuran	<1.5		64.0	46.7		ug/L	73	54 - 120	
Diethyl phthalate	<1.5		64.0	47.9		ug/L	75	54 - 140	
Dimethyl phthalate	<1.5		64.0	46.9		ug/L	73	60 - 130	
Di-n-butyl phthalate	<3.8		64.0	44.4		ug/L	69	64 - 125	
Di-n-octyl phthalate	<7.7		64.0	45.2		ug/L	71	62 - 132	
Fluoranthene	<0.77		64.0	48.7		ug/L	76	68 - 114	
Fluorene	<0.77		64.0	46.6		ug/L	73	50 - 125	
Hexachlorobenzene	<0.38		64.0	49.0		ug/L	77	59 - 122	
Hexachlorobutadiene	<3.8		64.0	40.2		ug/L	63	25 - 104	
Hexachlorocyclopentadiene	<15		64.0	41.6		ug/L	65	14 - 106	
Hexachloroethane	<3.8		64.0	38.7		ug/L	60	25 - 96	
Indeno[1,2,3-cd]pyrene	<0.15		64.0	38.9		ug/L	61	53 - 151	
Isophorone	<1.5		64.0	46.1		ug/L	72	61 - 112	
Naphthalene	<0.77		64.0	41.8		ug/L	65	41 - 106	
Nitrobenzene	<0.77		64.0	49.1		ug/L	77	52 - 112	
N-Nitrosodi-n-propylamine	<0.38		64.0	44.4		ug/L	69	47 - 113	
N-Nitrosodiphenylamine	<0.77		64.0	44.5		ug/L	70	50 - 117	
Pentachlorophenol	<15		128	83.2		ug/L	65	55 - 129	
Phenanthrene	<0.77		64.0	45.8		ug/L	72	55 - 126	
Phenol	<3.8		64.0	35.8		ug/L	56	34 - 89	
Pyrene	<0.77		64.0	52.8		ug/L	83	62 - 118	
Pyridine	<15		64.0	29.1	J	ug/L	45	14 - 88	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	88		53 - 150
2-Fluorobiphenyl	67		41 - 132
2-Fluorophenol (Surr)	54		32 - 110
Nitrobenzene-d5 (Surr)	72		47 - 134

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 267788

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266203

Surrogate	%Recovery	MS Qualifier	MS Limits
Phenol-d5 (Surr)	52		25 - 100
Terphenyl-d14 (Surr)	82		59 - 150

Lab Sample ID: 500-88490-2 MSD

Matrix: Water

Analysis Batch: 267788

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	Limit
								Limits		
1,2,4-Trichlorobenzene	<1.5		58.3	33.4		ug/L	57	36 - 98	20	20
1,2-Dichlorobenzene	<1.5		58.3	29.6	F2	ug/L	51	36 - 96	23	20
1,2-Diphenylhydrazine	<3.8		58.3	37.9		ug/L	65	55 - 126	16	20
1,3-Dichlorobenzene	<1.5		58.3	28.9	F2	ug/L	50	31 - 95	22	20
1,4-Dichlorobenzene	<1.5		58.3	29.4	F2	ug/L	50	35 - 95	21	20
2,2'-oxybis[1-chloropropane]	<1.5		58.3	28.7	F2	ug/L	49	24 - 115	23	20
2,4,5-Trichlorophenol	<7.7		58.3	39.7		ug/L	68	59 - 132	15	20
2,4,6-Trichlorophenol	<3.8		58.3	40.9		ug/L	70	61 - 125	19	20
2,4-Dichlorophenol	<7.7		58.3	40.6		ug/L	70	61 - 122	20	20
2,4-Dimethylphenol	<7.7		58.3	36.4	F2	ug/L	62	49 - 117	27	20
2,4-Dinitrophenol	<15		117	89.5		ug/L	77	47 - 161	16	20
2,4-Dinitrotoluene	<0.77		58.3	43.7		ug/L	75	71 - 127	18	20
2,6-Dinitrotoluene	<0.38		58.3	45.3		ug/L	78	67 - 124	17	20
2-Chloronaphthalene	<1.5		58.3	35.5		ug/L	61	40 - 114	20	20
2-Chlorophenol	<3.8		58.3	32.3	F1 F2	ug/L	55	57 - 108	23	20
2-Methylnaphthalene	<0.38		58.3	34.9	F2	ug/L	60	35 - 113	22	20
2-Methylphenol	<1.5		58.3	33.2		ug/L	57	54 - 109	20	20
2-Nitroaniline	<3.8		58.3	46.2		ug/L	79	59 - 129	20	20
2-Nitrophenol	<7.7		58.3	46.6		ug/L	80	62 - 117	17	20
3 & 4 Methylphenol	<1.5		58.3	35.2	F2	ug/L	60	54 - 107	24	20
3,3'-Dichlorobenzidine	<3.8		58.3	<7.3	F1	ug/L	0	49 - 127	NC	20
3-Nitroaniline	<7.7		58.3	37.0		ug/L	63	53 - 126	14	20
4,6-Dinitro-2-methylphenol	<15		117	81.9		ug/L	70	66 - 143	15	20
4-Bromophenyl phenyl ether	<3.8		58.3	40.1		ug/L	69	61 - 123	16	20
4-Chloro-3-methylphenol	<7.7		58.3	39.7		ug/L	68	64 - 129	20	20
4-Chloroaniline	<7.7		58.3	22.2		ug/L	38	15 - 141	13	20
4-Chlorophenyl phenyl ether	<3.8		58.3	37.0		ug/L	64	58 - 120	20	20
4-Nitroaniline	<7.7		58.3	27.8	F1	ug/L	48	60 - 148	17	20
4-Nitrophenol	<15		117	63.4		ug/L	54	35 - 112	20	20
Acenaphthene	<0.77		58.3	34.2		ug/L	59	41 - 120	17	20
Acenaphthylene	<0.77		58.3	37.5		ug/L	64	47 - 112	20	20
Acetophenone	<3.8		58.3	35.7	F2	ug/L	61	50 - 150	22	20
Aniline	<15		58.3	17.1	J F2	ug/L	29	21 - 100	31	20
Anthracene	<0.77		58.3	38.2		ug/L	66	56 - 124	15	20
Benzidine	<31		58.3	<58	F1	ug/L	0	10 - 63	NC	20
Benzo[a]anthracene	<0.15		58.3	41.4		ug/L	71	60 - 122	19	20
Benzo[a]pyrene	<0.15		58.3	47.0		ug/L	81	66 - 116	17	20
Benzo[b]fluoranthene	<0.15		58.3	55.6		ug/L	95	66 - 120	16	20
Benzo[g,h,i]perylene	<0.77		58.3	30.7		ug/L	53	42 - 164	14	20
Benzo[k]fluoranthene	<0.15		58.3	51.3	F2	ug/L	88	52 - 123	22	20

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-88490-2 MSD

Matrix: Water

Analysis Batch: 267788

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266203

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Benzoic acid	<15		58.3	26.2	J	ug/L	45	18 - 91	16	20	6
Benzyl alcohol	<15 *		58.3	33.2		ug/L	57	52 - 119	18	20	7
Bis(2-chloroethoxy)methane	<1.5		58.3	36.3		ug/L	62	57 - 115	19	20	8
Bis(2-chloroethyl)ether	<1.5		58.3	33.2		ug/L	57	50 - 105	17	20	9
Bis(2-ethylhexyl) phthalate	<7.7		58.3	41.1	F2	ug/L	70	69 - 123	22	20	10
Butyl benzyl phthalate	<1.5		58.3	40.6	F2	ug/L	70	69 - 123	21	20	11
Carbazole	<3.8		58.3	57.4		ug/L	98	63 - 135	17	20	12
Chrysene	<0.38		58.3	40.5	F2	ug/L	69	59 - 126	21	20	13
Dibenz(a,h)anthracene	<0.23		58.3	33.7		ug/L	58	53 - 149	13	20	14
Dibenzofuran	<1.5		58.3	38.6		ug/L	66	54 - 120	19	20	15
Diethyl phthalate	<1.5		58.3	39.6		ug/L	68	54 - 140	19	20	16
Dimethyl phthalate	<1.5		58.3	38.8		ug/L	67	60 - 130	19	20	17
Di-n-butyl phthalate	<3.8		58.3	37.8		ug/L	65	64 - 125	16	20	18
Di-n-octyl phthalate	<7.7		58.3	38.4		ug/L	66	62 - 132	16	20	19
Fluoranthene	<0.77		58.3	41.3		ug/L	71	68 - 114	16	20	20
Fluorene	<0.77		58.3	38.3		ug/L	66	50 - 125	19	20	21
Hexachlorobenzene	<0.38		58.3	42.0		ug/L	72	59 - 122	15	20	22
Hexachlorobutadiene	<3.8		58.3	32.6	F2	ug/L	56	25 - 104	21	20	23
Hexachlorocyclopentadiene	<15		58.3	33.6	F2	ug/L	58	14 - 106	21	20	24
Hexachloroethane	<3.8		58.3	30.5	F2	ug/L	52	25 - 96	23	20	25
Indeno[1,2,3-cd]pyrene	<0.15		58.3	33.7		ug/L	58	53 - 151	14	20	26
Isophorone	<1.5		58.3	37.8		ug/L	65	61 - 112	20	20	27
Naphthalene	<0.77		58.3	34.7		ug/L	60	41 - 106	18	20	28
Nitrobenzene	<0.77		58.3	40.2		ug/L	69	52 - 112	20	20	29
N-Nitrosodi-n-propylamine	<0.38		58.3	34.9	F2	ug/L	60	47 - 113	24	20	30
N-Nitrosodiphenylamine	<0.77		58.3	38.5		ug/L	66	50 - 117	15	20	31
Pentachlorophenol	<15		117	67.2	F2	ug/L	58	55 - 129	21	20	32
Phenanthrene	<0.77		58.3	39.0		ug/L	67	55 - 126	16	20	33
Phenol	<3.8		58.3	28.6	F2	ug/L	49	34 - 89	22	20	34
Pyrene	<0.77		58.3	42.2	F2	ug/L	72	62 - 118	22	20	35
Pyridine	<15		58.3	22.2	J F2	ug/L	38	14 - 88	27	20	36
Surrogate											
	MSD	MSD									
	%Recovery	Qualifier				Limits					
2,4,6-Tribromophenol (Surr)	83					53 - 150					
2-Fluorobiphenyl	62					41 - 132					
2-Fluorophenol (Surr)	47					32 - 110					
Nitrobenzene-d5 (Surr)	68					47 - 134					
Phenol-d5 (Surr)	44					25 - 100					
Terphenyl-d14 (Surr)	74					59 - 150					

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-267380/1-A

Matrix: Water

Analysis Batch: 267459

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 267380

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	<0.010		0.010	0.0026	mg/L		12/06/14 11:20	12/07/14 20:51	1

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 500-267380/1-A

Matrix: Water

Analysis Batch: 267459

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 267380

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.010		0.010	0.0011	mg/L		12/06/14 11:20	12/07/14 20:51	1
Cadmium	0.000677	J	0.0020	0.00026	mg/L		12/06/14 11:20	12/07/14 20:51	1
Chromium	<0.010		0.010	0.0010	mg/L		12/06/14 11:20	12/07/14 20:51	1
Lead	<0.0050		0.0050	0.0023	mg/L		12/06/14 11:20	12/07/14 20:51	1
Selenium	<0.010		0.010	0.0046	mg/L		12/06/14 11:20	12/07/14 20:51	1
Silver	0.000874	J	0.0050	0.00057	mg/L		12/06/14 11:20	12/07/14 20:51	1

Lab Sample ID: LCS 500-267380/2-A

Matrix: Water

Analysis Batch: 267459

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 267380

Spike LCS LCS

Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Arsenic	0.100	0.0931		mg/L		93	80 - 120
Barium	0.500	0.472		mg/L		94	80 - 120
Cadmium	0.0500	0.0464		mg/L		93	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120
Lead	0.100	0.0941		mg/L		94	80 - 120
Selenium	0.100	0.0868		mg/L		87	80 - 120
Silver	0.0500	0.0479		mg/L		96	80 - 120

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 267459

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 267380

Sample Sample Spike MS MS

Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Arsenic	<0.010		0.100	0.102		mg/L		102	75 - 125
Barium	0.043		0.500	0.528		mg/L		97	75 - 125
Cadmium	0.00098	J B	0.0500	0.0495		mg/L		97	75 - 125
Chromium	<0.010		0.200	0.193		mg/L		97	75 - 125
Lead	<0.0050		0.100	0.100		mg/L		100	75 - 125
Selenium	<0.010		0.100	0.0946		mg/L		95	75 - 125
Silver	<0.0050		0.0500	0.0495		mg/L		99	75 - 125

Lab Sample ID: 500-88490-2 MSD

Matrix: Water

Analysis Batch: 267459

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 267380

Sample Sample Spike MSD MSD

Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	<0.010		0.100	0.0980		mg/L		98	75 - 125	4	20
Barium	0.043		0.500	0.516		mg/L		94	75 - 125	2	20
Cadmium	0.00098	J B	0.0500	0.0480		mg/L		94	75 - 125	3	20
Chromium	<0.010		0.200	0.188		mg/L		94	75 - 125	3	20
Lead	<0.0050		0.100	0.0965		mg/L		97	75 - 125	4	20
Selenium	<0.010		0.100	0.0884		mg/L		88	75 - 125	7	20
Silver	<0.0050		0.0500	0.0481		mg/L		96	75 - 125	3	20

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-88490-2 DU

Matrix: Water

Analysis Batch: 267459

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 267380

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	<0.010		<0.010		mg/L		NC	20
Barium	0.043		0.0437		mg/L		1	20
Cadmium	0.00098	J B	0.00117	J	mg/L		18	20
Chromium	<0.010		<0.010		mg/L		NC	20
Lead	<0.0050		<0.0050		mg/L		NC	20
Selenium	<0.010		<0.010		mg/L		NC	20
Silver	<0.0050		<0.0050		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-266491/12-A

Matrix: Water

Analysis Batch: 266662

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266491

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.00020		0.00020	0.000072	mg/L		12/01/14 10:45	12/02/14 09:45	1

Lab Sample ID: LCS 500-266491/13-A

Matrix: Water

Analysis Batch: 266662

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266491

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Mercury	0.00200	0.00215		mg/L		108	80 - 120

Lab Sample ID: 500-88490-2 MS

Matrix: Water

Analysis Batch: 266662

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266491

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Mercury	<0.00020		0.00100	0.000979		mg/L		98	80 - 120

Lab Sample ID: 500-88490-2 MSD

Matrix: Water

Analysis Batch: 266662

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266491

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Mercury	<0.00020		0.00100	0.00106		mg/L		106	80 - 120	8	20

Lab Sample ID: 500-88490-2 DU

Matrix: Water

Analysis Batch: 266662

Client Sample ID: GW-112414-AK-02

Prep Type: Total/NA

Prep Batch: 266491

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Mercury	<0.00020		<0.00020		mg/L		NC	20

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Method: 9040C - pH

Lab Sample ID: 500-88490-10 DU

Matrix: Water

Analysis Batch: 266225

Client Sample ID: WC-112514-AK-01

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
corrosivity by pH	7.03	HF	7.100		SU		1	

Method: 9060A - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 500-267606/4

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 267606

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
DOC Result 1	<1.0		1.0	0.23	mg/L			12/08/14 16:59	1
DOC Result 2	<1.0		1.0	0.23	mg/L			12/08/14 16:59	1
DOC Dup	<1.0		1.0	0.23	mg/L			12/08/14 16:59	1

Lab Sample ID: LCS 500-267606/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 267606

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Added	Result					
DOC Result 1	10.0		9.16	mg/L		92	80 - 120	
DOC Result 2	10.0		9.41	mg/L		94	80 - 120	

Lab Sample ID: 500-88490-2 MS

Client Sample ID: GW-112414-AK-02

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 267606

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
DOC Result 1	20		10.0	27.4		mg/L		75	75 - 125
DOC Result 2	20		10.0	27.4	F1	mg/L		71	75 - 125

Lab Sample ID: 500-88490-2 MSD

Client Sample ID: GW-112414-AK-02

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 267606

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
DOC Result 1	20		10.0	27.3	F1	mg/L		73	75 - 125	0	20
DOC Result 2	20		10.0	27.3	F1	mg/L		70	75 - 125	0	20

TestAmerica Chicago

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-01

Lab Sample ID: 500-88490-1

Matrix: Water

Date Collected: 11/24/14 13:15

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/28/14 21:56	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		1	267788	12/10/14 03:05	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 21:58	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 09:49	RLL	TAL CHI
Dissolved	Analysis	9060A		2	267606	12/08/14 20:49	HMW	TAL CHI

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Matrix: Water

Date Collected: 11/24/14 14:10

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/28/14 22:23	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		1	267788	12/10/14 08:50	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:02	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 09:51	RLL	TAL CHI
Dissolved	Analysis	9060A		1	267606	12/08/14 17:59	HMW	TAL CHI

Client Sample ID: GW-112414-AK-03

Lab Sample ID: 500-88490-3

Matrix: Water

Date Collected: 11/24/14 15:35

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/28/14 22:49	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		5	267788	12/10/14 03:29	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:23	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:02	RLL	TAL CHI
Dissolved	Analysis	9060A		2	267606	12/08/14 21:05	HMW	TAL CHI

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Matrix: Water

Date Collected: 11/24/14 16:40

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/28/14 23:15	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		1	267788	12/10/14 03:54	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:27	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:04	RLL	TAL CHI
Dissolved	Analysis	9060A		1	267606	12/08/14 18:51	HMW	TAL CHI

Client Sample ID: GW-112514-AK-05

Lab Sample ID: 500-88490-5

Matrix: Water

Date Collected: 11/25/14 08:55

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/28/14 23:42	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		1	267788	12/10/14 04:18	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:31	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:06	RLL	TAL CHI
Dissolved	Analysis	9060A		2	267606	12/08/14 21:48	HMW	TAL CHI

Client Sample ID: GW-112514-AK-06

Lab Sample ID: 500-88490-6

Matrix: Water

Date Collected: 11/25/14 10:00

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/29/14 00:08	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		1	267788	12/10/14 04:43	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:42	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:08	RLL	TAL CHI
Dissolved	Analysis	9060A		1	267606	12/08/14 19:24	HMW	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: GW-112514-AK-07

Lab Sample ID: 500-88490-7

Matrix: Water

Date Collected: 11/25/14 11:35

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/29/14 00:34	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		5	267788	12/10/14 05:07	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:46	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:10	RLL	TAL CHI
Dissolved	Analysis	9060A		2	267606	12/08/14 22:32	HMW	TAL CHI

Client Sample ID: GW-112514-AK-08

Lab Sample ID: 500-88490-8

Matrix: Water

Date Collected: 11/25/14 12:00

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266421	12/01/14 11:12	EMA	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		10	267967	12/10/14 23:02	KDL	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:50	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:12	RLL	TAL CHI
Dissolved	Analysis	9060A		2	267606	12/08/14 23:06	HMW	TAL CHI

Client Sample ID: GW-112514-AK-09

Lab Sample ID: 500-88490-9

Matrix: Water

Date Collected: 11/25/14 12:15

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/29/14 01:00	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		5	267788	12/10/14 07:25	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:54	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:14	RLL	TAL CHI
Dissolved	Analysis	9060A		1	267606	12/08/14 20:33	HMW	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Client Sample ID: WC-112514-AK-01

Date Collected: 11/25/14 17:10

Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/29/14 01:27	DJD	TAL CHI
Total/NA	Prep	3510C			266203	11/26/14 19:10	LLH	TAL CHI
Total/NA	Analysis	8270D		5	267788	12/10/14 08:26	AJD	TAL CHI
Total/NA	Prep	3010A			267380	12/06/14 11:20	PFK	TAL CHI
Total/NA	Analysis	6010B		1	267459	12/07/14 22:58	PJ1	TAL CHI
Total/NA	Prep	7470A			266491	12/01/14 10:45	RLL	TAL CHI
Total/NA	Analysis	7470A		1	266662	12/02/14 10:16	RLL	TAL CHI
Total/NA	Analysis	1010A		1	266223		SJS	TAL CHI
				(Start)	11/26/14 16:30			
				(End)	11/26/14 17:30			
Total/NA	Analysis	9040C		1	266225		SJS	TAL CHI
				(Start)	11/26/14 12:26			
				(End)	11/26/14 12:49			

Client Sample ID: Trip Blank

Date Collected: 11/24/14 00:00

Date Received: 11/26/14 10:25

Lab Sample ID: 500-88490-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	266355	11/28/14 21:30	DJD	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica Chicago

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-15
California	State Program	9	2903	04-30-15
Georgia	State Program	4	N/A	04-30-15
Georgia	State Program	4	939	04-30-15
Hawaii	State Program	9	N/A	04-30-15
Illinois	NELAP	5	100201	04-30-15
Indiana	State Program	5	C-IL-02	04-30-15
Iowa	State Program	7	82	05-01-16
Kansas	NELAP	7	E-10161	01-31-15 *
Kentucky (UST)	State Program	4	66	04-30-15
Kentucky (WW)	State Program	4	KY90023	12-31-14 *
Massachusetts	State Program	1	M-IL035	06-30-15
Mississippi	State Program	4	N/A	04-30-15
New York	NELAP	2	IL00035	03-31-15
North Carolina (WW/SW)	State Program	4	291	12-31-14 *
North Dakota	State Program	8	R-194	04-30-15
Oklahoma	State Program	6	8908	08-31-15
South Carolina	State Program	4	77001	04-30-15
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-15 *
Wyoming	State Program	8	8TMS-Q	04-30-15

* Certification renewal pending - certification considered valid.

TestAmerica Chicago

CONESTOGA-ROVERS & ASSOCIATES 8615 W. Bryn Mawr Avenue Chicago, Illinois 60631 (773)380-9933 phone (773)380-6421 fax				SHIPPED TO (Laboratory Name): TEST AMERICA: UNIVERSITY PARK, IL										
				REFERENCE NUMBER: 080439 - 00 - 001				PROJECT NAME: CLINE AVE DITCH 500-88490						
CHAIN-OF-CUSTODY RECORD														
SAMPLER'S SIGNATURE: <u>A. K.</u> PRINTED NAME: ANDY KREIN				 500-88490 COC	NO. OF CONTAINERS	PARAMETERS						REMARKS		
SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.			SAMPLE MATRIX	VOC's	SVOC's	PCP/PCP METALS	DOC	ALKYL PAH			PB+TUNSTABZ
1	11/24/14	13:15	GW-112414-AK-01			GW	10	X	X	X	X			
2		14:10	GW-112414-AK-02			GW	21	X	X	X	X			
3		15:35	GW-112414-AK-03			GW	10	X	X	X	X			
4		16:40	GW-112414-AK-04			GW	10	X	X	X	X			
5	11/25/14	08:55	GW-112514-AK-05			GW	10	X	X	X	X			
6		10:00	GW-112514-AK-06			GW	10	X	X	X	X			
7		11:35	GW-112514-AK-07			GW	10	X	X	X	X			
8		12:00	GW-112514-AK-08			GW	10	X	X	X	X			
9		13:15	GW-112514-AK-09			GW	10	X	X	X	X			
10		14:10	WL-112514-AK-01	GW	7	X	X	X		X				
11		-	TRIP BLANK	-	2	X								
TOTAL NUMBER OF CONTAINERS				110 *ALL ALKYL PAH SAMPLES TO BE SENT TO TEST AMERICA - KNOXVILLE, TN										
RELINQUISHED BY: <u>Robert Bogat</u>				DATE: 11/25/14	RECEIVED BY: <u>Shawn Scott</u>							DATE:		
				TIME: 19:00								TIME:		
RELINQUISHED BY: <u> </u>				DATE:	RECEIVED BY:							DATE:		
				TIME:	<u> </u>							TIME:		
RELINQUISHED BY: <u> </u>				DATE:	RECEIVED BY:							DATE:		
				TIME:	<u> </u>							TIME:		
METHOD OF SHIPMENT: FedEx AIR BILL No. 8005 2822 7949 31,12,0,6,41														
White -Fully Executed Copy Yellow -Receiving Laboratory Copy Pink -Shipper Copy Goldenrod -Sampler Copy				SAMPLE TEAM: <u>Andy Krein</u> <u>Rob Bogat</u>				RECEIVED FOR LABORATORY BY: <u>Shawn Scott</u> DATE: 11/26/14 TIME: 10:25 6580						

1001-00(SOURCE)GN-CO004

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 500-88490-1

Login Number: 88490

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1,1.2,0.6,4.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-88490-2

Client Project/Site: Cline Ave. Ditch - 080439

For:

Conestoga-Rovers & Associates, Inc.

6520 Corporate Drive

Indianapolis, Indiana 46278

Attn: Mr. Michael Richardson



Authorized for release by:

12/18/2014 10:57:53 AM

Richard Wright, Senior Project Manager

(708)534-5200

richard.wright@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?

Ask
The
Expert

Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	6
Method Summary	9
Sample Summary	10
Client Sample Results	11
Definitions	20
QC Association	21
Surrogate Summary	22
QC Sample Results	24
Chronicle	26
Certification Summary	29
Chain of Custody	31
Receipt Checklists	34

PROJECT NARRATIVE H4L010401

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

Most client samples had the concentration of 1-methylnaphthalene and/or 2-methylnaphthalene exceeding the calibration level if the instrument. The samples were analyzed at a dilution to bring the concentration of the compound into the instrument calibration range. The reporting limits have been adjusted accordingly.

Screening showed sulfur interference in some samples that would affect the ability to accurately detect and quantitate analytes, all extracts were treated with copper to eliminate the sulfur and analyzed. The associated method blank and laboratory control sample were also treated with copper and analyzed.

The labeled internal standards added prior to extraction serve both as a measure of extraction efficiency and as a measure of cleanup recovery.

The dilution factor reported on the sample result form represents a combination of factors (such as dilution, sample weight/volume adjustment, split ratio, etc.) used to adjust the reporting limits and method detection limits.

If present in the sample, the following target analytes are reported individually and are also included in the total alkyl result for their respective homologue group: Specifically, 2,6-dimethylnaphthalene is included in the total C2-alkylnaphthalene homologue result, 2,3,5-trimethylnaphthalene is included in the total C3-alkylnaphthalene homologue result, and 1-methylphenanthrene is included in the total C1-phenanthrenes/anthracenes homologue result.

For the total alkyl PAHs, the reporting limit (RL) for the parent PAH is entered into both the MDL field and the RL field. Results for the total alkyl PAHs are not reported below the RL of the parent PAH.

Total alkyl homologue results are considered estimated and are qualified with the EST flag. This indicates that the qualitative criteria for these homologues are not as rigorous as they are for individual targets and that the quantitation is estimated using a parent PAH response factor.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

PROJECT NARRATIVE

H4L010401

The retention times of all the alkyl homologues are not known. These compounds are identified as eluting within a retention time window established by examining a mixture of coal tar and crude oil standards.

Some samples have slightly altered alkyl homologue patterns compared to the reference oil standards within the expected retention time window. This may be due to interferences from non-alkylated compounds containing the same quantitative mass, and/or due to different relative concentrations of alkylated isomers. The affected alkyl groups have been flagged with "AP" qualifiers.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Job ID: 500-88490-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-88490-2

Comments

No additional comments.

Receipt

The samples were received on 11/26/2014 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.6° C, 1.2° C, 3.4° C and 4.1° C.

Subcontract non-Sister

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work

Method Alkyl PAHs - C1-C4, plus Benzo(e)pyrene & Perylene: This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-01

Lab Sample ID: 500-88490-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	9200		50	20	ng/L	5		ID-0016	Total
2-Methylnaphthalene	4300		100	42	ng/L	5		ID-0016	Total
Benzo(e)pyrene	3.6	J	10	1.4	ng/L	1		ID-0016	Total
C1-Fluorenes	2100	EST	10	10	ng/L	1		ID-0016	Total
C2-Fluorenes	62	EST	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	8300	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	1800	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	190	EST	10	10	ng/L	1		ID-0016	Total
Perylene	3.5	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	5.8	J	10	4.1	ng/L	1		ID-0016	Total
Perylene	1.5	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-03

Lab Sample ID: 500-88490-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	14000		100	41	ng/L	10		ID-0016	Total
2-Methylnaphthalene	43		20	8.3	ng/L	1		ID-0016	Total
Benzo(e)pyrene	7.7	J	10	1.4	ng/L	1		ID-0016	Total
C1-Chrysenes/benz(a)anthracenes	21	EST AP	10	10	ng/L	1		ID-0016	Total
C1-Fluorenes	700	EST	10	10	ng/L	1		ID-0016	Total
C2-Chrysenes/benz(a)anthracenes	12	EST AP	10	10	ng/L	1		ID-0016	Total
C2-Fluorenes	23	EST AP	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	12000	EST	10	10	ng/L	1		ID-0016	Total
C2-Phenanthrenes/anthracenes	10	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	5000	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	370	EST	10	10	ng/L	1		ID-0016	Total
Perylene	3.6	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	6200		30	12	ng/L	3		ID-0016	Total
2-Methylnaphthalene	150		20	8.3	ng/L	1		ID-0016	Total
Benzo(e)pyrene	7.6	J	10	1.4	ng/L	1		ID-0016	Total
C1-Fluorenes	90	EST AP	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	740	EST AP	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	190	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	25	EST	10	10	ng/L	1		ID-0016	Total
Perylene	1.8	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112514-AK-05

Lab Sample ID: 500-88490-5

No Detections.

Client Sample ID: GW-112514-AK-06

Lab Sample ID: 500-88490-6

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112514-AK-07

Lab Sample ID: 500-88490-7

No Detections.

Client Sample ID: GW-112514-AK-08

Lab Sample ID: 500-88490-8

No Detections.

Client Sample ID: GW-112514-AK-09

Lab Sample ID: 500-88490-9

No Detections.

Client Sample ID: GW-112414-AK-05

Lab Sample ID: H4L010401005

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	4400		20	8.2	ng/L	2		ID-0016	Total
2-Methylnaphthalene	88		20	8.3	ng/L	1		ID-0016	Total
C1-Fluorenes	49	EST	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	790	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	260	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	68	EST AP	10	10	ng/L	1		ID-0016	Total
Perylene	1.7	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-06

Lab Sample ID: H4L010401006

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	2300		10	4.1	ng/L	1		ID-0016	Total
2-Methylnaphthalene	910		20	8.3	ng/L	1		ID-0016	Total
C2-Naphthalenes	480	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	86	EST	10	10	ng/L	1		ID-0016	Total
Perylene	2.8	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-07

Lab Sample ID: H4L010401007

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	30000		150	62	ng/L	15		ID-0016	Total
2-Methylnaphthalene	14000		300	120	ng/L	15		ID-0016	Total
Benzo(e)pyrene	1.8	J	10	1.4	ng/L	1		ID-0016	Total
C1-Fluorenes	1700	EST	10	10	ng/L	1		ID-0016	Total
C1-Phenanthrenes/anthracenes	15	EST	10	10	ng/L	1		ID-0016	Total
C2-Fluorenes	52	EST AP	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	25000	EST	10	10	ng/L	1		ID-0016	Total
C2-Phenanthrenes/anthracenes	19	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	12000	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	830	EST	10	10	ng/L	1		ID-0016	Total
Perylene	2.2	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-08

Lab Sample ID: H4L010401008

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	29000		150	62	ng/L	15		ID-0016	Total
2-Methylnaphthalene	13000		300	120	ng/L	15		ID-0016	Total
C1-Fluorenes	2500	EST	10	10	ng/L	1		ID-0016	Total
C1-Phenanthrenes/anthracenes	590	EST	10	10	ng/L	1		ID-0016	Total

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-08 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C2-Fluorenes	840	EST	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	25000	EST	10	10	ng/L	1		ID-0016	Total
C2-Phenanthrenes/anthracenes	38	EST	10	10	ng/L	1		ID-0016	Total
C3-Fluorenes	46	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	14000	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	2700	EST	10	10	ng/L	1		ID-0016	Total
Perylene	2.3	J B	10	0.81	ng/L	1		ID-0016	Total

Client Sample ID: GW-112414-AK-09

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	22000		100	41	ng/L	10		ID-0016	Total
2-Methylnaphthalene	18000		200	83	ng/L	10		ID-0016	Total
Benzo(e)pyrene	28		10	1.4	ng/L	1		ID-0016	Total
C1-Chrysenes/benz(a)anthracenes	110	EST AP	10	10	ng/L	1		ID-0016	Total
C1-Fluoranthenes/pyrenes	70	EST	10	10	ng/L	1		ID-0016	Total
C1-Fluorenes	1000	EST	10	10	ng/L	1		ID-0016	Total
C1-Phenanthrenes/anthracenes	71	EST	10	10	ng/L	1		ID-0016	Total
C2-Chrysenes/benz(a)anthracenes	91	EST AP	10	10	ng/L	1		ID-0016	Total
C2-Fluorenes	130	EST	10	10	ng/L	1		ID-0016	Total
C2-Naphthalenes	22000	EST	10	10	ng/L	1		ID-0016	Total
C2-Phenanthrenes/anthracenes	140	EST	10	10	ng/L	1		ID-0016	Total
C3-Chrysenes/benz(a)anthracenes	51	EST	10	10	ng/L	1		ID-0016	Total
C3-Fluorenes	50	EST	10	10	ng/L	1		ID-0016	Total
C3-Naphthalenes	8200	EST	10	10	ng/L	1		ID-0016	Total
C3-Phenanthrenes/anthracenes	99	EST	10	10	ng/L	1		ID-0016	Total
C4-Chrysenes/benz(a)anthracenes	26	EST	10	10	ng/L	1		ID-0016	Total
C4-Naphthalenes	750	EST	10	10	ng/L	1		ID-0016	Total
C4-Phenanthrenes/anthracenes	48	EST	10	10	ng/L	1		ID-0016	Total
Perylene	3.6	J B	10	0.81	ng/L	1		ID-0016	Total

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Method	Method Description	Protocol	Laboratory
ID-0016	PAHs & Selected SVOCs (HRGC/LRMS)	KNOX	TAL KNX

Protocol References:

KNOX = KNOX

Laboratory References:

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-88490-1	GW-112414-AK-01	Water	11/24/14 13:15	11/26/14 10:25
500-88490-2	GW-112414-AK-02	Water	11/24/14 14:10	11/26/14 10:25
500-88490-3	GW-112414-AK-03	Water	11/24/14 15:35	11/26/14 10:25
500-88490-4	GW-112414-AK-04	Water	11/24/14 16:40	11/26/14 10:25
500-88490-5	GW-112514-AK-05	Water	11/25/14 08:55	11/26/14 10:25
500-88490-6	GW-112514-AK-06	Water	11/25/14 10:00	11/26/14 10:25
500-88490-7	GW-112514-AK-07	Water	11/25/14 11:35	11/26/14 10:25
500-88490-8	GW-112514-AK-08	Water	11/25/14 12:00	11/26/14 10:25
500-88490-9	GW-112514-AK-09	Water	11/25/14 12:15	11/26/14 10:25
H4L010401005	GW-112414-AK-05	Water	11/25/14 08:55	11/29/14 11:38
H4L010401006	GW-112414-AK-06	Water	11/25/14 10:00	11/29/14 11:38
H4L010401007	GW-112414-AK-07	Water	11/25/14 11:35	11/29/14 11:38
H4L010401008	GW-112414-AK-08	Water	11/25/14 12:00	11/29/14 11:38
H4L010401009	GW-112414-AK-09	Water	11/25/14 12:15	11/29/14 11:38

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-01

Lab Sample ID: 500-88490-1

Matrix: Water

Date Collected: 11/24/14 13:15

Date Received: 11/26/14 10:25

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	9200		50	20	ng/L		12/01/14 13:30	12/10/14 03:47	5
2-Methylnaphthalene	4300		100	42	ng/L		12/01/14 13:30	12/10/14 03:47	5
Benzo(e)pyrene	3.6 J		10	1.4	ng/L		12/01/14 13:30	12/09/14 23:30	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C1-Fluorenes	2100 EST		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C1-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C2-Fluorenes	62 EST		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C2-Naphthalenes	8300 EST		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C2-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C3-Naphthalenes	1800 EST		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C4-Naphthalenes	190 EST		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:30	1
Perylene	3.5 JB		10	0.81	ng/L		12/01/14 13:30	12/09/14 23:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	90		30 - 120				12/01/14 13:30	12/09/14 23:30	1
Naphthalene-d8	79		30 - 120				12/01/14 13:30	12/09/14 23:30	1
2-Methylnaphthalene-d10	83		30 - 120				12/01/14 13:30	12/10/14 03:47	5
1-Methylnaphthalene-d10	83		30 - 120				12/01/14 13:30	12/10/14 03:47	5
Phenanthrene-d10	91		30 - 120				12/01/14 13:30	12/09/14 23:30	1
Fluoranthene-d10	94		30 - 120				12/01/14 13:30	12/09/14 23:30	1
Chrysene-d12	88		30 - 120				12/01/14 13:30	12/09/14 23:30	1
Benzo(a)pyrene-d12	75		30 - 120				12/01/14 13:30	12/09/14 23:30	1
Perylene-d12	74		30 - 120				12/01/14 13:30	12/09/14 23:30	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Matrix: Water

Date Collected: 11/24/14 14:10

Date Received: 11/26/14 10:25

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	5.8	J	10	4.1	ng/L		12/01/14 13:30	12/09/14 23:56	1
2-Methylnaphthalene	ND		20	8.3	ng/L		12/01/14 13:30	12/09/14 23:56	1
Benzo(e)pyrene	ND		10	1.4	ng/L		12/01/14 13:30	12/09/14 23:56	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C1-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C1-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C2-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C2-Naphthalenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C2-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C3-Naphthalenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C4-Naphthalenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/09/14 23:56	1
Perylene	1.5	J B	10	0.81	ng/L		12/01/14 13:30	12/09/14 23:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	99		30 - 120				12/01/14 13:30	12/09/14 23:56	1
Naphthalene-d8	91		30 - 120				12/01/14 13:30	12/09/14 23:56	1
2-Methylnaphthalene-d10	95		30 - 120				12/01/14 13:30	12/09/14 23:56	1
1-Methylnaphthalene-d10	95		30 - 120				12/01/14 13:30	12/09/14 23:56	1
Phenanthrene-d10	93		30 - 120				12/01/14 13:30	12/09/14 23:56	1
Fluoranthene-d10	97		30 - 120				12/01/14 13:30	12/09/14 23:56	1
Chrysene-d12	96		30 - 120				12/01/14 13:30	12/09/14 23:56	1
Benzo(a)pyrene-d12	91		30 - 120				12/01/14 13:30	12/09/14 23:56	1
Perylene-d12	89		30 - 120				12/01/14 13:30	12/09/14 23:56	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-03

Lab Sample ID: 500-88490-3

Matrix: Water

Date Collected: 11/24/14 15:35

Date Received: 11/26/14 10:25

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	14000		100	41	ng/L		12/01/14 13:30	12/10/14 13:12	10
2-Methylnaphthalene	43		20	8.3	ng/L		12/01/14 13:30	12/10/14 00:21	1
Benzo(e)pyrene	7.7	J	10	1.4	ng/L		12/01/14 13:30	12/10/14 00:21	1
C1-Chrysenes/benz(a)anthracenes	21	EST AP	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C1-Fluorenes	700	EST	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C1-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C2-Chrysenes/benz(a)anthracenes	12	EST AP	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C2-Fluorenes	23	EST AP	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C2-Naphthalenes	12000	EST	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C2-Phenanthrenes/anthracenes	10	EST	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C3-Naphthalenes	5000	EST	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C4-Naphthalenes	370	EST	10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:21	1
Perylene	3.6	J B	10	0.81	ng/L		12/01/14 13:30	12/10/14 00:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Fluorene-d-10	89		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
Naphthalene-d8	72		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
2-Methylnaphthalene-d10	79		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
1-Methylnaphthalene-d10	84		30 - 120			12/01/14 13:30	12/10/14 13:12	10	
Phenanthrene-d10	84		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
Fluoranthene-d10	91		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
Chrysene-d12	83		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
Benzo(a)pyrene-d12	66		30 - 120			12/01/14 13:30	12/10/14 00:21	1	
Perylene-d12	65		30 - 120			12/01/14 13:30	12/10/14 00:21	1	

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Matrix: Water

Date Collected: 11/24/14 16:40

Date Received: 11/26/14 10:25

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	6200		30	12	ng/L		12/01/14 13:30	12/10/14 04:38	3
2-Methylnaphthalene	150		20	8.3	ng/L		12/01/14 13:30	12/10/14 00:47	1
Benzo(e)pyrene	7.6 J		10	1.4	ng/L		12/01/14 13:30	12/10/14 00:47	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C1-Fluorenes	90 EST AP		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C1-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C2-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C2-Naphthalenes	740 EST AP		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C2-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C3-Naphthalenes	190 EST		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C4-Naphthalenes	25 EST		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 00:47	1
Perylene	1.8 JB		10	0.81	ng/L		12/01/14 13:30	12/10/14 00:47	1
Surrogate	%Recovery	Qualifier		Limits			Prepared	Analyzed	Dil Fac
Fluorene-d10	97			30 - 120			12/01/14 13:30	12/10/14 00:47	1
Naphthalene-d8	87			30 - 120			12/01/14 13:30	12/10/14 00:47	1
2-Methylnaphthalene-d10	93			30 - 120			12/01/14 13:30	12/10/14 00:47	1
1-Methylnaphthalene-d10	95			30 - 120			12/01/14 13:30	12/10/14 04:38	3
Phenanthrene-d10	88			30 - 120			12/01/14 13:30	12/10/14 00:47	1
Fluoranthene-d10	95			30 - 120			12/01/14 13:30	12/10/14 00:47	1
Chrysene-d12	93			30 - 120			12/01/14 13:30	12/10/14 00:47	1
Benzo(a)pyrene-d12	82			30 - 120			12/01/14 13:30	12/10/14 00:47	1
Perylene-d12	79			30 - 120			12/01/14 13:30	12/10/14 00:47	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-05

Lab Sample ID: H4L010401005

Date Collected: 11/25/14 08:55

Matrix: Water

Date Received: 11/29/14 11:38

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4400		20	8.2	ng/L		12/01/14 13:30	12/10/14 05:04	2
2-Methylnaphthalene	88		20	8.3	ng/L		12/01/14 13:30	12/10/14 01:13	1
Benzo(e)pyrene	ND		10	1.4	ng/L		12/01/14 13:30	12/10/14 01:13	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C1-Fluorenes	49	EST	10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C1-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C2-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C2-Naphthalenes	790	EST	10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C2-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C3-Naphthalenes	260	EST	10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C4-Naphthalenes	68	EST AP	10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:13	1
Perylene	1.7	J B	10	0.81	ng/L		12/01/14 13:30	12/10/14 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorene-d10	92		30 - 120		12/01/14 13:30	12/10/14 01:13
Naphthalene-d8	81		30 - 120		12/01/14 13:30	12/10/14 01:13
2-Methylnaphthalene-d10	85		30 - 120		12/01/14 13:30	12/10/14 01:13
1-Methylnaphthalene-d10	87		30 - 120		12/01/14 13:30	12/10/14 05:04
Phenanthrene-d10	88		30 - 120		12/01/14 13:30	12/10/14 01:13
Fluoranthene-d10	95		30 - 120		12/01/14 13:30	12/10/14 01:13
Chrysene-d12	89		30 - 120		12/01/14 13:30	12/10/14 01:13
Benzo(a)pyrene-d12	79		30 - 120		12/01/14 13:30	12/10/14 01:13
Perylene-d12	77		30 - 120		12/01/14 13:30	12/10/14 01:13

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-06

Lab Sample ID: H4L010401006

Date Collected: 11/25/14 10:00

Matrix: Water

Date Received: 11/29/14 11:38

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	2300		10	4.1	ng/L		12/01/14 13:30	12/10/14 01:38	1
2-Methylnaphthalene	910		20	8.3	ng/L		12/01/14 13:30	12/10/14 01:38	1
Benzo(e)pyrene	ND		10	1.4	ng/L		12/01/14 13:30	12/10/14 01:38	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C1-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C1-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C2-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C2-Naphthalenes	480	EST	10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C2-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C3-Naphthalenes	86	EST	10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C4-Naphthalenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 01:38	1
Perylene	2.8	J B	10	0.81	ng/L		12/01/14 13:30	12/10/14 01:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorene-d10	98		30 - 120		12/01/14 13:30	12/10/14 01:38
Naphthalene-d8	87		30 - 120		12/01/14 13:30	12/10/14 01:38
2-Methylnaphthalene-d10	93		30 - 120		12/01/14 13:30	12/10/14 01:38
1-Methylnaphthalene-d10	92		30 - 120		12/01/14 13:30	12/10/14 01:38
Phenanthrene-d10	88		30 - 120		12/01/14 13:30	12/10/14 01:38
Fluoranthene-d10	98		30 - 120		12/01/14 13:30	12/10/14 01:38
Chrysene-d12	99		30 - 120		12/01/14 13:30	12/10/14 01:38
Benzo(a)pyrene-d12	97		30 - 120		12/01/14 13:30	12/10/14 01:38
Perylene-d12	92		30 - 120		12/01/14 13:30	12/10/14 01:38

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-07

Lab Sample ID: H4L010401007

Date Collected: 11/25/14 11:35

Matrix: Water

Date Received: 11/29/14 11:38

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	30000		150	62	ng/L		12/01/14 13:30	12/10/14 12:20	15
2-Methylnaphthalene	14000		300	120	ng/L		12/01/14 13:30	12/10/14 12:20	15
Benzo(e)pyrene	1.8 J		10	1.4	ng/L		12/01/14 13:30	12/10/14 02:04	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C1-Fluorenes	1700 EST		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C1-Phenanthrenes/anthracenes	15 EST		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C2-Fluorenes	52 EST AP		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C2-Naphthalenes	25000 EST		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C2-Phenanthrenes/anthracenes	19 EST		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C3-Fluorenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C3-Naphthalenes	12000 EST		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C4-Naphthalenes	830 EST		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:04	1
Perylene	2.2 J B		10	0.81	ng/L		12/01/14 13:30	12/10/14 02:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	79		30 - 120				12/01/14 13:30	12/10/14 02:04	1
Naphthalene-d8	57		30 - 120				12/01/14 13:30	12/10/14 02:04	1
2-Methylnaphthalene-d10	71		30 - 120				12/01/14 13:30	12/10/14 12:20	15
1-Methylnaphthalene-d10	67		30 - 120				12/01/14 13:30	12/10/14 12:20	15
Phenanthrene-d10	89		30 - 120				12/01/14 13:30	12/10/14 02:04	1
Fluoranthene-d10	95		30 - 120				12/01/14 13:30	12/10/14 02:04	1
Chrysene-d12	92		30 - 120				12/01/14 13:30	12/10/14 02:04	1
Benzo(a)pyrene-d12	79		30 - 120				12/01/14 13:30	12/10/14 02:04	1
Perylene-d12	77		30 - 120				12/01/14 13:30	12/10/14 02:04	1

TestAmerica Chicago

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-08

Lab Sample ID: H4L010401008

Date Collected: 11/25/14 12:00

Matrix: Water

Date Received: 11/29/14 11:38

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	29000		150	62	ng/L		12/01/14 13:30	12/10/14 12:46	15
2-Methylnaphthalene	13000		300	120	ng/L		12/01/14 13:30	12/10/14 12:46	15
Benzo(e)pyrene	ND		10	1.4	ng/L		12/01/14 13:30	12/10/14 02:30	1
C1-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C1-Fluoranthenes/pyrenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C1-Fluorenes	2500	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C1-Phenanthrenes/anthracenes	590	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C2-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C2-Fluorenes	840	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C2-Naphthalenes	25000	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C2-Phenanthrenes/anthracenes	38	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C3-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C3-Fluorenes	46	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C3-Naphthalenes	14000	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C3-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C4-Chrysenes/benz(a)anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C4-Naphthalenes	2700	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
C4-Phenanthrenes/anthracenes	ND		10	10	ng/L		12/01/14 13:30	12/10/14 02:30	1
Perylene	2.3	J B	10	0.81	ng/L		12/01/14 13:30	12/10/14 02:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorene-d10	82		30 - 120		12/01/14 13:30	12/10/14 02:30
Naphthalene-d8	57		30 - 120		12/01/14 13:30	12/10/14 02:30
2-Methylnaphthalene-d10	68		30 - 120		12/01/14 13:30	12/10/14 12:46
1-Methylnaphthalene-d10	67		30 - 120		12/01/14 13:30	12/10/14 12:46
Phenanthrene-d10	89		30 - 120		12/01/14 13:30	12/10/14 02:30
Fluoranthene-d10	96		30 - 120		12/01/14 13:30	12/10/14 02:30
Chrysene-d12	90		30 - 120		12/01/14 13:30	12/10/14 02:30
Benzo(a)pyrene-d12	79		30 - 120		12/01/14 13:30	12/10/14 02:30
Perylene-d12	76		30 - 120		12/01/14 13:30	12/10/14 02:30

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-09

Lab Sample ID: H4L010401009

Matrix: Water

Date Collected: 11/25/14 12:15

Date Received: 11/29/14 11:38

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	22000		100	41	ng/L		12/01/14 13:30	12/10/14 06:47	10
2-Methylnaphthalene	18000		200	83	ng/L		12/01/14 13:30	12/10/14 06:47	10
Benzo(e)pyrene	28		10	1.4	ng/L		12/01/14 13:30	12/10/14 02:56	1
C1-Chrysenes/benz(a)anthracenes	110	EST AP	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C1-Fluoranthenes/pyrenes	70	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C1-Fluorenes	1000	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C1-Phenanthrenes/anthracenes	71	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C2-Chrysenes/benz(a)anthracenes	91	EST AP	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C2-Fluorenes	130	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C2-Naphthalenes	22000	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C2-Phenanthrenes/anthracenes	140	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C3-Chrysenes/benz(a)anthracenes	51	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C3-Fluorenes	50	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C3-Naphthalenes	8200	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C3-Phenanthrenes/anthracenes	99	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C4-Chrysenes/benz(a)anthracenes	26	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C4-Naphthalenes	750	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
C4-Phenanthrenes/anthracenes	48	EST	10	10	ng/L		12/01/14 13:30	12/10/14 02:56	1
Perylene	3.6	J B	10	0.81	ng/L		12/01/14 13:30	12/10/14 02:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorene-d10	86		30 - 120		12/01/14 13:30	12/10/14 02:56
Naphthalene-d8	63		30 - 120		12/01/14 13:30	12/10/14 02:56
2-Methylnaphthalene-d10	76		30 - 120		12/01/14 13:30	12/10/14 06:47
1-Methylnaphthalene-d10	73		30 - 120		12/01/14 13:30	12/10/14 06:47
Phenanthrene-d10	85		30 - 120		12/01/14 13:30	12/10/14 02:56
Fluoranthene-d10	94		30 - 120		12/01/14 13:30	12/10/14 02:56
Chrysene-d12	87		30 - 120		12/01/14 13:30	12/10/14 02:56
Benzo(a)pyrene-d12	80		30 - 120		12/01/14 13:30	12/10/14 02:56
Perylene-d12	77		30 - 120		12/01/14 13:30	12/10/14 02:56

TestAmerica Chicago

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.

Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Estimated result. Result is less than RL.
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
EST	Estimated value. See narrative for details.
AP	Altered Pattern

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

GC/MS Semi VOA

Analysis Batch: 4335015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total	Water	ID-0016	1
500-88490-2	GW-112414-AK-02	Total	Water	ID-0016	2
500-88490-3	GW-112414-AK-03	Total	Water	ID-0016	3
500-88490-4	GW-112414-AK-04	Total	Water	ID-0016	4
H4L010000015B	Method Blank	Total	Water	ID-0016	5
H4L010000015C	Lab Control Sample	Total	Water	ID-0016	6
H4L010401005	GW-112414-AK-05	Total	Water	ID-0016	7
H4L010401006	GW-112414-AK-06	Total	Water	ID-0016	8
H4L010401007	GW-112414-AK-07	Total	Water	ID-0016	9
H4L010401008	GW-112414-AK-08	Total	Water	ID-0016	10
H4L010401009	GW-112414-AK-09	Total	Water	ID-0016	11

Prep Batch: 4335015_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-88490-1	GW-112414-AK-01	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	11
500-88490-2	GW-112414-AK-02	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	12
500-88490-3	GW-112414-AK-03	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	13
500-88490-4	GW-112414-AK-04	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	14
H4L010000015B	Method Blank	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	15
H4L010000015C	Lab Control Sample	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	
H4L010401005	GW-112414-AK-05	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	
H4L010401006	GW-112414-AK-06	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	
H4L010401007	GW-112414-AK-07	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	
H4L010401008	GW-112414-AK-08	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	
H4L010401009	GW-112414-AK-09	Total	Water	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal	

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Matrix: Water

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		luorene d-1 (30-120)	luorene d-1 (60-140)	NPT (30-120)	NPT (60-140)	MND10 (30-120)	MND10 (60-140)	ylnaphthalene (30-120)	ylnaphthalene (60-140)
500-88490-1	GW-112414-AK-01	90		79					
500-88490-1 - RE	GW-112414-AK-01					83		83	
500-88490-2	GW-112414-AK-02	99		91		95		95	
500-88490-3	GW-112414-AK-03	89		72		79			
500-88490-3 - RE	GW-112414-AK-03							84	
500-88490-4	GW-112414-AK-04	97		87		93			
500-88490-4 - RE	GW-112414-AK-04							95	
H4L01000015B	Method Blank	98		92		96		96	
H4L010401005	GW-112414-AK-05	92		81		85			
H4L010401005 - RE	GW-112414-AK-05							87	
H4L010401006	GW-112414-AK-06	98		87		93		92	
H4L010401007	GW-112414-AK-07	79		57					
H4L010401007 - RE	GW-112414-AK-07					71		67	
H4L010401008	GW-112414-AK-08	82		57					
H4L010401008 - RE	GW-112414-AK-08					68		67	
H4L010401009	GW-112414-AK-09	86		63					
H4L010401009 - RE	GW-112414-AK-09					76		73	
Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		PHN (30-120)	PHN (60-140)	FLN (30-120)	FLN (60-140)	CRY (30-120)	CRY (60-140)	BAP (30-120)	BAP (60-140)
500-88490-1	GW-112414-AK-01	91		94		88		75	
500-88490-1 - RE	GW-112414-AK-01								
500-88490-2	GW-112414-AK-02	93		97		96		91	
500-88490-3	GW-112414-AK-03	84		91		83		66	
500-88490-3 - RE	GW-112414-AK-03								
500-88490-4	GW-112414-AK-04	88		95		93		82	
500-88490-4 - RE	GW-112414-AK-04								
H4L01000015B	Method Blank	89		98		96		96	
H4L010401005	GW-112414-AK-05	88		95		89		79	
H4L010401005 - RE	GW-112414-AK-05								
H4L010401006	GW-112414-AK-06	88		98		99		97	
H4L010401007	GW-112414-AK-07	89		95		92		79	
H4L010401007 - RE	GW-112414-AK-07								
H4L010401008	GW-112414-AK-08	89		96		90		79	
H4L010401008 - RE	GW-112414-AK-08								
H4L010401009	GW-112414-AK-09	85		94		87		80	
H4L010401009 - RE	GW-112414-AK-09								
Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		PD12 (30-120)	PD12 (60-140)						
500-88490-1	GW-112414-AK-01	74							
500-88490-1 - RE	GW-112414-AK-01								
500-88490-2	GW-112414-AK-02	89							
500-88490-3	GW-112414-AK-03	65							
500-88490-3 - RE	GW-112414-AK-03								
500-88490-4	GW-112414-AK-04	79							
500-88490-4 - RE	GW-112414-AK-04								
H4L01000015B	Method Blank	91							

TestAmerica Chicago

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS) (Continued)

Matrix: Water

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		PD12 (30-120)	PD12 (60-140)
H4L010401005	GW-112414-AK-05	77	
H4L010401005 - RE	GW-112414-AK-05		
H4L010401006	GW-112414-AK-06	92	
H4L010401007	GW-112414-AK-07	77	
H4L010401007 - RE	GW-112414-AK-07		
H4L010401008	GW-112414-AK-08	76	
H4L010401008 - RE	GW-112414-AK-08		
H4L010401009	GW-112414-AK-09	77	
H4L010401009 - RE	GW-112414-AK-09		

Surrogate Legend

Fluorene d-10 = Fluorene d-10

NPT = Naphthalene-d8

MND10 = 2-Methylnaphthalene-d10

1-Methylnaphthalene-d10 = 1-Methylnaphthalene-d10

PHN = Phenanthrene-d10

FLN = Fluoranthene-d10

CRY = Chrysene-d12

BAP = Benzo(a)pyrene-d12

PD12 = Perylene-d12

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Matrix: Water

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		Fluorene d-1 (60-140)	NPT (60-140)	MND10 (60-140)	1-Methylnaphthalene-d10 (60-140)	PHN (60-140)	FLN (60-140)	CRY (60-140)	BAP (60-140)
H4L010000015C	Lab Control Sample	100	92	96	96	94	99	96	100
Percent Surrogate Recovery (Acceptance Limits)									
		PD12 (60-140)							
H4L010000015C	Lab Control Sample		92						

Surrogate Legend

Fluorene d-10 = Fluorene d-10

NPT = Naphthalene-d8

MND10 = 2-Methylnaphthalene-d10

1-Methylnaphthalene-d10 = 1-Methylnaphthalene-d10

PHN = Phenanthrene-d10

FLN = Fluoranthene-d10

CRY = Chrysene-d12

BAP = Benzo(a)pyrene-d12

PD12 = Perylene-d12

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS)

Lab Sample ID: H4L010000015B

Matrix: Water

Analysis Batch: 4335015

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 4335015_P

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND				10	4.1	ng/L		12/01/14 13:30	12/09/14 22:39	1
2-Methylnaphthalene	ND				20	8.3	ng/L		12/01/14 13:30	12/09/14 22:39	1
Benzo(e)pyrene	ND				10	1.4	ng/L		12/01/14 13:30	12/09/14 22:39	1
C1-Chrysenes/benz(a)anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C1-Fluoranthenes/pyrenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C1-Fluorenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C1-Phenanthrenes/anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C2-Chrysenes/benz(a)anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C2-Fluorenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C2-Naphthalenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C2-Phenanthrenes/anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C3-Chrysenes/benz(a)anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C3-Fluorenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C3-Naphthalenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C3-Phenanthrenes/anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C4-Chrysenes/benz(a)anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C4-Naphthalenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
C4-Phenanthrenes/anthracenes	ND				10	10	ng/L		12/01/14 13:30	12/09/14 22:39	1
Perylene	2.0	J			10	0.81	ng/L		12/01/14 13:30	12/09/14 22:39	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Fluorene-d-10	98		98		30 - 120			12/01/14 13:30	12/09/14 22:39	1
Naphthalene-d8	92		92		30 - 120			12/01/14 13:30	12/09/14 22:39	1
2-Methylnaphthalene-d10	96		96		30 - 120			12/01/14 13:30	12/09/14 22:39	1
1-Methylnaphthalene-d10	96		96		30 - 120			12/01/14 13:30	12/09/14 22:39	1
Phenanthrene-d10	89		89		30 - 120			12/01/14 13:30	12/09/14 22:39	1
Fluoranthene-d10	98		98		30 - 120			12/01/14 13:30	12/09/14 22:39	1
Chrysene-d12	96		96		30 - 120			12/01/14 13:30	12/09/14 22:39	1
Benzo(a)pyrene-d12	96		96		30 - 120			12/01/14 13:30	12/09/14 22:39	1
Perylene-d12	91		91		30 - 120			12/01/14 13:30	12/09/14 22:39	1

Lab Sample ID: H4L010000015C

Matrix: Water

Analysis Batch: 4335015

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 4335015_P

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	
	Added									
1-Methylnaphthalene	250		287			ng/L		115	60 - 140	
2-Methylnaphthalene	250		284			ng/L		114	60 - 140	
Benzo(e)pyrene	250		263			ng/L		105	60 - 140	
Perylene	250		281			ng/L		112	60 - 140	

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits	
	Added					
Fluorene-d-10	100		100		60 - 140	
Naphthalene-d8	92		92		60 - 140	
2-Methylnaphthalene-d10	96		96		60 - 140	
1-Methylnaphthalene-d10	96		96		60 - 140	
Phenanthrene-d10	94		94		60 - 140	

TestAmerica Chicago

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Method: ID-0016 - PAHs & Selected SVOCs (HRGC/LRMS) (Continued)

Lab Sample ID: H4L010000015C

Matrix: Water

Analysis Batch: 4335015

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 4335015_P

Surrogate	LCS	LCS	
	%Recovery	Qualifier	Limits
Fluoranthene-d10	99		60 - 140
Chrysene-d12	96		60 - 140
Benzo(a)pyrene-d12	100		60 - 140
Perylene-d12	92		60 - 140

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-01

Lab Sample ID: 500-88490-1

Matrix: Water

Date Collected: 11/24/14 13:15

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/09/14 23:30	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		5	4335015	12/10/14 03:47	BC	TAL KNX

Client Sample ID: GW-112414-AK-02

Lab Sample ID: 500-88490-2

Matrix: Water

Date Collected: 11/24/14 14:10

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/09/14 23:56	BC	TAL KNX

Client Sample ID: GW-112414-AK-03

Lab Sample ID: 500-88490-3

Matrix: Water

Date Collected: 11/24/14 15:35

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/10/14 00:21	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		10	4335015	12/10/14 13:12	BC	TAL KNX

Client Sample ID: GW-112414-AK-04

Lab Sample ID: 500-88490-4

Matrix: Water

Date Collected: 11/24/14 16:40

Date Received: 11/26/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/10/14 00:47	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		3	4335015	12/10/14 04:38	BC	TAL KNX

TestAmerica Chicago

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-05

Date Collected: 11/25/14 08:55

Date Received: 11/29/14 11:38

Lab Sample ID: H4L010401005

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/10/14 01:13	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		2	4335015	12/10/14 05:04	BC	TAL KNX

Client Sample ID: GW-112414-AK-06

Date Collected: 11/25/14 10:00

Date Received: 11/29/14 11:38

Lab Sample ID: H4L010401006

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/10/14 01:38	BC	TAL KNX

Client Sample ID: GW-112414-AK-07

Date Collected: 11/25/14 11:35

Date Received: 11/29/14 11:38

Lab Sample ID: H4L010401007

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/10/14 02:04	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		15	4335015	12/10/14 12:20	BC	TAL KNX

Client Sample ID: GW-112414-AK-08

Date Collected: 11/25/14 12:00

Date Received: 11/29/14 11:38

Lab Sample ID: H4L010401008

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		1	4335015	12/10/14 02:30	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis	ID-0016		15	4335015	12/10/14 12:46	BC	TAL KNX

TestAmerica Chicago

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Client Sample ID: GW-112414-AK-09

Date Collected: 11/25/14 12:15

Date Received: 11/29/14 11:38

Lab Sample ID: H4L010401009

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal ID-0016			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis			1	4335015	12/10/14 02:56	BC	TAL KNX
Total	Prep	LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal ID-0016			4335015_P	12/01/14 13:30		TAL KNX
Total	Analysis			10	4335015	12/10/14 06:47	BC	TAL KNX

Laboratory References:

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-15
California	State Program	9	2903	04-30-15
Georgia	State Program	4	N/A	04-30-15
Georgia	State Program	4	939	04-30-15
Hawaii	State Program	9	N/A	04-30-15
Illinois	NELAP	5	100201	04-30-15
Indiana	State Program	5	C-IL-02	04-30-15
Iowa	State Program	7	82	05-01-16
Kansas	NELAP	7	E-10161	01-31-15 *
Kentucky (UST)	State Program	4	66	04-30-15
Kentucky (WW)	State Program	4	KY90023	12-31-14 *
Massachusetts	State Program	1	M-IL035	06-30-15
Mississippi	State Program	4	N/A	04-30-15
New York	NELAP	2	IL00035	03-31-15
North Carolina (WW/SW)	State Program	4	291	12-31-14 *
North Dakota	State Program	8	R-194	04-30-15
Oklahoma	State Program	6	8908	08-31-15
South Carolina	State Program	4	77001	04-30-15
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-15 *
Wyoming	State Program	8	8TMS-Q	04-30-15

Laboratory: TestAmerica Knoxville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0688	06-17-15
California	State Program	9	2423	06-30-16
Colorado	State Program	8	N/A	02-28-15
Connecticut	State Program	1	PH-0223	09-30-15
Florida	NELAP	4	E87177	06-30-15
Georgia	State Program	4	906	04-13-17
Hawaii	State Program	9	N/A	04-13-15
Kansas	NELAP	7	E-10349	01-31-15
Kentucky (DW)	State Program	4	90101	12-31-14
L-A-B	DoD ELAP		L2311	02-13-16
Louisiana	NELAP	6	83979	06-30-15
Louisiana	NELAP	6	LA110001	12-31-15
Maryland	State Program	3	277	03-31-15
Michigan	State Program	5	9933	04-13-17
Nevada	State Program	9	TN00009	07-31-15
New Jersey	NELAP	2	TN001	06-30-15
New York	NELAP	2	10781	03-31-15
North Carolina (DW)	State Program	4	21705	07-31-15
North Carolina (WW/SW)	State Program	4	64	12-31-15
Ohio VAP	State Program	5	CL0059	03-26-15
Oklahoma	State Program	6	9415	08-31-15
Pennsylvania	NELAP	3	68-00576	12-31-14
South Carolina	State Program	4	84001	06-30-15
Tennessee	State Program	4	2014	04-13-17

* Certification renewal pending - certification considered valid.

TestAmerica Chicago

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: Cline Ave. Ditch - 080439

TestAmerica Job ID: 500-88490-2

Laboratory: TestAmerica Knoxville (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704380-TX	08-31-15
USDA	Federal		P330-13-00260	08-29-16
Utah	NELAP	8	QUAN3	07-31-15
Virginia	NELAP	3	460176	09-14-15
Virginia	State Program	3	165	06-30-15
Washington	State Program	10	C593	01-19-15
West Virginia (DW)	State Program	3	9955C	12-31-14
West Virginia DEP	State Program	3	345	04-30-15
Wisconsin	State Program	5	998044300	08-31-15

CONESTOGA-ROVERS & ASSOCIATES 8615 W. Bryn Mawr Avenue Chicago, Illinois 60631 (773)380-9933 phone (773)380-6421 fax				SHIPPED TO (Laboratory Name): TEST AMERICA: UNIVERSITY PARK, IL											
				REFERENCE NUMBER: 080439 - 00 - 001				PROJECT NAME: CLINE AVE DITCH 500-88490							
CHAIN-OF-CUSTODY RECORD															
SAMPLER'S SIGNATURE: <u>A. K.</u> PRINTED NAME: ANDY KREIN				NO. OF CONTAINERS	PARAMETERS						REMARKS				
SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.		SAMPLE MATRIX	VOC's	SVOC's	POLY METALS	DOC	ALKYL PAH				PH+ INORGANICS	
1	11/24/14	13:15	GW-112414-AK-01	GW	10	X	X	X	X						
2		14:10	GW-112414-AK-02	GW	21	X	X	X	X				MS/MSD		
3		15:35	GW-112414-AK-03	GW	10	X	X	X	X						
4		16:40	GW-112414-AK-04	GW	10	X	X	X	X						
5	11/25/14	08:55	GW-112514-AK-05	GW	10	X	X	X	X						
6		10:00	GW-112514-AK-06	GW	10	X	X	X	X						
7		11:35	GW-112514-AK-07	GW	10	X	X	X	X						
8		12:00	GW-112514-AK-08	GW	10	X	X	X	X						
9		13:15	GW-112514-AK-09	GW	10	X	X	X	X						
10		14:10	WL-112514-AK-01	GW	7	X	X	X		X					
11		-	TRIP BLANK	-	2	X									
TOTAL NUMBER OF CONTAINERS					110	*ALL ALKYL PAH SAMPLES TO BE SENT TO TEST AMERICA - KNOXVILLE, TN									
RELINQUISHED BY: <u>Robert Bogat</u>				DATE: 11/25/14	RECEIVED BY: <u>Shawn Scott</u>							DATE:			
				TIME: 1900								TIME:			
RELINQUISHED BY: <u> </u>				DATE:	RECEIVED BY:							DATE:			
				TIME:	<u> </u>							TIME:			
RELINQUISHED BY: <u> </u>				DATE:	RECEIVED BY:							DATE:			
				TIME:	<u> </u>							TIME:			
METHOD OF SHIPMENT: FedEx					AIR BILL No. 8005 2822 7949 31,12,0,6,41										
White -Fully Executed Copy Yellow -Receiving Laboratory Copy Pink -Shipper Copy Goldenrod -Sampler Copy				SAMPLE TEAM: Andy Krein Rob Bogat				RECEIVED FOR LABORATORY BY: <u>Shawn Scott</u> DATE: 11/26/14 TIME: 1025 6580							

1001-00(SOURCE)GN-CO004

TEST AMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 1A1U0101

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	<input checked="" type="checkbox"/>			<input type="checkbox"/> 1a Do not match COC <input type="checkbox"/> 1b Incomplete information <input type="checkbox"/> 1c Marking smeared <input type="checkbox"/> 1d Label torn <input type="checkbox"/> 1e No label <input type="checkbox"/> 1f COC not received <input checked="" type="checkbox"/> 1g Other: <u>16 CW-1134H-D2, COC NOT IN CONTAINERS</u> <u>ONLY RECEIVED</u>	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6°C, VOST: 10°C) Thermometer ID : <u>SL31</u> Correction factor: <u>-0.1</u>	<input checked="" type="checkbox"/>			<input type="checkbox"/> 2a Temp Blank = _____ <input type="checkbox"/> 2b Cooler Temp = _____ <input type="checkbox"/> 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 3a See box 3A for pH Preservation <input type="checkbox"/> 3b Other:	
4. Were custody seals present/intact on cooler and/or containers?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 4a Not present <input type="checkbox"/> 4b Not intact <input type="checkbox"/> 4c Other:	
5. Were all of the samples listed on the COC received?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 5a Samples received-not on COC <input type="checkbox"/> 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 6a Leaking <input type="checkbox"/> 6b Broken	
7. Were VOA samples received without headspace?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 8a Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668)	<input checked="" type="checkbox"/>			<input type="checkbox"/> 9a Could not be determined due to matrix interference <input type="checkbox"/> 9b Chlorine test strip lot number:	
10. Were samples received within holding time?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 10a Holding time expired <input type="checkbox"/> 10b Incomplete information	
11. For rad samples, was sample activity info. provided?	<input checked="" type="checkbox"/>			<input type="checkbox"/> If no, was pH adjusted to pH 7-9 with sulfuric acid?	
12. For 1613B water samples is pH<9?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 12a pH<9 <input type="checkbox"/> 12b Other:	
13. Are the shipping containers intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 13a Leaking <input type="checkbox"/> 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	<input checked="" type="checkbox"/>			<input type="checkbox"/> 14a Not relinquished <input type="checkbox"/> 14b Relinquished	
15. Are tests/parameters listed for each sample?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 15a Incomplete information <input type="checkbox"/> 15b Incomplete information	
16. Is the matrix of the samples noted?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 16a Incomplete information <input type="checkbox"/> 16b Incomplete information	
17. Is the date/time of sample collection noted?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 17a Incomplete information <input type="checkbox"/> 17b Incomplete information	
18. Is the client and project name/# identified?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 18a Incomplete information <input type="checkbox"/> 18b Incomplete information	
19. Was the sampler identified on the COC?	<input checked="" type="checkbox"/>			<input type="checkbox"/> 19a Other <input type="checkbox"/> 19b Other	
Quote #:	PM Instructions:				
Sample Receiving Associate:	<u>Dawn Jones</u>				Date: <u>12-1-14</u>
Comments/Actions Taken					

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 500-88490-2

Login Number: 88490

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1,1.2,0.6,4.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**CONESTOGA-ROVERS
& ASSOCIATES**

6520 Corporate Drive
Indianapolis, Indiana 46278
Telephone: (317) 291-7007
www.CRAworld.com

Fax: (317) 328-2666

MEMORANDUM

To: Bruce Clegg REF. No.: 080439

FROM: Michael Richardson/kg/1 *MHR* DATE: February 2, 2015

Cc: Phil Harvey, Andrew Krein, John Hargens

**RE: Analytical Results and Reduced Validation
Groundwater Investigation
Cline Avenue Ditch
Gary, Indiana
November 2014**

1.0 Introduction

The following document details a reduced validation of analytical results for groundwater samples collected in support of the groundwater investigation at the Cline Avenue Ditch Site during November 2014. Samples were submitted to Test America Laboratories, Inc. located in University Park, Illinois. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard Conestoga-Rovers & Associates (CRA) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, duplicate data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

These items will subsequently be referred to as the "Guidelines" in this Memorandum.

2.0 Sample Holding Time and Preservation

Sample chain of custody documents and analytical reports were used to determine sample holding times. The samples summarized in Table 4 were qualified due to sample holding time period exceedances. The remaining samples were prepared and analyzed within the specified holding time periods.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3.0 Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of one per analytical batch.

Low level concentrations of polynuclear aromatic hydrocarbons (PAHs) and various metals were detected in the method blanks reflecting potential laboratory contamination. Sample results at concentrations similar to those in the associated method blanks were qualified non-detect. Results significantly greater were not considered to be impacted by the potential laboratory contamination and were reported without qualification. Qualified sample results are summarized in Table 5.

4.0 Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC), semi-volatile organic compound (SVOC), and PAH determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and analysis.

Each individual surrogate compound is expected to meet the laboratory control limits with the exception of SVOC analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against laboratory control limits. Some low SVOC surrogate recoveries were reported. Sample GW-112514-AK-08 had more than one outlying surrogate in the acid fraction. The associated results were qualified as estimated (see Table 6).

5.0 Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of one per analytical batch.

Organic Analyses

The LCS contained all compounds of interest. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

Inorganic Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1. The laboratory performed additional site-specific MS/MSD analyses internally.

Organic Analyses

The MS/MSD samples were spiked with all compounds of interest. Low percent recovery values were reported for SVOCs. Associated sample results were qualified as estimated. Qualified sample results are summarized in Table 7.

Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

7.0 Duplicate Sample Analyses – Inorganic Analyses

Analytical precision is evaluated based on the analysis of laboratory duplicate samples. For this study, duplicate samples were prepared and analyzed by the laboratory as specified in Table 1. The laboratory performed additional site-specific duplicate analyses internally. The duplicate results were evaluated per the "Guidelines". All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision.

8.0 Field QA/QC Samples

The field QA/QC consisted of one trip blank sample and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted to the laboratory, as specified in Table 1. 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 practical quantitation limit (PQL), the evaluation criterion is one time the PQL value for water samples.

Most field duplicate results showed adequate reproducibility, indicating satisfactory sampling and laboratory precision. The PAH results for sample GW-112514-AK-07 and its field duplicate did show some variability. The original and duplicate sample results were qualified as estimated. Qualified sample results are summarized in Table 8.

9.0 Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the PQL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the PQL in Table 2.

10.0 Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014**

<i>Sample Identification</i>	<i>Location</i>	<i>Matrix</i>	<i>Collection Date</i> <i>(mm/dd/yyyy)</i>	<i>Collection Time</i> <i>(hr:min)</i>	<i>Analysis/Parameters</i>						<i>Comments</i>	
					<i>TCL VOCs</i>	<i>TCL SVOCs</i>	<i>RCRA metals</i>	<i>Alkyl PAHs</i>	<i>DOC</i>	<i>Corrosivity</i>	<i>Ignitability</i>	
Test America Job ID: 500-88490-1												
GW-112414-AK-01	MW-3	groundwater	11/24/2014	13:15	X	X	X	X	X			
GW-112414-AK-02	MW-2	groundwater	11/24/2014	14:10	X	X	X	X	X			MS/MSD/DUP
GW-112414-AK-03	PZ-12	groundwater	11/24/2014	15:35	X	X	X	X	X			
GW-112414-AK-04	PZ-10	groundwater	11/24/2014	16:40	X	X	X	X	X			
GW-112514-AK-05	PZ-2	groundwater	11/25/2014	8:55	X	X	X	X	X			
GW-112514-AK-06	PZ-8	groundwater	11/25/2014	10:00	X	X	X	X	X			
GW-112514-AK-07	PZ-3	groundwater	11/25/2014	11:35	X	X	X	X	X			
GW-112514-AK-08	PZ-3	groundwater	11/25/2014	12:00	X	X	X	X	X			FD (GW-112514-AK-07)
GW-112514-AK-09	PZ-6	groundwater	11/25/2014	12:15	X	X	X	X	X			
WC-112514-AK-01	Waste Drum	purge water	11/25/2014	17:10	X	X	X			X	X	
Trip Blank	-	water	11/24/2014	-	X							Trip blank

Notes:

- FD - Field Duplicate sample of sample in parenthesis
 MS/MSD - Matrix Spike/Matrix Spike Duplicate
 DUP - Duplicate

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014**

Sample Location:	MW-2	MW-3	PZ-10	PZ-12	PZ-2	PZ-3	PZ-3	PZ-6	PZ-8	Waste Drum
Sample ID:	GW-112414-AK-02	GW-112414-AK-01	GW-112414-AK-04	GW-112414-AK-03	GW-112514-AK-05	GW-112514-AK-07	GW-112514-AK-08	GW-112514-AK-09	GW-112514-AK-06	WC-112514-AK-01
Sample Date:	11/24/2014	11/24/2014	11/24/2014	11/24/2014	11/25/2014	11/25/2014	11/25/2014 <i>(Duplicate)</i>	11/25/2014	11/25/2014	11/25/2014
Parameters										Units
Metals										
Arsenic	mg/L	0.010 U	0.0082 J	0.010 U	0.010 U	0.015	0.017	0.013	0.0039 J	0.0036 J
Barium	mg/L	0.043	0.039	0.025	0.041	0.077	0.075	0.070	0.086	0.043
Cadmium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U					
Chromium	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.0010 J	0.010 U	0.010 U	0.010 U	0.020
Lead	mg/L	0.0050 U	0.0050 U	0.0050 U	0.074					
Mercury	mg/L	0.000020 U	0.000020 U	0.000020 U	0.000086 J					
Selenium	mg/L	0.010 U	0.010 U	0.010 U	0.0052 J					
Silver	mg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U					
Semi-Volatile Organic Compounds										
1,2,4-Trichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
1,2-Dichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
1,2-Diphenylhydrazine	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
1,3-Dichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
1,4-Dichlorobenzene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
2,4,5-Trichlorophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,4,6-Trichlorophenol	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 UJ	19 U	3.8 U
2,4-Dichlorophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,4-Dimethylphenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,4-Dinitrophenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
2,4-Dinitrotoluene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
2,6-Dichlorophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
2,6-Dinitrotoluene	ug/L	0.38 U	0.40 U	0.39 U	2.1 U	0.38 U	1.9 U	3.9 U	1.9 U	0.38 U
2-Chloronaphthalene	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U
2-Chlorophenol	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 UJ	19 U	3.8 U
2-Methylnaphthalene	ug/L	0.38 U	2.7	0.39 U	2.1 U	0.38 U	10	8.0	20	0.27 J
2-Methylphenol	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 UJ	7.5 U	1.5 U
2-Nitroaniline	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
2-Nitrophenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
3&4-Methylphenol	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 UJ	7.5 U	1.5 U
3,3'-Dichlorobenzidine	ug/L	3.8 UJ	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
3-Nitroaniline	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
4,6-Dinitro-2-methylphenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
4-Bromophenyl phenyl ether	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
4-Chloro-3-methylphenol	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 UJ	37 U	7.6 U
4-Chloroaniline	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
4-Chlorophenyl phenyl ether	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
4-Nitroaniline	ug/L	7.7 UJ	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U
4-Nitrophenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
Acenaphthene	ug/L	0.77 U	0.80 U	0.56 J	4.1 U	0.75 U	1.8 J	7.8 U	1.3 J	0.76 U
Acenaphthylene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
Acetophenone	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U
Aniline	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 U	75 U	15 U
Anthracene	ug/L	0.77 U	0.51 J	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
Benzidine	ug/L	31 UJ	32 U	31 U	160 U	30 U	150 U	310 U	150 U	30 U
Benzo(a)anthracene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzo(a)pyrene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzo(b)fluoranthene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzo(g,h,i)perylene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U
Benzo(k)fluoranthene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U
Benzoic acid	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U
Benzyl alcohol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014**

Sample Location:	MW-2	MW-3	PZ-10	PZ-12	PZ-2	PZ-3	PZ-3	PZ-6	PZ-8	Waste Drum	
Sample ID:	GW-112414-AK-02	GW-112414-AK-01	GW-112414-AK-04	GW-112414-AK-03	GW-112514-AK-05	GW-112514-AK-07	GW-112514-AK-08	GW-112514-AK-09	GW-112514-AK-06	WC-112514-AK-01	
Sample Date:	11/24/2014	11/24/2014	11/24/2014	11/24/2014	11/25/2014	11/25/2014	11/25/2014 <i>(Duplicate)</i>	11/25/2014	11/25/2014	11/25/2014	
Parameters											
bis(2-Chloroethoxy)methane	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
bis(2-Chloroethyl)ether	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U	37 U
Butyl benzylphthalate (BBP)	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
Carbazole	ug/L	3.8 U	24	3.9 U	21 U	3.8 U	19 U	39 U	1.6 J	3.8 U	3.7 J
Chrysene	ug/L	0.38 U	0.40 U	0.39 U	2.1 U	0.38 U	1.9 U	3.9 U	1.9 U	0.38 U	5.3
Dibenz(a,h)anthracene	ug/L	0.23 U	0.24 U	0.23 U	1.2 U	0.23 U	1.2 U	2.3 U	1.1 U	0.23 U	0.86 J
Dibenzofuran	ug/L	1.5 U	1.3 J	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
Diethyl phthalate	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
Dimethyl phthalate	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
Di-n-butylphthalate (DBP)	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U	19 U
Di-n-octyl phthalate (DnOP)	ug/L	7.7 U	8.0 U	7.7 U	41 U	7.5 U	38 U	78 U	37 U	7.6 U	37 U
Fluoranthene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U	3.7 U
Fluorene	ug/L	0.77 U	3.2	0.30 J	4.1 U	0.75 U	1.7 J	7.8 U	1.6 J	0.76 U	2.6 J
Hexachlorobenzene	ug/L	0.38 U	0.40 U	0.39 U	2.1 U	0.38 U	1.9 U	3.9 U	1.9 U	0.38 U	1.9 U
Hexachlorobutadiene	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U	19 U
Hexachlorocyclopentadiene	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 U	75 U	15 U	74 U
Hexachloroethane	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 U	19 U	3.8 U	19 U
Indeno(1,2,3-cd)pyrene	ug/L	0.15 U	0.16 U	0.15 U	0.82 U	0.15 U	0.77 U	1.6 U	0.75 U	0.15 U	0.74 U
Isophorone	ug/L	1.5 U	1.6 U	1.5 U	8.2 U	1.5 U	7.7 U	16 U	7.5 U	1.5 U	7.4 U
Naphthalene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U	3.7 U
Nitrobenzene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U	3.7 U
N-Nitrosodiethylamine	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 U	75 U	15 U	74 U
N-Nitrosodi-n-propylamine	ug/L	0.38 U	0.40 U	0.39 U	2.1 U	0.38 U	1.9 U	3.9 U	1.9 U	0.38 U	1.9 U
N-Nitrosodiphenylamine	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U	3.7 U
Pentachlorophenol	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 UJ	75 U	15 U	74 U
Phenanthrene	ug/L	0.77 U	15	0.77 U	4.1 U	0.75 U	3.8 U	2.4 J	3.7 U	0.76 U	8.9
Phenol	ug/L	3.8 U	4.0 U	3.9 U	21 U	3.8 U	19 U	39 UJ	19 U	3.8 U	19 U
Pyrene	ug/L	0.77 U	0.80 U	0.77 U	4.1 U	0.75 U	3.8 U	7.8 U	3.7 U	0.76 U	5.0
Pyridine	ug/L	15 U	16 U	15 U	82 U	15 U	77 U	160 U	75 U	15 U	74 U
Semi-Volatile Organic Compounds - SIM											
1-Methylnaphthalene	ng/L	5.8 J	9200	6200	14000	4400	30000	29000	22000	2300	--
2-Methylnaphthalene	ng/L	20 U	4300	150	43	88	14000	13000	18000	910	--
Benzo(e)pyrene	ng/L	10 U	3.6 J	7.6 J	7.7 J	10 U	1.8 J	10 U	28	10 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/L	10 U	10 U	10 U	21	10 U	10 U	10 U	110	10 U	--
C1-Fluoranthenes/Pyrenes	ng/L	10 U	10 U	70	10 U	--					
C1-Fluorenes	ng/L	10 U	2100	90	700	49	1700 J	2500 J	1000	10 U	--
C1-Phenanthrenes/Anthracenes	ng/L	10 U	15 J	590 J	71	10 U	--				
C2-Benzo(a)anthracenes/chrysenes	ng/L	10 U	10 U	10 U	12	10 U	10 U	10 U	91	10 U	--
C2-Fluorenes	ng/L	10 U	62	10 U	23	10 U	52 J	840 J	130	10 U	--
C2-Naphthalenes	ng/L	10 U	8300	740	12000	790	25000 J	25000 J	22000	480	--
C2-Phenanthrenes/Anthracenes	ng/L	10 U	10 U	10 U	10	10 U	19 J	38 J	140	10 U	--
C3-Benzo(a)anthracenes/chrysenes	ng/L	10 U	10 U	51	10 U	--					
C3-Fluorenes	ng/L	10 U	10 UJ	46 J	50	10 U	--				
C3-Naphthalenes	ng/L	10 U	1800	190	5000	260	12000 J	14000 J	8200	86	--
C3-Phenanthrenes/Anthracenes	ng/L	10 U	10 U	99	10 U	--					
C4-Benzo(a)anthracenes/chrysenes	ng/L	10 U	10 U	26	10 U	--					
C4-Naphthalenes	ng/L	10 U	190	25	370	68	830 J	2700 J	750	10 U	--
C4-Phenanthrenes/Anthracenes	ng/L	10 U	10 U	48	10 U	--					
Perylene	ng/L	10 U	10 U	10 U	10 U	--					

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014**

Sample Location:	MW-2	MW-3	PZ-10	PZ-12	PZ-2	PZ-3	PZ-3	PZ-6	PZ-8	Waste Drum
Sample ID:	GW-112414-AK-02	GW-112414-AK-01	GW-112414-AK-04	GW-112414-AK-03	GW-112514-AK-05	GW-112514-AK-07	GW-112514-AK-08	GW-112514-AK-09	GW-112514-AK-06	WC-112514-AK-01
Sample Date:	11/24/2014	11/24/2014	11/24/2014	11/24/2014	11/25/2014	11/25/2014	11/25/2014 <i>(Duplicate)</i>	11/25/2014	11/25/2014	11/25/2014
Parameters										Units
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U					
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U					
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U					
Acetone	ug/L	5.0 U	5.0 U	6.3	5.0 U	14	17	5.0 U	13	6.5
Acrolein	ug/L	100 U	100 U	100 U	100 U					
Acrylonitrile	ug/L	20 U	20 U	20 U	20 U					
Benzene	ug/L	0.50 U	0.61	0.50 U	1.2	14	43	73	68	14
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U					
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Ethylbenzene	ug/L	0.50 U	0.40 J	0.50 U	3.2	0.44 J	0.56	1.5	9.7	0.50 U
m&p-Xylenes	ug/L	1.0 U	1.5	1.6	4.8	7.3	8.5	31	40	1.5
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U					
o-Xylene	ug/L	0.50 U	0.50	0.50 U	2.3	2.5	2.9	4.6	13	0.50 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Toluene	ug/L	0.50 U	0.35 J	0.29 J	2.4	3.5	2.1	4.2	7.5	0.64
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U					
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U					
Vinyl acetate	ug/L	2.0 U	2.0 U	2.0 U	2.0 U					
Vinyl chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U					
Xylenes (total)	ug/L	1.0 U	2.0	1.6	7.1	9.8	11	35	52	1.5
Wet										
Corrosivity	s.u.	--	--	--	--	--	--	--	--	7.03 J
Dissolved organic carbon (DOC)	mg/L	20	48	12	46	39	55	49	34	16
Ignitability	Deg F	--	--	--	--	--	--	--	--	176

Notes:

U Not detected at the associated reporting limit.

J Estimated concentration.

UJ Not detected; associated reporting limit is estimated.

TABLE 3

Page 1 of 1

**ANALYTICAL METHODS
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014**

<i>Parameter</i>	<i>Method</i>	<i>Matrix</i>
Volatile Organic Compounds (VOCs)	SW-846 8260B	Water
Semi-Volatile Organic Compounds (SVOCs)	SW-846 8270D	Water
RCRA Metals	SW-846 6010B	Water
Mercury	SW-846 7470A	Water
Alkyl Polynuclear Aromatic Hydrocarbons (PAHs)	KNOX ID-0016	Water
Dissolved Organic Carbon (DOC)	SW-846 9060A	Water
pH (Corrosivity)	SW-846 9040C	Water
Flashpoint (Ignitability)	SW-846 1010A	Water

Notes:

Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
KNOX ID-0016 - "PAHs & Selected SVOCs (HRGC/LRMS)", Test America Knoxville

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO HOLDING TIME EXCEDDANCE
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014

<i>Parameter</i>	<i>Sample ID</i>	<i>Holding Time (days)</i>	<i>Holding Time Criteria (days)</i>	<i>Analyte</i>	<i>Qualified Sample Results</i>	<i>Units</i>
pH (Corrosivity)	WC-112514-AK-01	1	15 min.	pH (Corrosivity)	7.03 J	s.u.

Notes:

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014

Parameter	Analyte	Analysis Date	Blank Result *	Sample ID	Original Result	Qualified Result	Units
Alkyl PAHs	Perylene	12/9/2014	2.0 J	GW-112414-AK-01	3.5 J	10 U	ng/L
				GW-112414-AK-02	1.5 J	10 U	ng/L
				GW-112414-AK-03	3.6 J	10 U	ng/L
				GW-112414-AK-04	1.8 J	10 U	ng/L
				GW-112514-AK-05	1.7 J	10 U	ng/L
				GW-112514-AK-06	2.8 J	10 U	ng/L
				GW-112514-AK-07	2.2 J	10 U	ng/L
				GW-112514-AK-08	2.3 J	10 U	ng/L
				GW-112514-AK-09	3.6 J	10 U	ng/L
RCRA metals	Cadmium	12/7/2014	0.000677 J	GW-112414-AK-01	0.00085 J	0.0020 U	mg/L
				GW-112414-AK-02	0.00098 J	0.0020 U	mg/L
				GW-112414-AK-03	0.0010 J	0.0020 U	mg/L
				GW-112414-AK-04	0.00068 J	0.0020 U	mg/L
				GW-112514-AK-05	0.0011 J	0.0020 U	mg/L
				GW-112514-AK-06	0.00087 J	0.0020 U	mg/L
				GW-112514-AK-07	0.00084 J	0.0020 U	mg/L
				GW-112514-AK-08	0.00097 J	0.0020 U	mg/L
				GW-112514-AK-09	0.00086 J	0.0020 U	mg/L
				WC-112514-AK-01	0.0014 J	0.0020 U	mg/L
RCRA metals	Silver	12/7/2014	0.000874 J	GW-112414-AK-03	0.00084 J	0.0050 U	mg/L
				GW-112514-AK-05	0.00086 J	0.0050 U	mg/L
				GW-112514-AK-06	0.00081 J	0.0050 U	mg/L
				GW-112514-AK-07	0.00081 J	0.0050 U	mg/L
				GW-112514-AK-09	0.0011 J	0.0050 U	mg/L

Notes:

* - Blank result adjusted for sample factors where applicable

U - Not detected at the associated reporting limit

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

TABLE 6

QUALIFIED SAMPLE DATA DUE TO OUTLYING OF SURROGATE RECOVERIES
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014

Parameter	Sample ID	Surrogate	Surrogate	Control Limits		Analyte	Qualified Result	Units
			% Recovery	% Recovery				
TCL SVOCs	GW-112514-AK-08	2-Fluorophenol	27	32-110		2,4,5-Trichlorophenol	78 UJ	ug/L
			22	25-100		2,4,6-Trichlorophenol	39 UJ	ug/L
		Phenol				2,4-Dichlorophenol	78 UJ	ug/L
						2,4-Dimethylphenol	78 UJ	ug/L
						2,4-Dinitrophenol	160 UJ	ug/L
						2,6-Dichlorophenol	78 UJ	ug/L
						2-Chlorophenol	39 UJ	ug/L
						2-Methylphenol	16 UJ	ug/L
						2-Nitrophenol	78 UJ	ug/L
						3&4-Methylphenol	16 UJ	ug/L
						4,6-Dinitro-2-methylphenol	160 UJ	ug/L
						4-Chloro-3-methylphenol	78 UJ	ug/L
						4-Nitrophenol	160 UJ	ug/L
						Benzoic acid	160 UJ	ug/L
						Benzyl alcohol	160 UJ	ug/L
						Pentachlorophenol	160 UJ	ug/L
						Phenol	39 UJ	ug/L

Notes:

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

R - Rejected

TABLE 7

Page 1 of 1

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014

Parameter	Sample ID	Analyte	MS	MSD	RPD (percent)	Control Limits		Qualified Result	Units
			% Recovery	% Recovery		% Recovery	RPD		
TCL SVOCs	GW-112414-AK-02	3,3'-Dichlorobenzidine	0	0	NC	49-127	20	3.8 UJ	ug/L
		4-Nitroaniline	51	48		60-148	20	7.7 UJ	ug/L
		Benzidine	0	0		10-63	20	31 UJ	ug/L

Notes:

MS - Matrix Spike

MSD - Matrix Spike Duplicate

RPD - Relative Percent Difference

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

R - Rejected

TABLE 8

QUALIFIED SAMPLE DATA DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
GROUNDWATER INVESTIGATION
CLINE AVENUE DITCH
GARY, INDIANA
NOVEMBER 2014

Parameter	Analyte	RPD/Diff		Sample ID	Qualified Result	Field Duplicate Sample ID	Qualified Result	Units
Alkyl PAHs	C1-Phenanthrenes/Anthracenes	575	Diff	GW-112514-AK-07	15 J	GW-112514-AK-08	590 J	ng/L
	C2-Fluorenes	176.7	RPD		52 J		840 J	ng/L
	C3-Fluorenes	36	Diff		10 UJ		46 J	ng/L
	C4-Naphthalenes	105.9	RPD		830 J		2700 J	ng/L

Notes:

Diff - Difference (i.e., >1X RL for waters or >2XRL for soils)

RPD - Relative Percent Difference

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

Appendix B

2014 GW/S Letter Report

GW/S ENVIRONMENTAL CONSULTING

GENE W. SCHMIDT, CGWP & PHC
Specializing in Forensics of Petroleum Hydrocarbon
Contamination of Groundwater and Soils

11619 S.Hudson Place (H) 918-298-9849
Tulsa, OK 74137-8532
envirodog@aol.com

Faxsimile Transmittal Sheet

To PHIL HARVEY From: Gene W. Schmidt

Phone: _____

Pages: 21

Fax: 1-773-380-6421

Date: 10 DEC 14

cc: _____

Phone: _____

Fax Phone: _____

Notes/Comments

DELIVER TO PHIL ASAP

Gene

GW/S ENVIRONMENTAL CONSULTING**GENE W. SCHMIDT, CGWP & PHG**Specializing in Forensics of Petroleum Hydrocarbon
Contamination of Groundwater and Soils11619 S.Hudson Place
Tulsa, OK 74137-8532
envirodog@aol.com(O)
918-298-9849

8 December 2014

Phil Harvey
CONESTOGA-R0VERS & ASSOCIATES
8616 W. Bryn Mawr Avenue
Chicago, Illinois 60614

CLINE AVENUE DITCH, GARY, IN CRA 90439

Attached are the gas chromatograms (GC) for the five (5) petroleum product samples, O-112514-AK-01, O-112514-AK-02, O-112514-AK-03, O-112514-AK-04 and O-112514-AK-05, collected on 25 November 2014 and received by us on 26 November 2014 for our analytical examination and forensic evaluation (because of the Thanksgiving weekend they were not handled by the laboratory until 1 December 2014).

All five petroleum product samples (AK-01, AK-02, AK-03, AK-04 and AK-05) are basically wide boiling range petroleum materials ranging from the gasoline range (AK-01 and AK-02) to very heavy nC40 hydrocarbons and, most likely, are petroleum sludge materials (with possible diesel range distillate).

The AK-03, AK-04 and the AK-05 samples do not contain much, if any, gasoline components (the gasoline may, most likely, have evaporated from the samples just prior to or when entering the ditch.).

All five petroleum product samples are very highly degraded and weathered indicating they have been released to the subsurface a considerable time ago (20 or more years ago). Note that nearly all of the normal paraffins (shown as nCxx on the GCs) which are very dominate in "fresh" petroleum distillates and higher boiling petroleum products have been largely removed by microbial action/distortion that requires a considerable period/number of years.

There are no indications or evidences on the GCs of the presence (or the release) of any recently released petroleum hydrocarbons or petroleum products in any of the five samples analyzed.

The attached GCs for samples AK-01 (PZ-7) and AK-02 (PZ-9) show a gasoline component associated with the sludge-like material (see attached map for these locations). The gasoline components are highly degraded/evaporated regular grade gasolines having toluene/nC8 ratios (T/8) between 0.73 and 1.0 indicating that the manufacturing date (release date) in the 1980s to early 1990s. The gasolines may have been an original part of the petroleum sludge-like materials or they may have been superimposed on such materials at a later time. The attached nC6 Olefins Plot indicates the two

gasolines in the AK-01 and AK-02 samples are identical to each other and, most likely, from the same source/release. The nC17/pristane ratios (C17/p) for these two samples are both 0.21 which indicates the distillates and/or the sludge material were released to the subsurface, at least, approximately 20 or more years ago.

The attached Isoprenoid Plot and GCs indicate that the distillate and sludge materials in all five of the samples are "genetically" related and nearly identical to each other and, most likely, from the same source. The isoprenoids are shown on the GCs as IP13, IP14, IP15, IP16, IP18, IP19 (pristane) and IP20 (phytane) and in "fresh" petroleum distillates etc. their concentrations are only small fractions relative to associated normal paraffins. The isoprenoids are very resistance to biodegradation/weathering and greatly survive relative to the normal paraffins. Therefore, they make an excellent correlation tool as they are an original part of the crude oil from which the petroleum product is refined.

The attached GCs for the samples AK-03 (South seep), AK-04 (Mid seep) and AK-05 (North seep) ((see attached map for these locations)) conclusively demonstrate that the materials in the subject samples are also wide boiling range petroleum materials and, most likely, are petroleum sludge materials (with possible diesel range distillates and perhaps initially gasoline). The C17/p ratios for these three samples are 0 (AK-03), 0.20 (AK-04) and 0.19 (AK-05) which also indicate these samples (distillate and/or sludge materials) from the ditch and seep areas were also release to the subsurface, at least, approximate 20 or more years ago. The attached Isoprenoid Plot indicates the three samples (AK-03, AK-04 and AK-05) are, most likely, "genetically" related to each other (as well as, to the petroleum in AK-01 and AK-02) and showing that all five samples are nearly identical to each other.

Therefore, we can conclude:

- (1) All five samples have essentially the same petroleum composition of a wide boiling range petroleum material of a sludge-like composition except for AK-01 and AK-02 that have a small gasoline component.

All five samples are very highly degraded and weathered and have release times dating back to the 1980s and probably earlier and maybe only into the early 1990s (see the C17/p ratio data). The removal of the normal paraffins and the domination of the isoprenoids the normal paraffins is powerful evidence that the petroleum materials in the subject areas are very old and where released to the environment many years ago.

- (2) The distillate and higher boiling range components of all five samples are "genetically" related and, most likely, from the same or similar source (s). See the attached Isoprenoid plots).
- (3) The gasoline components in the AK-01 and AK-02 samples are both regular grade gasolines and, most likely, from the same source and refinery. See the attached nC6 Olefins plot.
- (4) The gasoline in the AK-01 AND AK-02 samples are from observation wells, therefore, gasoline was, most likely, originally present in the AK-03, AK-04 and AK-05 samples (seep and ditch), but probably evaporated as the gasoline migrated to the seep and ditch.
- (5) There are no indications or evidences in any of the GCs from any of the five samples analyzed that would suggest or indicate the presence of any recently released petroleum hydrocarbons or

petroleum products.

Gene W. Schmidt

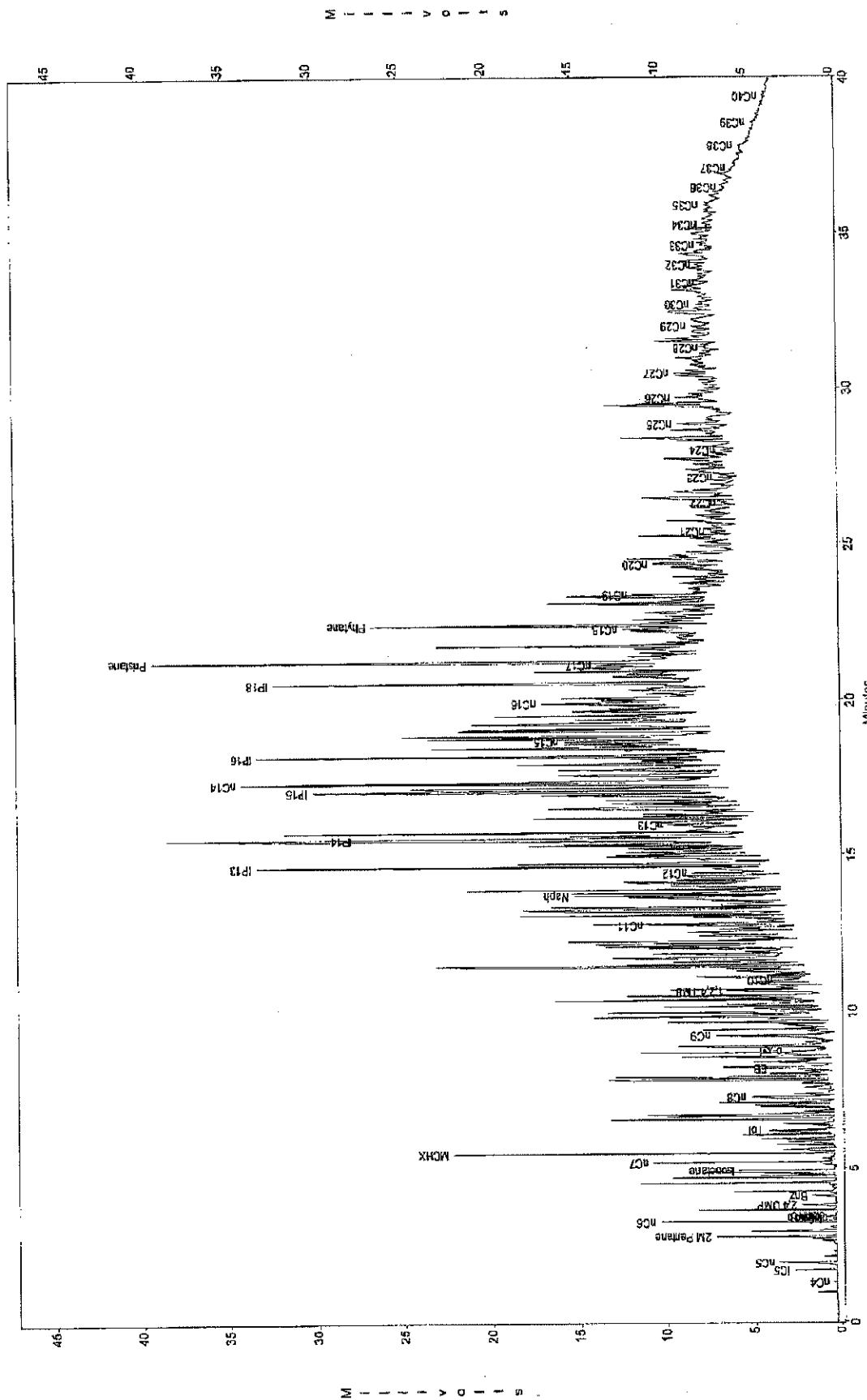
Gene W. Schmidt

Attachments

Page 1 of 1 (1)

Torkelson Geochimistry, Inc.

GRA 80439 LNAPL Ditch (Cline Ave. Ditch)
Sample ID : Q-112514-AK-01
Acquired : Dec 05, 2014 12:10:10

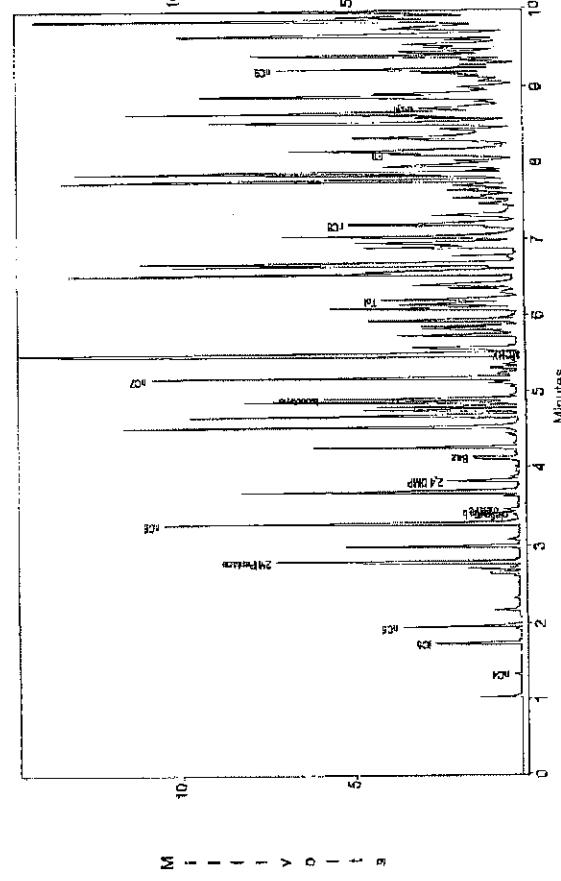


Torkelson Geochemistry, Inc.

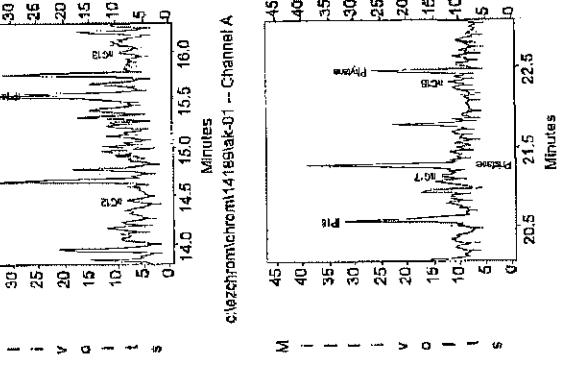
CRA 80439 LNAPL Ditch (Cline Ave. Ditch)

Sample ID : O-112514-AK-01

Acquired : Dec 05, 2014 12:10:10
clezchrom(chrom)14189tak-01 - Channel A



clezchrom(chrom)14189tak-01 - Channel A

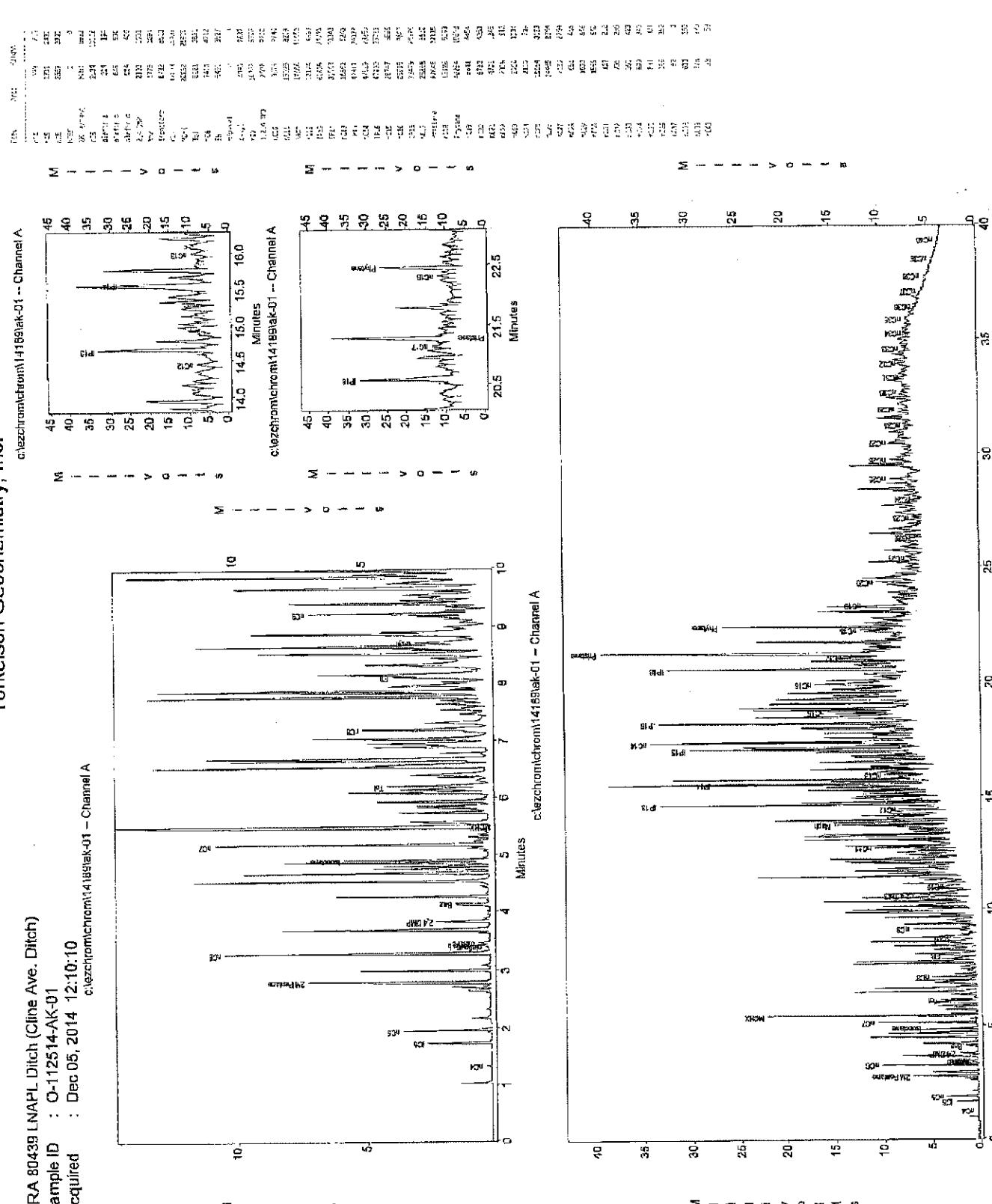


Minutes

clezchrom(chrom)14189tak-01 - Channel A

Page 1 of 1 /11

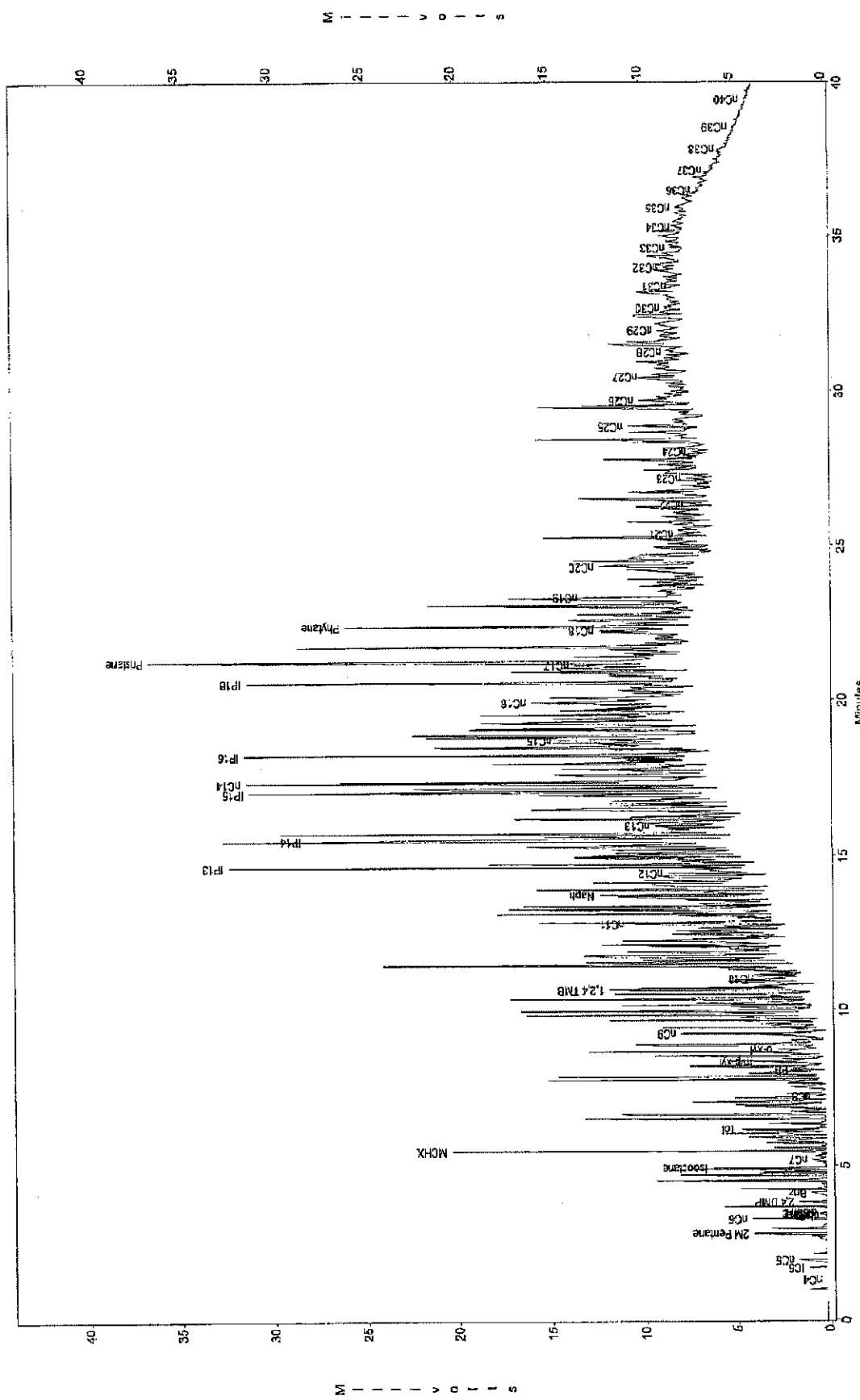
Chemical Analysis



Torkelson Geochemistry, Inc.

CRA 60439 L NAPL Ditch (Cline Ave, Ditch)
Sample ID : O-112514-AK-02
Acquired : Dec 05, 2014 16:39:15

c:\elchrom\chrom14109\ek-02 - Channel A

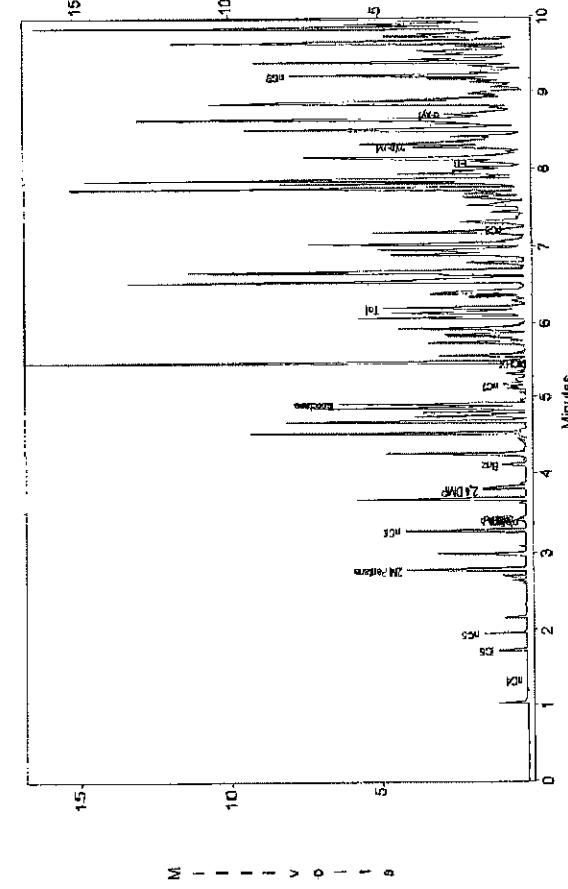


Torkelson Geochemistry, Inc.

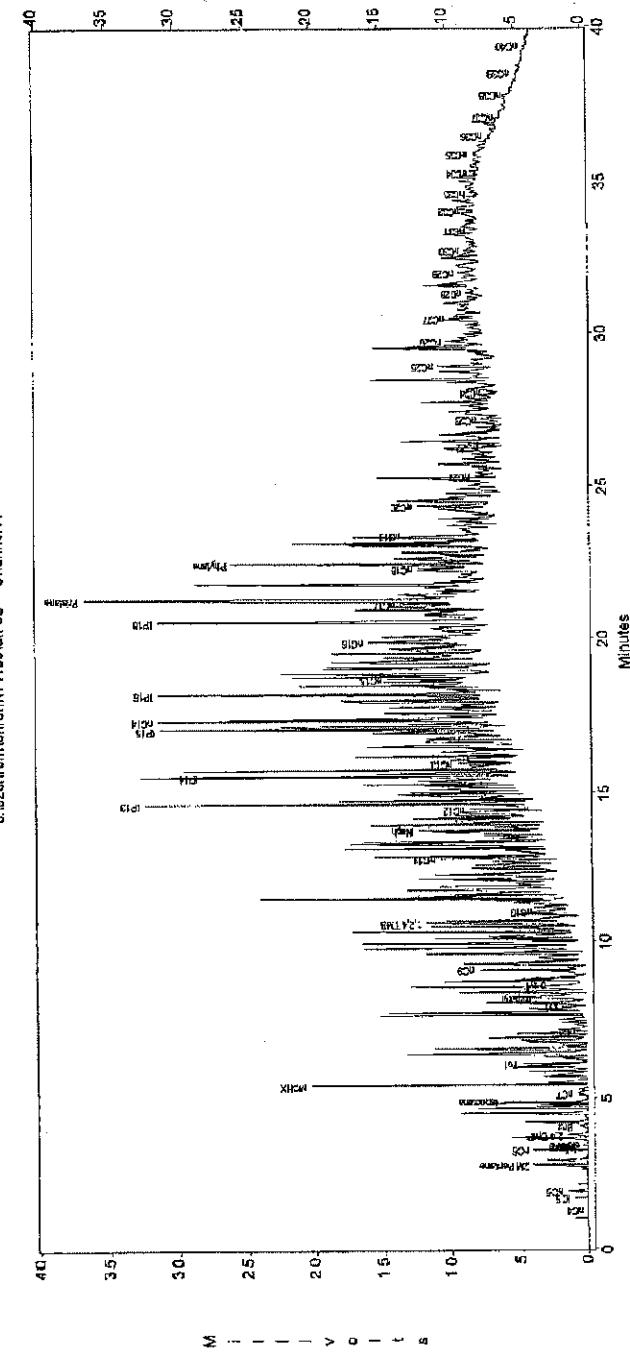
CRA 80439 LNAPL Ditch (Cline Ave. Ditch)

Sample ID : O-112514-AK-02
Acquired : Dec 05, 2014 16:39:15

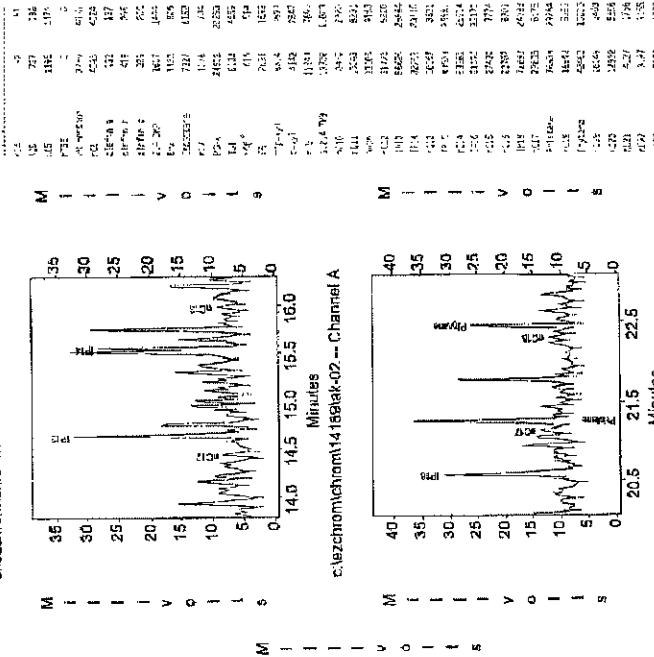
c:\ezchrom\chrom\14189\lak-02 -- Channel A



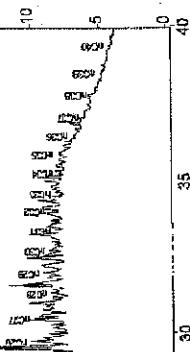
c:\ezchrom\chrom\14189\lak-02 -- Channel A



c:\ezchrom\chrom\14189\lak-02 -- Channel A



Time	Detector	Response
0	V	10
5	V	15
10	V	20
15	V	25
20	V	30
25	V	35
30	V	35
35	V	35
40	V	35



c:\ezchrom\chrom\14189\lak-02 -- Channel A

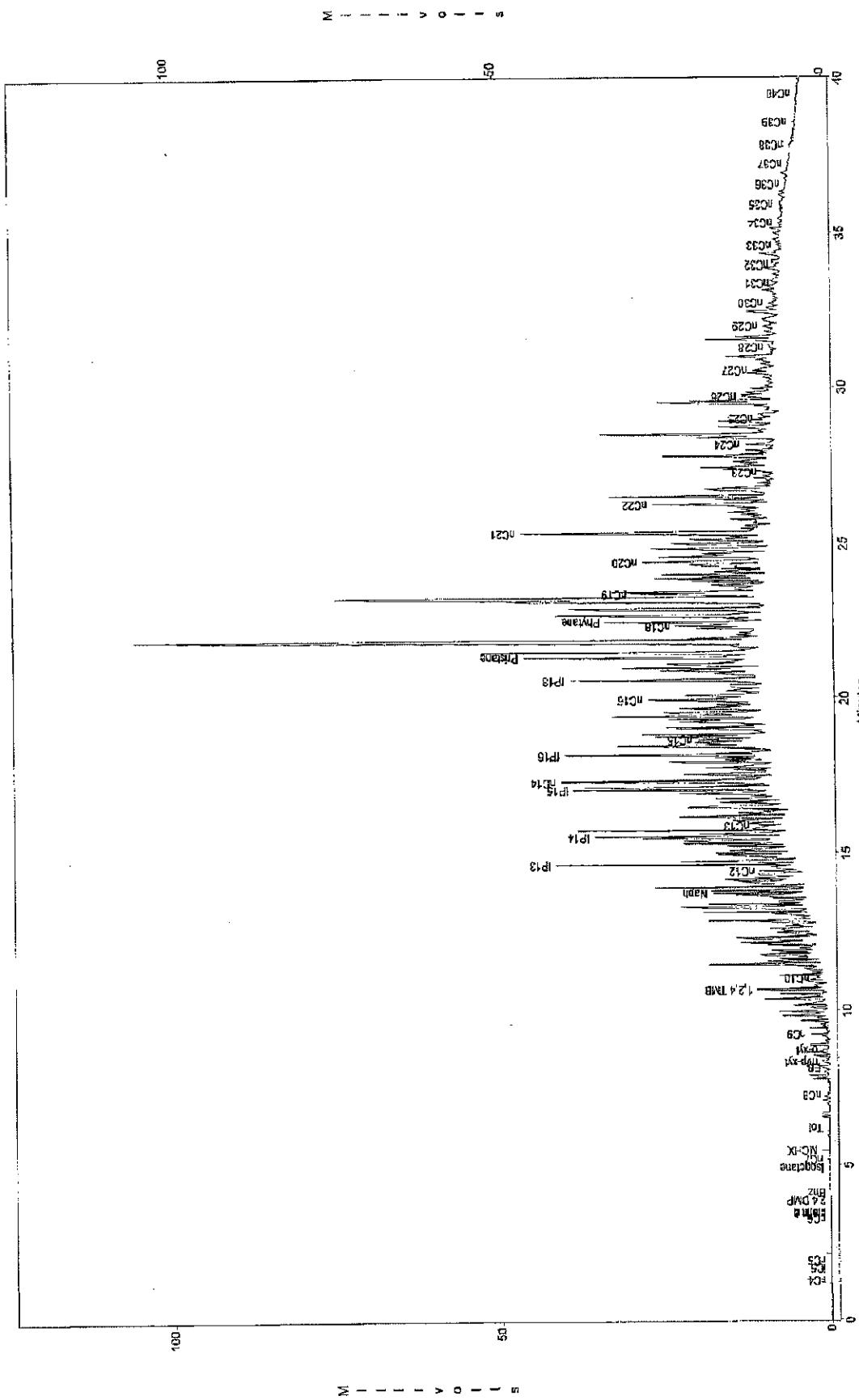
Expt 1 m/f 1 (2)

Chromatogram

Torkelson Geochemistry, Inc.

CRA 80439 LNAPL Ditch (Cline Ave. Ditch)
Sample ID : Q-112514-AK-03
Acquired : Dec 05, 2014 17:28:57

c:\ezchrom\chrom\14189\ak-03.2 -- Channel A



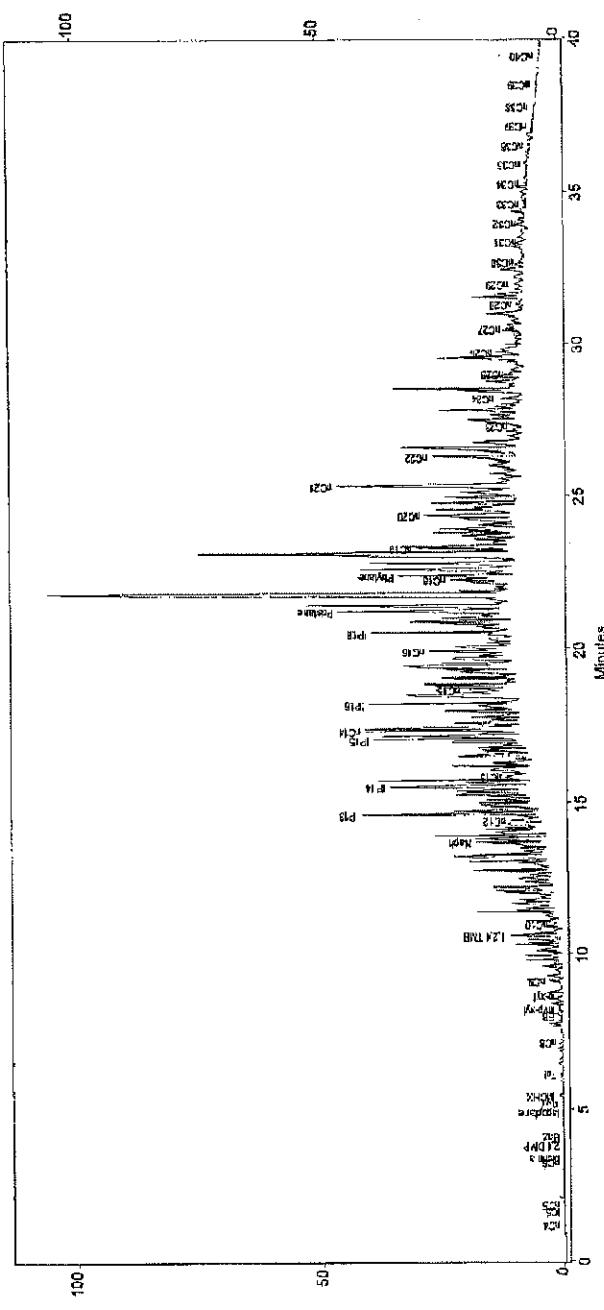
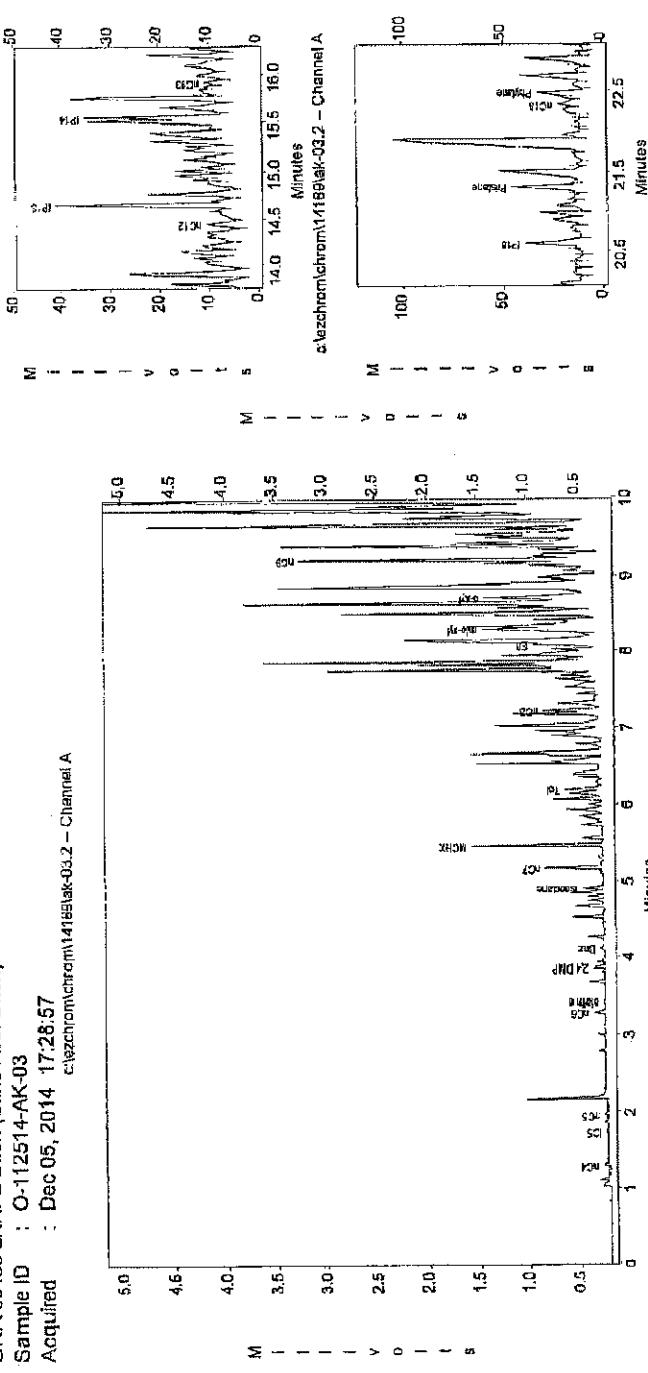
Torkelson Geochemistry, Inc.

CRA 80439 LNAPL Ditch (Cline Ave. Ditch)

Sample ID : O-112514-AK-03

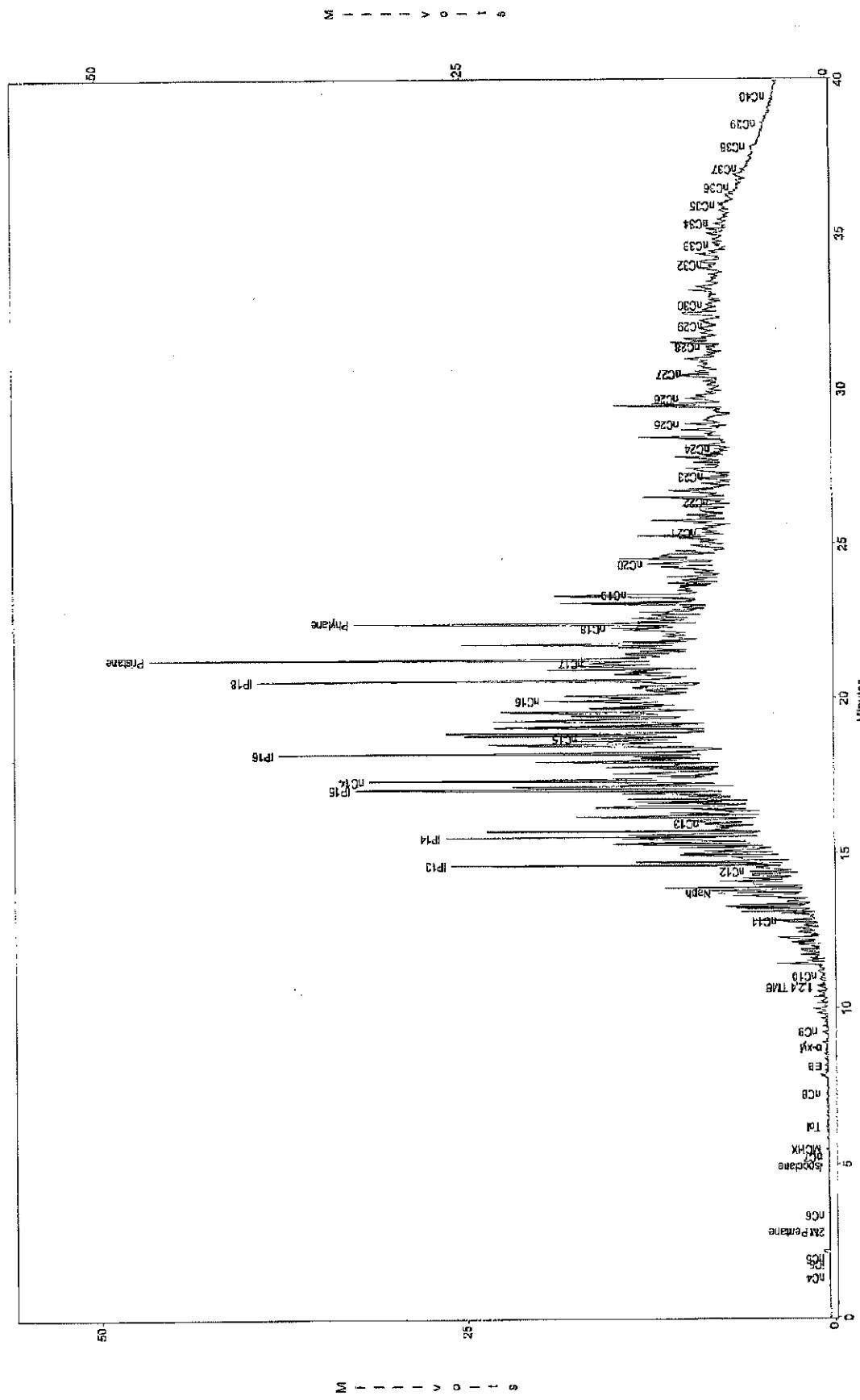
Acquired : Dec 05, 2014 17:28:57

Chromatogram\14189\alk-03.2 ~ Channel A



Torkelson Geochemistry, Inc.

CRA 8D439 LNAPL Ditch (Cline Ave. Ditch)
Sample ID : O-112514-AK-04
Acquired : Dec 05, 2014 11:21:25

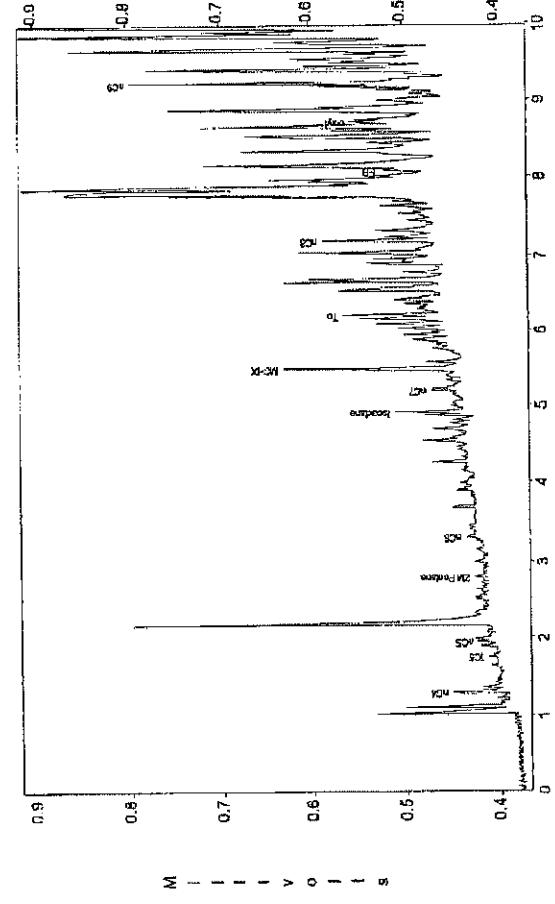


Torkelson Geochemistry, Inc.

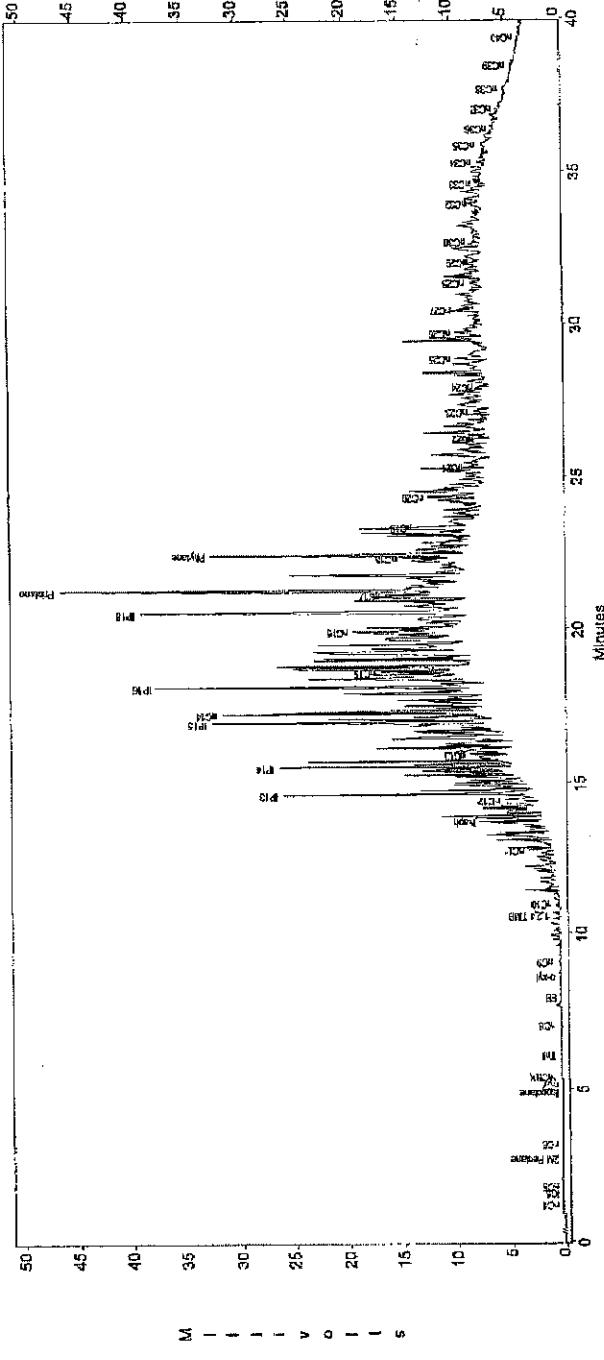
CRA 80439 LNAPL Ditch (Cline Ave. Ditch)

Sample ID : O-112514-AK-04

Acquired : Dec 05, 2014 11:21:25
electromagnetic



Electromagnetic Spectrum Plot
CRA 80439 LNAPL Ditch (Cline Ave. Ditch) - Channel A



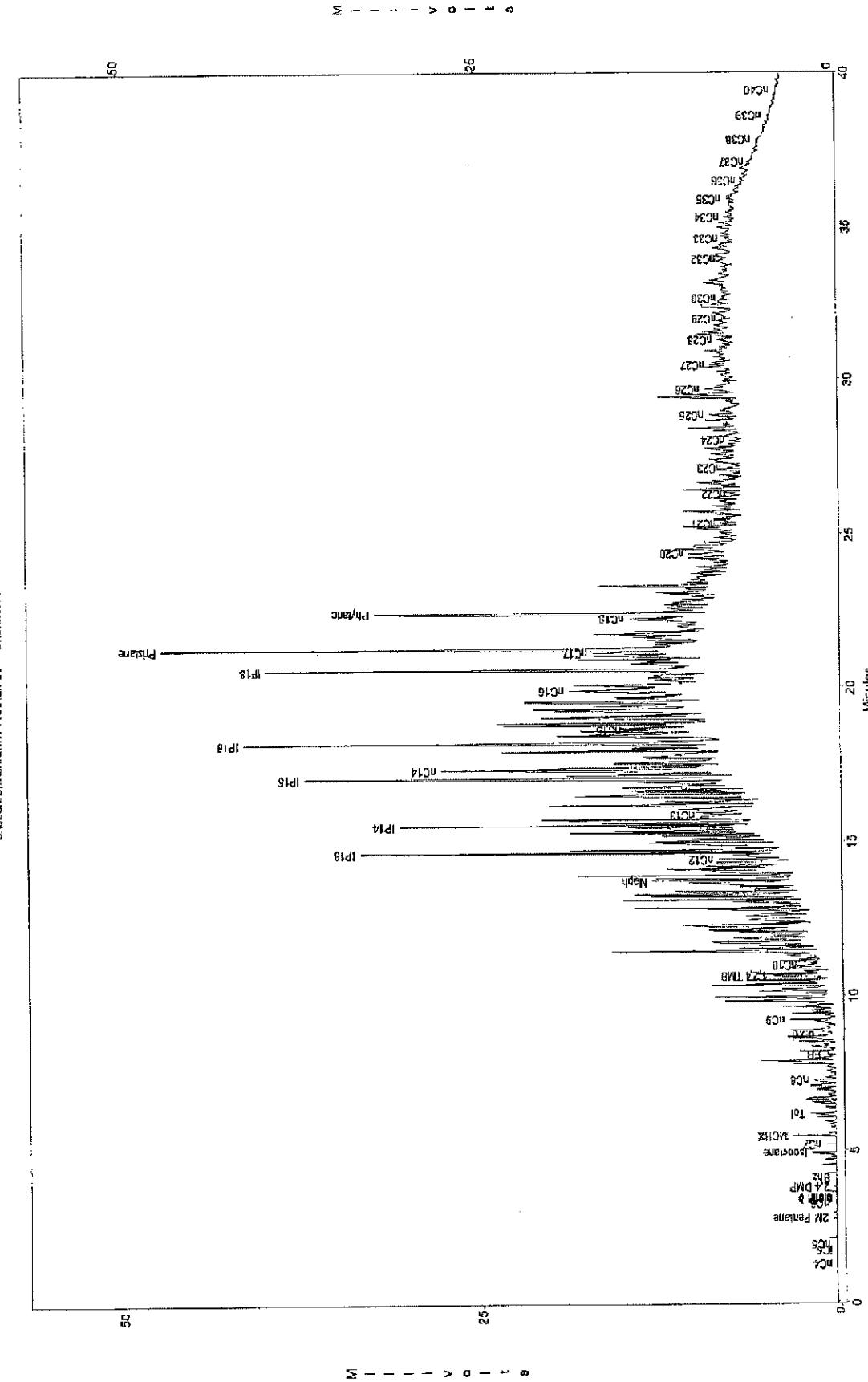
Data 1 of 1 / 21

Toikelson Geochemistry, Inc.

CRA 80439 LNAPL Ditch (Cline Ave. Ditch)
Sample ID : O-112514-AK-05
Acquired : Dec 05, 2014 12:59:07

c:\bz\chromat\chrom14189\ak05 - Channel A

Page 1 of 1 (5)

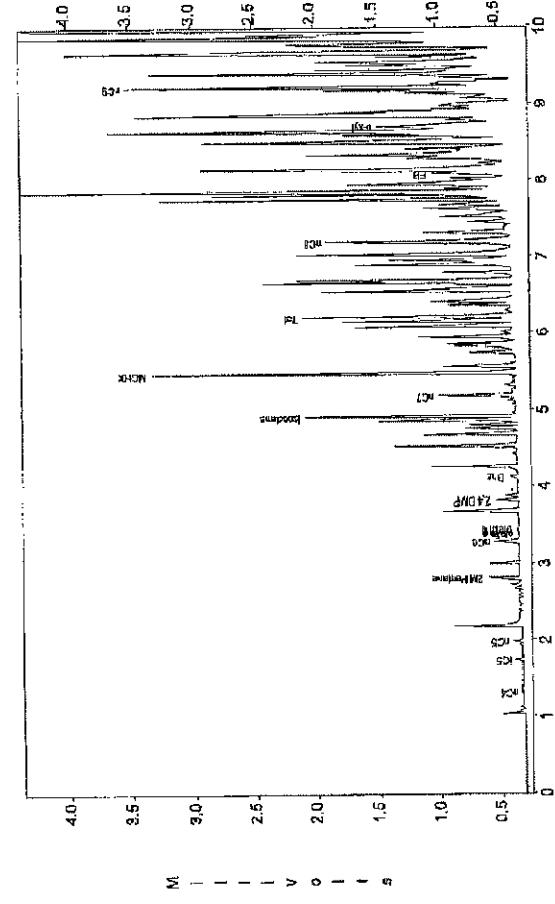


Torkelson Geochemistry, Inc.

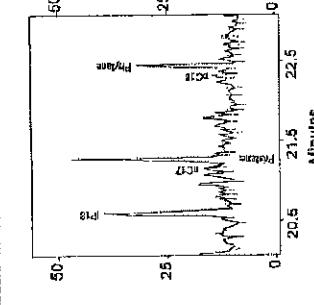
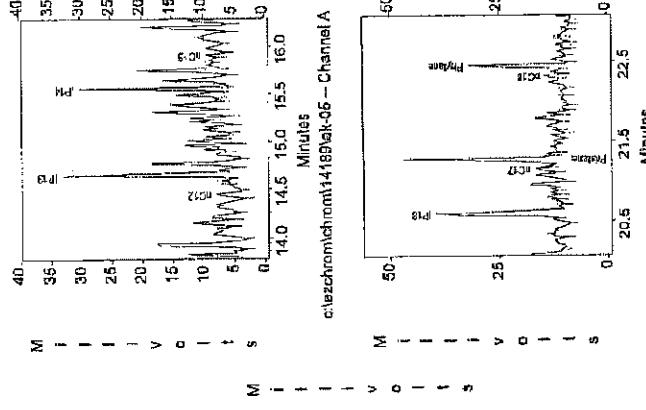
CRA 80439 LNAPL Ditch (Cline Ave. Ditch)

Sample ID : C-112514-AK-05

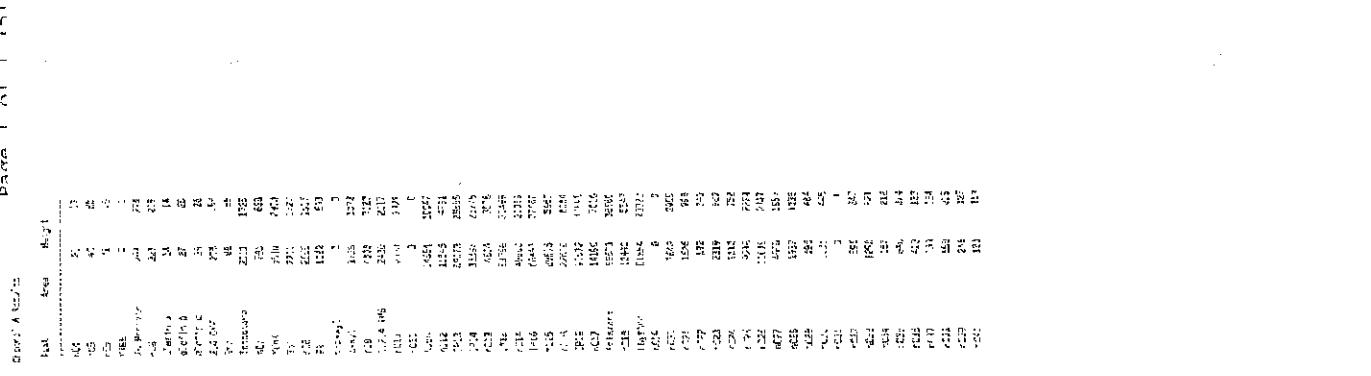
Acquired : Dec 05, 2014 12:59:07



c:\bz\chrom\chrom1418B\ak-05 - Channel A



c:\bz\chrom\chrom1418B\ak-05 - Channel A



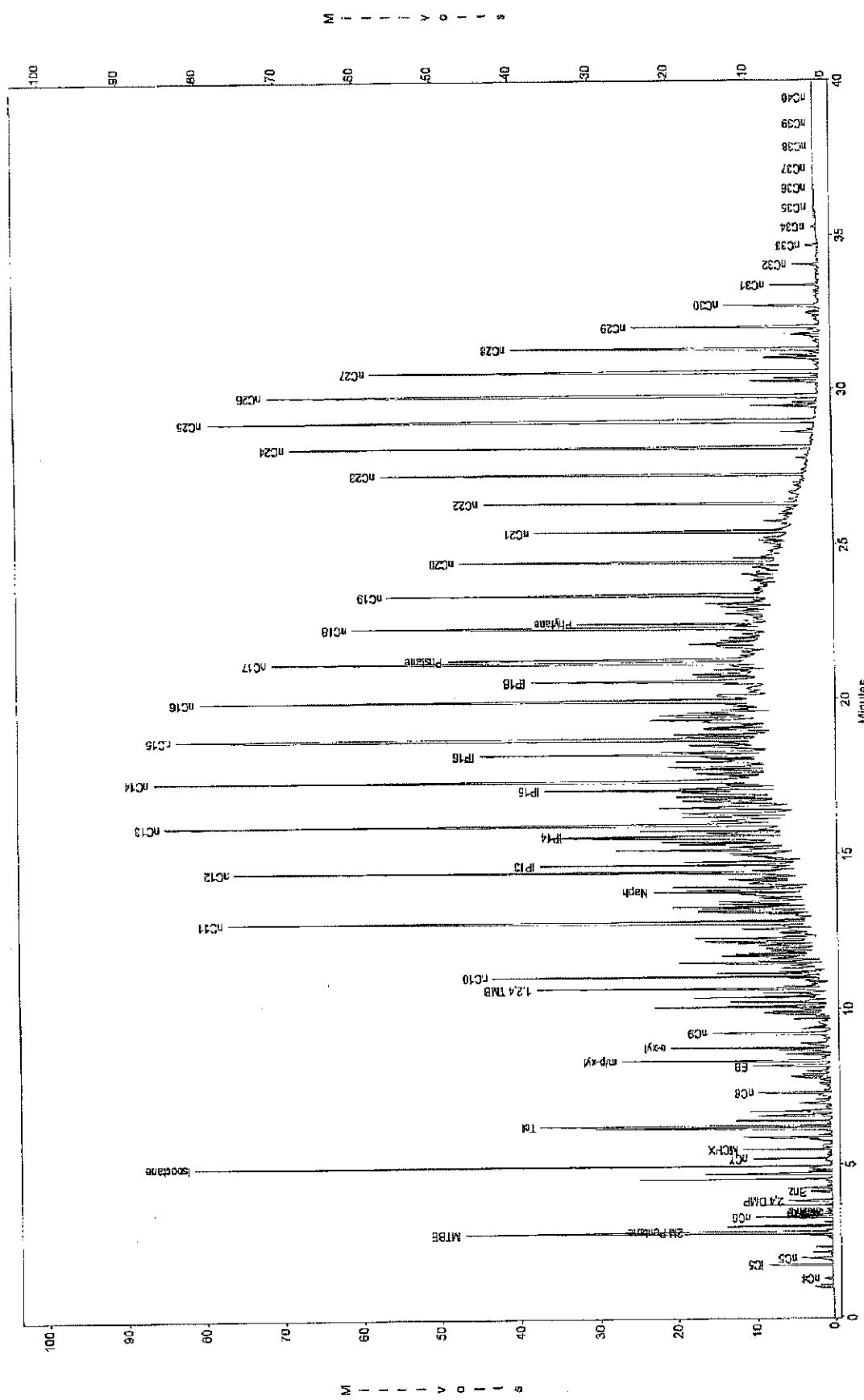
9182989849

p.14

Torkelson Geochemistry, Inc.

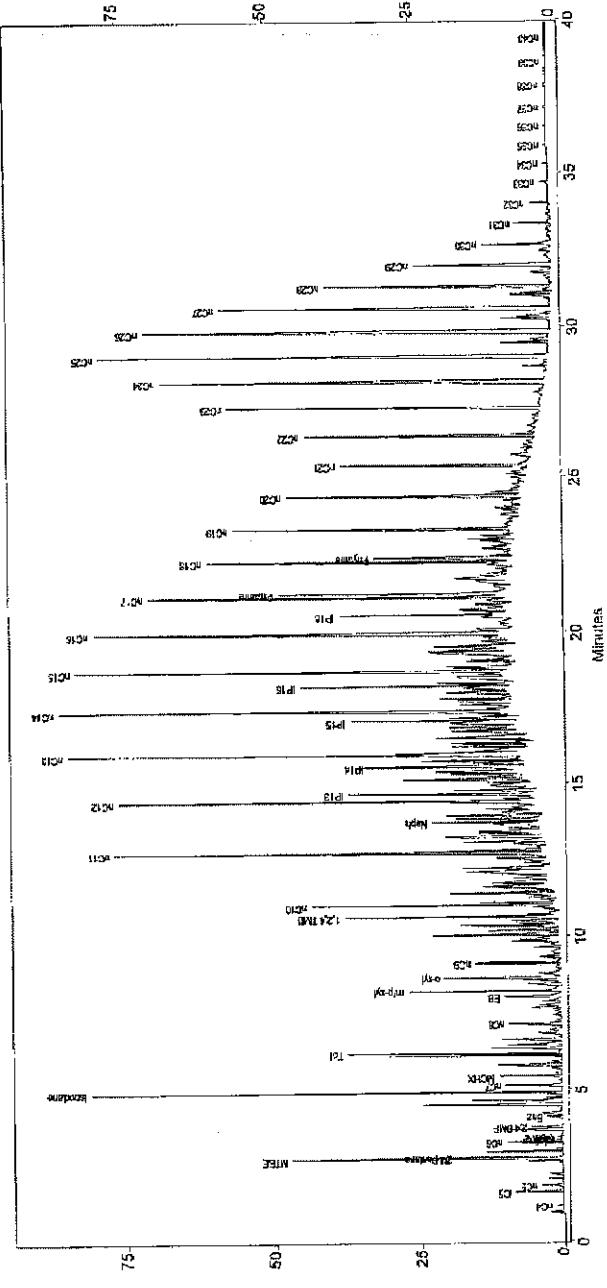
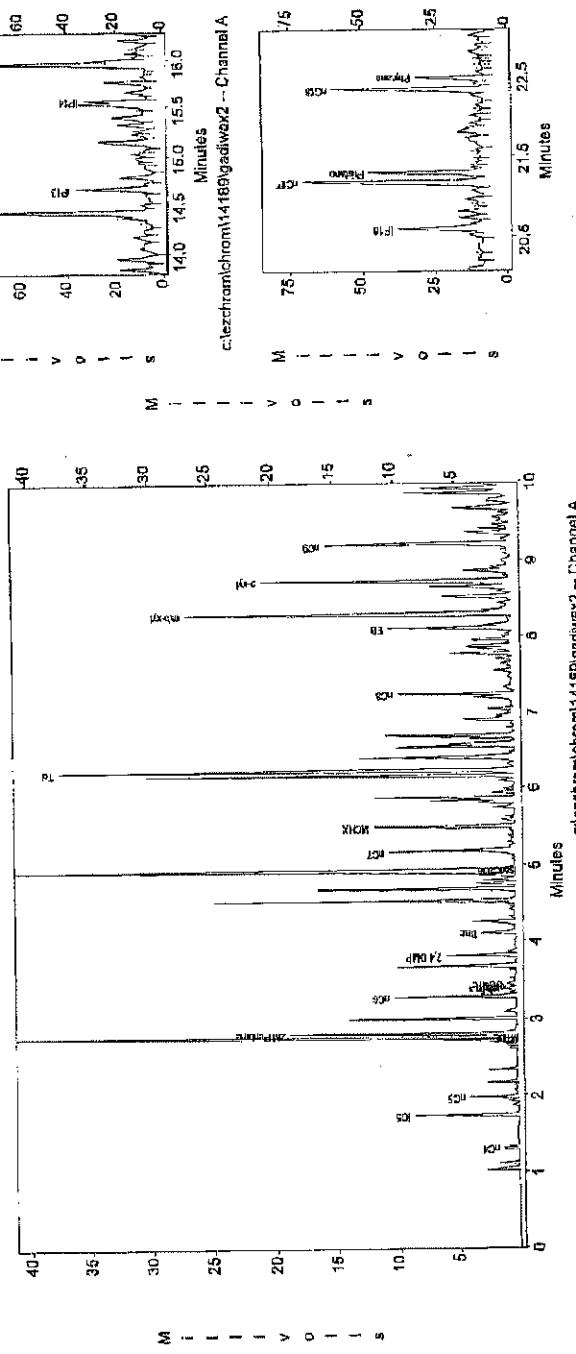
CRA 80439 LNAPL Ditch (Cline Ave. Ditch)
Sample ID : Gas/Dies/Wax std
Acquired : Dec 05, 2014 10:30:33

c:\ezechrom\chrom\1418\gadiwax2 ~ Channel A



Torkelson Geochimistry, Inc.

CRA 80439 LNAPL Ditch (Cline Ave. Ditch)
Sample ID : Gas/Dies/Wax std
Acquired : Dec 05, 2014 10:30:33

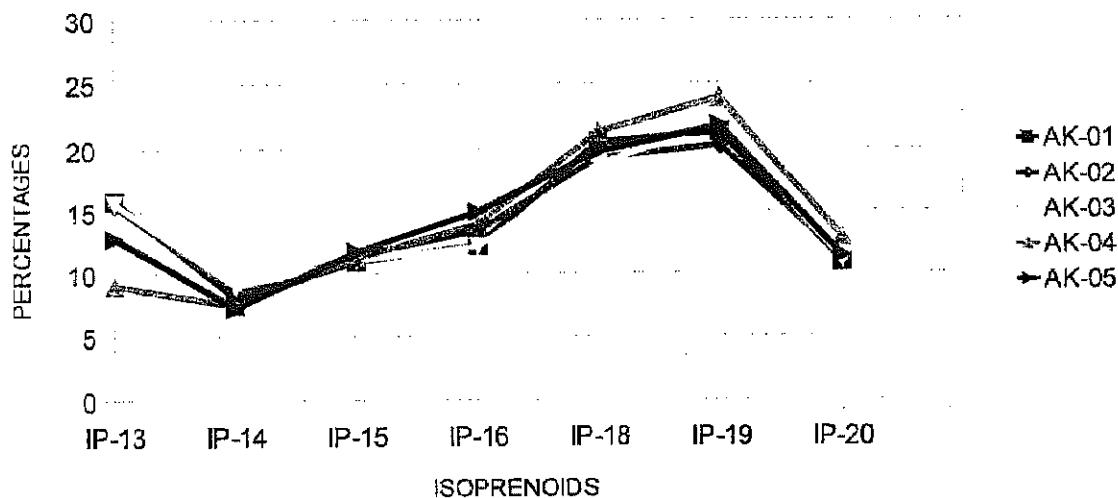


Date: 1 May 1961

Sheet1

	AK-01	AK-02	AK-03	AK-04	AK-05	
IP-13		15.9	15.6	15.7	9.1	12.9
IP-14		8.1	8.5	9.1	7.5	7.3
IP-15		11	11.5	11.1	11.3	11.8
IP-16		12.3	13.5	12.2	14	15
IP-18		20.5	19.3	18.8	21.3	19.8
IP-19		21.3	20.3	22	23.9	21.8
IP-20		10.9	11.2	11.1	12.9	11.4

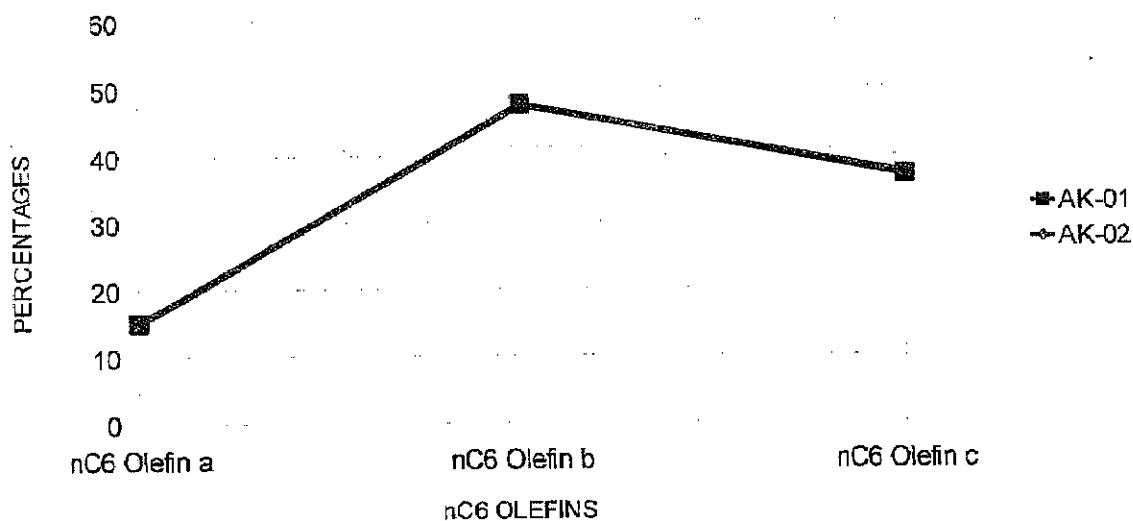
ISOPRENOID PLOT

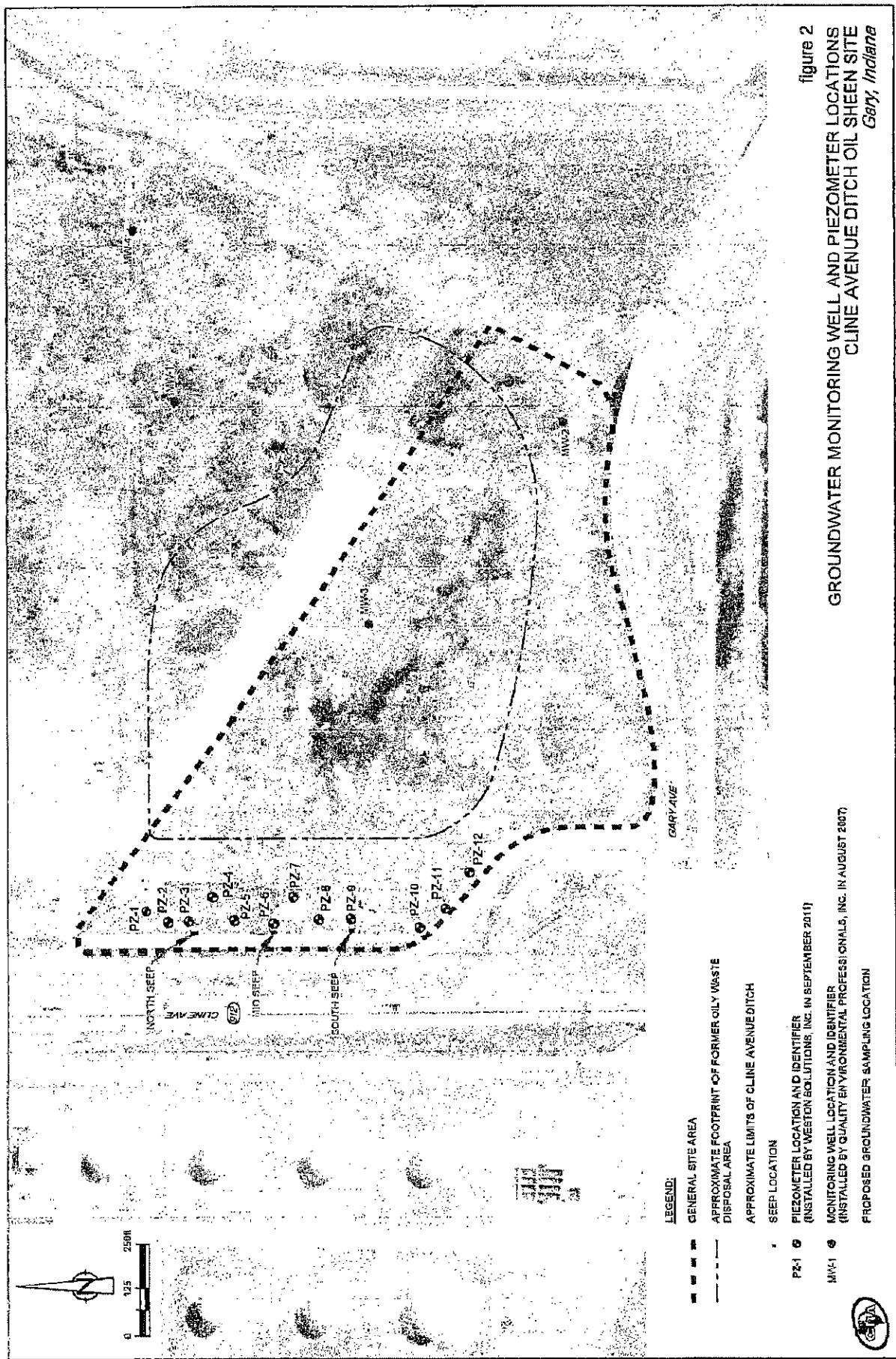


Sheet1

	AK-01	AK-02
nC6 Olefin a	15.1	15
nC6 Olefin b	47.7	47.6
nC6 Olefin c	37.2	37.4

nC6 OLEFINS PLOT





SAMPLE KEY
NOVEMBER 2014
GLENN SPRINGS HOLDINGS, INC.
CLINE AVENUE DITCH OIL SHEEN SITE
EAST CHICAGO, IN

Sample ID	Date Collected	Time	Location	Sample Matrix	Requested Analysis		Comments
					Waste Characterization	MS/MSD ¹	
GW-112414-AK-01	11/24/2014	13:15	MW-3	GW			
GW-112414-AK-02	11/24/2014	14:10	MW-2	GW			
GW-112414-AK-03	11/24/2014	15:35	PZ-12	GW			
GW-112414-AK-04	11/24/2014	16:40	PZ-10	GW			
GW-112514-AK-05	11/25/2014	8:55	PZ-2	GW			
GW-112514-AK-06	11/25/2014	10:00	PZ-8	GW			
GW-112514-AK-07	11/25/2014	11:35	PZ-3	GW			
GW-112514-AK-08	11/25/2014	12:00	PZ-3	GW			
GW-112514-AK-09	11/25/2014	13:15	PZ-6	GW			
O-112514-AK-01	11/25/2014	13:55	PZ-7	OIL			
O-112514-AK-02	11/25/2014	14:10	PZ-9	OIL			
O-112514-AK-03	11/25/2014	15:00	South Seep	OIL			
O-112514-AK-04	11/25/2014	15:30	Mid Seep	OIL			
O-112514-AK-05	11/25/2014	16:15	North Seep	OIL			
WC-112514-AK-01	11/25/2014	17:10	Waste Drum	GW	X	X	

GW/S ENVIRONMENTAL CONSULTING**GENE W. SCHMIDT, CGWP & PHG**Specializing in Forensics of Petroleum Hydrocarbon
Contamination of Groundwater and Soils11619 S.Hudson Place
Tulsa, OK 74137-8532
envirodog@aol.com(O)
918-298-9849

10 December 2014

Phil Harvey
CONESTOGA-ROVERS & ASSOCIATES
8616 W. Bryn Mawr Avenue
Chicago, IL 60614

DENSITY AND VISCOSITY, CLINE AVENUE DITCH

Attached are the density and viscosity results for the five petroleum samples, AK-01, AK-02, AK-03, AK-04 and AK-05, as an addendum to the report to you dated 8 December 2014.

Gene W. Schmidt

Gene W. Schmidt

Attachments

Sample	TGI Job Number	Density of NAPL (gm/ml)	Viscosity of NAPL (centipoise)	Surface Tension Air/Water (dynes/cm)	Interfacial Tension NAPL/Water (dynes/cm)	Surface Tension Air/NAPL (dynes/cm)	Temperature of Measurements
O-112514 AK-01	14189	0.9214	24.9	NA	NA	NA	60F
O-112514 AK-02	14189	0.9230	27.6	NA	NA	NA	60F
O-112514 AK-03	14189	0.9084	58.9	NA	NA	NA	60F
O-112514 AK-04	14189	0.9869	65.7	NA	NA	NA	60F
O-112514 AK-05	14189	0.9133	31.2	NA	NA	NA	60F

NA = Not Analyzed

