

**2012  
Periodic Review Report  
Former Davis-Howland Oil  
Corporation Site  
NYSDEC Site No. 8-28-088**

**City of Rochester  
Monroe County, New York**

**July 2013**

**Prepared for:**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DEPARTMENT OF ENVIRONMENTAL REMEDIATION  
625 Broadway, 12<sup>th</sup> FLOOR  
Albany, New York 12233-7013**

**Prepared by:**

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Lancaster, New York 14086**



Enclosure 1  
Engineering Controls - Engineering Standby Contractor Certification Form



Site Details		Box 1	
Site No.	828088		
Site Name Davis-Howland Oil Corporation			
Site Address: 200 ANDERSON AVENUE		Zip Code: 14607	
City/Town: Rochester			
County: Monroe			
Site Acreage: 1.0			
Reporting Period: December 31, 2011 to December 31, 2012			
		YES	NO
1. Is the information above correct?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
If NO, include handwritten above or on a separate sheet.			
2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.			
5. To your knowledge is the site currently undergoing development?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Box 2	
		YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.			
N/A			
Signature of Engineering Standby Contractor		Date	

SITE NO. 828088

Box 3

**Description of Institutional Controls**

Parcel

Owner

Institutional Control

106.84-1-6

Samille, Inc.

Monitoring Plan  
Site Management Plan  
O&M Plan

The IC is the site management plan with its O&M plan and LTM plan.

Box 4

**Description of Engineering Controls**

Parcel

Engineering Control

106.84-1-6

Groundwater Treatment System  
Air Sparging/Soil Vapor Extraction

The engineering control on this site parcel is a dual-phase groundwater system with air sparge below the watertable, shallow groundwater pumping, and soil-vapor extraction.

The sparge points AS-29, AS-30, AS-39, AS-40, AS-41, AS-42, and AS-43 inject air into saturated soil below the watertable.

Working in conjunction with the sparge points, SVEP-3, SVEP-4, SVEP-5, SVEP-6, and SVEP-7 are shallow vacuum points which remove the injected air which has passed through the water and soil.

The extracted air carries away whatever organic vapors have been stripped from the groundwater.

P-3 overburden well belongs to a network of shallow groundwater pumping wells which lower the water table to enhance organic vapor stripping through the soil.

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

☒ ☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES NO

☒ ☐

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.**

N/A

\_\_\_\_\_  
Signature of Engineering Standby Contractor

\_\_\_\_\_  
Date

IC/EC CERTIFICATIONS

Box 6

Professional Engineer Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Gerald A. Strobel at Ecology & Environment Engineering, P.C.  
print name

368 Pleasant View Drive

Lancaster, New York 14086

(print business address)

am certifying as a Professional Engineer.

*Gerald Strobel*  
Signature of Professional Engineer



7/30/2013  
Date

# T

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## List of Abbreviations and Acronyms

ALTA	American Land Title Association
AS/SVE	air sparge
BGS	below ground surface
BTEX	benzene, toluene, ethyl benzene, and xylene
CATOX	catalytic oxidizer
cVOC	chlorinated volatile organic compound
DHOC	Former Davis-Howland Oil Corporation Site
DCA	1,1-dichloroethane
DCB	dichlorobenzene
DCE	dichloroethene
DUSR	Data Usability Summary Report
EEEP	Ecology and Environment Engineering, P.C.
EPA	(United States) Environmental Protection Agency
FS	feasibility study
ft/ft	feet per foot
IC	institutional control
IDW	investigation-derived waste
µg/L	micrograms per liter
MCDES	Monroe County Department of Environmental Services – Industrial Waste Section
MS/MSD	matrix spike/matrix spike duplicate

## List of Abbreviations and Acronyms (cont.)

NYSDEC	New York State Department of Environmental Conservation
OM&M	operations, maintenance, and monitoring
PAH	polycyclic aromatic hydrocarbon
PCE	perchloroethylene or tetrachloroethene
PPE	personal protective equipment
PRR	Periodic Review Report
Popli	Popli Consulting Engineers and Surveyors, P.C.
QA/QC	quality assurance/quality control
RI	remedial investigation
RSO	Remedial Site Optimization
SMP	Site Management Plan
SVE	soil vapor extraction
SVOC	semivolatile organic compound
TCA	trichloroethane
TCE	trichloroethene
TPH	total petroleum hydrocarbon
VOC	volatile organic compound

# 1

## Introduction and Background

### 1.1 Introduction

This Periodic Review Report (PRR) provides information on the operations, maintenance, monitoring, compliance, and operating costs at the former Davis-Howland Oil Corporation (DHOC) Remediation Site (hereinafter referred to as the “Site”) during the calendar year 2012. This PRR also provides information concerning the engineering and institutional controls facilitating the remedial cleanup of the Site.

This PRR was prepared by Ecology and Environment Engineering, P.C. (EEEPC) in accordance with the requirements in the *Draft Site Management Plan, Davis-Howland Oil Corporation Site, NYSDEC Site No. 8-28-088* (EEEPC 2008).

### 1.2 Site Description

The Site was used from 1942 to 1972 to produce industrial chemicals, oils, greases, and other lubricants. From 1972 to 1994, the Site was used by DHOC. In 1994, DHOC closed and all manufacturing and product-processing operations ceased.

Between 1974 and the early 1990s, NYSDEC received reports of releases of materials at the Site; these materials included waste oil, mineral oil, hydrochloric acid, and sulfuric acid. However, no single incident has been identified that can account for a majority of the contamination now found at the Site. NYSDEC inspected the Site in June 1991 and found several hundred drums of oils, solvents, and other materials. Some of the drums were leaking, and several areas with stained surficial soil also were found.

In 1993, the Site was listed on the New York State Inactive Hazardous Waste Disposal Site Remedial Program Registry as a Class 2 Site. The Site was defined as a single parcel (ID No. 106.84-1-6) located at 192 through 200 Anderson Avenue in the city of Rochester, Monroe County, New York (see Figure 1-1). Documentation in the New York State Department of Environmental Conservation’s (NYSDEC’s) Environmental Site Remediation Database defines the Site as encompassing the parcels described as 190 through 220 Anderson Avenue and the portion of 176 Anderson Avenue immediately north and west of 190 through 220 Anderson Avenue.

The remedial actions performed and remedial systems installed at the Site encompass the parcel located at 192 through 200 Anderson Avenue, the adjacent parcels at 190 Anderson Avenue and 220 Anderson Avenue, the portion of 176 Anderson Avenue immediately north and west of 190 through 220 Anderson Avenue, a portion of the CSX Railroad right-of-way to the north of 176 Anderson Avenue, and a small area south of Anderson Avenue encompassing the northern portions of 183 through 185 Anderson Avenue and 15 through 17 Norwood Avenue. A recent survey of the properties associated with the Site is presented in Appendix A.

The approximately 1.5-acre Site is located in an area that combines residential, commercial, and industrial facilities. No significant surface water is located in the immediate vicinity of the Site. Figure 1-2 presents the general Site layout. Groundwater and soil vapor at the Site are treated via multiple systems. A detailed description of each process and treatment system is provided below.

### **1.3 Air Sparge/Soil Vapor Extraction (AS/SVE) System**

Remaining volatile organic compound (VOC) contamination in soils is currently being treated by stripping the VOCs adhered to soils to a vapor phase (augmented by an air sparge [AS] system), and then removing the VOC-laden soil vapor via a soil vapor extraction (SVE) system. The AS/SVE system was installed in shallow soils under an asphalt cap in the area to the north of the Site buildings and also under the Site building slabs. The AS components of the system utilize a low-pressure compressor designed to operate on a continuous basis to inject air into the soil via sparge points located around the Site. Forty-seven air sparging points were installed at approximately 12 feet below ground surface (BGS) inside and outside the buildings located at 200 Anderson Avenue. The SVE system extracts soil vapor under negative pressure from the air-sparging treatment zone via a network of outdoor and indoor underground collection piping. Depending on the location, the collection piping is either lateral collection slot-drain (outdoor) or collection points (indoor). The soil vapors are collected at a central location (treatment trailer) and discharged to the atmosphere.

### **1.4 Groundwater Remediation System**

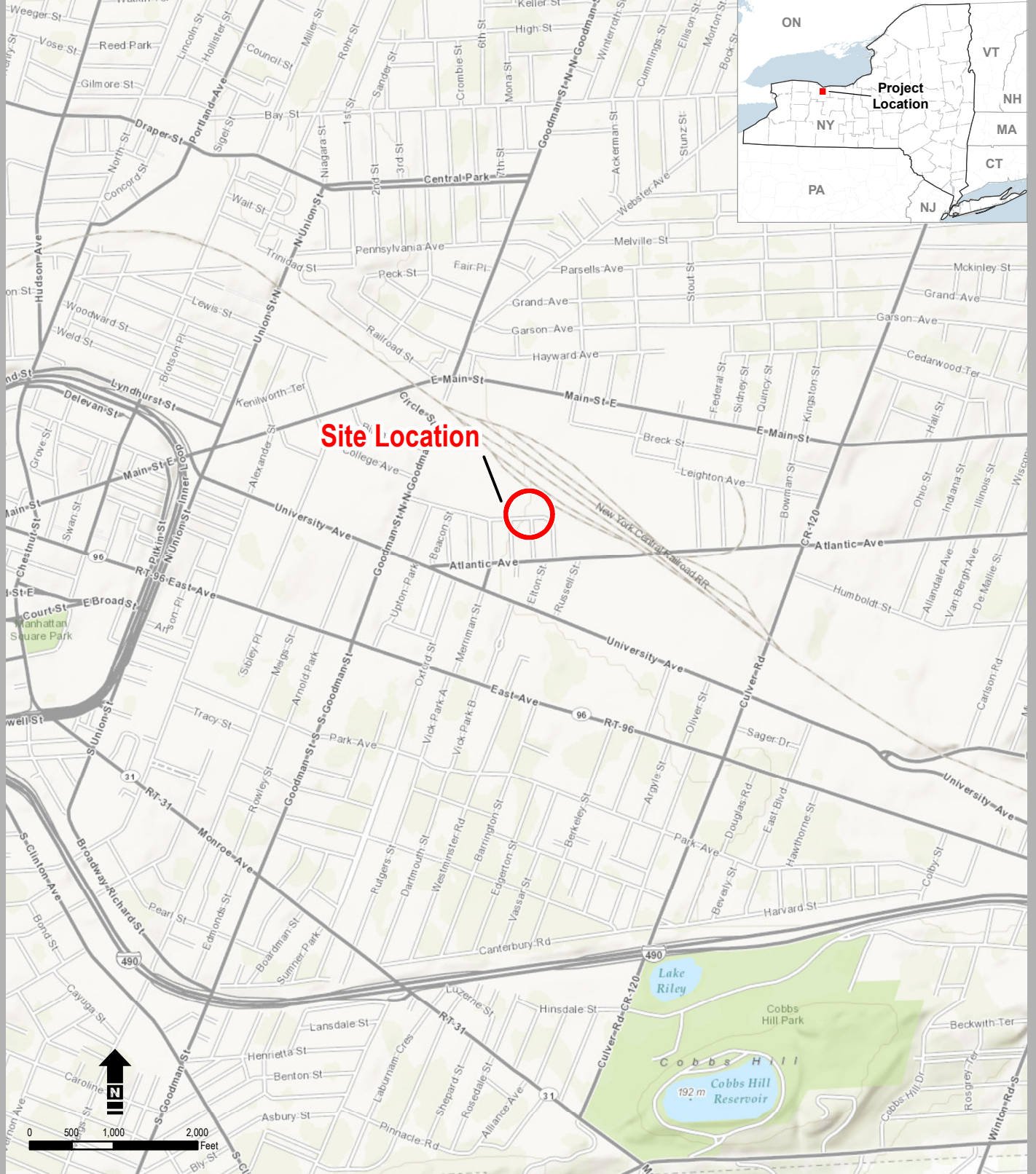
The groundwater treatment system consists of five pumping wells, which are capable of processing a combined flow of up to 30 gallons of water per minute on a continuous basis. Groundwater wells PW-1 and PW-2 were installed as deep bed-rock groundwater pumping wells to extract groundwater from the bedrock aquifer. Overburden pumping wells P-1, P-2, and P-3 were installed to keep the shallow aquifer groundwater levels below the elevation of the SVE lines. All five pumping wells pump groundwater to the treatment trailer for processing. The groundwater pumping wells cycle on and off at preset water levels within each well.

The groundwater VOC treatment system in the treatment trailer consists of influent meters, a 500-gallon holding tank, a sequestering agent feed tank, a feed pump, a five-tray low-profile air stripper with air blower, an effluent pump, an

effluent meter, and an effluent discharge line to the main trunk sewer under Anderson Avenue.

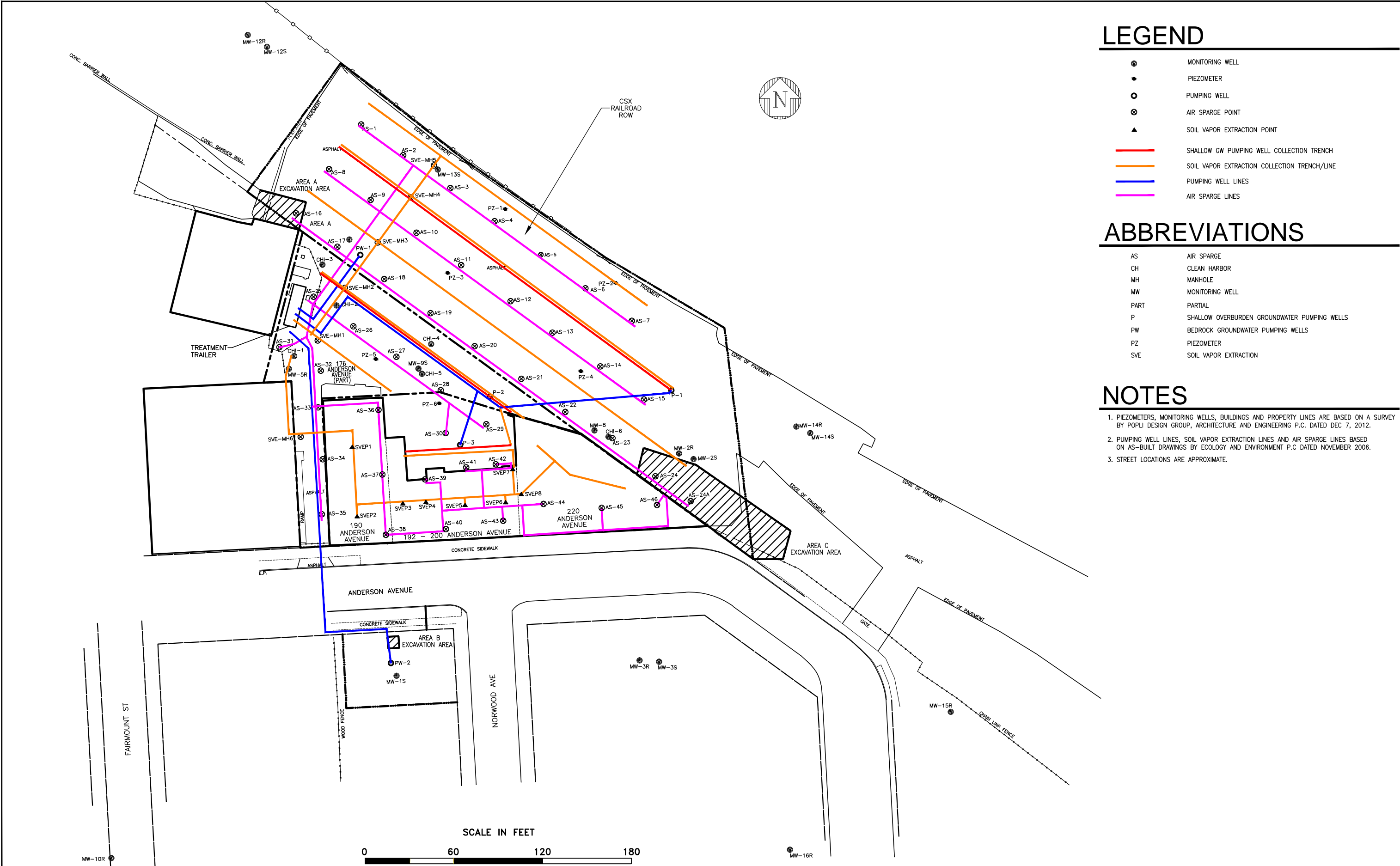
Groundwater is pumped from the shallow and bedrock-level extraction wells to the equalization tank, where it is then pumped to the air stripper on a batch basis. Contaminated water from the top of the air stripper tower drains down over a series of five stacked orifice trays in the column. A fan forces air countercurrent to the water flow and volatilizes the VOCs in the groundwater. The air discharge from the air stripper is discharged to the atmosphere. A sump at the bottom of the tower collects the decontaminated water, which is discharged in batches to the Monroe County combined storm and sanitary sewer system under Monroe County Sewer Use Permit No. 864.

Six piezometers (PZ-1 through PZ-6) associated with the shallow overburden groundwater pumping wells (P-1, P-2, and P-3) are used to monitor the depth of groundwater under the paved AS/SVE area on a weekly basis.



Source: ESRI 2012.

**Figure 1-1**  
Site Location Map  
Former Davis-Howland Oil Corporation  
Rochester, NY



# 2

## Remedial Systems Compliance

### 2.1 Groundwater Treatment

On September 6, 2012, EEEPC (on behalf of NYSDEC) submitted a petition to the Monroe County Department of Environmental Services (MCDES) – Industrial Waste Section to reduce the sampling and analytical parameters for Discharge Permit No. 864. Specifically, EEEPC requested the removal of the required monthly testing for total petroleum hydrocarbons (TPH) and semivolatile organic compounds (SVOCs), and the required semiannual testing for pesticides based on non-detectable levels of TPH, SVOCs, and pesticides since 2007. In response, MCDES issued a modified permit that reflected those requested changes. The modified permit became effective on October 1, 2012. Copies of the correspondence and the modified permit are provided in Appendix B.

Table 2-1 presents the permit criteria currently used for the treated groundwater being discharged from the Site to the Monroe County sanitary sewer system.

**Table 2-1 Effluent Discharge Criteria, Former Davis-Howland Oil Corporation Site**

Parameter <sup>1</sup>	Analytical Methods	Permit Criteria
Effluent flow (average discharge); based on effluent meter	–	Not to exceed 28 gpm
pH (SU)	MCAWW 150.1	5.0 to 12.0
Purgeable halocarbons	40CFR136-625 <sup>2</sup>	The analytical summation of this group of contaminants shall not exceed 2.13 ppm in the effluent discharge.
Purgeable aromatics	40CFR136-625 <sup>2</sup>	

Note:

<sup>1</sup> PCBs were removed from the Permit Analyte List and pesticides were reduced to semi-annual sampling beginning in November 2006. Total petroleum hydrocarbons, semivolatile organic compounds (base neutral/acid extractables), and pesticides were removed from the Permit Analyte List beginning in October 2012.

<sup>2</sup> Analytical method was changed from 40 CFR136-601/602 to 40 CFR136-625 in order to monitor for acetone.

Key:

CFR = Code of Federal Regulations  
gpm = gallons per minute  
MCAWW = (U.S. Environmental Protection Agency) Methods for Chemical Analysis of Water and Wastes  
NA = not applicable  
ppm = parts per million  
SU = standard units

In 2012, the analytical results for all effluent discharges from the groundwater treatment system were in compliance with the permit criteria. Analytical data for the treated groundwater is provided in Sections 4.3 and 4.4.

## **2.2 Air Sparge/Soil Vapor Extraction**

In 2002, an application was submitted to NYSDEC for a permit to discharge the soil vapors following treatment by the catalytic oxidizer (CATOX) unit. From 2002 to 2008, the soil vapors were treated by an on-site CATOX unit prior to being discharged to the atmosphere. In 2006, an air quality analysis was performed to evaluate the fate and transport of soil vapor constituents (EEEP 2006). Based on the results of this analysis and subsequent recommendations, the CATOX unit was removed from service in 2008 at NYSDEC's direction. Soil vapors are evaluated under the NYSDEC's *Guidelines for the Control of Toxic Ambient Air Contaminants (Air Guide 1)* (NYSDEC 1997). Soil vapors are currently discharged to the atmosphere without treatment.

# 3

## Evaluation of Site Institutional and Engineering Controls

Both institutional controls (ICs) and engineering controls (ECs) are employed on the Site to support remedial operations.

### 3.1 Institutional Controls

No ICs were required by the two records of decision issued for the Site. Programmatically, the ICs that are necessary to provide for the effectiveness of this phase of the remedial action include a site management plan (SMP) and deed restrictions/environmental notices. The following ICs are currently listed as part of the NYSDEC environmental database for the Site:

- SMP
- Soil Management Plan and Excavation Work Plan
- Monitoring Plan
- O&M Plan
- Deed Restriction/Environmental Notice

The existing SMP (EEEEPC 2008) includes a monitoring plan and O&M plan. The SMP is currently being revised to incorporate a soil management plan, excavation work plan, and deed restriction/environmental notice.

The ICs at the Site are necessary to verify that residual contaminated material remains undisturbed. Current and future Site owners will be required to perform soil characterization and disposal/reuse activities in accordance with NYSDEC regulations if residual contaminated soil is disturbed and/or excavated.

A permanent easement that provides access to the adjacent CSX Transportation property was obtained to facilitate operation of the DHOC Site remedial treatment system. The existing permanent easement is adequate for site access at this time; however, if additional wells are installed as part of improvements to the groundwater monitoring well system, it may be necessary to obtain additional permanent easements from CSX Transportation. In addition, access to the 200 Anderson Avenue property has been obtained under a Consent Order with the owner (Mr. R. Klepper). This access will facilitate the continued operation of the remedial treatment system and underground equipment. A permanent environmental easement and/or deed restriction is also recommended by NYSDEC for the reme-

### **3 Evaluation of Site Institutional and Engineering Controls**

dial Site to reduce the potential for direct human contact with the Site's contaminated soils. The buildings and property north of Anderson Avenue and the parcel to the south of Anderson Avenue will be included in this easement and/or deed restriction. Some occupants in the buildings have restricted the access needed by EEEPC and its operation, maintenance, and monitoring (OM&M) subcontractor, Popli Consulting Engineers and Surveyors, P.C. (Popli), to inspect the remedial equipment. This issue will be resolved by NYSDEC with either the building manager or the property owner, as unrestricted access to these areas is needed to maintain the remedial equipment.

To support the desired deed restriction/environmental notices, a revised property survey was performed. The survey included the minimum standard detail requirements established by the American Land Title Association (ALTA) as part of the survey, and included the following parcels: 188 Anderson Avenue, 190 Anderson Avenue, 192 through 200 Anderson Avenue, and 220 Anderson Avenue. In addition, the environmental easements for the work area on the CSX property and for the area around PW-2 on the southerly side of Anderson Avenue were mapped. This draft survey is presented in Appendix A. Minor changes to the survey regarding sample IDs are expected to be incorporated, and the survey will be finalized in the fall of 2013.

There are 18 operable monitoring wells in the groundwater monitoring well network around the DHOC Site: Four are located on the DHOC property, two are in the public highway right-of-way, nine are located on the CSX Transportation property easement, and three are located in the parking lot south of Anderson Avenue. The locations of these monitoring wells are identified on Figure 6-1. Based on a review of NYSDEC and EEEPC records, it is unknown whether access agreements to facilitate the future maintenance and monitoring of these wells were previously obtained as part of the remedial investigation/feasibility study (RI/FS) for this parcel south of Anderson Avenue. Accordingly, EEEPC recommends that an environmental easement be obtained for the parcel south of Anderson Avenue to facilitate access to perform OM&M activities.

#### **3.2 Engineering Controls**

The engineering controls (ECs) that support remedial operations at the Site are consistent with the SMP regarding OM&M of the Site. The following ECs are present at the Site:

- Groundwater Treatment System, consisting of monitoring wells, bedrock groundwater pumping wells, and air stripper;
- AS/SVE System, consisting of piezometers, shallow overburden groundwater pumping wells, AS points, SVE points, lines and trenches, and air-handling components of the on-site treatment plant; and
- Fencing/Access Control.

### **3 Evaluation of Site Institutional and Engineering Controls**

The water treatment component of the on-site treatment plant is a component of both the groundwater treatment system and the AS/SVE system.

The ECs for the outdoor portion of the on-site parcel consist of shallow overburden groundwater well P-2 and two sets of AS/SVE points. The ECs for the indoor portion of the on-site parcel consists of 14 AS points and eight SVE points. The rest of the controls, which include the remaining wells, the water treatment system and the additional AS/SVE points, are located on off-site parcels. The AS/SVE points beneath the asphalt cover on the off-site parcels have been shut down since 2004 to focus the VOC extraction process under and near the buildings located at 190 through 220 Anderson Avenue. There have been no changes to ECs at the Site since the PRR for 2011 was prepared.

# 4

## Evaluation of Remedial Treatment Operations

### 4.1 System Operational Uptime in 2012

The operational uptime percentages are calculated based on actual monthly hours of treatment system operations in the reporting period divided by the potential hours of operation in the reporting period.

Local power outages or equipment failure do affect operation of the remedial treatment system. To limit downtime, the system has an auto-dialer that sends an alarm to the OM&M subcontractor and EEEPC if an equipment failure occurs. In addition, the treatment facility can be called at any time at (585) 241-3431, unless phone service is down, to check on the status of the various operating equipment in the building.

Based on information from the weekly OM&M reports from the subcontractor, in 2012 the overall remedial treatment system operated 8,720 hours out of a possible 8,736 hours, for an uptime operation of approximately 99.8%. Major downtime incidents for various components of the treatment system included the following:

- The air stripper was cleaned on May 18 and 19, 2012, in order to maintain the stripper efficiency; and
- The air stripper was cleaned on November 13, 2012, in order to maintain the stripper efficiency.

Table 4-1 provides details on the monthly operation of the treatment system.

**Table 4-1 Former Davis-Howland Oil Corporation Site Remedial Treatment System Uptime in 2012**

Reporting Period	Reporting Hours/ Maximum Hours	Operational Uptime (%)
December 30, 2011, to January 27, 2012	672/672	100%
January 27, 2012, to February 24, 2012	672/672	100%
February 24, 2012, to March 30, 2012	840/840	100%
March 30, 2012, to April 27, 2012	672/672	100%
April 27, 2012, to May 25, 2012	662/672	99%
May 25, 2012, to June 29, 2012	840/840	100%

#### 4 Evaluation of Remedial Treatment Operations

**Table 4-1 Former Davis-Howland Oil Corporation Site Remedial Treatment System Uptime in 2012**

Reporting Period	Reporting Hours/ Maximum Hours	Operational Uptime (%)
June 29, 2012, to July 26, 2012	648/648	100%
July 26, 2012, to August 31, 2012	864/864	100%
August 31, 2012, to September 28, 2012	672/672	100%
September 28, 2012, to October 27, 2012	696/696	100%
October 27, 2012, to November 30, 2012	810/816	99%
November 30, 2012, to December 28, 2012	672/672	100%
<b>Total Hours of Operation in 2012</b>	<b>8,720/8,736</b>	<b>99.8%</b>

Additional details can be found in the monthly OM&M reports (EEEP 2012a through 2012l).

#### 4.2 Groundwater Processed and Discharged through the Remedial Treatment System in 2012

The amount of groundwater processed and discharged is read directly from the effluent discharge meter located after the air-stripper unit. Readings are taken weekly at the master discharge meter and then calculated for each monthly reporting period.

Based on information obtained from the weekly monitoring reports from the OM&M subcontractor, the remedial treatment system processed and discharged 1,325,000 gallons of treated groundwater to the Monroe County sanitary sewer system from December 30, 2011, to December 28, 2012 (see Table 4-2). The increase in total discharge flow beginning in June 2012 was due to the cleaning of the transfer line from bedrock groundwater pumping well PW-1 to the treatment trailer. Variability in the number of gallons of groundwater treated on a monthly basis is due to several factors, including the number of weeks reported for that month (four or five), seasonal changes in groundwater elevations, and equipment efficiency and maintenance requirements.

**Table 4-2 Groundwater Processed and Discharged by the Remedial Treatment System in 2012**

Month	Actual Period	Gallons Treated
January 2012	12/30/11 to 1/27/12	48,000
February 2012	1/27/12 to 2/24/12	69,000
March 2012	2/24/12 to 3/30/12	66,000
April 2012	3/30/12 to 4/27/12	34,000
May 2012	4/27/12 to 5/25/12	73,000
June 2012	5/25/12 to 6/29/12	156,000
July 2012	6/29/12 to 7/26/12	127,000
August 2012	7/26/12 to 8/31/12	126,000
September 2012	8/31/12 to 9/28/12	192,000

#### 4 Evaluation of Remedial Treatment Operations

**Table 4-2 Groundwater Processed and Discharged by the Remedial Treatment System in 2012**

Month	Actual Period	Gallons Treated
October 2012	9/28/12 to 10/27/12	149,000
November 2012	10/27/12 to 11/30/12	151,000
December 2012	11/30/12 to 12/28/12	134,000
<b>Total Gallons Treated in 2012</b>		<b>1,325,000</b>

The average flow rate while the system was in operation was approximately 2.53 gallons per minute.

### 4.3 Volatile Organic Compounds (VOCs) Removed from Groundwater in 2012 (Air Stripping Operations)

The amount of VOCs removed from the groundwater is estimated based on the influent and effluent analytical results and the amount of groundwater processed through the treatment system. Based on calculations prepared by EEEPC on the operation of the remedial treatment unit from January 2012 to December 2012, approximately 5.34 pounds of VOCs were removed from the groundwater by the air stripper system in 2012 (see Table 4-3). Total VOCs removed from the Site also include 1.99 pounds of VOCs not removed from the groundwater by the air stripper that were discharged to the Monroe County sanitary sewer system. Thus, a total of approximately 7.33 pounds of VOCs were removed from the Site by the groundwater pumping and treatment system during 2012. Additional VOC results are presented in the monthly OM&M reports (EEEPC 2012a through 2012l).

**Table 4-3 VOCs Removed from the Former Davis-Howland Oil Corporation Site Remedial Treatment System in 2012**

Month	Actual Period	Influent VOCs (µg/L)	Effluent VOCs (µg/L)	Removal Efficiency (%)	VOCs Removed by Air Stripper (pounds)	VOCs Removed from Site (pounds)
January 2012	12/30/11 to 1/27/12	186	96	48%	0.04	0.08
February 2012	1/27/12 to 2/24/12	156	86	45%	0.04	0.10
March 2012	2/24/12 to 3/30/12	729	340	53%	0.23	0.42
April 2012	3/30/12 to 4/27/12	253	157	38%	0.03	0.07
May 2012	4/27/12 to 5/25/12	2,648	109	96%	1.66	1.73
June 2012	5/25/12 to 6/29/12	223	51	77%	0.19	0.25
July 2012	6/29/12 to 7/26/12	511	152	70%	0.35	0.50
August 2012	7/26/12 to 8/31/12	458	110	76%	0.41	0.54
September 2012	8/31/12 to 9/28/12	496	248	50%	0.42	0.84
October 2012	9/28/12 to 10/27/12	396	96	76%	0.46	0.61
November 2012	10/27/12 to 11/30/12	585	242	59%	0.67	1.14

#### 4 Evaluation of Remedial Treatment Operations

**Table 4-3 VOCs Removed from the Former Davis-Howland Oil Corporation Site Remedial Treatment System in 2012**

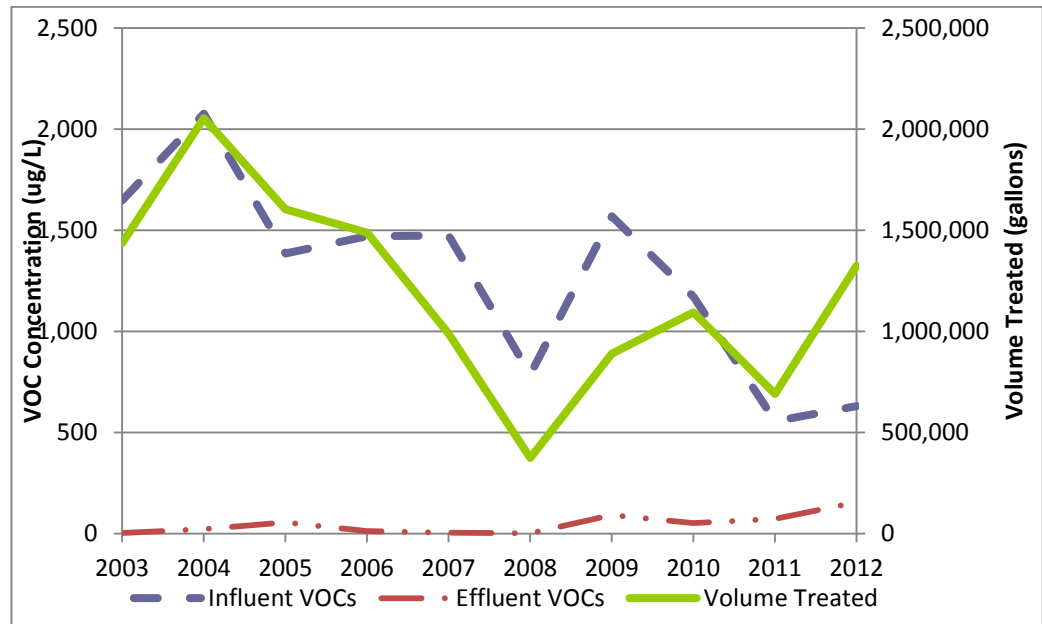
Month	Actual Period	Influent VOCs (µg/L)	Effluent VOCs (µg/L)	Removal Efficiency (%)	VOCs Removed by Air Stripper (pounds)	VOCs Removed from Site (pounds)
December 2012	11/30/12 to 12/28/12	926	184	80%	0.84	1.05
<b>Total</b>					<b>5.34</b>	<b>7.33</b>

Key:

µg/L = Micrograms per liter.

VOC = Volatile organic compound.

Figure 4-1 shows the historical treatment trend for the DHOC Site from 2003 through 2012. Since 2003, the average total VOC concentration in the influent of the system has generally decreased, indicating the contaminant concentration in the extracted groundwater is decreasing.



Notes:

1. Deactivation of the CATOX unit occurred in March 2008, requiring the treatment system to be shut down for five months.
2. Pump rehabilitation/replacement occurred in August 2009.
3. The system was shut down in March 2011 due to damage caused by overflow of the system.

**Figure 4-1 Historical Treatment Trends, 2003-2012**

The increase in flow between 2009 and 2010 was due to the pump rehabilitation/replacement effort in August 2009, which resulted in an increase in the volume of groundwater that was being processed. The decrease in flow between 2010 and 2011 was due to the decrease in production from pumping well PW-1, which developed an obstruction in the transfer line from the well head to the treatment system trailer. This obstruction was cleared in spring 2012, and flows have since increased.

## 4 Evaluation of Remedial Treatment Operations

### 4.4 Groundwater Treatment - 2012

The effluent from the remedial treatment system met the discharge permit requirements (see Appendix B) for each month of 2012. Table 4-4 presents a summary of the monthly analytical results for the treated effluent and compares them to the Monroe County discharge permit criteria.

**Table 4-4 2012 Monthly Compliance Results for Treated Groundwater Effluent, Former Davis-Howland Oil Corporation Site**

Month	Average Effluent (gpm)	pH (SU)	Total Petroleum Hydrocarbons (ppm)	Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (ppm)	Permit Compliance
<b>Discharge Permit Limits</b>	<b>28</b>	<b>5.0-12.0</b>	<b>100</b>	<b>2.13</b>	
January	1.27	7.69	ND	0.096	Yes
February	1.71	7.79	ND	0.081	Yes
March	1.31	7.60	ND	0.30	Yes
April	0.84	7.77	ND	0.16	Yes
May	1.81	8.00	ND	0.11	Yes
June	3.1	8.15	ND	0.05	Yes
July	3.27	8.09	ND	0.15	Yes
August	2.43	8.36	ND	0.11	Yes
September	4.76	8.36	ND	0.25	Yes
October	3.57	8.11	---	0.10 <sup>3</sup>	Yes
November	3.11	8.00	---	0.24 <sup>3</sup>	Yes
December	3.32	8.05	---	0.18 <sup>3</sup>	Yes

Notes:

1. PCBs were removed from the Permit analyte list on October 28, 2008; refer to the SMP (EEEP 2008), Appendix G.
2. System shutdown in March 2011 due to damage caused by overflow of system.
3. Total petroleum hydrocarbons, semivolatile organic compounds (base neutral/acid extractables), and pesticides were removed from the Permit Analyte List in October 2012.

Key:

gpm = gallons per minute  
 ND = not detected  
 ppm = parts per million  
 SU = standard units

# 5

## General Status of Remedial Treatment Equipment Oversight Activities

In 2012, OM&M of the DHOC Site remedial treatment system was performed on a weekly basis by EEEPC's OM&M subcontractor, Popli. In the event of a major component malfunction (resulting in a component shutdown) or a trailer intrusion detection at the Site, an auto-dialer primary contact alarm alerts the OM&M subcontractor of the problem and a secondary alarm alerts EEEPC.

EEEPC provides NYSDEC with a monthly compliance report on the OM&M work performed on the remedial treatment system. When equipment repairs are required, the OM&M subcontractor reports the needed repairs to EEEPC, and EEEPC reports them to NYSDEC. Information regarding repairs performed on the remedial treatment system components is provided in the weekly OM&M reports submitted to EEEPC and in the monthly compliance reports provided to NYSDEC by EEEPC.

Equipment issues are handled on a case-by-case basis. Minor equipment issues such as electronic maintenance, repair, and replacement costs are funded through the contingency task established when the project was initiated. Major equipment issues that are not identified as a component of the contingency task budget are discussed with the NYSDEC project manager, and a corrective action approach is developed. Upon acceptance by NYSDEC, the corrective action is initiated.

Analytical services for the Site are provided by ALS Environmental (formerly Columbia Analytical Services). The analytical testing frequency matrix is provided in Table 5-1.

**Table 5-1 Analytical Frequency Matrix, Former Davis-Howland Oil Corporation Site**

	Groundwater	Air	Schedule
Treatment System (Influent and Effluent)	X	NA	Monthly
Groundwater Monitoring Wells Network	X	NA	Yearly

Key:

NA = Not applicable.

## **5 General Status of Remedial Treatment Equipment Oversight Activities**

### **5.1 Remedial Treatment Condition, Replacement, and Repairs in 2012**

The main components of the remedial treatment system, including the chemical sequestering system, equalization tank, bag filters, blowers, air-stripping unit, and groundwater pumping system, continue to operate at a high rate of efficiency as a result of the weekly monitoring and maintenance program.

The groundwater pumping network remains in working condition. Items that have had significant maintenance requirements over the last few years have been the pumps and the level transducers for the groundwater pumping system. These two active components have been in operation for over 10 years and are subject to harsh conditions. The groundwater pumps and transducers have an anticipated life expectancy of approximately two to three years. Replacement pumps and replacement transducers are, therefore, kept on hand for quick replacement after failure or for pre-emptive replacement. The following non-regular maintenance activities were performed in 2012:

- During the system check on January 27, 2012, it was determined that pump P-1 was not functional. Further investigation revealed that the contactor on the control board was malfunctioning. Replacement parts were ordered and installed on January 30, 2012. During replacement of the electrical components, some minor adjustments were made to the floating length of the “high” and “high-high” float switches. These modifications allowed the equalization tank transfer pump to be restored a higher pumping rate, allowing the groundwater pumps to also be restored to their normal pumping rate.
- The weekly effluent discharge volumes were noted to have decreased starting sometime during the week of March 19, 2012. It was determined that the contactor switch for pump P-1 had tripped, preventing the operation of that pump. The contactor for pump P-1 was noted as having tripped again on April 6, 2012, during the weekly inspection. On May 1, 2012, an electrical contractor examined the electrical system for pump P-1, and it was determined that the Warrick switch for P-1 was malfunctioning. The switch was reset and is inspected on a regular basis. A new switch was ordered so that it would be readily available for replacement if the switch is found to malfunction.
- Extraction of groundwater from pump PW-1 was negligible from January through May 2012. On June 8, 2012, the transfer line from pump PW-1 to the treatment trailer was cleaned with a de-scaler. Extraction of groundwater from PW-1 increased to an average of 31,215 gallons per week following cleaning of the transfer line.
- On August 31, 2012, EEEPC personnel arrived on-site to perform the regular O&M activities. Water was seen flowing from the PW-1 manhole, across the lot, and into the stone ballast adjacent to the CSX railroad tracks. Pump PW-1 was shut down immediately upon identification of the situation in order to facilitate inspection and identification of potential repairs. Upon inspection of

## 5 General Status of Remedial Treatment Equipment Oversight Activities

the system, a hose clamp between the riser on PW-1 and the transfer line to the treatment trailer was found to be broken, resulting in a break in the connection. The hose clamp was replaced, and operation of PW-1 was restarted and observed for proper operation. This event was reported to NYSDEC in the monthly OM&M report submitted on September 4, 2012.

- The 2012 comprehensive groundwater monitoring event was conducted during the week of October 15, 2012. EEEPC personnel were on-site to perform water level measurements and collect samples from the groundwater monitoring well network. The results of the groundwater monitoring event are presented in Section 6.
- The AS compressor was found to be malfunctioning on August 17, 2012. Following receipt of a renewed Work Authorization by NYSDEC, the compressor was removed and taken for repairs/rebuild on October 16, 2012. The repaired compressor was installed and placed back in service on November 26, 2012.

### 5.2 Groundwater Monitoring Well Network Inspection

Long-term groundwater sampling was performed in October 2012. On October 15, 2012, EEEPC conducted brief inspections of shallow and bedrock groundwater monitoring wells. The purpose of these inspections was to document the physical condition of the wells and to identify maintenance actions required to keep the groundwater monitoring well network operational. Based on the inspection, it was determined that the groundwater monitoring wells were in good condition. A summary of the monitoring well inspection findings is presented in Table 5-2.

**Table 5-2 Summary of October 2012 Well Inspection, Former Davis-Howland Oil Corporation Site**

Well Identification	Date Inspected	Well Casing ID (inches)	Inspection Observations
CHI-1	10/17/2012	2	Replaced J-plug
CHI-6	10/17/2012	2	Replaced J-plug
MW-1S	10/17/2012	2	Replaced J-plug
MW-2S	10/17/2012	2	Replaced J-plug
MW-3S	10/17/2012	2	Replaced J-plug; replaced missing well cover
MW-9S	10/17/2012	2	Replaced J-plug
MW-12S	10/17/2012	2	Replaced J-plug
MW-13S	10/17/2012	2	Replaced J-plug
MW-14S	10/17/2012	2	Replaced J-plug
MW-2R	10/17/2012	4	Replaced J-plug
MW-3R	10/17/2012	2	Replaced J-plug; installed new curb box; constructed new well pad
MW-5R	10/17/2012	4	Replaced J-plug
MW-8R	10/17/2012	4	Replaced J-plug
MW-10R	10/17/2012	4	Replaced J-plug
MW-12R	10/17/2012	4	Replaced J-plug
MW-14R	10/17/2012	4	Replaced J-plug

## 5 General Status of Remedial Treatment Equipment Oversight Activities

**Table 5-2 Summary of October 2012 Well Inspection, Former Davis-Howland Oil Corporation Site**

Well Identification	Date Inspected	Well Casing ID (inches)	Inspection Observations
MW-15R	10/17/2012	4	Replaced J-plug
MW-16R	10/17/2012	4	Replaced J-plug; replaced well collar and cap; constructed new well pad

Key:

ID = inner diameter

# 6

## 2012 Groundwater Sampling Event Summary

This section discusses the groundwater monitoring well field activities performed at the Site in October 2012 and compares the results against historical data. Field activities were conducted according to EEEPC's Groundwater Monitoring and Long-term Well Sampling Procedures (Groundwater Sampling Procedures) prepared by EEEPC in 2004 (revised in 2008) and included as Appendix N of the draft SMP (EEEPC 2008). Sampling locations are identified on Figure 1-2. In addition to the revised 2008 Groundwater Sampling Procedures, an addendum to the existing EEEPC Site-specific health and safety plan was prepared and is included as Appendix I of the SMP.

### 6.1 Field Activities

#### 6.1.1 Monitoring Well Sampling

One round of groundwater samples was collected from 16 monitoring wells at the Site from October 16 through 19, 2012. Sampling could not be conducted at two monitoring wells (CHI-1 and CHI-6) that were dry. In addition, samples from five pumping wells were collected from sampling ports located within the on-site treatment trailer by the maintenance contractor (Popli) on November 4, 2012. Non-dedicated sampling equipment was decontaminated in accordance with the Groundwater Sampling Procedures. Purge and decontamination water were handled according to procedures outlined in Section 6.1.2.

Prior to purging, static water levels were measured to within  $\pm 0.01$  foot in each monitoring well using an electronic water-level indicator. The water level and total depth of each well were recorded (see Table 6-1). Note that the suffix "R" in a monitoring well designation (for example, MW-12R) denotes a bedrock well. The suffix "S" denotes a monitoring well that is screened in the shallow overburden groundwater zone.

Monitoring well purging was completed using a submersible pump with new polyethylene tubing or using disposable polyethylene bailers on new polypropylene line. For the five pumping wells, the pumps were turned on manually and allowed to pump groundwater prior to collection of the sample. Measurements of temperature, pH, conductivity, and turbidity (see Table 6-2) and dissolved oxygen and oxidation-reduction potential (see Appendix C) were recorded throughout the well-purging process and immediately prior to sampling). Purging was continued

## 6 2012 Groundwater Sampling Event Summary

until all the groundwater quality parameters except turbidity were stable for three consecutive readings after a minimum of three wells volumes of water had been purged from the wells except for five wells (MW-2R, MW-8R, MW-9S, MW-13S, and MW-16R), which were purged dry and sampled after sufficient recharge had occurred. Appendix C contains copies of the monitoring well purge and sample records obtained during the October 2012 sampling event.

**Table 6-1 October 2012 Groundwater Elevations, Former Davis-Howland Oil Corporation Site, Rochester, New York**

Well ID	Measurement Date	Measured Total Depth (feet TOIC)	Ground Elevation (feet amsl)	TOIC Casing Elevation (feet amsl)	Water Level (feet TOIC)	Groundwater Elevation (feet amsl)
<b>Shallow Overburden Wells</b>						
CHI-1	10/15/2012	4.60	498.54	498.19	DRY	--
CHI-6	10/15/2012	8.01	496.61	497.77	DRY	--
MW-1S	10/15/2012	17.96	500.41	499.72	14.79	484.93
MW-2S	10/15/2012	14.00	496.23	497.48	7.14	490.34
MW-3S	10/15/2012	17.10	498.27	497.46	9.21	488.25
MW-9S	10/15/2012	15.93	498.57	498.01	9.62	488.39
MW-12S	10/15/2012	14.64	496.24	495.33	5.50	489.83
MW-13S	10/15/2012	13.70	496.58	496.95	5.97	490.98
MW-14S	10/15/2012	12.95	495.93	495.16	3.60	491.56
PZ-1	10/15/2012	12.21	497.21	496.92	4.57	492.35
PZ-2	10/15/2012	12.52	497.13	496.87	6.21	490.66
PZ-3	10/15/2012	13.49	497.87	497.56	10.79	486.77
PZ-4	10/15/2012	11.50	497.76	497.22	9.41	487.81
PZ-5	10/15/2012	12.07	498.41	497.80	8.80	489.00
PZ-6	10/15/2012	11.52	499.21	498.72	9.81	488.91
<b>Deep Bedrock Wells</b>						
MW-2R	10/15/2012	26.62	496.43	497.54	21.17	476.37
MW-3R	10/15/2012	38.65	498.43	497.74	21.36	476.38
MW-5R	10/15/2012	34.80	499.11	498.23	21.95	476.28
MW-8R	10/15/2012	36.34	497.1	497.64	22.94	474.70
MW-10R	10/15/2012	35.59	498.35	497.44	19.46	477.98
MW-12R	10/15/2012	31.97	496.26	495.42	21.05	474.37
MW-14R	10/15/2012	23.75	495.97	495.18	6.81	488.37
MW-15R	10/15/2012	30.30	494.96	494.14	14.39	479.75
MW-16R	10/15/2012	31.20	493.89	493.04	18.73	474.31

Key:

amsl = above mean sea level  
TOIC = top of inner casing

## 6 2012 Groundwater Sampling Event Summary

**Table 6-2 Summary of Groundwater Quality Field Measurements, Former Davis-Howland Oil Corporation Site, Rochester, New York**

Well ID	Sample Date	pH (s.u.)	Temperature (°C)	Conductivity (µS/cm)	Unfiltered Turbidity (NTUs)
<b>Overburden Wells</b>					
MW-1S	10/17/2012	7.04	15.05	1,275	1.62
MW-2S	10/18/2012	6.79	20.5	1,582	0.50
MW-3S	10/16/2012	7.00	18.3	859.7	0.38
MW-9S	10/19/2012	7.19	19.3	900.4	>1,000
MW-12S	10/18/2012	6.90	17.05	1,004	1.13
MW-13S	10/18/2012	7.95	17.5	783.6	>1,000
MW-14S	10/17/2012	7.06	19.2	617.1	0.78
<b>Bedrock Wells</b>					
MW-2R	10/18/2012	7.30	16.9	1,550	10.90
MW-3R	10/16/2012	7.22	15.5	1,481	0.13
MW-5R	10/19/2012	7.32	15.3	2,079	0.72
MW-8R	10/18/2012	7.19	17.1	1,989	32.90
MW-10R	10/17/2012	7.29	14.4	932.1	0.97
MW-12R	10/18/2012	7.37	15.4	863.4	0.13
MW-14R	10/17/2012	7.50	16.4	1,137	0.29
MW-15R	10/16/2012	7.09	13.5	1,092	0.50
MW-16R	10/16/2012	7.19	13.8	1,320	>1,000

Key:

- °C = degrees Celsius
- µS/cm = microSiemens per centimeter
- NTU = Nephelometric turbidity unit.
- s.u. = standard units

Upon collection, all samples were labeled and immediately placed in a cooler maintained with ice at 4 °C. The samples were then packaged and the cooler was driven to the laboratory with chain-of-custody documents prepared in accordance with the Groundwater Sampling Procedures. All monitoring well groundwater samples were submitted to ALS Environmental (formerly Columbia Analytical Services) for VOC analysis by United States Environmental Protection Agency (EPA) Method 601, SVOCs by EPA Method 625, and pH by EPA Method 150.1. The pumping well groundwater samples were submitted to ALS Environmental for VOC analysis by EPA Method 624, with pH and temperature by EPA Method SM 4500H.

In addition to the environmental samples, quality assurance/quality control (QA/QC) samples were collected. Trip blanks accompanied every shipment for VOC analysis to check for the possible introduction of VOCs from the time the samples were collected to the time they were analyzed. All sample portions for VOCs collected on a single day were transported in the same cooler. To check consistency in both sample collection and sample analysis, duplicate samples were collected. Duplicate samples were collected at a rate of approximately one per 20 field samples. The duplicate sample (MW-10RQ) consisted of aliquots of sample media placed in separate sample containers and labeled as separate samples. Additionally, a matrix spike/matrix spike duplicate (MS/MSD) sample

(MW-2S) was collected to simulate the background effect and interferences found in the actual samples. The calculated percent recovery of the spike is used as a measure of the accuracy of the total analytical method. MS/MSD samples were also collected at a rate of one per 20 field samples. QA/QC data were reviewed by an EEEPC chemist and a Data Usability Summary Report (DUSR) was prepared (see Appendix C). Data qualifiers were applied as described in the DUSR and incorporated into the data summary tables.

### **6.1.2 Investigation-Derived Waste Management**

All investigation-derived waste (IDW) generated during this investigation was handled according to procedures outlined in EEEPC's Groundwater Sampling Procedures. Three types of IDW were generated: purged groundwater, decontamination water, and expendable materials, including personal protective equipment (PPE). Purged and decontamination water was filtered or left undisturbed to allow the solids to settle out of suspension. The low turbidity water was then placed into the equalization tank of the on-site groundwater treatment system.

All expendable PPE generated during the investigation (including gloves and plastic sheeting) was double-bagged and placed in an industrial dumpster for off-site disposal in a licensed landfill.

## **6.2 Site Hydrogeology**

The Site is situated on alluvial organic silt and sand overlaying glacial till deposits and lacustrine sand and silt of varying thickness. Bedrock beneath the Site is the Penfield Dolostone of the Middle Silurian Lockport Group and is encountered about 15 to 27 feet BGS.

Two groundwater aquifers have been identified beneath the Site: a shallow overburden aquifer and an upper bedrock aquifer. These aquifers are not listed by the EPA as sole-source aquifers (Lawler, Matusky & Skelly Engineers, LLP and Galson/Lozier Engineers 1996). A summary of each water-bearing zone is provided below.

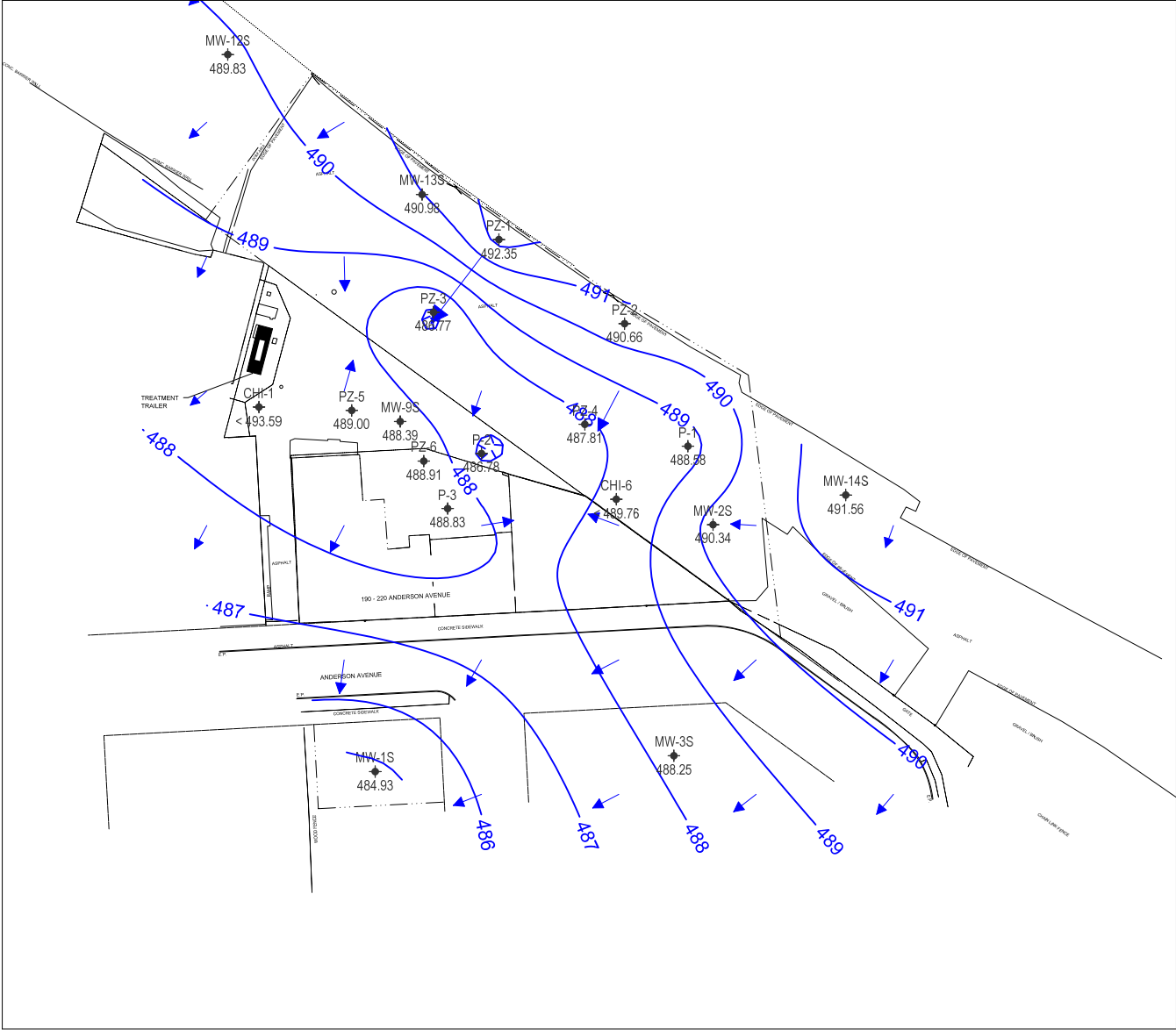
### **6.2.1 Overburden Aquifer**

Historically, groundwater flow direction at the Site has been observed to be highly variable. In 1997, a flow divide existed near the railroad tracks, resulting in groundwater flow to the northeast, southeast, southwest, and south. In 2004, groundwater flow was observed to travel northeast across the Site, while in August 2007 it was observed to travel southwest from a high area along the railroad tracks (EEEPC 2007). The overburden groundwater flow in 2009 through 2011 was observed to be primarily toward the south and west (EEEPC 2009, 2010).

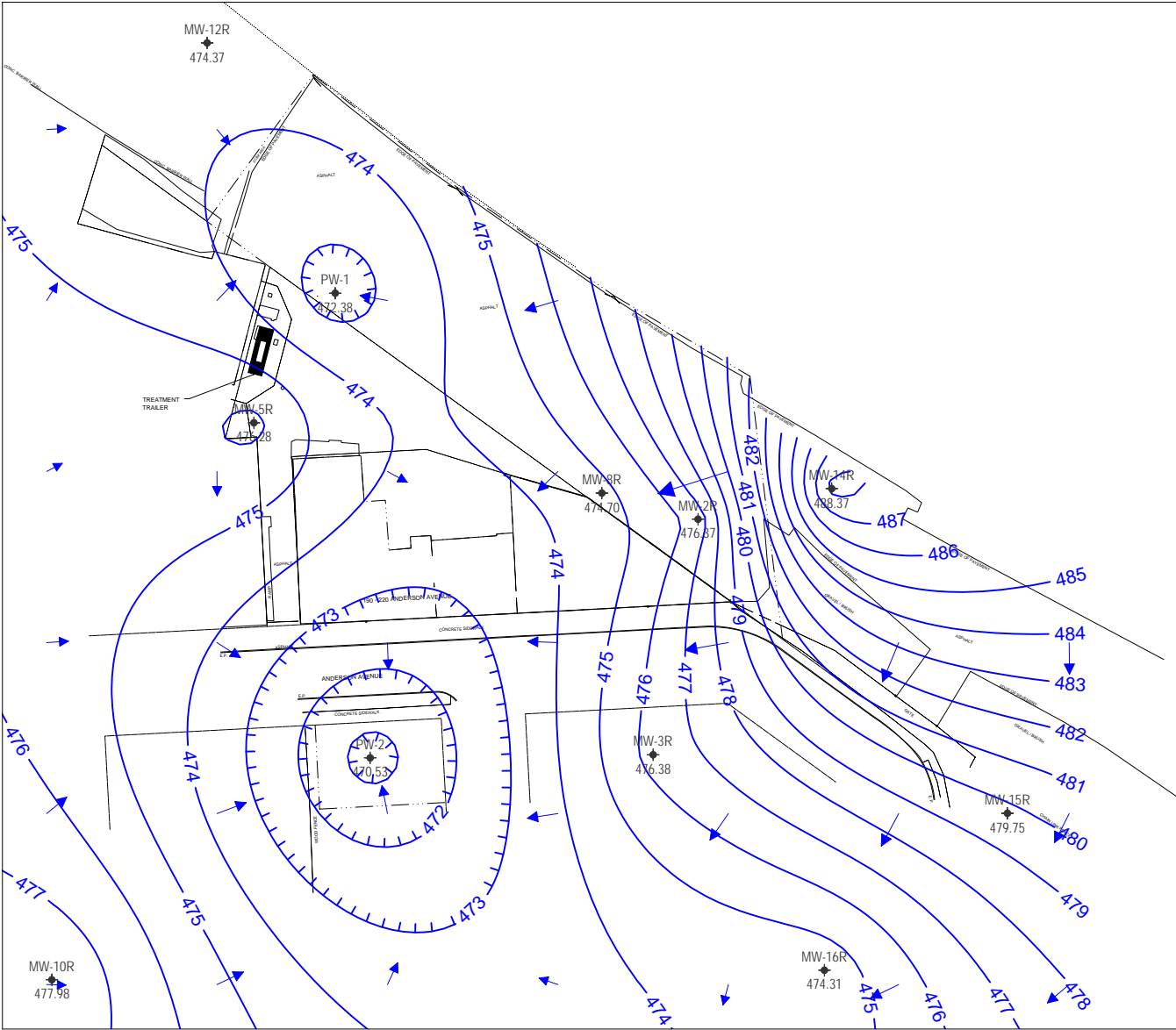
As shown on Figure 6-1, overburden groundwater flow in October 2012 was once again primarily toward the southwest corner of the Site (MW-1S), with localized groundwater sinks in the middle of the Site, near P-2 and PZ-3. The horizontal gradient at the Site generally ranges from 0.018 feet per foot (ft/ft) (between MW-3S and MW-1S) to 0.020 ft/ft (between MW-14S and MW-1S). These



**Groundwater Elevation Isopleths  
Overburden Monitoring Wells**



**Groundwater Elevation Isopleths  
Bedrock Monitoring Wells**



- Notes:
- 1) Groundwater elevations measured October 15, 2012.
  - 2) Overburden pumping wells, P-1, P-2, and P-3 and bedrock pumping wells PW-1 and PW-2 were left in automatic mode during the measurement period. Elevations for these wells represents the mid-point between the "Pump On" and "Pump Off" levels.

Groundwater Flow Direction  
and Relative Magnitude of Gradient



**FIGURE 6-1**  
Groundwater Elevation Isopleths  
Overburden and Bedrock Monitoring Wells  
October 2012  
Former Davis-Howland Oil Corporation Site  
Rochester, NY

results are similar to the horizontal gradients calculated in 2011, which ranged from 0.013 to 0.031 ft/ft.

### **6.2.2 Bedrock Aquifer**

Historically, bedrock groundwater flow direction at the Site has generally been more consistent than that in the overburden. In 1997 and 2004, groundwater flow was observed to be radially outward from a mound beneath the Site, with the primary flow directions to the northeast and southeast (EEEEPC 2004). In 2007, 2009, 2010, and 2011, groundwater flow in the bedrock aquifer appeared to be more variable, with radial flow from high areas on the west (near MW-5R) and east (near MW-14R/MW-15R) sides of the Site and a groundwater sink near MW-2R (EEEEPC 2007).

As shown on Figure 6-1, the primary bedrock groundwater flow direction for the majority of the Site in October 2012 was radially towards bedrock groundwater pumping wells PW-1 and PW-2. The decrease in bedrock groundwater elevations surrounding pumping well PW-1 may be due to the rehabilitation of pumping well PW-1 and subsequent increase in the volume of groundwater pumped from that location. A groundwater mound was observed in the vicinity of MW-14R. On the western half of the Site, the horizontal gradient toward PW-2 was about 0.0324 ft/ft (between MW-10R and PW-2), while the horizontal gradient towards PW-2 on the eastern half of the site ranged from 0.034 ft/ft (between MW-3R and PW-2) to 0.057 ft/ft (between MW-14R and PW-2). The horizontal gradient toward PW-1 in the northern part of the Site was about 0.012 ft/ft (between MW-12R and PW-1).

## **6.3 Analytical Results**

This section presents the analytical results for the October 2012 groundwater samples collected at the DHOC Site and compares them to historical results. The October 2012 laboratory results of detected contaminants for overburden monitoring wells are presented in Table 6-3, the detected contaminants for bedrock monitoring wells are presented Table 6-4, and the detected contaminants for pumping wells are presented Table 6-5. Groundwater sample results discussed below were compared to the NYSDEC Technical and Operational Guidance Series 1.1.1, Class GA Drinking Water Standards and Guidance Values (NYSDEC 1998). The complete laboratory report for the October 2012 sampling event is provided in Appendix C.

### **6.3.1 Overburden Groundwater Results**

#### **VOCs**

Ten different VOCs were detected in one or more groundwater samples from overburden wells, all of which are chlorinated VOCs (cVOCs): tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA) and their degradation byproducts; and dichlorobenzene (DCB) isomers. No petroleum hydrocarbons such as benzene, toluene, ethylbenzene, or xylenes (BTEX) were detected in any of the overburden groundwater samples.

**Table 6-3 Summary of Positive Analytical Results for Groundwater Samples in Overburden Wells, Davis Howland Oil Company Site, Rochester, New York**

Analyte	Screening Criteria <sup>(1)</sup>	Sample ID and Date						
		MW-1S	MW-2S	MW-3S	MW-9S	MW-12S	MW-13S	MW-14S
		10/17/12	10/18/12	10/16/12	10/19/12	10/18/12	10/18/12	10/17/12
VOCs by Method E601.2 (µg/L)								
1,1,1-TRICHLOROETHANE	5	3.4	0.36 U	0.14 UJ	3.7	0.36 U	0.36 U	0.36 U
1,1-DICHLOROETHANE	5	0.28 U	1.7	0.13 UJ	16	0.28 U	1.3	0.28 U
1,1-DICHLOROETHENE	5	0.41 U	0.41 U	0.11 UJ	0.41 U	0.41 U	0.41 U	0.41 U
1,2-DICHLOROBENZENE	3	0.16 U	0.16 U	0.27 UJ	49	0.16 U	0.16 U	0.16 U
1,3-DICHLOROBENZENE	3	0.21 U	0.21 U	0.21 UJ	1.2	0.21 U	0.21 U	0.21 U
BENZENE	1	0.26 U	0.26 U	0.08 UJ	0.26 U	0.26 U	0.26 U	0.26 U
CIS-1,2-DICHLOROETHENE	5	34	0.23 U	0.13 UJ	51	5.6	30	0.23 U
ETHYLBENZENE	5	0.28 U	0.28 U	0.07 UJ	0.28 U	0.28 U	0.28 U	0.28 U
M,P-XYLENE (SUM OF ISOMERS)	NA	0.58 U	0.58 U	0.14 UJ	0.58 U	0.58 U	0.58 U	0.58 U
O-XYLENE (1,2-DIMETHYLBENZENE)	5	0.24 U	0.24 U	0.08 UJ	0.24 U	0.24 U	0.24 U	0.24 U
TETRACHLOROETHENE (PCE)	5	4.4	0.39 U	0.12 UJ	22	0.39 U	0.39 U	0.39 U
TOLUENE	5	0.31 U	0.31 U	0.07 UJ	0.31 U	0.31 U	0.31 U	0.31 U
TRANS-1,2-DICHLOROETHENE	5	0.33 U	0.33 U	0.11 UJ	3.1	0.33 U	0.33 U	0.33 U
TRICHLOROETHENE (TCE)	5	26	0.35 U	0.1 UJ	30	7.8	0.35 U	4.2
VINYL CHLORIDE	2	0.43U	0.43U	0.17 UJ	19	0.43U	1.8	0.43U
TOTAL CHLORINATED VOCs	NA	67.8	1.7	0	195	13.4	33.1	4.2
SVOCs by Method E625 (µg/L)								
BENZO(A)PYRENE	ND	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BENZO(B)FLUORANTHENE	0.002	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BENZO(G,H,I)PERYLENE	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CHRYSENE	0.002	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
FLUORANTHENE	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
PYRENE	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
pH by Method SM 4500-H (SU)								
PH	NA	6.98	6.78	6.88	7.14	6.81	7.34	6.90

Notes:

1. New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.

2. Shaded cells exceed the screening value.

3. Bold values denote positive hits.

Key:

(g) = Guidance value (no applicable standard).

J = Estimated value.

ug/L = Micrograms per liter.

ND = NYSDEC Class GA standard for this compound is a "not detectable concentration".

Q Designates field duplicate sample.

SU = Standard Units.

UR = Not detected/Rejected Value.

NA = Not analyzed.

U = Not detected (lab reporting limit shown).

\*C = Degrees Centigrade.

-- = Analyte not analyzed for.

UJ = Not detected/Estimated Value.

VOCs = Volatile organic compounds.

**Table 6-4 Summary of Positive Analytical Results for Groundwater Samples in Bedrock Wells, Davis Howland Oil Company Site, Rochester, New York**

Analyte	Screening Criteria <sup>(1)</sup>	Sample ID and Date									
		MW-2R	MW-3R	MW-5R	MW-8R	MW-10R	MW-10RQ	MW-12R	MW-14R	MW-15R	MW-16R
		10/18/12	10/16/12	10/19/12	10/18/12	10/17/12	10/17/12	10/18/12	10/17/12	10/16/12	10/16/12
VOCs by Method E601.2 (µg/L)											
1,1,1-TRICHLOROETHANE	5	0.36 U	1.3	3.6 U	7.2 U	3.6 U	3.6 U	0.36 U	0.36 U	0.36 U	0.36 U
1,1-DICHLOROETHANE	5	25	23	74	150	2.9 U	2.9 U	0.28 U	0.28 U	0.28 U	7.4
1,1-DICHLOROETHENE	5	8.3	7.1	4.1 U	56	15	19	0.41 U	0.41 U	0.41 U	2.6
1,2-DICHLOROBENZENE	3	0.16 U	0.16 U	1.6 U	3.2 U	1.6 U	1.6 U	0.16 U	0.16 U	0.16 U	0.16 U
1,3-DICHLOROBENZENE	3	0.21 U	0.21 U	2.1 U	4.2 U	2.1 U	2.1 U	0.21 U	0.21 U	0.21 U	0.21 U
BENZENE	1	0.26 U	0.26 U	32	5.2 U	2.6 U	2.6 U	0.26 U	0.26 U	0.26 U	0.26 U
ETHYLBENZENE	5	0.28 U	0.28 U	2.9 U	5.7 U	2.9 U	2.9 U	0.28 U	0.28 U	0.28 U	0.28 U
M,P-XYLENE (SUM OF ISOMERS)	NA	0.58 U	0.58 U	5.8 U	12 U	5.8 U	5.8 U	0.58 U	0.58 U	0.58 U	0.58 U
O-XYLENE (1,2-DIMETHYLBENZENE)	5	0.24 U	0.24 U	2.4 U	4.8 U	2.4 U	2.4 U	0.24 U	0.24 U	0.24 U	0.24 U
TETRACHLOROETHENE (PCE)	5	0.39 U	0.39 U	4.0 U	7.9 U	4.0 U	4.0 U	0.39 U	0.39 U	0.39 U	0.39 U
TOLUENE	5	0.31 U	0.31 U	3.1 U	6.2 U	3.1 U	3.1 U	0.31 U	0.31 U	0.31 U	0.31 U
TRANS-1,2-DICHLOROETHENE	5	3.9	4.0	3.4 U	6.7 U	3.4 U	3.4 U	0.33 U	3.5	0.33 U	2.2
TRICHLOROETHENE (TCE)	5	0.35 U	14	26	7.0 U	1400	1300	0.35 U	49	2.0	1.2
VINYL CHLORIDE	2	260	95	350	800	4.3 U	4.3 U	0.43U	1.0	1.4	62
TOTAL CHLORINATED VOCs	NA	937	530	1,220	5,606	1452	1358	0	59.3	10.7	205
SVOCs by Method E625 (µg/L)											
BENZO(A)PYRENE	ND	4.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BENZO(B)FLUORANTHENE	0.002	5.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BENZO(G,H,I)PERYLENE	NA	4.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CHRYSENE	0.002	5.7	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
FLUORANTHENE	50	11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
PYRENE	50	8.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
pH by Method SM 4500-H (SU)											
PH	NA	7.39	7.15	7.32	7.11	7.17	7.21	7.18	7.35	7.07	7.14

Notes:

1. New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1 *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.
2. Shaded cells exceed the screening value.
3. Bold values denote positive hits.

Key:

-- = Analyte not analyzed for.

J = Estimated value.

ug/L = Micrograms per liter.

NA = Not analyzed.

ND = NYSDEC Class GA standard for this compound is a "not detectable concentration".

Q Designates field duplicate sample.

U = Not detected (lab reporting limit shown).

VOCs = Volatile organic compounds.

**Table 6-5 Summary of Positive Analytical Results for Groundwater Samples in Pumping Wells, Davis Howland Oil Company Site, Rochester, New York**

Analyte	Screening Criteria <sup>(1)</sup>	Sample ID and Date				
		P-1	P-2	P-3	PW-1	PW-2
		11/02/12	11/02/12	11/02/12	11/02/12	11/02/12
VOCs by Method E624 (µg/L)						
1,1,1-TRICHLOROETHANE	5	2.3 J	44 J	750 J	0.90 UJ	2.6 J
1,1,2-TRICHLOROETHANE	1	0.21 UJ	0.21 UJ	1.2 J	1.1 UJ	0.42 UJ
1,1-DICHLOROETHANE	5	9.4 J	200 J	150 J	40 J	12 J
1,1-DICHLOROETHENE	5	2.0 J	19 J	65 J	12 J	2.7 J
1,2-DICHLOROBENZENE	3	0.22 UJ	0.22 UJ	1.6 J	1.1 UJ	0.44 UJ
1,4-DICHLOROBENZENE	3	0.23 UJ	0.23 UJ	2.0 J	1.2 UJ	0.46 UJ
BENZENE	1	0.17 UJ	1.7 J	1.5 J	0.86 UJ	0.34 UJ
CARBON TETRACHLORIDE	5	0.24 UJ	0.24 UJ	1.7 J	1.2 UJ	0.48 UJ
CHLOROFORM	7	0.14 UJ	0.14 UJ	12 J	0.71 UJ	0.28 UJ
CIS-1,2-DICHLOROETHENE	5	100 J	1500 J	5600 J	860 J	200 J
TETRACHLOROETHENE (PCE)	5	17 J	180 J	2100 J	1.2 UJ	4.5 J
TRANS-1,2-DICHLOROETHENE	5	0.19 UJ	21 J	5.9 J	0.95 UJ	0.38 UJ
TRICHLOROETHENE (TCE)	5	43 J	92 J	920 J	46 J	19 J
VINYL CHLORIDE	2	2.4 J	990 J	3.7 J	160 J	9.2 J
TOTAL CHLORINATED VOCs	NA	176	3,046	9,613	1,118	250
pH by Method SM 4500-H (SU)						
PH	NA	7.01	6.84	7.15	7.20	7.15
Temperature by Method SM 4500-H (°C)						
TEMPERATURE	NA	18.1	18	17.9	18.1	18

Notes:

1. New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* , 1998 (with updates), Class GA Groundwater Standards and Guidance Values.
2. Shaded cells exceed the screening value.
3. Bold values denote positive hits.

Key:

°C = Degrees Centigrade.

ug/L = Micrograms per liter.

UJ = Not detected/Estimated Value.

SU = Standard Units.

VOCs = Volatile organic compounds.

Six VOCs were detected at levels that exceed NYSDEC Class GA groundwater standards. These chemicals and their maximum concentrations in overburden groundwater samples included:

- 1,1-dichloroethane (DCA) (16 micrograms per liter [ $\mu\text{g/L}$ ])
- 1,2-dichlorobenzene (49  $\mu\text{g/L}$ )
- cis-1,2-dichloroethene (DCE) (51  $\mu\text{g/L}$ )
- PCE (22  $\mu\text{g/L}$ )
- TCE (30  $\mu\text{g/L}$ )
- Vinyl chloride (19  $\mu\text{g/L}$ )

The maximum total cVOC concentration detected in the overburden groundwater samples was 195  $\mu\text{g/L}$  in a sample collected from MW-9S.

### **Semivolatile Organic Compounds**

No SVOCs were detected in the overburden groundwater samples.

## **6.3.2 Bedrock Groundwater Results**

### **VOCs**

Eight different VOCs were detected in one or more groundwater samples from bedrock monitoring wells, including cVOCs (TCE, TCA, and their degradation byproducts) and benzene.

Six VOCs were detected at levels that exceed NYSDEC Class GA groundwater standards. These chemicals and their maximum concentrations in bedrock groundwater samples included:

- 1,1-DCA (150  $\mu\text{g/L}$ )
- 1,1-DCE (56  $\mu\text{g/L}$ )
- Benzene (32  $\mu\text{g/L}$ )
- cis-1,2-DCE (4,600  $\mu\text{g/L}$ )
- TCE (1,400  $\mu\text{g/L}$ )
- Vinyl chloride (800  $\mu\text{g/L}$ )

The maximum total cVOC concentration detected in bedrock groundwater samples was 5,606  $\mu\text{g/L}$  in MW-8R, primarily due to 4,600  $\mu\text{g/L}$  of cis-1,2-DCE.

### **Semivolatile Organic Compounds**

Six different SVOCs were detected in the groundwater sample from MW-2R; no SVOCs were detected in any of the other bedrock groundwater samples. Two SVOCs were detected at levels that exceed NYSDEC Class GA groundwater standards: benzo(b)fluoranthene at 5.0  $\mu\text{g/L}$  and chrysene at 5.7  $\mu\text{g/L}$ .

### **6.3.3 Pumping Wells Groundwater Results**

#### **VOCs**

Fourteen different VOCs were detected in one or more groundwater samples from the five pumping well samples, most of which are cVOCs or benzene.

Eleven of the VOCs were detected at levels that exceed NYSDEC Class GA groundwater standards. The maximum total cVOC concentration detected in an overburden pumping well sample was 9,613 µg/L at P-3, and the maximum total cVOC concentration detected in a bedrock pumping well sample was 1,118 µg/L at PW-1.

#### **6.3.4 Comparison with Historical Analytical Data**

The October 2012 concentration isopleths of BTEX and cVOCs in the overburden and bedrock groundwater samples are presented on Figures 6-2 and 6-3, respectively. Tables 6-6 and 6-7 present comparisons of the historical BTEX and cVOC data with the data from samples collected in October 2012. The following is a summary of the findings:

- Overall, total BTEX concentrations in the overburden have decreased significantly since 1998, with no BTEX contamination being detected in the seven overburden wells since 2009. In 1997 and 1998, significant concentrations of BTEX were detected in overburden wells MW-9S (1,420 µg/L and 4,688 µg/L) and MW-13S (10,560 µg/L and 9,440 µg/L).
- BTEX concentrations in the bedrock groundwater have also generally decreased since 1997. Total BTEX has been detected in five of the nine bedrock wells at the Site, with the highest concentrations in 1997 found at MW-5R (200 µg/L) and MW-8R (126 µg/L). Since 1997, BTEX concentrations have decreased to the point where only one bedrock well (MW-5R) had detectable concentrations of BTEX in 2012 (32 µg/L).
- Overall, cVOC concentrations in the overburden wells have decreased significantly since 1997, when significant concentrations were detected in overburden wells MW-9S (6,278 µg/L) and MW-13S (35,980 µg/L). The highest concentrations of cVOCs were detected in 1998 (14,810 µg/L in MW-9S and 40,060 µg/L in MW-13S), with cVOC concentrations significantly decreasing between 1998 and 2004. However, while the number of wells with detectable levels of cVOCs have ranged from three to six wells since 2007, the overall cVOC concentrations at the Site have consistently remained between non-detect and 150 µg/L.

## 6 2012 Groundwater Sampling Event Summary

- Overall, cVOC concentrations in the bedrock wells have decreased by about 40% since 1997, when significant concentrations ( $>1,000 \mu\text{g/L}$ ) were detected in six of the nine of the wells (MW-2R, MW-3R, MW-5R, MW-8R, MW-10R, and MW-16R). Except for the low levels detected in 2010, since 2004 the combined values of the total cVOC concentrations in the nine monitoring wells have generally ranged from approximately 9,000 to 10,000  $\mu\text{g/L}$ . MW-8R continues to exhibit the highest cVOC concentration (5,606  $\mu\text{g/L}$  in 2012), which consists primarily of cis-1,2-DCE.

**Table 6-6 Historical Total BTEX Results for Overburden Monitoring Wells**

Well ID	Sample Date							
	2012	2011	2010	2009	2007	2004	1998	1997
<b>Overburden Monitoring Wells</b>								
MW-1S	ND	ND	ND	ND	ND	ND	ND	ND
MW-2S	ND	ND	ND	ND	ND	ND	ND	ND
MW-3S	ND	ND	ND	ND	ND	ND	ND	2
MW-9S	ND	ND	ND	ND	2	2	4,688	1,420
MW-12S	ND	ND	ND	ND	ND	ND	ND	ND
MW-13S	ND	ND	ND	ND	ND	0	9,440	10,560
MW-14S	ND	ND	ND	ND	ND	ND	ND	ND
<b>Bedrock Monitoring Wells</b>								
MW-2R	ND	5	ND	ND	NA	1	NA	ND
MW-3R	ND	ND	ND	ND	ND	20	ND	ND
MW-5R	32	45	45	3	15	71	42	200
MW-8R	ND	ND	ND	ND	21	18	NA	126
MW-10R	ND	ND	ND	ND	ND	ND	ND	ND
MW-12R	ND	ND	ND	ND	ND	ND	NA	4
MW-14R	ND	ND	ND	ND	ND	ND	ND	ND
MW-15R	ND	ND	ND	ND	ND	ND	NA	ND
MW-16R	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

Analytical results are all in ug/L.

Key:

ND = Not detected

**Table 6-7 Historical Total Chlorinated VOCs Results for Overburden Monitoring Wells**

Well ID	Sample Date							
	2012	2011	2010	2009	2007	2004	1998	1997
<b>Overburden Monitoring Wells</b>								
MW-1S	68	67	N/A	45	98	407	122	19
MW-2S	2	2	1	ND	1	ND	NA	3
MW-3S	ND	ND	ND	ND	5	ND	ND	ND
MW-9S	145	139	142	92	48	32	14,810	6,278
MW-12S	13	ND	ND	ND	4	ND	6	29
MW-13S	33	ND	19	4	69	41	40,060	35,980
MW-14S	4	ND	ND	ND	0	ND	2	4
<b>Bedrock Monitoring Wells</b>								
MW-2R	937	1,190	239	Dry	NA	942	NA	2,127
MW-3R	534	962	407	1,627	3,309	1,233	4,306	3,152
MW-5R	1,220	158	1,359	214	2,700	1,126	4,229	5,184
MW-8R	5,606	5,680	540	5,830	4,251	3,834	NA	2,575
MW-10R	1,452	1,379	160	1,242	1,633	1,179	3,038	2,319
MW-12R	ND	45	35	66	75	22	NA	274
MW-14R	59	61	54	45	67	17	50	22
MW-15R	11	11	6	5	7	8	NA	35
MW-16R	205	222	48	317	248	257	2,441	1,093

Notes:

Analytical results are all in ug/L.

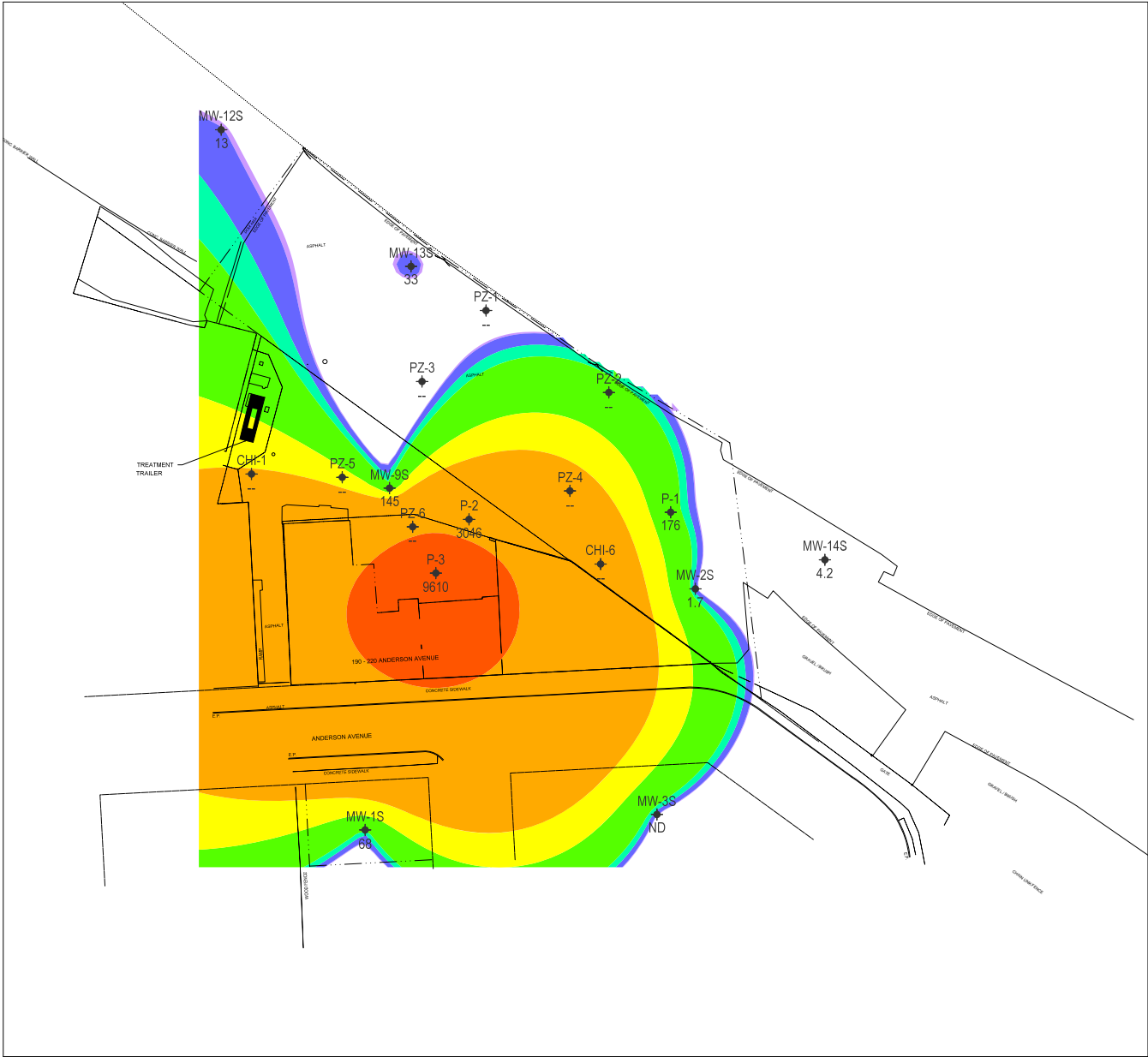
Key:

NA = Not analyzed

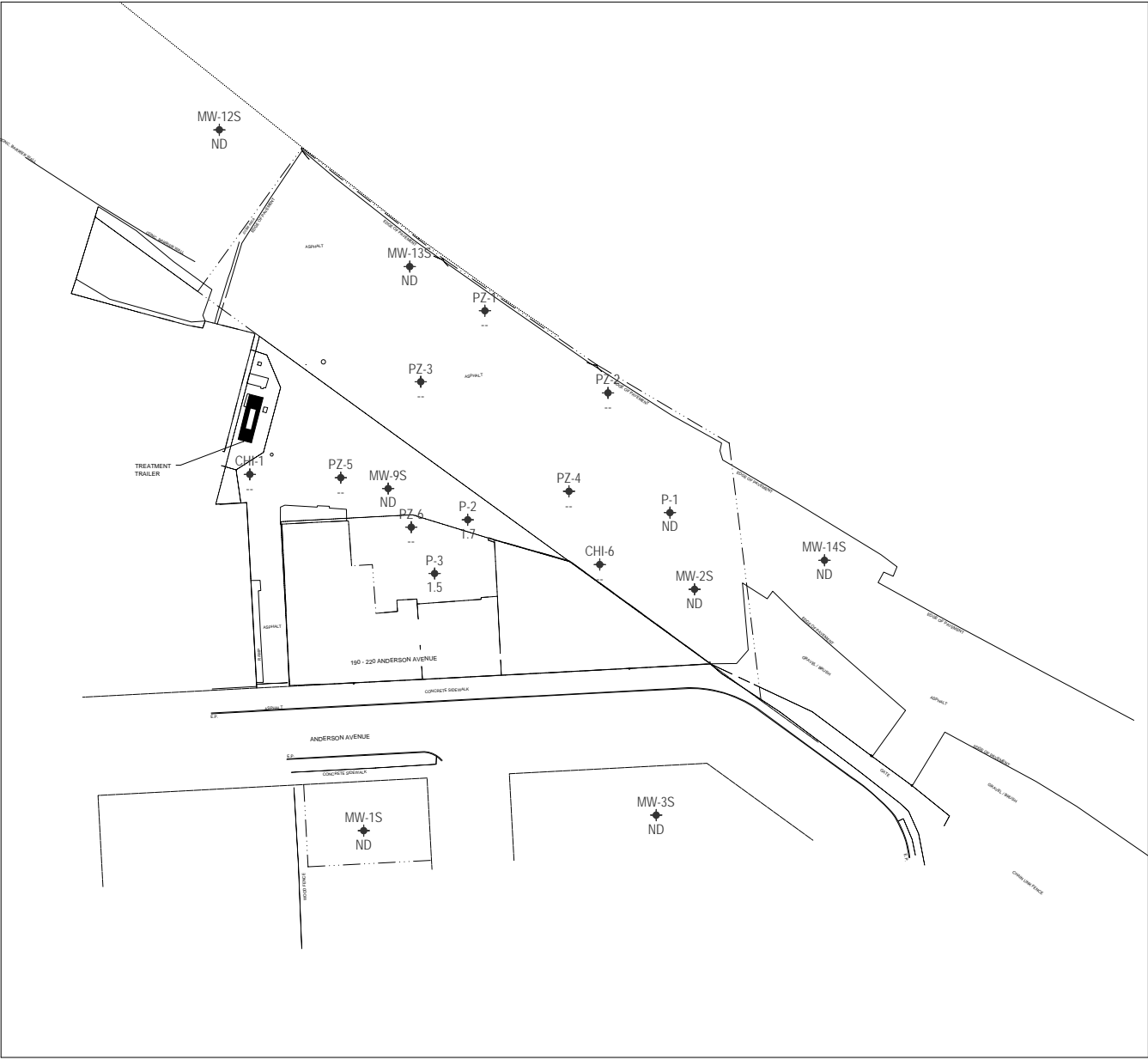
ND = Not detected



Total Chlorinated VOC Concentrations (µg/L)



Total BTEX Concentrations (µg/L)



Notes:

- 1) BTEX = sum of benzene, toluene, ethylbenzene, and xylene isomers (only benzene was detected in P-1 and P-2 in 2012).
- 2) VOC = volatile organic compound.
- 3) Chlorinated VOCs include all chlorinated aliphatic hydrocarbons detected. Other VOCs detected but not presented on this figure include chlorinated aromatics (e.g., dichlorobenzenes) in MW-9S and P-3 only.
- 4) ND = not detected.
- 5) -- = not sampled.

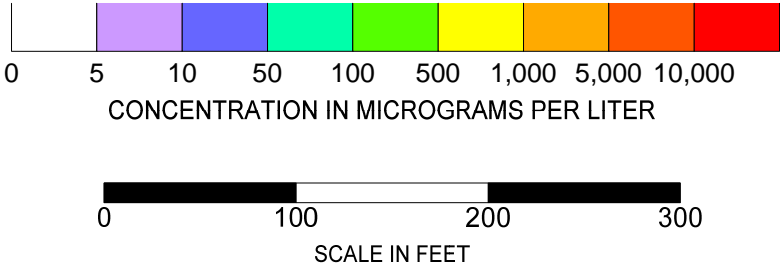
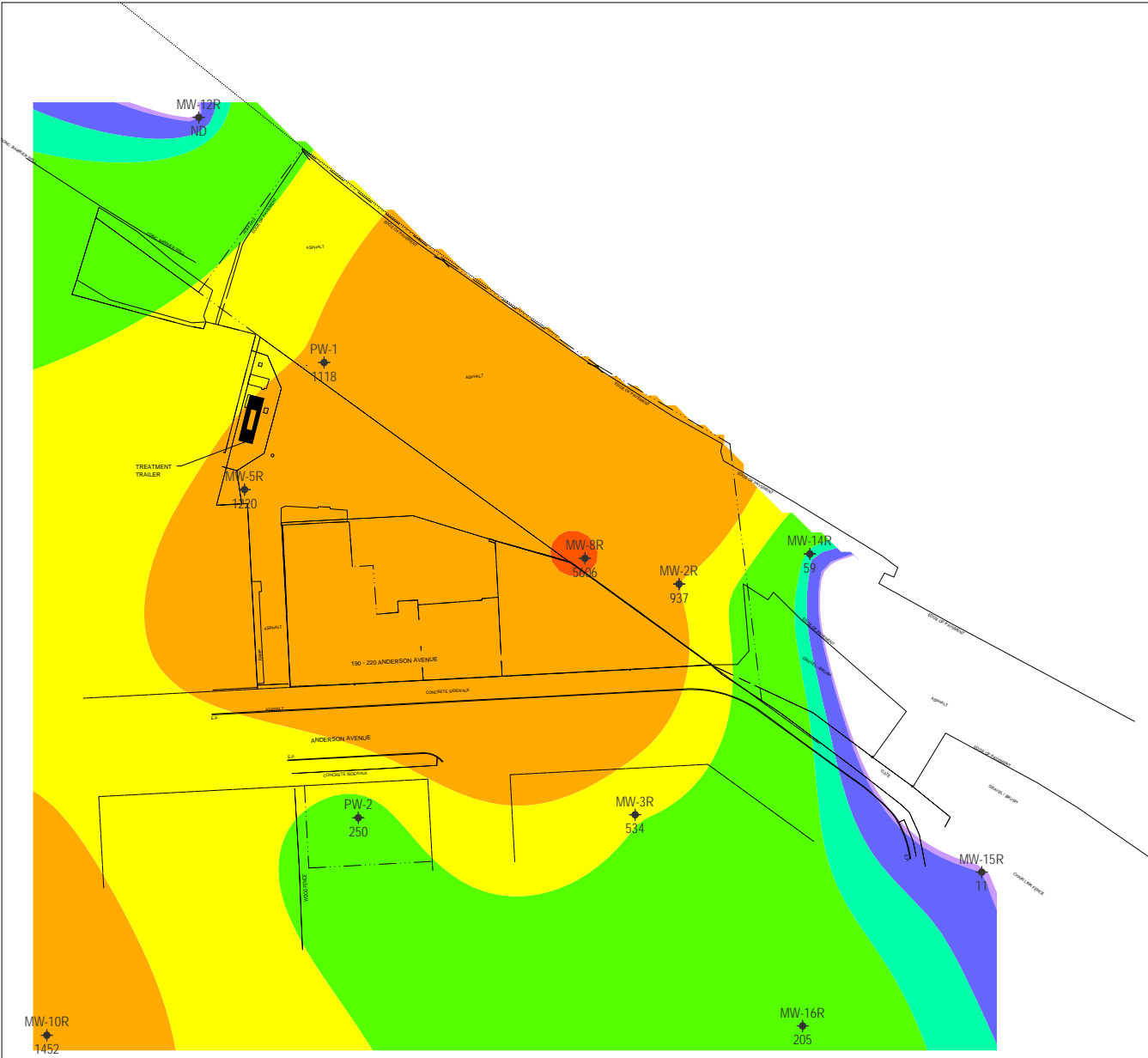


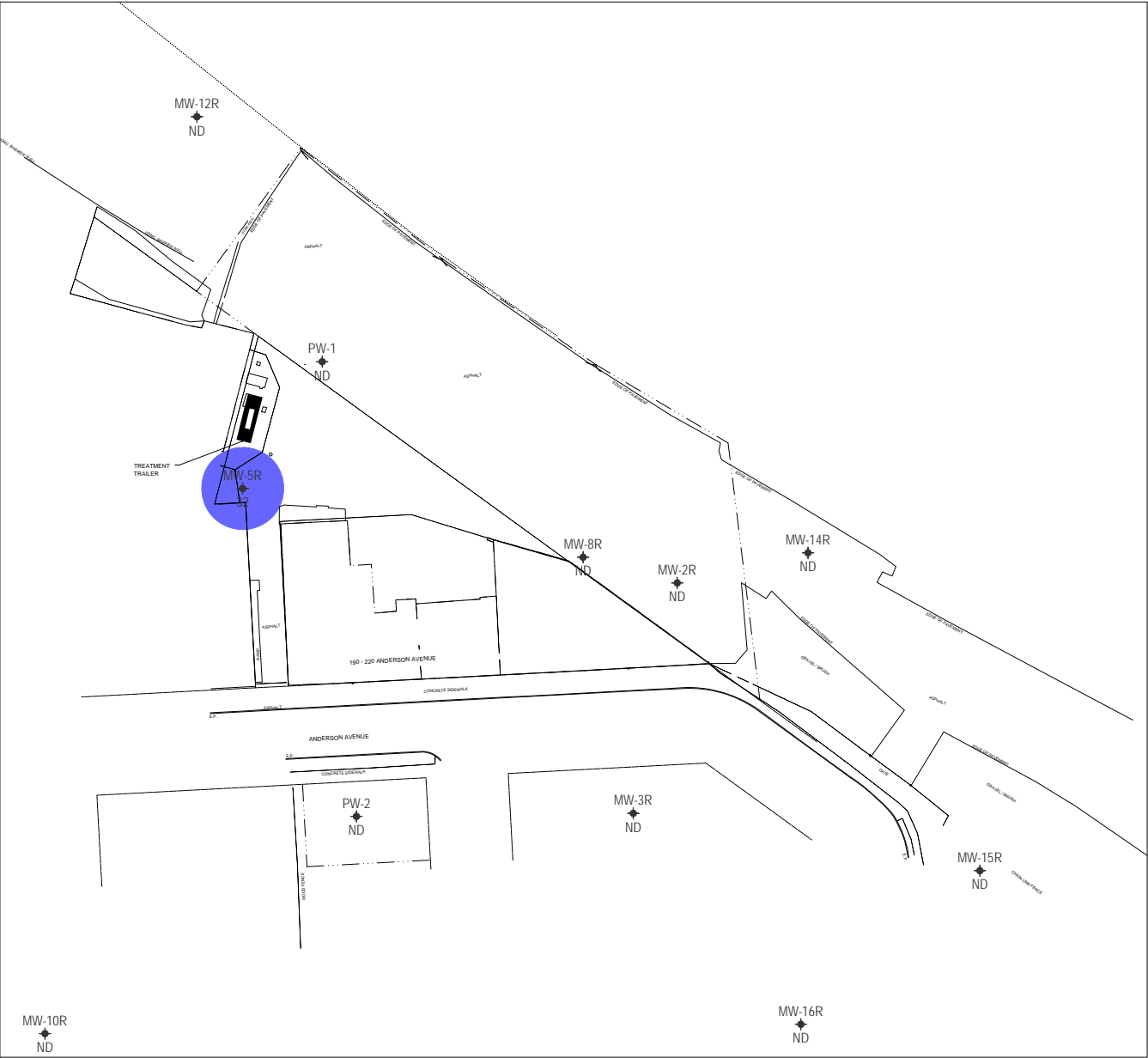
FIGURE 6-2  
Total BTEX and Chlorinated VOCs  
in Overburden Groundwater, October 2012  
Former Davis-Howland Oil Corporation Site  
Rochester, New York



Total Chlorinated VOC Concentrations (µg/L)



Total BTEX Concentrations (µg/L)



- Notes:
- 1) BTEX = sum of benzene, toluene, ethylbenzene, and xylene isomers (only benzene was detected in MW-5R in 2012).
  - 2) VOC = volatile organic compound.
  - 3) Chlorinated VOCs include all chlorinated aliphatic hydrocarbons detected. No other VOCs, including dichlorobenzenes, were detected.
  - 4) ND = not detected; -- = not sampled

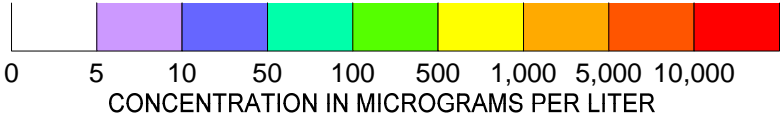


FIGURE 6-3  
Total BTEX and Total Chlorinated VOCs  
in Bedrock Groundwater, October 2012  
Former Davis-Howland Oil Corporation Site  
Rochester, New York

# 7

## Actions to Support Eventual Site Closure

The overall project goals are to reduce the concentrations of VOCs in the soils beneath the capped or paved area north of the DHOC buildings on Anderson Avenue and reduce the concentrations of VOCs in the contaminated groundwater plume to below the groundwater standards established by NYSDEC. Attaining these goals will allow for the eventual closure of the bedrock groundwater recovery system and overall remedial treatment system. Suggested future actions or modifications that would improve individual operations and shorten the time required to attain the target VOC concentrations are presented below.

### 7.1 Improvements/Modifications to the Remedial Treatment System

The following activities should be considered in order to improve the operation of the existing remedial treatment systems:

- Monitoring well CHI-6 has been dry over the past several monitoring events. On January 3, 2001, a sample of oil was collected from this well and analyzed for PCBs and VOCs. Analytical results indicated an estimated concentration of 2.2 micrograms per gram ( $\mu\text{g/g}$ , or parts per billion [ppb]) of PCBs and 205,000 micrograms per kilogram ( $\mu\text{g/kg}$ , or parts per million [ppm]) of VOCs, primarily TCA and 1,1-DCA. Since that time, the operation of overburden pumping wells P-2 and P-3 have lowered the water table in this area such that CHI-6 has been dry and a sample of groundwater has not been collected from that well. Thus, this well should be decommissioned, and a new well with a deeper screened interval should be installed.
- The analytical results for samples collected from the individual pumping wells as part of the annual monitoring well sampling event indicates that groundwater in the vicinity of the courtyard at the rear of the on-site building (192 through 220 Anderson Avenue) is the area with the highest VOC concentrations. Since 2004, the AS points in this area have been turned off in order to enhance the collection of soil vapor from underneath the on-site and off-site buildings. The AS points associated with pumping well P-3 and SVE lateral S-10 should be re-opened to allow the AS points to enhance the recovery of VOCs from this area. The air pressure at the AS points within the buildings

## **7 Actions to Support Eventual Site Closure**

will be monitored and adjusted to continue the enhanced collection of soil vapor from beneath the buildings.

- In conjunction with the change in operation of the AS/SVE system, the currently operational SVE points should be sampled to identify the points within the system that capture the greatest amounts of VOCs and to evaluate the current discharge concentrations to Air Guide 1. The sampling results could be used to identify potential improvements to the SVE system, such as installing individual venting systems that could operate more efficiently than the current system.
- Since the AS/SVE lines at the northern portion of the Site are turned off, there is no reason to continue to operate the overburden pumping well (P-1) in that area. P-1 was installed and operated in order to prevent groundwater from entering the SVE lines in that area, not to extract contaminated groundwater. P-1 operates almost continuously and accounts for a majority of the water processed and discharged. It is suggested that this pumping well be turned off and, if warranted by future conditions, decommissioned.

### **7.2 Efforts to Support Site Closure**

When in operation in 2012, the groundwater treatment system operated efficiently. Based on a review of the reported analytical data for the long-term groundwater monitoring program from January 1997, September 1998, May 2004, August 2007, May 2009, May 2010, and October 2012, VOC concentrations have decreased over time.

More specifically, polycyclic aromatic hydrocarbons (PAHs) are no longer present at concentrations exceeding NYSDEC's groundwater standards. BTEX concentrations have declined significantly in the bedrock groundwater and are no longer detectable in some wells where they were previously present. Only MW-5R contained concentrations of BTEX compounds above detection limits in 2012.

Based on the observed changes in the distribution of the BTEX and VOC concentrations beneath the Site, the groundwater treatment system, in conjunction with natural processes, appears to be effective at reducing overall contaminant concentrations.

The results of the long-term monitoring program indicate that the contaminant plume continues to extend to the northeast of the Site, toward the CSX Transportation property. Continued monitoring of the groundwater well network and rehabilitation of groundwater and/or pumping wells on a regular basis is recommended to maintain a high pumping rate for treatment.

### **7.3 System Optimization**

A Remedial Site Optimization (RSO) report has not yet been prepared for this site. RSO is a multi-tiered approach to improve efficiency, effectiveness, and net environmental benefit of the existing remedy, thereby reducing costs and achiev-

## **7 Actions to Support Eventual Site Closure**

ing Site closure. Although the PRR includes suggestions on improvements/modifications to the existing remedial system, it does not provide a comprehensive audit of the performance of the Site remedial systems. Preparation of an RSO should be considered during the 2013 calendar year.

# 8

## Annual Remedial Action Costs

The 2012 costs of OM&M of the remedial treatment system at the Site, including equipment in the treatment trailer, the groundwater pumping system, long-term groundwater monitoring network, EEEPC oversight, subcontracted services, replacement equipment, and utilities, are presented in Table 8-1.

The total 2012 cost for operating the remedial treatment system at the Site was \$199,567.86.

**Table 8-1 2012 Remedial Action Costs, Former Davis-Howland Oil Corporation Site**

Description	WA DC14	WA D007617-12	TOTAL
Sub – OM&M Services	\$10,462.50	\$12,142.01	\$22,604.51
Sub – Analytical Services	\$4,480.00	\$7,514.00	\$11,994.00
Utilities – Electric	\$5,842.78	\$3,925.65	\$9,768.43
Utilities – Telephone	\$227.05	\$166.06	\$393.11
Replacement Equipment	\$2,788.57	\$1,085.32	\$3,873.89
Long-term Monitoring Program	\$14,926.45	\$20,543.39	\$35,469.84
EEEEPC Administration, Management, and Reporting	\$68,730.41	\$46,733.67	\$115,464.08
<b>2012 Grand Total</b>	<b>\$107,457.76</b>	<b>\$92,110.10</b>	<b>\$199,567.86</b>

Key:

OM&M = operations, maintenance, and monitoring

# 9

## Department or Local Public Reporting

### 9.1 NYSDEC Fact Sheet

The most recent NYSDEC fact sheet was issued by NYSDEC in December 2009 and is provided in Appendix D.

### 9.2 Local Public Reporting

No local public reporting of the Site or remedial Site operations were brought to EEEPC's attention in 2012. The local reporting newspaper in Rochester, New York, is the *Democrat and Chronicle*.

# 10

## References

Ecology and Environment Engineering, P.C. (EEEEPC). 2004. *Davis-Howland Oil Corporation Site, Groundwater Sampling Draft Data Summary Report 2004, Rochester, New York*. Prepared for New York State Department of Environmental Conservation, Albany, New York.

\_\_\_\_\_. 2006. *Air Quality Analysis, Davis-Howland Oil Corporation Site, NYSDEC Site No. 8-28-088*. November 2006.

\_\_\_\_\_. 2007. *Groundwater Sampling and Data Summary Report, Davis-Howland Oil Corporation Site*.

\_\_\_\_\_. 2008. *Draft Site Management Plan, Former Davis-Howland Oil Corporation Site, NYSDEC Site No. 8-28-088, City of Rochester, Monroe County, New York*.

\_\_\_\_\_. 2009. *Former Davis-Howland Oil Corporation Site 2009 Groundwater Sampling Draft Data Summary Report, Rochester, New York*. July 2009. Prepared for New York State Department of Environmental Conservation, Albany, New York.

\_\_\_\_\_. 2010. *Former Davis-Howland Oil Corporation Site 2010 Groundwater Sampling Draft Data Summary Report, Rochester, New York*. July 2010. Prepared for New York State Department of Environmental Conservation, Albany, New York.

\_\_\_\_\_. 2012a. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, January 2012 Operations, Maintenance, and Monitoring Report*.

\_\_\_\_\_. 2012b. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, February 2012 Operations, Maintenance, and Monitoring Report*.

\_\_\_\_\_. 2012c. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, March 2012 Operations, Maintenance, and Monitoring Report*.

- \_\_\_\_\_. 2012d. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, April 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012e. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, May 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012f. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, June 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012g. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, July 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012h. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, August 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012i. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, September 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012j. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, October 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012k. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, November 2012 Operations, Maintenance, and Monitoring Report.*
- \_\_\_\_\_. 2012l. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, December 2012 Operations, Maintenance, and Monitoring Report.*
- Lawler, Matusky Skelly Engineers, LLP and Galson/Lozier Engineers. 1996. *New York State Superfund Contract, Remedial Investigation Report, Davis-Howland Oil Corporation Remedial Investigation/Feasibility Study. Vol. I. October 1996.*
- New York State Department of Environmental Conservation (NYSDEC). 1997. Division of Air Resources Guidance Series (Air Guide 1): *Guidelines for the Control of Toxic Ambient Air Contaminants.* Albany, New York: Division of Air Resources.

\_\_\_\_\_. 1998. Division of Water Technical and Operational Guidance Series (1.1.1): *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*. Albany, New York: Division of Water.

# A

## ALTA Survey

# TABLES OF ENGINEERING CONTROLS

POINT ID	NORTHING	EASTING	POINT ID	NORTHING	EASTING
AS-1	115237.3	1415877.3	AS-23	1152163.2	1416047.2
AS-2	1152354.5	1415956.7	AS-24	1152137.4	1416076.2
AS-3	1152332.3	1415937.6	AS-25	1152120.7	1416101.1
AS-4	1152309.9	1415917.5	AS-26	1152098.8	1415845.1
AS-5	1152287.3	1415896.8	AS-27	1152076.8	1415820.0
AS-6	1152264.5	1415876.9	AS-28	1152054.8	1415794.9
AS-7	1152242.5	1415856.8	AS-29	1152032.8	1415769.8
AS-8	1152220.5	1415836.7	AS-30	1152010.8	1415744.7
AS-9	1152198.5	1415816.6	AS-31	1151988.8	1415719.6
AS-10	1152176.5	1415796.5	AS-32	1151966.8	1415694.5
AS-11	1152154.5	1415776.4	AS-33	1151944.8	1415669.4
AS-12	1152132.5	1415756.3	AS-34	1151922.8	1415644.3
AS-13	1152110.5	1415736.2	AS-35	1151900.8	1415619.2
AS-14	1152088.5	1415716.1	AS-36	1151878.8	1415594.1
AS-15	1152066.5	1415696.0	AS-37	1151856.8	1415569.0
AS-16	1152044.5	1415675.9	AS-38	1151834.8	1415543.9
AS-17	1152022.5	1415655.8	AS-39	1151812.8	1415518.8
AS-18	1152000.5	1415635.7	AS-40	1151790.8	1415493.7
AS-19	1151978.5	1415615.6	AS-41	1151768.8	1415468.6
AS-20	1151956.5	1415595.5	AS-42	1151746.8	1415443.5
AS-21	1151934.5	1415575.4	AS-43	1151724.8	1415418.4
AS-22	1151912.5	1415555.3	AS-44	1151702.8	1415393.3

POINT ID	NORTHING	EASTING	GROUND ELEV.	CASING ELEV.	RISER ELEV.
CH-1	1152218.7	1416321.1	498.54	498.54	498.19
CH-6	1152164.1	1416044.5	498.08	498.08	497.77
MW-15	1152022.6	1415901.2	499.95	499.95	499.72
MW-25	1152140.0	1416102.0	497.71	497.71	497.48
MW-35	1152012.0	1416078.7	497.82	497.82	497.46
MW-55	1152210.2	1415910.0	498.41	498.41	498.01
MW-125	1152427.8	1415813.6	495.74	495.74	495.33
MW-135	1152344.8	1416289.1	497.25	497.25	496.95
MW-145	1152190.6	1416180.9	495.43	495.43	495.16
MW-2R	1152152.8	1416092.2	497.72	497.72	497.54
MW-3R	1152019.9	1416065.5	496.02	496.02	497.74
MW-5R	1152250.1	1415958.4	498.03	498.03	498.23
MW-8R	1152168.4	1416035.0	498.09	498.09	497.64
MW-10R	1151879.3	1415708.4	497.81	497.81	497.44
MW-19R	1152435.8	1415906.6	495.75	495.75	495.42
MW-14R	1152171.0	1416171.5	495.44	495.44	495.18
MW-15R	1151978.1	1416275.9	494.50	494.50	494.14
MW-16R	1151884.9	1416167.2	493.43	493.43	493.04
PW-1	1152289.1	1415976.7	498.02	498.02	494.41
PW-2	1152011.1	1415897.4	500.02	500.02	498.82
P-1	1152195.5	1416087.0	497.61	497.61	498.26
P-2	1152191.2	1415994.4	498.56	498.56	498.93
P-3	1152158.6	1415944.2	499.91	499.91	498.90
PZ-1	1152318.1	1415974.7	497.21	497.21	496.92
PZ-2	1152282.2	1416040.4	497.13	497.13	496.87
PZ-3	1152275.0	1415935.8	497.87	497.87	497.56
PZ-4	1152285.5	1416025.8	497.76	497.76	497.22
PZ-5	1152216.8	1415867.2	496.41	496.41	497.80
PZ-6	1152186.7	1415930.1	499.21	499.21	498.72

\* ELEVATION AT TOP OF BOLTED RISER COVER

# DECLARATION OF COVENANTS AND RESTRICTIONS NYSDEC SITE NO. 8-28-088

## PARCEL 'A' DESCRIPTION

All that piece or parcel of property hereinafter designated as Parcel A to which a declaration of covenants and restrictions apply, being in the City of Rochester, County of Monroe and State of New York and more particularly described as follows:

BEGINNING at a point on the northerly boundary of Anderson Avenue, an existing city street, at its intersection with the westerly line of Lot 187 of the Perry, Bly and Holmes Tract according to a map thereof filed in Book 3 of Maps, page 18 in the Monroe County Clerk's Office, thence; N 3°01'33" W a distance of 81.70 feet to a point on the division line between the property of Samille, Inc. (reputed owner) on the south and the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) on the north, thence; S 72°57'14" E along the last mentioned division line a distance of 46.32 feet to a point on the division line between the property of Samille, Inc. (reputed owner) on the southwest and the property of New York Central Lines, LLC (reputed owner) on the northeast, thence; S 54°00'38" E a distance of 105.74 feet to a point on the first mentioned street boundary, thence; S 86°58'27" W along said street boundary a distance of 125.93 feet to the point of beginning, being 5,980.5 square feet or 0.137 acres, more or less.

## PARCEL 'B' DESCRIPTION

All that piece or parcel of property hereinafter designated as Parcel B to which a declaration of covenants and restrictions apply, being in the City of Rochester, County of Monroe and State of New York and more particularly described as follows:

BEGINNING at a point on the northerly boundary of Anderson Avenue, an existing city street, at its intersection with the westerly line of Lot 185 of the Perry, Bly and Holmes Tract according to a map thereof filed in Book 3 of Maps, page 18 in the Monroe County Clerk's Office, thence; N 3°01'33" W a distance of 100.00 feet to a point on the division line between the property of Samille, Inc. (reputed owner) on the south and the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) on the north, thence; along the last mentioned division line the following two (2) courses and distances: (1) N 86°58'27" E a distance of 39.98 feet to a point, thence; (2) S 72°55'49" E a distance of 53.26 feet to a point, thence; S 3°01'33" E along the easterly line of Lot 186 of the Perry, Bly and Holmes Tract a distance of 81.70 feet to a point on the first mentioned street boundary, thence; S 86°58'27" W a distance of 90.00 feet to the point of beginning, being 8,542.1 square feet or 0.196 acres, more or less.

## PARCEL 'C' DESCRIPTION

All that piece or parcel of property hereinafter designated as Parcel C to which a declaration of covenants and restrictions apply, being in the City of Rochester, County of Monroe and State of New York and more particularly described as follows:

BEGINNING at a point on the northerly boundary of Anderson Avenue, an existing city street, at its intersection with the division line between the property of Samille, Inc. (reputed owner) on the east and the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) on the west, said point also being the southwest corner of Lot 184 of the Perry, Bly and Holmes Tract according to a map thereof filed in Book 3 of Maps, page 18 in the Monroe County Clerk's Office, thence; along the last mentioned division line the following two (2) courses and distances: (1) N 86°58'27" E a distance of 100.00 feet to a point, thence; (2) N 72°55'49" E a distance of 53.26 feet to a point, thence; S 3°01'33" E along the easterly line of Lot 186 of the Perry, Bly and Holmes Tract a distance of 81.70 feet to a point on the first mentioned street boundary, thence; S 86°58'27" W a distance of 90.00 feet to the point of beginning, being 8,542.1 square feet or 0.196 acres, more or less.

## PARCEL 'D' DESCRIPTION

All that piece or parcel of property hereinafter designated as Parcel D to which a declaration of covenants and restrictions apply, being in the City of Rochester, County of Monroe and State of New York and more particularly described as follows:

COMMENCING at a point on the northerly boundary of Anderson Avenue, an existing city street, at its intersection with the westerly line of Lot 183 of the Perry, Bly and Holmes Tract according to a map thereof filed in Book 3 of Maps, page 18 in the Monroe County Clerk's Office, thence; N 86°58'27" E along said street boundary a distance of 19.97 feet to the point of BEGINNING, being the intersection of said street boundary and said division line between the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) on the east and west, thence; along the last mentioned division line the following three (3) courses and distances: (1) N 86°58'27" E a distance of 112.71 feet to a point, thence; (2) S 86°56'50" W a distance of 18.77 feet to a point, thence; (3) N 14°34'23" E a distance of 105.29 feet to a point on the division line between the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) on the south and the property of New York Central Lines, LLC (reputed owner) on the north, thence; S 54°00'38" E along the last mentioned division line a distance of 232.70 feet to a point on the division line between the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) on the north and the property of Samille, Inc. (reputed owner) on the south, thence; along the last mentioned division line the following four (4) courses and distances: (1) N 73°57'14" W a distance of 46.32 feet to a point, thence; (2) N 72°55'49" W a distance of 53.26 feet to a point, thence; (3) S 86°58'27" W a distance of 80.00 feet to a point, thence; (4) S 3°05'03" E a distance of 100.00 feet to a point on the first mentioned street boundary, thence; S 86°58'27" W along said street boundary a distance of 20.03 feet to the point of beginning, being 12,556.6 square feet, or 0.288 acres, more or less.

## PARCEL 'E' DESCRIPTION

All that piece or parcel of property hereinafter designated as Parcel E to which a declaration of covenants and restrictions apply, being in the City of Rochester, County of Monroe and State of New York and more particularly described as follows:

BEGINNING at a point on the northerly boundary of Anderson Avenue, an existing city street, at its intersection with the division line between the property of New York Central Lines, LLC (reputed owner) on the northeast and the property of Samille, Inc. (reputed owner) on the southwest, said point also being the southeast corner of Lot 187 of the Perry, Bly and Holmes Tract according to a map thereof filed in Book 3 of Maps, page 18 in the Monroe County Clerk's Office, thence; N 54°00'38" W along the last mentioned division line and along the property of Gary and Marcia Stern Family Limited Partnership (reputed owner) a total distance of 384.76 feet to a point, thence; through the property of New York Central Lines, LLC (reputed owner) the following five (5) courses and distances: (1) N 35°59'22" E a distance of 107.53 feet to a point, thence; (2) S 51°58'28" E a distance of 109.04 feet to a point, thence; (3) S 55°22'31" E a distance of 113.23 feet to a point, thence; (4) S 59°22'51" E a distance of 93.33 feet to a point, thence; (5) S 73°03'26" E a distance of 157.49 feet to a point on the first mentioned street boundary, thence; S 54°00'38" W along said street boundary a distance of 37.83 feet to the point of beginning, being 39,868.8 square feet or 0.915 acres, more or less.

## PARCEL 'F' DESCRIPTION

All that piece or parcel of property hereinafter designated as Parcel F to which a declaration of covenants and restrictions apply, being in the City of Rochester, County of Monroe and State of New York and more particularly described as follows:

BEGINNING at point on the southerly boundary of Anderson Avenue, an existing city street, at its intersection with the westerly boundary of Norwood Street, an existing city street, thence; S 3°05'03" E along the westerly boundary of Norwood Street a distance of 50.00 feet to a point, thence; through the property of 186 Atlantic Avenue, LLC (reputed owner) the following two (2) courses and distances: (1) S 86°58'27" W a distance of 75.05 feet to a point, thence; (2) N 3°01'33" W a distance of 50.00 feet to a point on the southerly boundary of Anderson Avenue, thence; N 86°58'27" E a distance of 75.05 feet to the point of beginning, being 3,751.5 square feet or 0.086 acres, more or less.

## DEED REFERENCES

- 1.) DEED FILED IN LIBER 8582, PAGE 177.
- 2.) DEED FILED IN LIBER 8778, PAGE 78.
- 3.) DEED FILED IN LIBER 8691, PAGE 380.
- 4.) DEED FILED IN LIBER 9214, PAGE 520.
- 5.) DEED FILED IN LIBER 8730, PAGE 220.
- 6.) DEED FILED IN LIBER 10481, PAGE 79.

## MAP REFERENCES

- 1.) MAP ENTITLED "RIGHT OF WAY AND TRACK MAP NEW YORK CENTRAL RAILROAD - V76/3", DATED JUNE 30, 1917, PREPARED BY OFFICE OF THE VALUATION ENGINEER (NYCR).
- 2.) MAP ENTITLED "PERRY, BLY & HOLMES TRACT" DATED AUGUST 1, 1871, PREPARED BY CHARLES R. BABBITT, CITY CIVIL ENGINEER, FILED IN LIBER 3 OF MAPS, PAGE 18.
- 3.) MAP ENTITLED "ROCHESTER CITY SURVEY DISTRICT 26 MAP 16.

## ABSTRACTS OF TITLE

- (1) ABSTRACT OF TITLE NO. 174327, PREPARED BY STEWART TITLE INSURANCE COMPANY, DATED OCTOBER 23, 2012.
- (2) ABSTRACT OF TITLE NO. 174328, PREPARED BY STEWART TITLE INSURANCE COMPANY, DATED OCTOBER 23, 2012.

This property is subject to a Declaration of Covenants and Restrictions (DC&R) held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the DC&R are set forth in more detail in the Site Management Plan ("SMP"). A copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at [derweb@gw.dec.state.ny.us](mailto:derweb@gw.dec.state.ny.us).

## Restrictions to Parcels A, B and C

- Compliance with the Declaration of Covenants & Restrictions and the SMP by the Grantor and the Grantor's Successors and assigns;
- All Engineering Controls must be operated and maintained as specified in the SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater, soil vapor and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;
- The use and development of the site is limited to industrial uses only as described in 6 NYCRR Part 375-1.8(g)(2)(iv).
- The property may not be used for higher level of use, such as unrestricted or restricted residential or commercial use without additional remediation and amendment of the DC&R, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed on Parcels A, B, C, D, E and F and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- Land Use Restriction- The use and development of the site is limited to industrial uses only as defined in 6 NYCRR Part 375 1.8(g)(2)(iv).

## DC&R AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE RESTRICTED AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

## SURVEY NOTES

- COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (CORS) - NEW YORK STATE PLANE COORDINATE SYSTEM, WEST ZONE.
- ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- MAPPING UNITS ARE U.S. SURVEY FEET.
- THE CONTOUR INTERVAL IS 1 FOOT.
- UTILITIES SHOWN HEREON ARE BASED ON VISIBLE EVIDENCE. THE UNDERGROUND POSITION OF ALL UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE.

## (SURVEYOR'S CERTIFICATION)

TO: (1) The People of the State of New York acting through their Commissioner of the Department of Environmental Conservation.  
(2) Samille, Inc.  
(3) Gary and Marcia Stern Family Limited Partnership  
(4) Title Insurance Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 4, 7a, 8, 11a and 13 of Table A thereof. The field work was completed on November 14, 2012.

Date of Plat or Map: December 7, 2012

JEFFREY F. PHILLIPS, LS 50773  
FOR: POPULUS DESIGN GROUP  
555 Penbrook Drive  
Penfield, NY 14526  
Phone: 585-388-0260

## LEGEND

- MONITORING WELL
- PIEZOMETER
- PUMPING WELL
- AIR SPARGE
- SOIL VAPOR EXTRACTION
- GAS VALVE
- WATER VALVE
- CLEAN OUT
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- CATCH BASIN
- ELECTRIC MANHOLE
- BOLLARD / POST
- CITY MONUMENT
- BUILDING DIMENSION
- U.G. UNDER GROUND

## SURVEY BY:

## PREPARED FOR:

1149-000000-Surveyor's Company - 1149-000000-Surveyor's Company

SURVEYOR JOB NUMBER:

EN4024.04

SURVEY CREW:

W. STRATTON, N. DUNN

DRAWN BY:

W. STRATTON

CHECKED BY:

J. PHILLIPS

REVISIONS

## ALTA/ACSM Land Title Survey

FOR THE PROPERTIES OF

**SAMILLE, INC.**  
(#190, #192-200 & #220 ANDERSON AVENUE  
T.M. 106.84-1-5.6,7)

AND  
**GARY AND MARCIA STERN  
FAMILY LIMITED PARTNERSHIP**  
(#188 ANDERSON AVENUE  
T.M. 106.84-1-4.2)

City of Rochester, County of Monroe, State of New York

SCALE: 1" = 20'

DATE: DECEMBER 19, 2012

**B**

**County of Monroe Discharge  
Permit and Modification Request  
Correspondence**



## ecology and environment engineering, p.c.

Global Environmental Specialists

BUFFALO CORPORATE CENTER

368 Pleasant View Drive

Lancaster, New York 14086

Tel: (716) 684-8060, Fax: (716) 684-0844

September 6, 2012

Mr. Harry Reiter, Pretreatment Coordinator  
County of Monroe  
Department of Environmental Services - Industrial Waste Section  
444 East Henrietta Road  
Rochester, New York 14620

**Re: Davis Howland Oil Company Site, 200 Anderson Avenue, Rochester, New York  
NYSDEC Contract # D007617-12, Site # 8-28-088, Petition for Reduction in  
Sampling and Analytical Parameters - Monroe County Sewer Use Permit #864**

Dear Mr. Reiter:

Ecology and Environment Engineering, P.C. (EEEPC) has prepared this petition requesting a reduction in sampling and analytical parameters for Discharge Permit #864 - for the former Davis Howland Oil Company site at 200 Anderson Avenue, Rochester, New York.

EEEPC has been providing operations, maintenance, and compliance monitoring of the 200 Anderson Avenue site since the remedial treatment system was commissioned by NYSDEC in September 2002. After completion of an initial five month operation and maintenance startup period (September 2002 to March 2003) by the system installation contractor, The Tyree Organization, Ltd., the remedial treatment system was operated, maintained, and monitored by EEEPC under a current work assignment from NYSDEC. EEEPC has been overseeing and providing compliance reports to Monroe County, Department of Environmental Services, since September 2002 and continues to perform those monitoring and compliance reporting services as required by the discharge permit.

In 2006, EEEPA and NYSDEC petitioned Monroe County for a reduction in sampling and analytical parameters (letter dated September 20, 2006). On October 27, 2006, the County of Monroe Department of Environmental Services granted a reduction in monitoring by eliminating the requirement for PCB analysis and a change in the monitoring requirements for pesticides to a semi-annual basis.

EEEPC has reviewed the influent and effluent analytical data collected between September 2006 and June 2012. A summary of the analytical data is presented in Table 1, and the laboratory results are presented in Attachment A (Volatile Organic Compounds), Attachment B (Semivolatile Organic Compounds), Attachment C (Total Petroleum Hydrocarbons), and Attachment D (Pesticides). These data are summarized below.

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

VOCs have been detected consistently since the start of the project. The primary constituent detected is cis-1,2-dichloroethylene, with lesser amounts of trans-1,2-dichloroethylene, tetrachloroethylene, and trichloroethylene, and other degradation byproducts. Total VOC concentrations in the influent water samples have ranged as high as 7,239 micrograms per liter (µg/L).

#### **Semivolatile Organic Compounds (SVOCs)**

SVOCs have not been detected in the influent samples since or effluent samples since July 2007 in the influent samples and August 2007 in the effluent samples. Most compounds detected have been at estimated concentrations less than their respective laboratory reporting limits.

#### **Total Petroleum Hydrocarbons (TPH)**

Petroleum hydrocarbon compounds have not been detected in either the influent or effluent samples within the time period evaluated (August 2006 through August 2012).

#### **Pesticides**

The frequency of pesticide analyses were reduced to a biannual schedule in 2006. Further reduction in the frequency of pesticides analysis was not granted due to issues with laboratory blank contamination and the occurrence of low levels of pesticides detected in the samples. Since April 2007, pesticides have not been detected in either the influent or effluent samples collected from the treatment system, and there have been no issues with blank contamination from the analytical laboratory.

Based on an evaluation of the analytical results presented above, EEEPC is requesting the elimination of the monthly sampling and analysis of influent and effluent waters for:

NYSDOH 310 – 13	Total Petroleum Hydrocarbons
40 CFR 136 – 625	Semivolatile Organic Compounds

EEEPC is also requesting the elimination of the semi-annual sampling and analysis of influent and effluent waters for:

40 CFR 136 – 608	Pesticides
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Mr. Harry Reiter, Pretreatment Coordinator


9/6/2012

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If the County of Monroe is in agreement with the petition request, EEEPC requests a letter to modify the site-specific permit (#864) and a proposed start date for the reduction in the analytical parameters. If you have any questions regarding the request, I can be reached at 716-684-8060 or William Welling, NYSDEC Project Manager, at 518-402-9638.

Very Truly Yours,

**Ecology and Environment Engineering, P. C.**

A handwritten signature in black ink that reads "Michael A. Aloï". The signature is written in a cursive, slightly slanted style.

Michael A. Aloï, P.E.

Project Manager

cc: T. Heins, EEEPC – Buffalo, New York  
S. Keenan, Monroe County - Div. of Pure Waters  
W. Welling, NYSDEC – Albany, New York  
CTF – EN-003231-0001-02

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Analyte	Sample Date: Permit Criteria <sup>(1)</sup>	08/07/06	09/05/06	10/03/06	11/07/06	12/05/06	01/04/07	02/16/07	03/07/07	04/13/07	05/05/07	06/06/07	07/03/07
<b>Influent Analytical Results</b>													
pH (SU)	NA	7.38	7.23	7.48	7.64	7.42	7.70	7.83	7.72	7.67	7.51	7.60	7.92
VOCs by Method SW8260B (µg/L)	NA	<b>589</b>	<b>599</b>	<b>1,403</b>	<b>1,679</b>	<b>7,239</b>	<b>917</b>	<b>1,470</b>	<b>636</b>	<b>610</b>	<b>913</b>	<b>414</b>	<b>455</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	<b>1.4</b>	ND	<b>0.6</b>	<b>0.8</b>	ND	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>
Pesticides by Method E608 (µg/L)	NA	<b>0.030</b>	<b>0.022</b>	--	--	--	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	NA	<b>589</b>	<b>599</b>	<b>1,403</b>	<b>1,679</b>	<b>7,240</b>	<b>917</b>	<b>1,471</b>	<b>637</b>	<b>610</b>	<b>913</b>	<b>414</b>	<b>455</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Effluent Analytical Results</b>													
pH (SU)	5.0 - 12.0	8.25	8.44	8.35	8.26	8.16	8.00	7.98	8.38	8.35	8.26	7.91	8.23
VOCs by Method SW8260B (µg/L)	NA	<b>0.4</b>	<b>0.2</b>	<b>0.9</b>	<b>3.0</b>	<b>2.5</b>	<b>1.1</b>	<b>1.1</b>	<b>0.4</b>	<b>0.4</b>	ND	<b>0.5</b>	ND
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	<b>1.1</b>	ND	ND	<b>0.8</b>	ND	<b>0.1</b>	ND	<b>0.1</b>
Pesticides by Method E608 (µg/L)	NA	0.024	0.017	--	--	--	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	2,130	<b>0.4</b>	<b>0.2</b>	<b>0.9</b>	<b>3.0</b>	<b>3.6</b>	<b>1.1</b>	<b>1.1</b>	<b>1.2</b>	<b>0.4</b>	<b>0.1</b>	<b>0.5</b>	<b>0.1</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Monthly Treatment Volumes</b>													
Average Effluent Discharge Rate (gallons per minute)	28	3.3	3.0	4.1	3.7	2.8	3.2	2.4	2.4	3.3	1.9	1.4	1.7
Monthly Effluent Discharge (gallons)	NA	78,500	126,600	224,300	132,500	142,200	120,800	94,900	95,900	131,000	99,500	56,700	70,000

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Analyte	Sample Date: Permit Criteria <sup>(1)</sup>	08/08/07	09/13/07	10/04/07	11/08/07	12/07/07	01/11/08	02/08/08	03/03/08	09/18/08	10/23/08	11/12/08	12/09/08
<b>Influent Analytical Results</b>													
pH (SU)	NA	7.48	7.22	7.63	7.79	7.27	7.23	7.11	7.39	7.19	7.20	7.40	7.28
VOCs by Method SW8260B (µg/L)	NA	<b>529</b>	<b>738</b>	<b>618</b>	<b>406</b>	<b>505</b>	<b>615</b>	<b>1,811</b>	<b>517</b>	<b>325</b>	<b>441</b>	<b>311</b>	<b>605</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	ND	--	--	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	NA	<b>529</b>	<b>738</b>	<b>618</b>	<b>406</b>	<b>505</b>	<b>615</b>	<b>1,811</b>	<b>517</b>	<b>325</b>	<b>441</b>	<b>311</b>	<b>605</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Effluent Analytical Results</b>													
pH (SU)	5.0 - 12.0	8.54	8.41	8.72	8.79	8.66	8.44	8.31	8.58	8.46	8.34	8.48	8.39
VOCs by Method SW8260B (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<b>1.7</b>	<b>2.6</b>
SVOCs by Method E625 (µg/L)	NA	<b>130</b>	ND	ND	ND	ND	ND	ND	ND	ND	<b>12</b>	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	ND	--	--	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	2,130	<b>130</b>	0	0	0	0	0	0	0	0	<b>12</b>	<b>1.7</b>	<b>2.6</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Monthly Treatment Volumes</b>													
Average Effluent Discharge Rate (gallons per minute)	28	1.5	1.6	1.3	1.5	1.3	1.7	1.7	2.0	0.8	1.6	1.5	1.5
Monthly Effluent Discharge (gallons)	NA	59,600	52,400	48,000	59,600	59,600	69,900	64,000	23,000	17,000	65,000	45,900	75,000

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Analyte	Sample Date: Permit Criteria <sup>(1)</sup>	01/06/09	02/06/09	03/11/09	04/09/09	05/06/09	06/04/09	07/02/09	08/05/09	09/03/09	10/02/09	11/05/09	12/03/09
<b>Influent Analytical Results</b>													
pH (SU)	NA	7.30	6.20	7.21	7.29	7.42	7.48	7.32	7.13	7.39	7.53	7.27	7.28
VOCs by Method SW8260B (µg/L)	NA	<b>2,942</b>	<b>3,979</b>	<b>2,899</b>	<b>2,311</b>	<b>410</b>	<b>311</b>	<b>329</b>	<b>474</b>	<b>463</b>	<b>664</b>	<b>751</b>	<b>3,289</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	--	--	--	ND	--	--	--	ND	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	NA	<b>2,942</b>	<b>3,979</b>	<b>2,899</b>	<b>2,311</b>	<b>410</b>	<b>311</b>	<b>329</b>	<b>474</b>	<b>463</b>	<b>664</b>	<b>751</b>	<b>3,289</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	ND
<b>Effluent Analytical Results</b>													
pH (SU)	5.0 - 12.0	8.51	8.18	8.25	7.99	8.15	7.94	8.00	7.53	8.06	8.42	8.27	8.32
VOCs by Method SW8260B (µg/L)	NA	<b>2.4</b>	ND	<b>11</b>	<b>351</b>	<b>52</b>	<b>77</b>	<b>101</b>	<b>321</b>	<b>169</b>	<b>4.1</b>	<b>12</b>	<b>11</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	--	--	--	ND	--	--	--	ND	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	2,130	<b>2.4</b>	0	<b>11</b>	<b>351</b>	<b>52</b>	<b>77</b>	<b>101</b>	<b>321</b>	<b>169</b>	<b>4.1</b>	<b>12</b>	<b>11</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	ND
<b>Monthly Treatment Volumes</b>													
Average Effluent Discharge Rate (gallons per minute)	28	1.1	1.5	1.2	0.9	0.9	0.9	0.6	2.4	3.1	3.2	2.1	2.8
Monthly Effluent Discharge (gallons)	NA	32,000	58,000	49,000	44,400	35,300	39,300	26,100	99,400	129,800	158,700	108,000	113,500

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Analyte	Sample Date: Permit Criteria <sup>(1)</sup>	01/08/10	02/05/10	03/04/10	04/02/10	05/05/10	06/04/10	07/02/10	08/06/10	09/03/10	10/01/10	11/04/10	12/03/10
<b>Influent Analytical Results</b>													
pH (SU)	NA	7.48	7.52	7.30	7.29	7.35	7.34	7.28	6.81	7.26	7.31	7.18	7.16
VOCs by Method SW8260B (µg/L)	NA	<b>816</b>	<b>679</b>	<b>1,079</b>	<b>1,400</b>	<b>3,539</b>	<b>2,968</b>	<b>1,620</b>	<b>1,296</b>	<b>270</b>	<b>272</b>	<b>330</b>	<b>288</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	--	ND	--	--	--	--	--	ND	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	NA	<b>816</b>	<b>679</b>	<b>1,079</b>	<b>1,400</b>	<b>3,539</b>	<b>2,968</b>	<b>1,620</b>	<b>1,296</b>	<b>270</b>	<b>272</b>	<b>330</b>	<b>288</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Effluent Analytical Results</b>													
pH (SU)	5.0 - 12.0	8.48	8.26	8.26	8.28	8.30	8.38	8.44	7.68	8.06	8.41	7.58	7.54
VOCs by Method SW8260B (µg/L)	NA	<b>10</b>	<b>14</b>	<b>46</b>	<b>17</b>	<b>31</b>	ND	ND	<b>56</b>	<b>89</b>	<b>54</b>	<b>179</b>	<b>116</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	--	ND	--	--	--	--	--	ND	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	2,130	<b>10</b>	<b>14</b>	<b>46</b>	<b>17</b>	<b>31</b>	0	0	<b>56</b>	<b>89</b>	<b>54</b>	<b>179</b>	<b>116</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Monthly Treatment Volumes</b>													
Average Effluent Discharge Rate (gallons per minute)	28	2.8	2.4	3.5	2.7	2.3	2.0	1.9	2.5	1.6	1.7	1.7	1.9
Monthly Effluent Discharge (gallons)	NA	114,700	119,400	111,000	136,000	90,000	80,000	87,300	49,000	56,000	86,000	64,600	90,400

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Analyte	Sample Date: Permit Criteria <sup>(1)</sup>	01/07/11	02/04/11	04/08/11	05/06/11	06/03/11	07/01/11	08/05/11	09/02/11	10/07/11	11/04/11	12/02/11	01/06/12
<b>Influent Analytical Results</b>													
pH (SU)	NA	7.23	7.19	7.27	7.18	7.25	7.31	7.32	7.55	7.31	7.42	7.29	7.32
VOCs by Method SW8260B (µg/L)	NA	<b>395</b>	<b>530</b>	<b>165</b>	<b>4,037</b>	<b>225</b>	<b>270</b>	<b>271</b>	<b>187</b>	<b>199</b>	<b>192</b>	<b>224</b>	<b>186</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	ND	--	--	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	NA	<b>395</b>	<b>530</b>	<b>165</b>	<b>4,037</b>	<b>225</b>	<b>270</b>	<b>271</b>	<b>187</b>	<b>199</b>	<b>192</b>	<b>224</b>	<b>186</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Effluent Analytical Results</b>													
pH (SU)	5.0 - 12.0	7.48	7.45	8.11	8.28	8.05	8.19	8.53	8.17	8.27	8.26	8.17	7.69
VOCs by Method SW8260B (µg/L)	NA	<b>221</b>	<b>366</b>	<b>46</b>	<b>52</b>	<b>11</b>	<b>7.7</b>	<b>32</b>	<b>51</b>	<b>36</b>	<b>20</b>	<b>49</b>	<b>96</b>
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	ND	--	--	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	2,130	<b>221</b>	<b>366</b>	<b>46</b>	<b>52</b>	<b>11</b>	<b>7.7</b>	<b>32</b>	<b>51</b>	<b>36</b>	<b>20</b>	<b>49</b>	<b>96</b>
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Monthly Treatment Volumes</b>													
Average Effluent Discharge Rate (gallons per minute)	28	0.6	0.4	2.3	2.3	1.8	1.1	1.4	1.6	2.0	1.4	1.6	1.2
Monthly Effluent Discharge (gallons)	NA	26,000	10,000	84,000	93,000	74,000	55,000	55,000	80,000	79,000	52,000	83,000	48,000

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Analyte	Sample Date: Permit Criteria <sup>(1)</sup>	02/10/12	03/02/12	04/06/12	05/04/12	06/01/12	07/06/12	08/03/12
Influent Analytical Results								
pH (SU)	NA	7.19	7.19	7.22	7.18	7.30	7.54	7.38
VOCs by Method SW8260B (µg/L)	NA	156	731	253	2,648	223	511	458
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	NA	156	731	253	2,648	223	511	458
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND
Effluent Analytical Results								
pH (SU)	5.0 - 12.0	7.79	7.60	7.77	8.00	8.15	8.09	8.36
VOCs by Method SW8260B (µg/L)	NA	86	340	157	109	51	152	110
SVOCs by Method E625 (µg/L)	NA	ND	ND	ND	ND	ND	ND	ND
Pesticides by Method E608 (µg/L)	NA	--	--	--	ND	--	--	--
Total Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (µg/L)	2,130	86	340	157	109	51	152	110
Total Petroleum Hydrocarbons by Method NY-310-13 (µg/L)	100,000	ND	ND	ND	ND	ND	ND	ND
Monthly Treatment Volumes								
Average Effluent Discharge Rate (gallons per minute)	28	1.9	1.3	0.8	1.8	3.1	3.3	2.4
Monthly Effluent Discharge (gallons)	NA	69,000	66,000	34,000	73,000	156,000	127,000	126,000

**Table 1. Summary of Influent and Effluent Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.

## **Attachment A**

### **Influent and Effluent Volatile Organic Compound Analytical Results**

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 08/07/06	Influent 09/05/06	Influent 10/03/06	Influent 11/07/06	Influent 12/05/06	Influent 01/04/07	Influent 02/16/07	Influent 03/07/07	Influent 04/13/07
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	<b>16</b>	3.8 U	<b>77</b>	4.8 U	<b>880</b>	4.8 U	4.8 U	3.8 U	4.8 U
1,1,2,2-TETRACHLOROETHANE	3.7 U	3.7 U	3.7 U	4.7 U	19 U	4.7 U	2.7 U	2.2 U	2.7 U
1,1,2-TRICHLOROETHANE	1.7 U	1.7 U	1.7 U	2.1 U	8.4 U	2.1 U	2.1 U	1.7 U	2.1 U
1,1-DICHLOROETHANE	<b>11</b>	<b>9.3</b>	<b>23</b>	<b>44</b>	<b>140</b>	<b>24</b>	<b>38</b>	<b>25</b>	<b>26</b>
1,1-DICHLOROETHENE	4.1 U	4.1 U	4.1 U	<b>16</b>	<b>53</b>	5.1 U	<b>12</b>	<b>17</b>	<b>19</b>
1,2-DICHLOROBENZENE	2.7 U	2.7 U	2.7 U	3.4 U	14 U	3.4 U	3.4 U	2.7 U	3.4 U
1,2-DICHLOROETHANE	1.7 U	1.7 U	1.7 U	2.1 U	8.5 U	2.1 U	2.1 U	1.7 U	2.1 U
1,2-DICHLOROPROPANE	1.6 U	1.6 U	1.6 U	2.0 U	8.2 U	2.0 U	4.5 U	3.6 U	4.5 U
1,3-DICHLOROBENZENE	2.8 U	2.8 U	2.8 U	3.5 U	14 U	3.5 U	2.0 U	1.6 U	2.0 U
1,4-DICHLOROBENZENE	3.7 U	3.7 U	3.7 U	4.6 U	18 U	4.6 U	4.6 U	3.7 U	4.6 U
2-CHLOROETHYL VINYL ETHER	4.8 U	4.8 U	4.8 U	6.0 U	24 U	6.0 U	2.2 U	1.8 U	2.2 U
BROMODICHLOROMETHANE	2.7 U	2.7 U	2.7 U	3.3 U	13 U	3.3 U	3.3 U	2.7 U	3.3 U
BROMOFORM	3.0 U	3.0 U	3.0 U	3.7 U	15 U	3.7 U	2.1 U	1.7 U	2.1 U
BROMOMETHANE	3.0 U	3.0 U	3.0 U	3.8 U	15 U	3.8 U	2.0 U	1.6 U	2.0 U
CARBON TETRACHLORIDE	4.4 U	4.4 U	4.4 U	5.5 U	22 U	5.5 U	5.5 U	4.4 U	5.5 U
CHLOROBENZENE	7.1 U	7.1 U	7.1 U	8.9 U	35 U	8.9 U	2.0 U	1.6 U	2.0 U
CHLOROETHANE	2.9 U	2.9 U	2.9 U	3.7 U	15 U	3.7 U	3.7 U	2.9 U	3.7 U
CHLOROFORM	4.1 U	4.1 U	4.1 U	5.2 U	21 U	5.2 U	5.2 U	4.1 U	5.2 U
CHLOROMETHANE	9.4 U	9.4 U	9.4 U	12 U	47 U	12 U	2.4 U	1.9 U	2.4 U
CIS-1,2-DICHLOROETHYLENE	<b>490</b>	<b>480</b>	<b>1100</b>	<b>1400</b>	<b>5300</b>	<b>780</b>	<b>1200</b>	<b>450</b>	<b>430</b>
CIS-1,3-DICHLOROPROPENE	2.4 U	2.4 U	2.4 U	3.1 U	12 U	3.1 U	3.1 U	2.4 U	3.1 U
DIBROMOCHLOROMETHANE	2.5 U	2.5 U	2.5 U	3.1 U	12 U	3.1 U	3.1 U	2.5 U	3.1 U
DICHLORODIFLUOROMETHANE	3.2 U	3.2 U	3.2 U	3.9 U	16 U	3.9 U	2.0 U	1.6 U	2.0 U
METHYLENE CHLORIDE	9.2 U	<b>16</b>	<b>21</b>	11 U	<b>96</b>	11 U	5.6 U	<b>19</b>	5.6 U
TETRACHLOROETHYLENE(PCE)	2.0 U	2.0 U	<b>41</b>	2.5 U	<b>350</b>	2.5 U	2.5 U	<b>18</b>	<b>21</b>
TRANS-1,2-DICHLOROETHENE	2.5 U	2.5 U	2.5 U	3.2 U	13 U	3.2 U	3.2 U	2.5 U	3.2 U
TRANS-1,3-DICHLOROPROPENE	1.9 U	1.9 U	1.9 U	<b>15</b>	9.4 U	2.3 U	<b>15</b>	1.9 U	2.3 U
TRICHLOROETHYLENE (TCE)	<b>42</b>	<b>60</b>	<b>96</b>	<b>130</b>	<b>200</b>	<b>73</b>	<b>110</b>	<b>63</b>	<b>75</b>
TRICHLOROFLUOROMETHANE	3.4 U	3.4 U	3.4 U	4.2 U	17 U	4.2 U	4.2 U	3.4 U	4.2 U
VINYL CHLORIDE	<b>30</b>	<b>34</b>	<b>45</b>	<b>74</b>	<b>220</b>	<b>40</b>	<b>95</b>	<b>44</b>	<b>39</b>
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	0.93 U	0.93 U	0.93 U	1.2 U	4.6 U	1.2 U	1.2 U	1.0 U	1.2 U
ETHYLBENZENE	1.1 U	1.1 U	1.1 U	1.4 U	5.7 U	1.4 U	1.4 U	10 U	13 U
TOLUENE	1.4 U	1.4 U	1.4 U	1.8 U	7.1 U	1.8 U	1.8 U	1.4 U	1.8 U
M,P-XYLENES	--	--	--	--	--	--	--	--	--
O-XYLENE (1,2-DIMETHYLBENZENE)	--	--	--	--	--	--	--	--	--
TOTAL XYLENES	15 U	15 U	15 U	18 U	74 U	18 U	7.7 U	6.2 U	7.7 U
TOTAL VOCs	<b>589</b>	<b>599</b>	<b>1,403</b>	<b>1,679</b>	<b>7,239</b>	<b>917</b>	<b>1,470</b>	<b>636</b>	<b>610</b>

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 05/09/07	Influent 06/06/07	Influent 07/03/07	Influent 08/08/07	Influent 10/04/07	Influent 11/08/07	Influent 12/07/07	Influent 01/11/08	Influent 02/08/08
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	4.8 U	4.8 U	4.8 U	<b>28</b>	<b>16</b>	5 U	10 U	<b>17</b>	<b>41</b>
1,1,2,2-TETRACHLOROETHANE	2.7 U	2.7 U	2.7 U	5 U	10 U	5 U	10 U	10 U	20 U
1,1,2-TRICHLOROETHANE	2.1 U	2.1 U	2.1 U	5 U	10 U	5 U	10 U	10 U	20 U
1,1-DICHLOROETHANE	<b>33</b>	<b>22</b>	<b>22</b>	<b>14</b>	<b>17</b>	<b>19</b>	<b>17</b>	<b>29</b>	<b>110</b>
1,1-DICHLOROETHENE	2.2 U	2.2 U	2.2 U	5 U	10 U	5 U	10 U	10 U	20 U
1,2-DICHLOROBENZENE	3.4 U	3.4 U	3.4 U	5 U	10 U	5 U	10 U	10 U	20 U
1,2-DICHLOROETHANE	2.1 U	2.1 U	2.1 U	5 U	10 U	5 U	10 U	10 U	20 U
1,2-DICHLOROPROPANE	4.5 U	4.5 U	4.5 U	5 U	10 U	5 U	10 U	10 U	20 U
1,3-DICHLOROBENZENE	2.0 U	2.0 U	2.0 U	5 U	10 U	5 U	10 U	10 U	20 U
1,4-DICHLOROBENZENE	4.6 U	4.6 U	4.6 U	5 U	10 U	5 U	10 U	10 U	20 U
2-CHLOROETHYL VINYL ETHER	2.2 U	2.2 U	2.2 U	5 U	10 U	5 U	10 U	10 U	20 U
BROMODICHLOROMETHANE	3.3 U	3.3 U	3.3 U	5 U	10 U	5 U	10 U	10 U	20 U
BROMOFORM	2.1 U	2.1 U	2.1 U	5 U	10 U	5 U	10 U	10 U	20 U
BROMOMETHANE	2.0 U	2.0 U	2.0 U	5 U	10 U	5 U	10 U	10 U	20 U
CARBON TETRACHLORIDE	5.5 U	5.5 U	5.5 U	5 U	10 U	5 U	10 U	10 U	20 U
CHLOROBENZENE	2.0 U	2.0 U	2.0 U	5 U	10 U	5 U	10 U	10 U	20 U
CHLOROETHANE	3.7 U	3.7 U	3.7 U	5 U	10 U	5 U	10 U	10 U	20 U
CHLOROFORM	5.2 U	5.2 U	5.2 U	5 U	10 U	5 U	10 U	10 U	20 U
CHLOROMETHANE	2.4 U	2.4 U	2.4 U	5 U	10 U	5 U	10 U	10 U	20 U
CIS-1,2-DICHLOROETHYLENE	<b>710</b>	<b>360</b>	<b>350</b>	<b>380</b>	<b>510</b>	<b>350</b>	<b>400</b>	<b>350</b>	<b>1100</b>
CIS-1,3-DICHLOROPROPENE	3.1 U	3.1 U	3.1 U	5 U	10 U	5 U	10 U	10 U	20 U
DIBROMOCHLOROMETHANE	3.1 U	3.1 U	3.1 U	5 U	10 U	5 U	10 U	10 U	20 U
DICHLORODIFLUOROMETHANE	2.0 U	2.0 U	2.0 U	--	--	--	--	--	--
METHYLENE CHLORIDE	<b>18</b>	5.6 U	5.6 U	5 U	10 U	5 U	10 U	10 U	20 U
TETRACHLOROETHYLENE(PCE)	2.5 U	2.5 U	2.5 U	<b>22</b>	10 U	5 U	<b>10</b>	<b>17</b>	<b>22</b>
TRANS-1,2-DICHLOROETHENE	<b>23</b>	3.2 U	3.2 U	5 U	10 U	5 U	10 U	10 U	20 U
TRANS-1,3-DICHLOROPROPENE	2.3 U	2.3 U	2.3 U	5 U	10 U	5 U	10 U	10 U	20 U
TRICHLOROETHYLENE (TCE)	<b>81</b>	3.4 U	<b>62</b>	<b>63</b>	<b>45</b>	<b>24</b>	<b>44</b>	<b>52</b>	<b>47</b>
TRICHLOROFLUOROMETHANE	4.2 U	4.2 U	4.2 U	5 U	10 U	5 U	10 U	10 U	20 U
VINYL CHLORIDE	<b>48</b>	<b>32</b>	<b>21</b>	<b>22</b>	<b>30</b>	<b>13</b>	<b>34</b>	<b>150</b>	<b>460</b>
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	1.2 U	1.2 U	1.2 U	5 U	10 U	5 U	10 U	10 U	20 U
ETHYLBENZENE	13 U	13 U	13 U	5 U	10 U	5 U	10 U	10 U	<b>31</b>
TOLUENE	1.8 U	1.8 U	1.8 U	5 U	10 U	5 U	10 U	10 U	20 U
M,P-XYLENES	--	--	--	10 U	20 U	10 U	20 U	20 U	40 U
O-XYLENE (1,2-DIMETHYLBENZENE)	--	--	--	5 U	10 U	5 U	10 U	10 U	20 U
TOTAL XYLENES	7.7 U	7.7 U	7.7 U	--	--	--	--	--	--
TOTAL VOCs	<b>913</b>	<b>414</b>	<b>455</b>	<b>529</b>	<b>618</b>	<b>406</b>	<b>505</b>	<b>615</b>	<b>1,780</b>

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 03/03/08	Influent 09/18/08	Influent 10/23/08	Influent 11/12/08	Influent 12/09/08	Influent 01/06/09	Influent 02/06/09	Influent 03/11/09	Influent 04/09/09
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	10 U	3.4	5.6	11	55	390	530	300	260
1,1,2,2-TETRACHLOROETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
1,1,2-TRICHLOROETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
1,1-DICHLOROETHANE	19	13	16	10	15	32	43	33	36
1,1-DICHLOROETHENE	10 U	2.2	5 U	2.5 U	5 U	20 U	20 U	20 U	12
1,2-DICHLOROBENZENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
1,2-DICHLOROETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
1,2-DICHLOROPROPANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
1,3-DICHLOROBENZENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
1,4-DICHLOROBENZENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
2-CHLOROETHYL VINYL ETHER	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
BROMODICHLOROMETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
BROMOFORM	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
BROMOMETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
CARBON TETRACHLORIDE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
CHLOROBENZENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
CHLOROETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
CHLOROFORM	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
CHLOROMETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
CIS-1,2-DICHLOROETHYLENE	400	220	330	230	420	1900	2400	1800	1400
CIS-1,3-DICHLOROPROPENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
DIBROMOCHLOROMETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
TETRACHLOROETHYLENE(PCE)	10 U	14	15	7.9	40	400	660	460	350
TRANS-1,2-DICHLOROETHENE	10 U	2	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
TRANS-1,3-DICHLOROPROPENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
TRICHLOROETHYLENE (TCE)	50	42	51	41	52	220	310	270	220
TRICHLOROFLUOROMETHANE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
VINYL CHLORIDE	48	28	23	11	23	20 U	36	36	33
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
ETHYLBENZENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
TOLUENE	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
M,P-XYLENES	20 U	4 U	10 U	5 U	10 U	40 U	40 U	40 U	20 U
O-XYLENE (1,2-DIMETHYLBENZENE)	10 U	2 U	5 U	2.5 U	5 U	20 U	20 U	20 U	10 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	517	325	441	311	605	2,942	3,979	2,899	2,311

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 05/06/09	Influent 06/04/09	Influent 07/02/09	Influent 08/05/09	Influent 09/03/09	Influent 10/02/09	Influent 11/05/09	Influent 12/03/09	Influent 01/08/10
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	<b>5.3</b>	2 U	2.5 U	<b>9.5</b>	<b>3.6</b>	5 U	5 U	<b>250</b>	20 U
1,1,2,2-TETRACHLOROETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
1,1,2-TRICHLOROETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
1,1-DICHLOROETHANE	<b>15</b>	<b>13</b>	<b>14</b>	<b>36</b>	<b>16</b>	<b>23</b>	<b>25</b>	<b>43</b>	<b>34</b>
1,1-DICHLOROETHENE	2.5 U	2 U	2.5 U	<b>2.9</b>	<b>2.9</b>	5 U	5 U	20 U	20 U
1,2-DICHLOROBENZENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
1,2-DICHLOROETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
1,2-DICHLOROPROPANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
1,3-DICHLOROBENZENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
1,4-DICHLOROBENZENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
2-CHLOROETHYL VINYL ETHER	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
BROMODICHLOROMETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
BROMOFORM	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
BROMOMETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
CARBON TETRACHLORIDE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
CHLOROBENZENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
CHLOROETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
CHLOROFORM	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
CHLOROMETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
CIS-1,2-DICHLOROETHYLENE	<b>320</b>	<b>250</b>	<b>260</b>	<b>340</b>	<b>330</b>	<b>550</b>	<b>620</b>	<b>2100</b>	<b>680</b>
CIS-1,3-DICHLOROPROPENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
DIBROMOCHLOROMETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
TETRACHLOROETHYLENE(PCE)	<b>8.9</b>	<b>3.8</b>	<b>6.4</b>	<b>11</b>	<b>12</b>	5 U	5 U	<b>560</b>	20 U
TRANS-1,2-DICHLOROETHENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
TRANS-1,3-DICHLOROPROPENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
TRICHLOROETHYLENE (TCE)	<b>34</b>	<b>24</b>	<b>26</b>	<b>29</b>	<b>59</b>	<b>43</b>	<b>53</b>	<b>290</b>	<b>45</b>
TRICHLOROFLUOROMETHANE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
VINYL CHLORIDE	<b>27</b>	<b>20</b>	<b>23</b>	<b>46</b>	<b>39</b>	<b>48</b>	<b>53</b>	<b>46</b>	<b>57</b>
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
ETHYLBENZENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
TOLUENE	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
M,P-XYLENES	5 U	4 U	5 U	5 U	5 U	10 U	10 U	40 U	40 U
O-XYLENE (1,2-DIMETHYLBENZENE)	2.5 U	2 U	2.5 U	2.5 U	2.5 U	5 U	5 U	20 U	20 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	<b>410</b>	<b>311</b>	<b>329</b>	<b>474</b>	<b>463</b>	<b>664</b>	<b>751</b>	<b>3,289</b>	<b>816</b>

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 02/05/10	Influent 03/04/10	Influent 04/02/10	Influent 05/05/10	Influent 06/04/10	Influent 07/02/10	Influent 08/06/10	Influent 09/03/10	Influent 10/01/10
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	20 U	58	120	180	210	110	78	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,1,2-TRICHLOROETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,1-DICHLOROETHANE	21	20 U	50 U	42	50 U	50 U	25 U	9.6	7.9
1,1-DICHLOROETHENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,2-DICHLOROBENZENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,2-DICHLOROETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,2-DICHLOROPROPANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,3-DICHLOROBENZENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
1,4-DICHLOROBENZENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
2-CHLOROETHYL VINYL ETHER	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
BROMODICHLOROMETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
BROMOFORM	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
BROMOMETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
CARBON TETRACHLORIDE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
CHLOROBENZENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
CHLOROETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
CHLOROFORM	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
CHLOROMETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
CIS-1,2-DICHLOROETHYLENE	540	750	920	2300	1900	1100	840	210	220
CIS-1,3-DICHLOROPROPENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
DIBROMOCHLOROMETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
TETRACHLOROETHYLENE(PCE)	25	150	240	650	560	280	230	7	5.7
TRANS-1,2-DICHLOROETHENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
TRANS-1,3-DICHLOROPROPENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
TRICHLOROETHYLENE (TCE)	45	83	120	270	230	130	110	34	31
TRICHLOROFLUOROMETHANE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
VINYL CHLORIDE	48	38	50 U	97	68	50 U	38	9.6	7
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
ETHYLBENZENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
TOLUENE	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
M,P-XYLENES	40 U	40 U	100 U	50 U	100 U	100 U	50 U	10 U	10 U
O-XYLENE (1,2-DIMETHYLBENZENE)	20 U	20 U	50 U	25 U	50 U	50 U	25 U	5 U	5 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	679	1,079	1,400	3,539	2,968	1,620	1,296	270	272

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 11/04/10	Influent 12/03/10	Influent 01/07/11	Influent 02/04/11	Influent 04/08/11	Influent 05/06/11	Influent 06/03/11	Influent 07/01/11	Influent 08/05/11
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	5 U	5 U	5.8	11	0.28 U	210	2.1	0.28 U	0.28 U
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U	10 U	0.42 U	4.2 U	0.42 U	0.42 U	0.42 U
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U	10 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U
1,1-DICHLOROETHANE	11	9.5	15	19	6.9	88	9.2	12	11
1,1-DICHLOROETHENE	5 U	5 U	5 U	10 U	0.22 U	2.2 U	0.22 U	2.5	0.22 U
1,2-DICHLOROBENZENE	5 U	5 U	5 U	10 U	0.54 U	5.4 U	0.54 U	0.54 U	0.54 U
1,2-DICHLOROETHANE	5 U	5 U	5 U	10 U	0.18 U	1.8 U	0.18 U	0.18 U	0.18 U
1,2-DICHLOROPROPANE	5 U	5 U	5 U	10 U	0.16 U	1.6 U	0.16 U	0.16 U	0.16 U
1,3-DICHLOROBENZENE	5 U	5 U	5 U	10 U	0.42 U	4.2 U	0.42 U	0.42 U	0.42 U
1,4-DICHLOROBENZENE	5 U	5 U	5 U	10 U	0.56 U	5.7 U	0.56 U	0.56 U	0.56 U
2-CHLOROETHYL VINYL ETHER	5 U	5 U	5 U	10 U	0.2 U	2 U	0.2 U	0.2 U	0.2 U
BROMODICHLOROMETHANE	5 U	5 U	5 U	10 U	0.12 U	1.2 U	0.12 U	0.12 U	0.12 U
BROMOFORM	5 U	5 U	5 U	10 U	0.26 U	2.6 U	0.26 U	0.26 U	0.26 U
BROMOMETHANE	5 U	5 U	5 U	10 U	0.28 U	2.9 U	0.28 U	0.28 U	0.28 U
CARBON TETRACHLORIDE	5 U	5 U	5 U	10 U	0.2 U	2 U	0.2 U	0.2 U	0.2 U
CHLOROBENZENE	5 U	5 U	5 U	10 U	0.18 U	1.8 U	0.18 U	0.18 U	0.18 U
CHLOROETHANE	5 U	5 U	5 U	10 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U
CHLOROFORM	5 U	5 U	5 U	10 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U
CHLOROMETHANE	5 U	5 U	5 U	10 U	0.24 U	2.4 U	0.24 U	0.24 U	0.24 U
CIS-1,2-DICHLOROETHYLENE	270	230	330	440	110	1900	160	200	210
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	10 U	0.2 U	2 U	0.2 U	0.2 U	0.2 U
DIBROMOCHLOROMETHANE	5 U	5 U	5 U	10 U	0.16 U	1.6 U	0.16 U	0.16 U	0.16 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	5 U	5 U	5 U	10 U	0.2 U	2 U	0.2 U	0.2 U	0.2 U
TETRACHLOROETHYLENE(PCE)	6.3	8.2	5.3	12	9	1200	13	9.9	10
TRANS-1,2-DICHLOROETHENE	5 U	5 U	5 U	10 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	10 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U
TRICHLOROETHYLENE (TCE)	34	33	20	24	26	550	32	34	36
TRICHLOROFLUOROMETHANE	5 U	5 U	5 U	10 U	0.2 U	2 U	0.2 U	0.2 U	0.2 U
VINYL CHLORIDE	8.3	7.7	19	24	13	89	9.1	12	4.1
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	5 U	5 U	5 U	10 U	0.16 U	1.6 U	0.16 U	0.16 U	0.16 U
ETHYLBENZENE	5 U	5 U	5 U	10 U	0.14 U	1.5 U	0.14 U	0.14 U	0.14 U
TOLUENE	5 U	5 U	5 U	10 U	0.14 U	1.5 U	0.14 U	0.14 U	0.14 U
M,P-XYLENES	10 U	10 U	10 U	20 U	0.28 U	2.9 U	0.28 U	0.28 U	0.28 U
O-XYLENE (1,2-DIMETHYLBENZENE)	5 U	5 U	5 U	10 U	0.16 U	1.6 U	0.16 U	0.16 U	0.16 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	330	288	395	530	165	4,037	225	270	271

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 09/02/11	Influent 10/07/11	Influent 11/04/11	Influent 12/02/11	Influent 01/06/12	Influent 02/10/12	Influent 03/02/12	Influent 04/06/12	Influent 05/04/12
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	0.36 U	0.36 U	<b>2.0</b>	0.28 U	0.28 U	<b>2.2</b>	<b>8.5</b>	0.36 U	<b>95</b>
1,1,2,2-TETRACHLOROETHANE	0.53 U	0.53 U	0.21 U	0.42 U	0.42 U	0.21 U	0.21 U	0.53 U	4.2 U
1,1,2-TRICHLOROETHANE	0.28 U	0.28 U	0.11 U	0.22 U	0.22 U	0.11 U	0.11 U	0.28 U	2.2 U
1,1-DICHLOROETHANE	<b>9.2</b>	<b>9.8</b>	<b>10</b>	<b>11</b>	<b>10</b>	<b>8.1</b>	<b>80</b>	<b>14</b>	<b>60</b>
1,1-DICHLOROETHENE	0.28 U	0.28 U	<b>1.8</b>	0.22 U	0.22 U	<b>1.3</b>	<b>5.3</b>	0.28 U	2.2 U
1,2-DICHLOROBENZENE	0.68 U	0.68 U	0.27 U	0.54 U	0.54 U	0.27 U	0.27 U	0.68 U	5.4 U
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.09 U	0.18 U	0.18 U	0.09 U	0.09 U	0.23 U	1.8 U
1,2-DICHLOROPROPANE	0.2 U	0.2 U	0.08 U	0.16 U	0.16 U	0.08 U	0.08 U	0.2 U	1.6 U
1,3-DICHLOROBENZENE	0.53 U	0.53 U	0.21 U	0.42 U	0.42 U	0.21 U	0.21 U	0.53 U	4.2 U
1,4-DICHLOROBENZENE	0.71 U	0.71 U	0.28 U	0.56 U	0.56 U	0.28 U	0.28 U	0.71 U	5.7 U
2-CHLOROETHYL VINYL ETHER	0.25 U	0.25 U	0.1 U	0.2 U	0.2 U	0.1 U	0.1 U	0.25 U	2 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.06 U	0.12 U	0.12 U	0.06 U	0.06 U	0.15 U	1.2 U
BROMOFORM	0.33 U	0.33 U	0.13 U	0.26 U	0.26 U	0.13 U	0.13 U	0.33 U	2.6 U
BROMOMETHANE	0.36 U	0.36 U	0.14 U	0.28 U	0.28 U	0.14 U	0.14 U	0.36 U	2.9 U
CARBON TETRACHLORIDE	0.25 U	0.25 U	0.1 U	0.2 U	0.2 U	0.1 U	0.1 U	0.25 U	2 U
CHLOROBENZENE	0.23 U	0.23 U	0.09 U	0.18 U	0.18 U	0.09 U	0.09 U	0.23 U	1.8 U
CHLOROETHANE	0.28 U	0.28 U	0.11 U	0.22 U	0.22 U	0.11 U	<b>1.2</b>	0.28 U	2.2 U
CHLOROFORM	0.28 U	0.28 U	0.11 U	0.22 U	0.22 U	0.11 U	0.11 U	0.28 U	2.2 U
CHLOROMETHANE	0.3 U	0.3 U	0.12 U	0.24 U	0.24 U	0.12 U	0.12 U	0.3 U	2.4 U
CIS-1,2-DICHLOROETHYLENE	<b>140</b>	<b>150</b>	<b>140</b>	<b>170</b>	<b>140</b>	<b>93</b>	<b>370</b>	<b>210</b>	<b>1200</b>
CIS-1,3-DICHLOROPROPENE	0.25 U	--	0.1 U	0.2 U	0.2 U	0.1 U	0.1 U	0.25 U	2 U
DIBROMOCHLOROMETHANE	0.2 U	0.2 U	0.08 U	0.16 U	0.16 U	0.08 U	0.08 U	0.2 U	1.6 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	0.25 U	0.25 U	0.1 U	0.2 U	0.2 U	0.1 U	0.1 U	0.25 U	2 U
TETRACHLOROETHYLENE(PCE)	<b>8.3</b>	<b>6.9</b>	<b>8.5</b>	<b>11</b>	<b>7.6</b>	<b>15</b>	<b>18</b>	<b>6.6</b>	<b>860</b>
TRANS-1,2-DICHLOROETHENE	0.28 U	0.28 U	0.11 U	0.22 U	0.22 U	<b>1.7</b>	<b>7.2</b>	0.28 U	2.2 U
TRANS-1,3-DICHLOROPROPENE	0.28 U	0.28 U	0.11 U	0.22 U	0.22 U	0.11 U	0.11 U	0.28 U	2.2 U
TRICHLOROETHYLENE (TCE)	<b>26</b>	<b>23</b>	<b>26</b>	<b>25</b>	<b>26</b>	<b>31</b>	<b>98</b>	<b>17</b>	<b>390</b>
TRICHLOROFLUOROMETHANE	0.25 U	0.25 U	0.1 U	0.2 U	0.2 U	0.1 U	0.1 U	0.25 U	2 U
VINYL CHLORIDE	<b>3.5</b>	<b>9.1</b>	<b>3.8</b>	<b>6.9</b>	<b>2.1</b>	<b>3.9</b>	<b>140</b>	<b>5.5</b>	<b>43</b>
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	0.2 U	0.2 U	0.08 U	0.16 U	0.16 U	0.08 U	0.08 U	0.2 U	1.6 U
ETHYLBENZENE	0.18 U	0.18 U	0.07 U	0.14 U	0.14 U	0.07 U	<b>2.4</b>	0.18 U	1.5 U
TOLUENE	0.18 U	0.18 U	0.07 U	0.14 U	0.14 U	0.07 U	0.07 U	0.18 U	1.5 U
M,P-XYLENES	0.36 U	0.36 U	0.14 U	0.28 U	0.28 U	0.14 U	0.14 U	0.36 U	2.9 U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.2 U	0.2 U	0.08 U	0.16 U	0.16 U	0.08 U	0.08 U	0.2 U	1.6 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	<b>187</b>	<b>199</b>	<b>192</b>	<b>224</b>	<b>186</b>	<b>156</b>	<b>728</b>	<b>253</b>	<b>2,648</b>

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Influent 06/01/12	Influent 07/06/12	Influent 08/03/12
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>				
1,1,1-TRICHLOROETHANE		0.28 U	2 U	5 U
1,1,2,2-TETRACHLOROETHANE		0.42 U	2 U	5 U
1,1,2-TRICHLOROETHANE		0.22 U	2 U	5 U
1,1-DICHLOROETHANE		<b>11</b>	<b>19</b>	<b>17</b>
1,1-DICHLOROETHENE		0.22 U	<b>4.1</b>	5 U
1,2-DICHLOROBENZENE		0.54 U	2 U	5 U
1,2-DICHLOROETHANE		0.18 U	2 U	5 U
1,2-DICHLOROPROPANE		0.16 U	2 U	5 U
1,3-DICHLOROBENZENE		0.42 U	2 U	5 U
1,4-DICHLOROBENZENE		0.56 U	2 U	5 U
2-CHLOROETHYL VINYL ETHER		0.2 U	2 U	5 U
BROMODICHLOROMETHANE		0.12 U	2 U	5 U
BROMOFORM		0.26 U	2 U	5 U
BROMOMETHANE		0.28 U	2 U	5 U
CARBON TETRACHLORIDE		0.2 U	2 U	5 U
CHLOROBENZENE		0.18 U	2 U	5 U
CHLOROETHANE		0.22 U	2 U	5 U
CHLOROFORM		0.22 U	2 U	5 U
CHLOROMETHANE		0.24 U	2 U	5 U
CIS-1,2-DICHLOROETHYLENE		<b>160</b>	<b>400</b>	<b>370</b>
CIS-1,3-DICHLOROPROPENE		0.2 U	2 U	5 U
DIBROMOCHLOROMETHANE		0.16 U	2 U	5 U
DICHLORODIFLUOROMETHANE		--	--	--
METHYLENE CHLORIDE		0.2 U	2 U	5 U
TETRACHLOROETHYLENE(PCE)		<b>12</b>	<b>2.5</b>	5 U
TRANS-1,2-DICHLOROETHENE		0.22 U	2 U	5 U
TRANS-1,3-DICHLOROPROPENE		0.22 U	2 U	5 U
TRICHLOROETHYLENE (TCE)		<b>40</b>	<b>34</b>	<b>32</b>
TRICHLOROFLUOROMETHANE		0.2 U	2 U	5 U
VINYL CHLORIDE		0.34 U	<b>51</b>	<b>39</b>
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>				
BENZENE		0.16 U	2 U	5 U
ETHYLBENZENE		0.14 U	2 U	5 U
TOLUENE		0.14 U	2 U	5 U
M,P-XYLENES		0.28 U	4 U	10 U
O-XYLENE (1,2-DIMETHYLBENZENE)		0.16 U	2 U	5 U
TOTAL XYLENES		--		
TOTAL VOCs		<b>223</b>	<b>511</b>	<b>458</b>

**Table A-1. Summary of Influent VOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 08/07/06	Effluent 09/05/06	Effluent 10/03/06	Effluent 11/07/06	Effluent 12/05/06	Effluent 01/04/07	Effluent 02/16/07	Effluent 03/07/07	Effluent 04/13/07
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,1,2,2-TETRACHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,1,2-TRICHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,1-DICHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,1-DICHLOROETHENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,2-DICHLOROBENZENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,2-DICHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,2-DICHLOROPROPANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,3-DICHLOROBENZENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
1,4-DICHLOROBENZENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
2-CHLOROETHYL VINYL ETHER	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
BROMODICHLOROMETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
BROMOFORM	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
BROMOMETHANE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
CARBON TETRACHLORIDE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
CHLOROBENZENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
CHLOROETHANE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
CHLOROFORM	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1 U	1 U
CHLOROMETHANE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
CIS-1,2-DICHLOROETHYLENE	<b>0.35 J</b>	<b>0.22 J</b>	<b>0.20 J</b>	0.4 U	<b>0.22 J</b>	<b>0.34 J</b>	<b>0.47</b>	<b>0.41 J</b>	<b>0.41 J</b>
CIS-1,3-DICHLOROPROPENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
DIBROMOCHLOROMETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
DICHLORODIFLUOROMETHANE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
METHYLENE CHLORIDE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
TETRACHLOROETHYLENE(PCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
TRANS-1,2-DICHLOROETHENE	0.4 U	0.4 U	<b>0.68</b>	<b>3.0</b>	<b>2.3</b>	<b>0.80</b>	<b>0.62</b>	1 U	1 U
TRANS-1,3-DICHLOROPROPENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
TRICHLOROETHYLENE (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
TRICHLOROFLUOROMETHANE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
VINYL CHLORIDE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
ETHYLBENZENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
TOLUENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	1 U
M,P-XYLENES	--	--	--	--	--	--	--	--	--
O-XYLENE (1,2-DIMETHYLBENZENE)	--	--	--	--	--	--	--	--	--
TOTAL XYLENES	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	3 U	3 U
TOTAL VOCs	<b>0.35</b>	<b>0.22</b>	<b>0.88</b>	<b>3.0</b>	<b>2.5</b>	<b>1.1</b>	<b>1.1</b>	<b>0.41</b>	<b>0.41</b>

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 05/09/07	Effluent 06/06/07	Effluent 07/03/07	Effluent 08/08/07	Effluent 10/04/07	Effluent 11/08/07	Effluent 12/07/07	Effluent 01/11/08	Effluent 02/08/08
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-TETRACHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROPROPANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROETHYL VINYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMODICHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOFORM	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CARBON TETRACHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROFORM	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHYLENE	1 U	0.50 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CIS-1,3-DICHLOROPROPENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIBROMOCHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DICHLORODIFLUOROMETHANE	1 U	1 U	1 U	--	--	--	--	--	--
METHYLENE CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TETRACHLOROETHYLENE(PCE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRANS-1,3-DICHLOROPROPENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRICHLOROETHYLENE (TCE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRICHLOROFLUOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VINYL CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TOLUENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
M,P-XYLENES	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U
O-XYLENE (1,2-DIMETHYLBENZENE)	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U
TOTAL XYLENES	3 U	3 U	3 U	--	--	--	--	--	--
TOTAL VOCs	0	0.50	0	0	0	0	0	0	0

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 03/03/08	Effluent 09/18/08	Effluent 10/23/08	Effluent 11/12/08	Effluent 12/09/08	Effluent 01/06/09	Effluent 02/06/09	Effluent 03/11/09	Effluent 04/09/09
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	<b>24</b>
1,1,2,2-TETRACHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,1-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	<b>5.7</b>
1,1-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,2-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,2-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,2-DICHLOROPROPANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,3-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
1,4-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
2-CHLOROETHYL VINYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
BROMODICHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
BROMOFORM	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
BROMOMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
CARBON TETRACHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
CHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
CHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
CHLOROFORM	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
CHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
CIS-1,2-DICHLOROETHYLENE	1 U	1 U	1 U	<b>1.7</b>	<b>2.6</b>	<b>2.4</b>	1 U	<b>10</b>	<b>260</b>
CIS-1,3-DICHLOROPROPENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
DIBROMOCHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
TETRACHLOROETHYLENE(PCE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	<b>1.2</b>	<b>34</b>
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
TRANS-1,3-DICHLOROPROPENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
TRICHLOROETHYLENE (TCE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	<b>27</b>
TRICHLOROFLUOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
VINYL CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
ETHYLBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
TOLUENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
M,P-XYLENES	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	4 U
O-XYLENE (1,2-DIMETHYLBENZENE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.7</b>	<b>2.6</b>	<b>2.4</b>	<b>0</b>	<b>11.2</b>	<b>350.7</b>

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Effluent 05/06/09	Effluent 06/04/09	Effluent 07/02/09	Effluent 08/05/09	Effluent 09/03/09	Effluent 10/02/09	Effluent 11/05/09	Effluent 12/03/09	Effluent 01/08/10
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>										
1,1,1-TRICHLOROETHANE			1 U	1 U	3.7	1 U	1 U	1 U	1 U	1 U
1,1,2,2-TETRACHLOROETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,1,2-TRICHLOROETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,1-DICHLOROETHANE	1.1	2.3	3.4	24	5.6	1 U	1 U	1 U	1 U	1 U
1,1-DICHLOROETHENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROPROPANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
1,4-DICHLOROBENZENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROETHYL VINYL ETHER			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
BROMODICHLOROMETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
BROMOFORM			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
BROMOMETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
CARBON TETRACHLORIDE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
CHLOROBENZENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
CHLOROETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
CHLOROFORM			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
CHLOROMETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHYLENE	48	70	90	260	140	4.1	12	11	10	
CIS-1,3-DICHLOROPROPENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
DIBROMOCHLOROMETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
TETRACHLOROETHYLENE(PCE)			1 U	1 U	4.7	2.9	1 U	1 U	1 U	1 U
TRANS-1,2-DICHLOROETHENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
TRANS-1,3-DICHLOROPROPENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
TRICHLOROETHYLENE (TCE)	2.7	4.3	5.8	16	17	1 U	1 U	1 U	1 U	1 U
TRICHLOROFLUOROMETHANE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
VINYL CHLORIDE			1 U	1.7	13	3.3	1 U	1 U	1 U	1 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>										
BENZENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
TOLUENE			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
M,P-XYLENES			2 U	2 U	5 U	2 U	2 U	2 U	2 U	2 U
O-XYLENE (1,2-DIMETHYLBENZENE)			1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--	--
TOTAL VOCs	51.8	76.6	100.9	321.4	168.8	4.1	12	11	10	

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 02/05/10	Effluent 03/04/10	Effluent 04/02/10	Effluent 05/05/10	Effluent 06/04/10	Effluent 07/02/10	Effluent 08/06/10	Effluent 09/03/10	Effluent 10/01/10
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-TETRACHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	<b>1.8</b>	<b>3</b>	<b>1.5</b>
1,1-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROPROPANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-DICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROETHYL VINYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMODICHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOFORM	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CARBON TETRACHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROFORM	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHYLENE	<b>14</b>	<b>41</b>	<b>16</b>	<b>28</b>	1 U	1 U	<b>48</b>	<b>78</b>	<b>49</b>
CIS-1,3-DICHLOROPROPENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIBROMOCHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TETRACHLOROETHYLENE(PCE)	1 U	<b>2.8</b>	<b>1.2</b>	<b>2.2</b>	1 U	1 U	<b>1.4</b>	<b>1.2</b>	1 U
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRANS-1,3-DICHLOROPROPENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRICHLOROETHYLENE (TCE)	1 U	<b>2.1</b>	1 U	<b>1.2</b>	1 U	1 U	<b>4.7</b>	<b>6.9</b>	<b>3.9</b>
TRICHLOROFLUOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VINYL CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TOLUENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
M,P-XYLENES	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
O-XYLENE (1,2-DIMETHYLBENZENE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	<b>14</b>	<b>45.9</b>	<b>17.2</b>	<b>31.4</b>	<b>0</b>	<b>0</b>	<b>55.9</b>	<b>89.1</b>	<b>54.4</b>

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 11/04/10	Effluent 12/03/10	Effluent 01/07/11	Effluent 02/04/11	Effluent 04/08/11	Effluent 05/06/11	Effluent 06/03/11	Effluent 07/01/11	Effluent 08/05/11
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	2 U	1 U	2.5 U	5 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,1,2,2-TETRACHLOROETHANE	2 U	1 U	2.5 U	5 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-TRICHLOROETHANE	2 U	1 U	2.5 U	5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,1-DICHLOROETHANE	<b>6.5</b>	<b>4.7</b>	<b>9.4</b>	<b>15</b>	<b>1.7</b>	<b>1.4</b>	0.13 U	0.13 U	0.13 U
1,1-DICHLOROETHENE	2 U	1 U	2.5 U	5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2-DICHLOROBENZENE	2 U	1 U	2.5 U	5 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,2-DICHLOROETHANE	2 U	1 U	2.5 U	5 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
1,2-DICHLOROPROPANE	2 U	1 U	2.5 U	5 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
1,3-DICHLOROBENZENE	2 U	1 U	2.5 U	5 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-DICHLOROBENZENE	2 U	1 U	2.5 U	5 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
2-CHLOROETHYL VINYL ETHER	2 U	1 U	2.5 U	5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
BROMODICHLOROMETHANE	2 U	1 U	2.5 U	5 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
BROMOFORM	2 U	1 U	2.5 U	5 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOMETHANE	2 U	1 U	2.5 U	5 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
CARBON TETRACHLORIDE	2 U	1 U	2.5 U	5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
CHLOROBENZENE	2 U	1 U	2.5 U	5 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
CHLOROETHANE	2 U	1 U	2.5 U	5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
CHLOROFORM	2 U	1 U	2.5 U	5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
CHLOROMETHANE	2 U	1 U	2.5 U	5 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
CIS-1,2-DICHLOROETHYLENE	<b>150</b>	<b>91</b>	<b>190</b>	<b>320</b>	<b>38</b>	<b>40</b>	<b>11</b>	<b>7.7</b>	<b>30</b>
CIS-1,3-DICHLOROPROPENE	2 U	1 U	2.5 U	5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
DIBROMOCHLOROMETHANE	2 U	1 U	2.5 U	5 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	2 U	1 U	2.5 U	5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TETRACHLOROETHYLENE(PCE)	<b>2.8</b>	<b>3.6</b>	2.5 U	5 U	<b>1.3</b>	<b>5</b>	0.12 U	0.12 U	0.12 U
TRANS-1,2-DICHLOROETHENE	2 U	1 U	2.5 U	5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TRANS-1,3-DICHLOROPROPENE	2 U	1 U	2.5 U	5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TRICHLOROETHYLENE (TCE)	<b>17</b>	<b>14</b>	<b>12</b>	<b>14</b>	<b>5.2</b>	<b>5.2</b>	0.1 U	0.1 U	<b>2.2</b>
TRICHLOROFLUOROMETHANE	2 U	1 U	2.5 U	5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VINYL CHLORIDE	<b>2.6</b>	<b>2.2</b>	<b>9.7</b>	<b>17</b>	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	2 U	1 U	2.5 U	5 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
ETHYLBENZENE	2 U	1 U	2.5 U	5 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
TOLUENE	2 U	1 U	2.5 U	5 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
M,P-XYLENES	4 U	2 U	5 U	10 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE (1,2-DIMETHYLBENZENE)	2 U	1 U	2.5 U	5 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	<b>178.9</b>	<b>115.5</b>	<b>221.1</b>	<b>366</b>	<b>46.2</b>	<b>51.6</b>	<b>11</b>	<b>7.7</b>	<b>32.2</b>

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 09/02/11	Effluent 10/07/11	Effluent 11/04/11	Effluent 12/02/11	Effluent 01/06/12	Effluent 02/10/12	Effluent 03/02/12	Effluent 04/06/12	Effluent 05/04/12
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>									
1,1,1-TRICHLOROETHANE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	<b>3.5</b>	0.28 U	0.14 U
1,1,2,2-TETRACHLOROETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.42 U	0.21 U
1,1,2-TRICHLOROETHANE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.22 U	0.11 U
1,1-DICHLOROETHANE	<b>2.2</b>	<b>1.5</b>	0.13 U	<b>2</b>	<b>5.2</b>	<b>4.7</b>	<b>48</b>	<b>8.1</b>	<b>5.3</b>
1,1-DICHLOROETHENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	<b>1.8</b>	0.22 U	0.11 U
1,2-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.54 U	0.27 U
1,2-DICHLOROETHANE	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.18 U	0.09 U
1,2-DICHLOROPROPANE	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.16 U	0.08 U
1,3-DICHLOROBENZENE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.42 U	0.21 U
1,4-DICHLOROBENZENE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.56 U	0.28 U
2-CHLOROETHYL VINYL ETHER	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
BROMODICHLOROMETHANE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.12 U	0.06 U
BROMOFORM	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.26 U	0.13 U
BROMOMETHANE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.28 U	0.14 U
CARBON TETRACHLORIDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
CHLOROBENZENE	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.18 U	0.09 U
CHLOROETHANE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.22 U	0.11 U
CHLOROFORM	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.22 U	0.11 U
CHLOROMETHANE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.24 U	0.12 U
CIS-1,2-DICHLOROETHYLENE	<b>43</b>	<b>32</b>	<b>18</b>	<b>44</b>	<b>76</b>	<b>58</b>	<b>170</b>	<b>140</b>	<b>78</b>
CIS-1,3-DICHLOROPROPENE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
DIBROMOCHLOROMETHANE	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.16 U	0.08 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
TETRACHLOROETHYLENE(PCE)	<b>1.1</b>	0.12 U	0.12 U	0.12 U	<b>3</b>	<b>5.7</b>	<b>9.2</b>	<b>2.3</b>	<b>6.7</b>
TRANS-1,2-DICHLOROETHENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	<b>3.3</b>	0.22 U	0.11 U
TRANS-1,3-DICHLOROPROPENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.22 U	0.11 U
TRICHLOROETHYLENE (TCE)	<b>4.5</b>	<b>2.7</b>	<b>2</b>	<b>3.1</b>	<b>12</b>	<b>16</b>	<b>38</b>	<b>6.5</b>	<b>18</b>
TRICHLOROFLUOROMETHANE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
VINYL CHLORIDE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	<b>1.4</b>	<b>65</b>	0.34 U	<b>1.4</b>
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>									
BENZENE	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.16 U	0.08 U
ETHYLBENZENE	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	<b>1.1</b>	0.14 U	0.07 U
TOLUENE	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.14 U	0.07 U
M,P-XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.28 U	0.14 U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.16 U	0.08 U
TOTAL XYLENES	--	--	--	--	--	--	--	--	--
TOTAL VOCs	<b>50.8</b>	<b>36.2</b>	<b>20</b>	<b>49.1</b>	<b>96.2</b>	<b>85.8</b>	<b>338.8</b>	<b>156.9</b>	<b>109.4</b>

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Effluent 06/01/12	Effluent 07/06/12	Effluent 08/03/12
<b>VOCs by Method CFR136 601 or SW8260B (µg/L)</b>				
1,1,1-TRICHLOROETHANE		0.14 U	1 U	2 U
1,1,2,2-TETRACHLOROETHANE		0.21 U	1 U	2 U
1,1,2-TRICHLOROETHANE		0.11 U	1 U	2 U
1,1-DICHLOROETHANE		<b>2.2</b>	<b>6.4</b>	<b>4</b>
1,1-DICHLOROETHENE		0.11 U	1 U	2 U
1,2-DICHLOROENZENE		0.27 U	1 U	2 U
1,2-DICHLOROETHANE		0.09 U	1 U	2 U
1,2-DICHLOROPROPANE		0.08 U	1 U	2 U
1,3-DICHLOROENZENE		0.21 U	1 U	2 U
1,4-DICHLOROENZENE		0.28 U	1 U	2 U
2-CHLOROETHYL VINYL ETHER		0.1 U	1 U	2 U
BROMODICHLOROMETHANE		0.06 U	1 U	2 U
BROMOFORM		0.13 U	1 U	2 U
BROMOMETHANE		0.14 U	1 U	2 U
CARBON TETRACHLORIDE		0.1 U	1 U	2 U
CHLOROENZENE		0.09 U	1 U	2 U
CHLOROETHANE		0.11 U	1 U	2 U
CHLOROFORM		0.11 U	1 U	2 U
CHLOROMETHANE		0.12 U	1 U	2 U
CIS-1,2-DICHLOROETHYLENE		<b>41</b>	<b>130</b>	<b>99</b>
CIS-1,3-DICHLOROPROPENE		0.1 U	1 U	2 U
DIBROMOCHLOROMETHANE		0.08 U	1 U	2 U
DICHLORODIFLUOROMETHANE		--	--	--
METHYLENE CHLORIDE		0.1 U	1 U	2 U
TETRACHLOROETHYLENE(PCE)		<b>1.4</b>	1 U	2 U
TRANS-1,2-DICHLOROETHENE		0.11 U	1 U	2 U
TRANS-1,3-DICHLOROPROPENE		0.11 U	1 U	2 U
TRICHLOROETHYLENE (TCE)		<b>6.7</b>	<b>10</b>	<b>6.7</b>
TRICHLOROFLUOROMETHANE		0.1 U	1 U	2 U
VINYL CHLORIDE		0.17 U	<b>5.1</b>	2 U
<b>VOCs by Method CFR136 602 or SW8260B (µg/L)</b>				
BENZENE		0.08 U	1 U	2 U
ETHYLBENZENE		0.07 U	1 U	2 U
TOLUENE		0.07 U	1 U	2 U
M,P-XYLENES		0.14 U	2 U	4 U
O-XYLENE (1,2-DIMETHYLBENZENE)		0.08 U	1 U	2 U
TOTAL XYLENES		--	--	--
TOTAL VOCs		<b>51.3</b>	<b>151.5</b>	<b>109.7</b>

**Table A-2. Summary of Effluent VOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

## **Attachment B**

### **Influent and Effluent Semivolatile Organic Compound Analytical Results**

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 08/07/06	Influent 09/05/06	Influent 10/03/06	Influent 11/07/06	Influent 12/05/06	Influent 01/04/07	Influent 02/16/07	Influent 03/07/07	Influent 04/13/07
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
1,2-DICHLOROBENZENE	9.5 U	48 U	47 U	9.4 U	<b>0.31 J</b>	9.5 U	9.4 U	9.4 U	9.5 U
1,2-DIPHENYLHYDRAZINE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
1,3-DICHLOROBENZENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
1,4-DICHLOROBENZENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2,4,6-TRICHLOROPHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2,4-DICHLOROPHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2,4-DIMETHYLPHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2,4-DINITROPHENOL	48 U	240 U	240 U	47 U	48 U	48 U	47 U	47 U	47 U
2,4-DINITROTOLUENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2,6-DINITROTOLUENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2-CHLORONAPHTHALENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2-CHLOROPHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
2-NITROPHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
3,3'-DICHLOROBENZIDINE	19 U	95 U	94 U	19 U	19 U	19 U	19 U	19 U	19 U
4,6-DINITRO-2-METHYLPHENOL	48 U	240 U	240 U	47 U	48 U	48 U	47 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
4-CHLORO-3-METHYLPHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
4-CHLOROPHENYL PHENYL ETHER	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
4-NITROPHENOL	48 U	240 U	240 U	47 U	48 U	48 U	47 U	47 U	47 U
ACENAPHTHENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
ACENAPHTHYLENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
ANTHRACENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BENZIDINE	76 U	380 U	380 U	75 U	76 U	76 U	75 U	75 U	76 U
BENZO(A)ANTHRACENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BENZO(A)PYRENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BENZO(B)FLUORANTHENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BENZO(G,H,I)PERYLENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BENZO(K)FLUORANTHENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BENZYL BUTYL PHTHALATE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BIS(2-CHLOROETHOXY) METHANE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BIS(2-CHLOROISOPROPYL) ETHER	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
BIS(2-ETHYLHEXYL) PHTHALATE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
CHRYSENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
DIBENZ(A,H)ANTHRACENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
DIETHYL PHTHALATE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
DIMETHYL PHTHALATE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
DI-N-BUTYL PHTHALATE	9.5 U	48 U	47 U	9.4 U	<b>1.1 BJ</b>	9.5 U	<b>0.56 J</b>	<b>0.82 BJ</b>	9.5 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 08/07/06	Influent 09/05/06	Influent 10/03/06	Influent 11/07/06	Influent 12/05/06	Influent 01/04/07	Influent 02/16/07	Influent 03/07/07	Influent 04/13/07
DI-N-OCTYLPHthalate	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
FLUORANTHENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
FLUORENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
HEXACHLORO BENZENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
HEXACHLOROBUTADIENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
HEXACHLOROCYCLOPENTADIENE	43 U	210 U	210 U	42 U	43 U	43 U	42 U	42 U	43 U
HEXACHLOROETHANE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
INDENO(1,2,3-C,D)PYRENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
ISOPHORONE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
NAPHTHALENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
NITROBENZENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
N-NITROSODIMETHYLAMINE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
N-NITROSODI-N-PROPYLAMINE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
N-NITROSODIPHENYLAMINE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
PENTACHLOROPHENOL	48 U	240 U	240 U	47 U	48 U	48 U	47 U	47 U	47 U
PHENANTHRENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
PHENOL	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
PYRENE	9.5 U	48 U	47 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.5 U
TOTAL SVOCs	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.4</b>	<b>0</b>	<b>0.56</b>	<b>0.82</b>	<b>0</b>

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 05/09/07	Influent 06/06/07	Influent 07/03/07	Influent 08/08/07	Influent 10/04/07	Influent 11/08/07	Influent 12/07/07	Influent 01/11/08	Influent 02/08/08
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
1,2-DICHLOROBENZENE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
1,2-DIPHENYLHYDRAZINE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
1,3-DICHLOROBENZENE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
1,4-DICHLOROBENZENE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2,4,6-TRICHLOROPHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2,4-DICHLOROPHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2,4-DIMETHYLPHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2,4-DINITROPHENOL	9.5 U	9.6 U	9.5 U	47 U	47 U	48 U	48 U	49 U	48 U
2,4-DINITROTOLUENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2,6-DINITROTOLUENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2-CHLORONAPHTHALENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2-CHLOROPHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
2-NITROPHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
3,3'-DICHLOROBENZIDINE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
4,6-DINITRO-2-METHYLPHENOL	9.5 U	9.6 U	9.5 U	47 U	47 U	48 U	48 U	49 U	48 U
4-BROMOPHENYL PHENYL ETHER	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
4-CHLORO-3-METHYLPHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
4-CHLOROPHENYL PHENYL ETHER	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
4-NITROPHENOL	9.5 U	9.6 U	9.5 U	47 U	47 U	48 U	48 U	49 U	48 U
ACENAPHTHENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
ACENAPHTHYLENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
ANTHRACENE	<b>0.12 J</b>	9.6 U	<b>0.14 J</b>	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BENZIDINE	76 U	76 U	76 U	94 U	94 U	95 U	95 U	97 U	96 U
BENZO(A)ANTHRACENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BENZO(A)PYRENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BENZO(B)FLUORANTHENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BENZO(G,H,I)PERYLENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BENZO(K)FLUORANTHENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BENZYL BUTYL PHTHALATE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BIS(2-CHLOROETHOXY) METHANE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BIS(2-CHLOROISOPROPYL) ETHER	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
BIS(2-ETHYLHEXYL) PHTHALATE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
CHRYSENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
DIBENZ(A,H)ANTHRACENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
DIETHYL PHTHALATE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
DIMETHYL PHTHALATE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
DI-N-BUTYL PHTHALATE	4.8 U	<b>0.28 BJ</b>	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 05/09/07	Influent 06/06/07	Influent 07/03/07	Influent 08/08/07	Influent 10/04/07	Influent 11/08/07	Influent 12/07/07	Influent 01/11/08	Influent 02/08/08
DI-N-OCTYLPHthalate	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
FLUORANTHENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
FLUORENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
HEXACHLORO BENZENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
HEXACHLOROBUTADIENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
HEXACHLOROCYCLOPENTADIENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
HEXACHLOROETHANE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
INDENO(1,2,3-C,D)PYRENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
ISOPHORONE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
NAPHTHALENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
NITROBENZENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
N-NITROSODIMETHYLAMINE	9.5 U	9.6 U	9.5 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
N-NITROSODI-N-PROPYLAMINE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
N-NITROSODIPHENYLAMINE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
PENTACHLOROPHENOL	9.5 U	9.6 U	9.5 U	47 U	47 U	48 U	48 U	49 U	48 U
PHENANTHRENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
PHENOL	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
PYRENE	4.8 U	4.8 U	4.7 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	4.8 U
TOTAL SVOCs	<b>0.12</b>	<b>0.28</b>	<b>0.14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 03/03/08	Influent 09/18/08	Influent 10/23/08	Influent 11/12/08	Influent 12/09/08	Influent 01/06/09	Influent 02/06/09	Influent 03/11/09	Influent 04/09/09
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	--	4.8 U	4.7 U	4.7 U
1,2-DIPHENYLHYDRAZINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	--	4.8 U	4.7 U	4.7 U
1,4-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	--	4.8 U	4.7 U	4.7 U
2,4,6-TRICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,4-DINITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
2,4-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2-CHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2-NITROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4-NITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
ACENAPHTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
ACENAPHTHYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZIDINE	94 U	94 U	94 U	94 U	94 U	94 U	95 U	94 U	94 U
BENZO(A)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(A)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZYL BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
CHRYSENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DIETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 03/03/08	Influent 09/18/08	Influent 10/23/08	Influent 11/12/08	Influent 12/09/08	Influent 01/06/09	Influent 02/06/09	Influent 03/11/09	Influent 04/09/09
DI-N-OCTYLPHthalate	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
FLUORENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLORO BENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROETHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
ISOPHORONE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
NAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
NITROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
PENTACHLOROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
PHENANTHRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
PHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 06/04/09	Influent 07/02/09	Influent 08/05/09	Influent 09/03/09	Influent 10/02/09	Influent 11/05/09	Influent 12/03/09	Influent 01/08/10	Influent 02/05/10
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,2-DIPHENYLHYDRAZINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,4-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4,6-TRICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DINITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-NITROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-NITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
ACENAPHTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ACENAPHTHYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZIDINE	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U
BENZO(A)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(A)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZYL BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
CHRYSENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 06/04/09	Influent 07/02/09	Influent 08/05/09	Influent 09/03/09	Influent 10/02/09	Influent 11/05/09	Influent 12/03/09	Influent 01/08/10	Influent 02/05/10
DI-N-OCTYLPHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROETHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ISOPHORONE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NITROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PENTACHLOROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
PHENANTHRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 03/04/10	Influent 04/02/10	Influent 05/05/10	Influent 06/04/10	Influent 07/02/10	Influent 08/06/10	Influent 09/03/10	Influent 10/01/10	Influent 11/04/10
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	5 U	4.7 U	4.7 U	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	5 U	4.7 U	4.7 U	--	--	--	--	--	--
1,4-DICHLOROBENZENE	5 U	4.7 U	4.7 U	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DINITROPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-DINITROTOLUENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLOROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-NITROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-NITROPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
ACENAPHTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ACENAPHTHYLENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ANTHRACENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZIDINE	100 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U
BENZO(A)ANTHRACENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(A)PYRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZYL BUTYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
CHRYSENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIETHYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 03/04/10	Influent 04/02/10	Influent 05/05/10	Influent 06/04/10	Influent 07/02/10	Influent 08/06/10	Influent 09/03/10	Influent 10/01/10	Influent 11/04/10
DI-N-OCTYLPHthalate	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORANTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLORO BENZENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROETHANE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ISOPHORONE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NAPHTHALENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NITROBENZENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PENTACHLOROPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
PHENANTHRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PYRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 12/03/10	Influent 01/07/11	Influent 02/04/11	Influent 04/08/11	Influent 05/06/11	Influent 06/03/11	Influent 07/01/11	Influent 08/05/11	Influent 09/02/11
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	4.7 U	4.7 U	4.7 U	0.73 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	4.7 U	4.7 U	4.7 U	0.71 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
2,4-DICHLOROPHENOL	4.7 U	4.7 U	4.7 U	0.91 U	1 U	1 U	1 U	1 U	1 U
2,4-DIMETHYLPHENOL	4.7 U	4.7 U	4.7 U	1.6 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2,4-DINITROPHENOL	47 U	47 U	47 U	34 U	34 U	34 U	34 U	34 U	34 U
2,4-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
2,6-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-CHLORONAPHTHALENE	4.7 U	4.7 U	4.7 U	0.97 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROPHENOL	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-NITROPHENOL	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
3,3'-DICHLOROBENZIDINE	4.7 U	4.7 U	4.7 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	22 U	22 U	22 U	22 U	22 U	22 U
4-BROMOPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	0.84 U	1 U	1 U	1 U	1 U	1 U
4-CHLORO-3-METHYLPHENOL	4.7 U	4.7 U	4.7 U	0.76 U	1 U	1 U	1 U	1 U	1 U
4-CHLOROPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	0.73 U	1 U	1 U	1 U	1 U	1 U
4-NITROPHENOL	47 U	47 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
ACENAPHTHENE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ACENAPHTHYLENE	4.7 U	4.7 U	4.7 U	0.97 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	4.7 U	4.7 U	4.7 U	0.6 U	1 U	1 U	1 U	1 U	1 U
BENZIDINE	94 U	94 U	94 U	53 U	53 U	53 U	53 U	53 U	53 U
BENZO(A)ANTHRACENE	4.7 U	4.7 U	4.7 U	0.73 U	1 U	1 U	1 U	1 U	1 U
BENZO(A)PYRENE	4.7 U	4.7 U	4.7 U	0.5 U	1 U	1 U	1 U	1 U	1 U
BENZO(B)FLUORANTHENE	4.7 U	4.7 U	4.7 U	0.75 U	1 U	1 U	1 U	1 U	1 U
BENZO(G,H,I)PERYLENE	4.7 U	4.7 U	4.7 U	0.79 U	1 U	1 U	1 U	1 U	1 U
BENZO(K)FLUORANTHENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZYL BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.87 U	1 U	1 U	1 U	1 U	1 U
BIS(2-CHLOROETHOXY) METHANE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.7 U	4.7 U	4.7 U	1 U	1 U	1 U	1 U	1 U	1 U
BIS(2-CHLOROISOPROPYL) ETHER	4.7 U	4.7 U	4.7 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
BIS(2-ETHYLHEXYL) PHTHALATE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
CHRYSENE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
DIBENZ(A,H)ANTHRACENE	4.7 U	4.7 U	4.7 U	0.82 U	1 U	1 U	1 U	1 U	1 U
DIETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.89 U	1 U	1 U	1 U	1 U	1 U
DIMETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.65 U	1 U	1 U	1 U	1 U	1 U
DI-N-BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.91 U	1 U	1 U	1 U	1 U	1 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 12/03/10	Influent 01/07/11	Influent 02/04/11	Influent 04/08/11	Influent 05/06/11	Influent 06/03/11	Influent 07/01/11	Influent 08/05/11	Influent 09/02/11
DI-N-OCTYLPHthalate	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
FLUORANTHENE	4.7 U	4.7 U	4.7 U	0.98 U	1 U	1 U	1 U	1 U	1 U
FLUORENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLORO BENZENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLOROBUTADIENE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
HEXACHLOROCYCLOPENTADIENE	4.7 U	4.7 U	4.7 U	2 U	2 U	2 U	2 U	2 U	2 U
HEXACHLOROETHANE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
INDENO(1,2,3-C,D)PYRENE	4.7 U	4.7 U	4.7 U	0.77 U	1 U	1 U	1 U	1 U	1 U
ISOPHORONE	4.7 U	4.7 U	4.7 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
NAPHTHALENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
NITROBENZENE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
N-NITROSODIMETHYLAMINE	4.7 U	4.7 U	4.7 U	0.88 U	1 U	1 U	1 U	1 U	1 U
N-NITROSODI-N-PROPYLAMINE	4.7 U	4.7 U	4.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
N-NITROSODIPHENYLAMINE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
PENTACHLOROPHENOL	47 U	47 U	47 U	23 U	23 U	23 U	23 U	23 U	23 U
PHENANTHRENE	4.7 U	4.7 U	4.7 U	0.85 U	1 U	1 U	1 U	1 U	1 U
PHENOL	4.7 U	4.7 U	4.7 U	0.4 U	1 U	1 U	1 U	1 U	1 U
PYRENE	4.7 U	4.7 U	4.7 U	0.85 U	1 U	1 U	1 U	1 U	1 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 10/07/11	Influent 11/04/11	Influent 12/02/11	Influent 01/06/12	Influent 02/10/12	Influent 03/02/12	Influent 04/06/12	Influent 05/04/12	Influent 06/01/12
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
2,4-DICHLOROPHENOL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4-DIMETHYLPHENOL	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2,4-DINITROPHENOL	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U
2,4-DINITROTOLUENE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
2,6-DINITROTOLUENE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-CHLORONAPHTHALENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROPHENOL	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-NITROPHENOL	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
3,3'-DICHLOROBENZIDINE	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
4,6-DINITRO-2-METHYLPHENOL	22 U	22 U	22 U	22 U	22 U	22 U	22 U	22 U	22 U
4-BROMOPHENYL PHENYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-CHLORO-3-METHYLPHENOL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-CHLOROPHENYL PHENYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-NITROPHENOL	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
ACENAPHTHENE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ACENAPHTHYLENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZIDINE	53 U	53 U	53 U	53 U	53 U	53 U	53 U	53 U	53 U
BENZO(A)ANTHRACENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(A)PYRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(B)FLUORANTHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(G,H,I)PERYLENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(K)FLUORANTHENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZYL BUTYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BIS(2-CHLOROETHOXY) METHANE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BIS(2-CHLOROISOPROPYL) ETHER	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
BIS(2-ETHYLHEXYL) PHTHALATE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
CHRYSENE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
DIBENZ(A,H)ANTHRACENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIETHYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIMETHYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DI-N-BUTYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 10/07/11	Influent 11/04/11	Influent 12/02/11	Influent 01/06/12	Influent 02/10/12	Influent 03/02/12	Influent 04/06/12	Influent 05/04/12	Influent 06/01/12
DI-N-OCTYLPHthalate	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
FLUORANTHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
FLUORENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLORO BENZENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLOROBUTADIENE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
HEXACHLOROCYCLOPENTADIENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
HEXACHLOROETHANE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
INDENO(1,2,3-C,D)PYRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ISOPHORONE	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
NAPHTHALENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
NITROBENZENE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
N-NITROSODIMETHYLAMINE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-NITROSODI-N-PROPYLAMINE	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
N-NITROSODIPHENYLAMINE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
PENTACHLOROPHENOL	23 U	23 U	23 U	23 U	23 U	23 U	23 U	23 U	23 U
PHENANTHRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PHENOL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PYRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Influent 07/06/12	Influent 08/03/12
<b>SVOCs by Method E625 (µg/L)</b>			
1,2,4-TRICHLOROBENZENE		4.7 U	4.7 U
1,2-DICHLOROBENZENE		--	--
1,2-DIPHENYLHYDRAZINE		4.7 U	4.7 U
1,3-DICHLOROBENZENE		--	--
1,4-DICHLOROBENZENE		--	--
2,4,6-TRICHLOROPHENOL		4.7 U	4.7 U
2,4-DICHLOROPHENOL		4.7 U	4.7 U
2,4-DIMETHYLPHENOL		4.7 U	4.7 U
2,4-DINITROPHENOL		47 U	47 U
2,4-DINITROTOLUENE		4.7 U	4.7 U
2,6-DINITROTOLUENE		4.7 U	4.7 U
2-CHLORONAPHTHALENE		4.7 U	4.7 U
2-CHLOROPHENOL		4.7 U	4.7 U
2-NITROPHENOL		4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE		4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL		47 U	47 U
4-BROMOPHENYL PHENYL ETHER		4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL		4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER		4.7 U	4.7 U
4-NITROPHENOL		47 U	47 U
ACENAPHTHENE		4.7 U	4.7 U
ACENAPHTHYLENE		4.7 U	4.7 U
ANTHRACENE		4.7 U	4.7 U
BENZIDINE		94 U	94 U
BENZO(A)ANTHRACENE		4.7 U	4.7 U
BENZO(A)PYRENE		4.7 U	4.7 U
BENZO(B)FLUORANTHENE		4.7 U	4.7 U
BENZO(G,H,I)PERYLENE		4.7 U	4.7 U
BENZO(K)FLUORANTHENE		4.7 U	4.7 U
BENZYL BUTYL PHTHALATE		4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE		4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)		4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER		4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE		4.7 U	4.7 U
CHRYSENE		4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE		4.7 U	4.7 U
DIETHYL PHTHALATE		4.7 U	4.7 U
DIMETHYL PHTHALATE		4.7 U	4.7 U
DI-N-BUTYL PHTHALATE		4.7 U	4.7 U

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Influent 07/06/12	Influent 08/03/12
DI-N-OCTYLPHTHALATE		4.7 U	4.7 U
FLUORANTHENE		4.7 U	4.7 U
FLUORENE		4.7 U	4.7 U
HEXACHLOROBENZENE		4.7 U	4.7 U
HEXACHLOROBUTADIENE		4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE		4.7 U	4.7 U
HEXACHLOROETHANE		4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE		4.7 U	4.7 U
ISOPHORONE		4.7 U	4.7 U
NAPHTHALENE		4.7 U	4.7 U
NITROBENZENE		4.7 U	4.7 U
N-NITROSODIMETHYLAMINE		4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE		4.7 U	4.7 U
N-NITROSODIPHENYLAMINE		4.7 U	4.7 U
PENTACHLOROPHENOL		47 U	47 U
PHENANTHRENE		4.7 U	4.7 U
PHENOL		4.7 U	4.7 U
PYRENE		4.7 U	4.7 U
TOTAL SVOCs		<b>0</b>	<b>0</b>

**Table B-1. Summary of Influent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 08/07/06	Effluent 09/05/06	Effluent 10/03/06	Effluent 11/07/06	Effluent 12/05/06	Effluent 01/04/07	Effluent 02/16/07	Effluent 03/07/07	Effluent 04/13/07
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
1,2-DICHLOROBENZENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
1,2-DIPHENYLHYDRAZINE	--	--	--	--	--	--	--	--	--
1,3-DICHLOROBENZENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
1,4-DICHLOROBENZENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2,2'-OXYBIS(1-CHLOROPROPANE)	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2,4,6-TRICHLOROPHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2,4-DICHLOROPHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2,4-DIMETHYLPHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2,4-DINITROPHENOL	47 U	47 U	47 U	47 U	47 U	48 U	47 U	48 U	47 U
2,4-DINITROTOLUENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2,6-DINITROTOLUENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2-CHLORONAPHTHALENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2-CHLOROPHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
2-NITROPHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
3,3'-DICHLOROBENZIDINE	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	47 U	47 U	48 U	47 U	48 U	47 U
4-BROMOPHENYL PHENYL ETHER	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
4-CHLORO-3-METHYLPHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
4-CHLOROPHENYL PHENYL ETHER	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
4-NITROPHENOL	47 U	47 U	47 U	47 U	47 U	48 U	47 U	48 U	47 U
ACENAPHTHENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
ACENAPHTHYLENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
ANTHRACENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	<b>0.10 J</b>	9.4 U
BENZIDINE	76 U	76 U	75 U	75 U	75 U	76 U	75 U	76 U	75 U
BENZO(A)ANTHRACENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BENZO(A)PYRENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BENZO(B)FLUORANTHENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BENZO(G,H,I)PERYLENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BENZO(K)FLUORANTHENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BIS(2-CHLOROETHOXY) METHANE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BIS(2-CHLOROISOPROPYL) ETHER	--	--	--	--	--	--	--	--	--
BIS(2-ETHYLHEXYL) PHTHALATE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
BUTYL BENZYL PHTHALATE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
CHRYSENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
DI-N-BUTYL PHTHALATE	9.5 U	9.5 U	9.4 U	9.4 U	<b>1.1 BJ</b>	9.5 U	9.4 U	<b>0.54 BJ</b>	9.4 U
DI-N-OCTYLPHTHALATE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
DIBENZ(A,H)ANTHRACENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 08/07/06	Effluent 09/05/06	Effluent 10/03/06	Effluent 11/07/06	Effluent 12/05/06	Effluent 01/04/07	Effluent 02/16/07	Effluent 03/07/07	Effluent 04/13/07
DIETHYL PHTHALATE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
DIMETHYL PHTHALATE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
FLUORANTHENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
FLUORENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
HEXACHLOROBENZENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
HEXACHLOROBUTADIENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
HEXACHLOROCYCLOPENTADIENE	43 U	43 U	42 U	42 U	42 U	43 U	42 U	43 U	42 U
HEXACHLOROETHANE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
INDENO(1,2,3-C,D)PYRENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
ISOPHORONE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	<b>0.098 J</b>	9.4 U
N-NITROSODI-N-PROPYLAMINE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
N-NITROSODIMETHYLAMINE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
N-NITROSODIPHENYLAMINE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
NAPHTHALENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	<b>0.096 J</b>	9.4 U
NITROBENZENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
PENTACHLOROPHENOL	47 U	47 U	47 U	47 U	47 U	48 U	47 U	48 U	47 U
PHENANTHRENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
PHENOL	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
PYRENE	9.5 U	9.5 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.5 U	9.4 U
TOTAL SVOCs	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.1</b>	<b>0</b>	<b>0</b>	<b>0.83</b>	<b>0</b>

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 05/09/07	Effluent 06/06/07	Effluent 07/03/07	Effluent 08/08/07	Effluent 10/04/07	Effluent 11/08/07	Effluent 12/07/07	Effluent 01/11/08	Effluent 02/08/08
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
1,2-DIPHENYLHYDRAZINE	--	--	--	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
1,4-DICHLOROBENZENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2,2'-OXYBIS(1-CHLOROPROPANE)	9.4 U	9.4 U	9.5 U	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2,4-DINITROPHENOL	47 U	47 U	48 U	50 U	53 U	50 U	47 U	47 U	47 U
2,4-DINITROTOLUENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2-CHLOROPHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
2-NITROPHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	19 U	19 U	19 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	48 U	50 U	53 U	50 U	47 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
4-NITROPHENOL	47 U	47 U	48 U	50 U	53 U	50 U	47 U	47 U	47 U
ACENAPHTHENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
ACENAPHTHYLENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
ANTHRACENE	<b>0.10 J</b>	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BENZIDINE	75 U	75 U	76 U	100 U	110 U	100 U	94 U	94 U	94 U
BENZO(A)ANTHRACENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BENZO(A)PYRENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	--	--	--	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	9.4 U	9.4 U	9.5 U	<b>130</b>	5.3 U	5 U	4.7 U	4.7 U	4.7 U
BUTYL BENZYL PHTHALATE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
CHRYSENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
DI-N-OCTYLPHTHALATE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 05/09/07	Effluent 06/06/07	Effluent 07/03/07	Effluent 08/08/07	Effluent 10/04/07	Effluent 11/08/07	Effluent 12/07/07	Effluent 01/11/08	Effluent 02/08/08
DIETHYL PHTHALATE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
FLUORANTHENE	9.4 U	9.4 U	<b>0.11 J</b>	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
FLUORENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBENZENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	42 U	42 U	43 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
HEXACHLOROETHANE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
ISOPHORONE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
NAPHTHALENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
NITROBENZENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
PENTACHLOROPHENOL	47 U	47 U	48 U	50 U	53 U	50 U	47 U	47 U	47 U
PHENANTHRENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
PHENOL	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
PYRENE	9.4 U	9.4 U	9.5 U	5 U	5.3 U	5 U	4.7 U	4.7 U	4.7 U
TOTAL SVOCs	<b>0.10</b>	<b>0</b>	<b>0.11</b>	<b>130</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 03/03/08	Effluent 09/18/08	Effluent 10/23/08	Effluent 11/12/08	Effluent 12/09/08	Effluent 01/06/09	Effluent 02/06/09	Effluent 03/11/09	Effluent 04/09/09
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	--	4.8 U	4.7 U	4.7 U
1,2-DIPHENYLHYDRAZINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	--	4.8 U	4.7 U	4.7 U
1,4-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	--	4.8 U	4.7 U	4.7 U
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,4-DINITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
2,4-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2-CHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
2-NITROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
4-NITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
ACENAPHTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
ACENAPHTHYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZIDINE	94 U	94 U	94 U	94 U	94 U	94 U	95 U	94 U	94 U
BENZO(A)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(A)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
BUTYL BENZYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
CHRYSENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DI-N-OCTYLPHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 03/03/08	Effluent 09/18/08	Effluent 10/23/08	Effluent 11/12/08	Effluent 12/09/08	Effluent 01/06/09	Effluent 02/06/09	Effluent 03/11/09	Effluent 04/09/09
DIETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
FLUORENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
HEXACHLOROETHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
ISOPHORONE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
NAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
NITROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
PENTACHLOROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	48 U	47 U	47 U
PHENANTHRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
PHENOL	4.7 U	4.7 U	12	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.8 U	4.7 U	4.7 U
TOTAL SVOCs	0	0	12	0	0	0	0	0	0

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 06/04/09	Effluent 07/02/09	Effluent 08/05/09	Effluent 09/03/09	Effluent 10/02/09	Effluent 11/05/09	Effluent 12/03/09	Effluent 01/08/10	Effluent 02/05/10
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,2-DIPHENYLHYDRAZINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,4-DICHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DINITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLOROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-NITROPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-NITROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
ACENAPHTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ACENAPHTHYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZIDINE	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U
BENZO(A)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(A)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BUTYL BENZYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
CHRYSENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DI-N-OCTYLPHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 06/04/09	Effluent 07/02/09	Effluent 08/05/09	Effluent 09/03/09	Effluent 10/02/09	Effluent 11/05/09	Effluent 12/03/09	Effluent 01/08/10	Effluent 02/05/10
DIETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORANTHENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROETHANE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ISOPHORONE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NAPHTHALENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NITROBENZENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PENTACHLOROPHENOL	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
PHENANTHRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PHENOL	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PYRENE	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 03/04/10	Effluent 04/02/10	Effluent 05/05/10	Effluent 06/04/10	Effluent 07/02/10	Effluent 08/06/10	Effluent 09/03/10	Effluent 10/01/10	Effluent 11/04/10
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,2-DICHLOROBENZENE	5 U	4.7 U	4.7 U	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
1,3-DICHLOROBENZENE	5 U	4.7 U	4.7 U	--	--	--	--	--	--
1,4-DICHLOROBENZENE	5 U	4.7 U	4.7 U	--	--	--	--	--	--
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DICHLOROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DIMETHYLPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,4-DINITROPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-DINITROTOLUENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2,6-DINITROTOLUENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLORONAPHTHALENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-CHLOROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
2-NITROPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-BROMOPHENYL PHENYL ETHER	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
4-NITROPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
ACENAPHTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ACENAPHTHYLENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ANTHRACENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZIDINE	100 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U
BENZO(A)ANTHRACENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(A)PYRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(B)FLUORANTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(G,H,I)PERYLENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BENZO(K)FLUORANTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
BUTYL BENZYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
CHRYSENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DI-N-BUTYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DI-N-OCTYLPHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 03/04/10	Effluent 04/02/10	Effluent 05/05/10	Effluent 06/04/10	Effluent 07/02/10	Effluent 08/06/10	Effluent 09/03/10	Effluent 10/01/10	Effluent 11/04/10
DIETHYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
DIMETHYL PHTHALATE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORANTHENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
FLUORENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBENZENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROBUTADIENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
HEXACHLOROETHANE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
ISOPHORONE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIMETHYLAMINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
N-NITROSODIPHENYLAMINE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NAPHTHALENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
NITROBENZENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PENTACHLOROPHENOL	50 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
PHENANTHRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PHENOL	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
PYRENE	5 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 12/03/10	Effluent 01/07/11	Effluent 02/04/11	Effluent 04/08/11	Effluent 05/06/11	Effluent 06/03/11	Effluent 07/01/11	Effluent 08/05/11	Effluent 09/02/11
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	4.7 U	4.7 U	4.7 U	0.73 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	4.7 U	4.7 U	4.7 U	0.71 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
2,4-DICHLOROPHENOL	4.7 U	4.7 U	4.7 U	0.91 U	1 U	1 U	1 U	1 U	1 U
2,4-DIMETHYLPHENOL	4.7 U	4.7 U	4.7 U	1.6 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2,4-DINITROPHENOL	47 U	47 U	47 U	34 U	34 U	34 U	34 U	34 U	34 U
2,4-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
2,6-DINITROTOLUENE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-CHLORONAPHTHALENE	4.7 U	4.7 U	4.7 U	0.97 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROPHENOL	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-NITROPHENOL	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
3,3'-DICHLOROBENZIDINE	4.7 U	4.7 U	4.7 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
4,6-DINITRO-2-METHYLPHENOL	47 U	47 U	47 U	22 U	22 U	22 U	22 U	22 U	22 U
4-BROMOPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	0.84 U	1 U	1 U	1 U	1 U	1 U
4-CHLORO-3-METHYLPHENOL	4.7 U	4.7 U	4.7 U	0.76 U	1 U	1 U	1 U	1 U	1 U
4-CHLOROPHENYL PHENYL ETHER	4.7 U	4.7 U	4.7 U	0.73 U	1 U	1 U	1 U	1 U	1 U
4-NITROPHENOL	47 U	47 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
ACENAPHTHENE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ACENAPHTHYLENE	4.7 U	4.7 U	4.7 U	0.97 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	4.7 U	4.7 U	4.7 U	0.6 U	1 U	1 U	1 U	1 U	1 U
BENZIDINE	94 U	94 U	94 U	53 U	53 U	53 U	53 U	53 U	53 U
BENZO(A)ANTHRACENE	4.7 U	4.7 U	4.7 U	0.73 U	1 U	1 U	1 U	1 U	1 U
BENZO(A)PYRENE	4.7 U	4.7 U	4.7 U	0.5 U	1 U	1 U	1 U	1 U	1 U
BENZO(B)FLUORANTHENE	4.7 U	4.7 U	4.7 U	0.75 U	1 U	1 U	1 U	1 U	1 U
BENZO(G,H,I)PERYLENE	4.7 U	4.7 U	4.7 U	0.79 U	1 U	1 U	1 U	1 U	1 U
BENZO(K)FLUORANTHENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BIS(2-CHLOROETHOXY) METHANE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	4.7 U	4.7 U	4.7 U	1 U	1 U	1 U	1 U	1 U	1 U
BIS(2-CHLOROISOPROPYL) ETHER	4.7 U	4.7 U	4.7 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
BIS(2-ETHYLHEXYL) PHTHALATE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
BUTYL BENZYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.87 U	1 U	1 U	1 U	1 U	1 U
CHRYSENE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
DI-N-BUTYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.91 U	1 U	1 U	1 U	1 U	1 U
DI-N-OCTYLPHTHALATE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
DIBENZ(A,H)ANTHRACENE	4.7 U	4.7 U	4.7 U	0.82 U	1 U	1 U	1 U	1 U	1 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 12/03/10	Effluent 01/07/11	Effluent 02/04/11	Effluent 04/08/11	Effluent 05/06/11	Effluent 06/03/11	Effluent 07/01/11	Effluent 08/05/11	Effluent 09/02/11
DIETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.89 U	1 U	1 U	1 U	1 U	1 U
DIMETHYL PHTHALATE	4.7 U	4.7 U	4.7 U	0.65 U	1 U	1 U	1 U	1 U	1 U
FLUORANTHENE	4.7 U	4.7 U	4.7 U	0.98 U	1 U	1 U	1 U	1 U	1 U
FLUORENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLOROBENZENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLOROBUTADIENE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
HEXACHLOROCYCLOPENTADIENE	4.7 U	4.7 U	4.7 U	2 U	2 U	2 U	2 U	2 U	2 U
HEXACHLOROETHANE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
INDENO(1,2,3-C,D)PYRENE	4.7 U	4.7 U	4.7 U	0.77 U	1 U	1 U	1 U	1 U	1 U
ISOPHORONE	4.7 U	4.7 U	4.7 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
N-NITROSODI-N-PROPYLAMINE	4.7 U	4.7 U	4.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
N-NITROSODIMETHYLAMINE	4.7 U	4.7 U	4.7 U	0.88 U	1 U	1 U	1 U	1 U	1 U
N-NITROSODIPHENYLAMINE	4.7 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
NAPHTHALENE	4.7 U	4.7 U	4.7 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
NITROBENZENE	4.7 U	4.7 U	4.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
PENTACHLOROPHENOL	47 U	47 U	47 U	23 U	23 U	23 U	23 U	23 U	23 U
PHENANTHRENE	4.7 U	4.7 U	4.7 U	0.85 U	1 U	1 U	1 U	1 U	1 U
PHENOL	4.7 U	4.7 U	4.7 U	0.4 U	1 U	1 U	1 U	1 U	1 U
PYRENE	4.7 U	4.7 U	4.7 U	0.85 U	1 U	1 U	1 U	1 U	1 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 10/07/11	Effluent 11/04/11	Effluent 12/02/11	Effluent 01/06/12	Effluent 02/10/12	Effluent 03/02/12	Effluent 04/06/12	Effluent 05/04/12	Effluent 06/01/12
<b>SVOCs by Method E625 (µg/L)</b>									
1,2,4-TRICHLOROBENZENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	--	--	--	--	--	--	--	--	--
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
2,4-DICHLOROPHENOL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4-DIMETHYLPHENOL	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2,4-DINITROPHENOL	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U
2,4-DINITROTOLUENE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
2,6-DINITROTOLUENE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-CHLORONAPHTHALENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-CHLOROPHENOL	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-NITROPHENOL	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
3,3'-DICHLOROBENZIDINE	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
4,6-DINITRO-2-METHYLPHENOL	22 U	22 U	22 U	22 U	22 U	22 U	22 U	22 U	22 U
4-BROMOPHENYL PHENYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-CHLORO-3-METHYLPHENOL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-CHLOROPHENYL PHENYL ETHER	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-NITROPHENOL	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
ACENAPHTHENE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ACENAPHTHYLENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZIDINE	53 U	53 U	53 U	53 U	53 U	53 U	53 U	53 U	53 U
BENZO(A)ANTHRACENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(A)PYRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(B)FLUORANTHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(G,H,I)PERYLENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(K)FLUORANTHENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BIS(2-CHLOROETHOXY) METHANE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BIS(2-CHLOROISOPROPYL) ETHER	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
BIS(2-ETHYLHEXYL) PHTHALATE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
BUTYL BENZYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHRYSENE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
DI-N-BUTYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DI-N-OCTYLPHTHALATE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
DIBENZ(A,H)ANTHRACENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 10/07/11	Effluent 11/04/11	Effluent 12/02/11	Effluent 01/06/12	Effluent 02/10/12	Effluent 03/02/12	Effluent 04/06/12	Effluent 05/04/12	Effluent 06/01/12
DIETHYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIMETHYL PHTHALATE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
FLUORANTHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
FLUORENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLOROBENZENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
HEXACHLOROBUTADIENE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
HEXACHLOROCYCLOPENTADIENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
HEXACHLOROETHANE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
INDENO(1,2,3-C,D)PYRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ISOPHORONE	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
N-NITROSODI-N-PROPYLAMINE	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
N-NITROSODIMETHYLAMINE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-NITROSODIPHENYLAMINE	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
NAPHTHALENE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
NITROBENZENE	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
PENTACHLOROPHENOL	23 U	23 U	23 U	23 U	23 U	23 U	23 U	23 U	23 U
PHENANTHRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PHENOL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PYRENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TOTAL SVOCs	0	0	0	0	0	0	0	0	0

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Effluent 07/06/12	Effluent 08/03/12
<b>SVOCs by Method E625 (µg/L)</b>			
1,2,4-TRICHLOROBENZENE		4.7 U	4.7 U
1,2-DICHLOROBENZENE		--	--
1,2-DIPHENYLHYDRAZINE		4.7 U	4.7 U
1,3-DICHLOROBENZENE		--	--
1,4-DICHLOROBENZENE		--	--
2,2'-OXYBIS(1-CHLOROPROPANE)		--	--
2,4,6-TRICHLOROPHENOL		4.7 U	4.7 U
2,4-DICHLOROPHENOL		4.7 U	4.7 U
2,4-DIMETHYLPHENOL		4.7 U	4.7 U
2,4-DINITROPHENOL		47 U	47 U
2,4-DINITROTOLUENE		4.7 U	4.7 U
2,6-DINITROTOLUENE		4.7 U	4.7 U
2-CHLORONAPHTHALENE		4.7 U	4.7 U
2-CHLOROPHENOL		4.7 U	4.7 U
2-NITROPHENOL		4.7 U	4.7 U
3,3'-DICHLOROBENZIDINE		4.7 U	4.7 U
4,6-DINITRO-2-METHYLPHENOL		47 U	47 U
4-BROMOPHENYL PHENYL ETHER		4.7 U	4.7 U
4-CHLORO-3-METHYLPHENOL		4.7 U	4.7 U
4-CHLOROPHENYL PHENYL ETHER		4.7 U	4.7 U
4-NITROPHENOL		47 U	47 U
ACENAPHTHENE		4.7 U	4.7 U
ACENAPHTHYLENE		4.7 U	4.7 U
ANTHRACENE		4.7 U	4.7 U
BENZIDINE		94 U	94 U
BENZO(A)ANTHRACENE		4.7 U	4.7 U
BENZO(A)PYRENE		4.7 U	4.7 U
BENZO(B)FLUORANTHENE		4.7 U	4.7 U
BENZO(G,H,I)PERYLENE		4.7 U	4.7 U
BENZO(K)FLUORANTHENE		4.7 U	4.7 U
BIS(2-CHLOROETHOXY) METHANE		4.7 U	4.7 U
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)		4.7 U	4.7 U
BIS(2-CHLOROISOPROPYL) ETHER		4.7 U	4.7 U
BIS(2-ETHYLHEXYL) PHTHALATE		4.7 U	4.7 U
BUTYL BENZYL PHTHALATE		4.7 U	4.7 U
CHRYSENE		4.7 U	4.7 U
DI-N-BUTYL PHTHALATE		4.7 U	4.7 U
DI-N-OCTYLPHTHALATE		4.7 U	4.7 U
DIBENZ(A,H)ANTHRACENE		4.7 U	4.7 U

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Effluent 07/06/12	Effluent 08/03/12
DIETHYL PHTHALATE		4.7 U	4.7 U
DIMETHYL PHTHALATE		4.7 U	4.7 U
FLUORANTHENE		4.7 U	4.7 U
FLUORENE		4.7 U	4.7 U
HEXACHLOROBENZENE		4.7 U	4.7 U
HEXACHLOROBUTADIENE		4.7 U	4.7 U
HEXACHLOROCYCLOPENTADIENE		4.7 U	4.7 U
HEXACHLOROETHANE		4.7 U	4.7 U
INDENO(1,2,3-C,D)PYRENE		4.7 U	4.7 U
ISOPHORONE		4.7 U	4.7 U
N-NITROSODI-N-PROPYLAMINE		4.7 U	4.7 U
N-NITROSODIMETHYLAMINE		4.7 U	4.7 U
N-NITROSODIPHENYLAMINE		4.7 U	4.7 U
NAPHTHALENE		4.7 U	4.7 U
NITROBENZENE		4.7 U	4.7 U
PENTACHLOROPHENOL		47 U	47 U
PHENANTHRENE		4.7 U	4.7 U
PHENOL		4.7 U	4.7 U
PYRENE		4.7 U	4.7 U
TOTAL SVOCs		0	0

**Table B-2. Summary of Effluent SVOC Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

## **Attachment C**

### **Influent and Effluent Petroleum Hydrocarbon Analytical Results**

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 08/07/06	Influent 09/05/06	Influent 10/03/06	Influent 11/07/06	Influent 12/05/06	Influent 01/04/07	Influent 02/16/07	Influent 03/07/07	Influent 04/13/07
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	96 U	97 U	94 U	95 U	96 U	96 U	94 U	95 U	94 U
FUEL OIL #4	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
FUEL OIL #6	96 U	97 U	94 U	95 U	96 U	96 U	94 U	95 U	94 U
GASOLINE RANGE ORGANICS	96 U	97 U	94 U	95 U	96 U	96 U	94 U	95 U	94 U
KEROSENE	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
MINERAL SPIRITS	960 U	970 U	940 U	950 U	960 U	960 U	940 U	950 U	940 U
Lube Oil	--	--	--	--	--	--	--	--	--
N-DODECANE	960 U	970 U	940 U	950 U	960 U	960 U	940 U	950 U	940 U
OTHER	960 U	970 U	940 U	950 U	960 U	960 U	940 U	950 U	940 U
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	--	--	--	--	--	--	--	--	--
TOTAL FUELS	0	0	0	0	0	0	0	0	0

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 05/09/07	Influent 06/06/07	Influent 07/03/07	Influent 08/08/07	Influent 10/04/07	Influent 11/08/07	Influent 12/07/07	Influent 01/11/08	Influent 02/08/08
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	94 U	94 U	95 U	--	--	--	--	--	--
FUEL OIL #4	190 U	190 U	190 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
FUEL OIL #6	94 U	94 U	95 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
GASOLINE RANGE ORGANICS	94 U	94 U	95 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
KEROSENE	190 U	190 U	190 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
MINERAL SPIRITS	940 U	940 U	950 U	--	--	--	--	--	--
Lube Oil	--	--	--	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
N-DODECANE	940 U	940 U	950 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
OTHER	940 U	940 U	950 U	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	--	--	--	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
TOTAL FUELS	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 03/03/08	Influent 09/18/08	Influent 10/23/08	Influent 11/12/08	Influent 12/09/08	Influent 01/06/09	Influent 02/06/09	Influent 03/11/09	Influent 04/09/09
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	--	--	--	--	--
FUEL OIL #4	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
FUEL OIL #6	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
GASOLINE RANGE ORGANICS	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
KEROSENE	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
N-DODECANE	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
TOTAL FUELS	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 06/04/09	Influent 07/02/09	Influent 08/05/09	Influent 09/03/09	Influent 12/03/09	Influent 01/08/10	Influent 02/05/10	Influent 03/04/10	Influent 04/02/10
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	--	--	--	--	--
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
TOTAL FUELS	0	0	0	0	0	0	0	0	0

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 05/05/10	Influent 06/04/10	Influent 07/02/10	Influent 08/06/10	Influent 09/03/10	Influent 10/01/10	Influent 11/04/10	Influent 12/03/10	Influent 01/07/11
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	--	--	--	--	--
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
TOTAL FUELS	0	0	0	0	0	0	0	0	0

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 02/04/11	Influent 04/08/11	Influent 05/06/11	Influent 06/03/11	Influent 07/01/11	Influent 08/05/11	Influent 09/02/11	Influent 10/07/11	Influent 11/04/11
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	190 U	--	--	190 U	190 U
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	940 U	190 U	190 U	190 U	--	190 U	190 U	--	--
TOTAL FUELS	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 12/02/11	Influent 01/06/12	Influent 02/10/12	Influent 03/02/12	Influent 04/06/12	Influent 05/04/12	Influent 06/01/12	Influent 07/06/12	Influent 08/03/12
<b>Fuels by Method NY-310-13 (µg/L)</b>									
FUEL OIL #2	190 U	190 U	190 U	190 U	190 U	190 U	190 U	940 U	940 U
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	--	--	--	--	--	--	--	--	--
TOTAL FUELS	0	0	0	0	0	0	0	0	0

**Table C-1. Summary of Influent Petroleum Hydrocarbon Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 08/07/06	Effluent 09/05/06	Effluent 10/03/06	Effluent 11/07/06	Effluent 12/05/06	Effluent 01/04/07	Effluent 02/16/07	Effluent 03/07/07	Effluent 04/13/07
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	94 U	94 U	94 U	96 U	96 U	96 U	94 U	95 U	94 U
FUEL OIL #4	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
FUEL OIL #6	94 U	94 U	94 U	96 U	96 U	96 U	94 U	95 U	94 U
GASOLINE RANGE ORGANICS	94 U	94 U	94 U	96 U	96 U	96 U	94 U	95 U	94 U
KEROSENE	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
MINERAL SPIRITS	940 U	940 U	940 U	960 U	960 U	960 U	940 U	950 U	940 U
Lube Oil	--	--	--	--	--	--	--	--	--
N-DODECANE	940 U	940 U	940 U	960 U	960 U	960 U	940 U	950 U	940 U
OTHER	940 U	940 U	940 U	960 U	960 U	960 U	940 U	950 U	940 U
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	--	--	--	--	--	--	--	--	--
FUEL TOTAL	0	0	0	0	0	0	0	0	0

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 05/09/07	Effluent 06/06/07	Effluent 07/03/07	Effluent 08/08/07	Effluent 10/04/07	Effluent 11/08/07	Effluent 12/07/07	Effluent 01/11/08	Effluent 02/08/08
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	94 U	94 U	95 U	--	--	--	--	--	--
FUEL OIL #4	190 U	190 U	190 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
FUEL OIL #6	94 U	94 U	95 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
GASOLINE RANGE ORGANICS	94 U	94 U	95 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
KEROSENE	190 U	190 U	190 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
MINERAL SPIRITS	940 U	940 U	950 U	--	--	--	--	--	--
Lube Oil	--	--	--	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
N-DODECANE	940 U	940 U	950 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
OTHER	940 U	940 U	950 U	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	--	--	--	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
FUEL TOTAL	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 03/03/08	Effluent 09/18/08	Effluent 10/23/08	Effluent 11/12/08	Effluent 12/09/08	Effluent 01/06/09	Effluent 02/06/09	Effluent 03/11/09	Effluent 04/09/09
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	--	--	--	--	--
FUEL OIL #4	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
FUEL OIL #6	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
GASOLINE RANGE ORGANICS	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
KEROSENE	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
N-DODECANE	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	1000 U	1000 U	1000 U	1000 U	1000 U	940 U	950 U	940 U	940 U
FUEL TOTAL	0	0	0	0	0	0	0	0	0

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 06/04/09	Effluent 07/02/09	Effluent 08/05/09	Effluent 09/03/09	Effluent 12/03/09	Effluent 01/08/10	Effluent 02/05/10	Effluent 03/04/10	Effluent 04/02/10
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	--	--	--	--	--
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	940 U	940 U	940 U	940 U	940 U	940 U	940 U	1000 U	940 U
FUEL TOTAL	0	0	0	0	0	0	0	0	0

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 05/05/10	Effluent 06/04/10	Effluent 07/02/10	Effluent 08/06/10	Effluent 09/03/10	Effluent 10/01/10	Effluent 11/04/10	Effluent 12/03/10	Effluent 01/07/11
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	--	--	--	--	--
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL TOTAL	0	0	0	0	0	0	0	0	0

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 02/04/11	Effluent 04/08/11	Effluent 05/06/11	Effluent 06/03/11	Effluent 07/01/11	Effluent 08/05/11	Effluent 09/02/11	Effluent 10/07/11	Effluent 11/04/11
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	--	--	--	--	190 U	--	--	190 U	190 U
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	940 U	190 U	190 U	190 U	--	190 U	190 U	--	--
FUEL TOTAL	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 12/02/11	Effluent 01/06/12	Effluent 02/10/12	Effluent 03/02/12	Effluent 04/06/12	Effluent 05/04/12	Effluent 06/01/12	Effluent 07/06/12	Effluent 08/03/12
<b>Fuels by Method NY310-13 (µg/L)</b>									
FUEL OIL #2	190 U	190 U	190 U	190 U	190 U	190 U	190 U	940 U	940 U
FUEL OIL #4	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
FUEL OIL #6	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
GASOLINE RANGE ORGANICS	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
KEROSENE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
MINERAL SPIRITS	--	--	--	--	--	--	--	--	--
Lube Oil	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
N-DODECANE	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U	940 U
OTHER	--	--	--	--	--	--	--	--	--
PHC AS #2 FUEL OILS C10-C23 #2 DIESEL, #2 FUEL OIL	--	--	--	--	--	--	--	--	--
FUEL TOTAL	0	0	0	0	0	0	0	0	0

**Table C-2. Summary of Effluent Petroleum Hydrocarbon Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

## **Attachment D**

### **Influent and Effluent Pesticide Analytical Results**

**Table D-1. Summary of Influent Pesticide Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 08/07/06	Influent 09/05/06	Influent 04/13/07	Influent 10/12/07	Influent 09/18/08	Influent 06/04/09	Influent 10/02/09	Influent 04/02/10	Influent 10/01/10
<b>Pesticides by Method E608 (µg/L)</b>									
P,P'-DDD	0.005 U	0.01 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
P,P'-DDE	0.005 U	<b>0.0036 J</b>	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
P,P'-DDT	<b>0.0057</b>	0.01 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ALDRIN	<b>0.0032 J</b>	0.01 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.005 U	<b>0.0022 BJ</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
ALPHA CHLORDANE	0.005 U	<b>0.0011 BJ</b>	0.05 U	--	--	--	--	--	--
ALPHA ENDOSULFAN	0.005 U	0.01 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.005 U	<b>0.0028 BJ</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
BETA ENDOSULFAN	0.005 U	<b>0.0025 J</b>	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
CHLORDANE	0.05 U	0.05 U	0.5 U	2.5 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	<b>0.0066</b>	<b>0.0044 J</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
DIELDRIN	<b>0.0030 J</b>	<b>0.0034 J</b>	0.5 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ENDOSULFAN SULFATE	0.005 U	<b>0.0019 J</b>	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ENDRIN	0.05 U	0.1 U	0.5 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ENDRIN ALDEHYDE	<b>0.0052 B</b>	0.01 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
GAMMA BHC (LINDANE)	0.05 U	0.1 U	0.5 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
HEPTACHLOR	<b>0.0036 BJ</b>	0.01 U	0.05 U	0.05 U	0.051 U	0.047 U	0.047 U	0.047 U	0.047 U
HEPTACHLOR EPOXIDE	<b>0.0025 J</b>	0.1 U	0.5 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
METHOXYCHLOR	0.005 U	0.01 U	0.05 U	0.5 U	--	--	--	--	--
TOXAPHENE	0.1 U	0.1 U	0.1 U	5 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
TOTAL PESTICIDES	<b>0.030</b>	<b>0.022</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table D-1. Summary of Influent Pesticide Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Influent 04/08/11	Influent 10/07/11	Influent 05/04/12
<b>Pesticides by Method E608 (µg/L)</b>			
P,P'-DDD	0.0067 U	0.0067 U	0.0067 U
P,P'-DDE	0.0031 U	0.0031 U	0.0031 U
P,P'-DDT	0.0054 U	0.0054 U	0.0054 U
ALDRIN	0.0029 U	0.0029 U	0.0029 U
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0057 U	0.0057 U	0.0057 U
ALPHA CHLORDANE	--	--	--
ALPHA ENDOSULFAN	0.0028 U	0.0028 U	0.0028 U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0043 U	0.0043 U	0.0043 U
BETA ENDOSULFAN	0.0044 U	0.0044 U	0.0044 U
CHLORDANE	0.046 U	0.046 U	0.046 U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0024 U	0.0024 U	0.0024 U
DIELDRIN	0.0043 U	0.0043 U	0.0043 U
ENDOSULFAN SULFATE	0.0046 U	0.0046 U	0.0046 U
ENDRIN	0.0045 U	0.0045 U	0.0045 U
ENDRIN ALDEHYDE	0.012 U	0.012 U	0.012 U
GAMMA BHC (LINDANE)	0.0044 U	0.0044 U	0.0044 U
HEPTACHLOR	0.0036 U	0.0036 U	0.0036 U
HEPTACHLOR EPOXIDE	0.0039 U	0.0039 U	0.0039 U
METHOXYCHLOR	--	--	--
TOXAPHENE	0.2 U	0.2 U	0.2 U
TOTAL PESTICIDES	<b>0</b>	<b>0</b>	<b>0</b>

**Table D-1. Summary of Influent Pesticide Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.

**Table D-2. Summary of Effluent Pesticide Analytical Results for Treatment System Samples**  
**Former Davis Howland Oil Company Site, Rochester, New York**

Sample ID: Date:	Effluent 08/07/06	Effluent 09/05/06	Effluent 04/13/07	Effluent 10/12/07	Effluent 09/18/08	Effluent 06/04/09	Effluent 10/02/09	Effluent 04/02/10	Effluent 10/01/10
<b>Pesticides by Method E608 (µg/L)</b>									
P,P'-DDD	<b>0.0030 J</b>	0.005 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
P,P'-DDE	0.005 U	<b>0.0034 J</b>	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
P,P'-DDT	<b>0.0055</b>	0.005 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ALDRIN	<b>0.0030 J</b>	0.005 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	<b>0.0055</b>	<b>0.0022 BJ</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
ALPHA CHLORDANE	0.005 U	<b>0.0010 BJ</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
ALPHA ENDOSULFAN	0.005 U	0.005 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.005 U	0.005 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
BETA ENDOSULFAN	0.005 U	0.005 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
CHLORDANE	0.05 U	0.05 U	0.5 U	2.5 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	<b>0.0044 J</b>	<b>0.0040 J</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
DIELDRIN	0.005 U	<b>0.0030 J</b>	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ENDOSULFAN SULFATE	0.005 U	0.005 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ENDRIN	0.005 U	0.005 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
ENDRIN ALDEHYDE	0.005 U	0.005 U	0.05 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
GAMMA BHC (LINDANE)	0.005 U	0.005 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
GAMMA CHLORDANE	0.005 U	<b>0.0030 J</b>	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
HEPTACHLOR	0.005 U	0.005 U	0.05 U	0.05 U	0.051 U	0.047 U	0.047 U	0.047 U	0.047 U
HEPTACHLOR EPOXIDE	<b>0.0023 J</b>	0.005 U	0.05 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
METHOXYCHLOR	0.005 U	0.005 U	0.05 U	0.5 U	--	--	--	--	--
TOXAPHENE	0.1 U	0.1 U	1.0 U	5 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
TOTAL PESTICIDES	<b>0.024</b>	<b>0.017</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table D-2. Summary of Effluent Pesticide Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

	Sample ID: Date:	Effluent 04/08/11	Effluent 10/07/11	Effluent 05/04/12
<b>Pesticides by Method E608 (µg/L)</b>				
P,P'-DDD		0.0067 U	0.0067 U	0.0067 U
P,P'-DDE		0.0031 U	0.0031 U	0.0031 U
P,P'-DDT		0.0054 U	0.0054 U	0.0054 U
ALDRIN		0.0029 U	0.0029 U	0.0029 U
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)		0.0057 U	0.0057 U	0.0057 U
ALPHA CHLORDANE		0.0057 U	0.0057 U	0.0057 U
ALPHA ENDOSULFAN		0.0028 U	0.0028 U	0.0028 U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)		0.0043 U	0.0043 U	0.0043 U
BETA ENDOSULFAN		0.0044 U	0.0044 U	0.0044 U
CHLORDANE		0.046 U	0.046 U	0.046 U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)		0.0024 U	0.0024 U	0.0024 U
DIELDRIN		0.0043 U	0.0043 U	0.0043 U
ENDOSULFAN SULFATE		0.0046 U	0.0046 U	0.0046 U
ENDRIN		0.0045 U	0.0045 U	0.0045 U
ENDRIN ALDEHYDE		0.012 U	0.012 U	0.012 U
GAMMA BHC (LINDANE)		0.0044 U	0.0044 U	0.0044 U
GAMMA CHLORDANE		0.0057 U	0.0057 U	0.0057 U
HEPTACHLOR		0.0036 U	0.0036 U	0.0036 U
HEPTACHLOR EPOXIDE		0.0039 U	0.0039 U	0.0039 U
METHOXYCHLOR		--	--	--
TOXAPHENE		0.2 U	0.2 U	0.2 U
TOTAL PESTICIDES		<b>0</b>	<b>0</b>	<b>0</b>

**Table D-2. Summary of Effluent Pesticide Analytical Results for Treatment System Samples  
Former Davis Howland Oil Company Site, Rochester, New York**

Notes:

1. System was shut down from March 11, 2008 to September 18, 2008 due to CatOX decommissioning.
2. System was shut down from February 17, 2011 to April 4, 2011 due to equipment malfunction.
3. Petition accepted by County of Monroe, October 28, 2006, to drop PCBs from the analyte list and to perform pesticides on a semi-annual basis.
4. J = Estimated value.
5. U = Not detected (lab reporting limit shown).
6. UJ = Not detected/Estimated Value.
7. B = Compound detected in associated method blank.
8. µg/L = Micrograms per liter.
9. -- = Compound not analyzed.



# *Department of Environmental Services*

Monroe County, New York

**Maggie Brooks**  
*County Executive*

**Michael J. Garland, P.E.**  
*Director*

September 10, 2012

Mr. Michael A. Aloï, P.E.  
Ecology & Environment Engineering, p.c.  
Buffalo Corporate Center  
368 Pleasant View Drive  
Lancaster, NY 14086

Re: Petition for Reduction in Sampling and Analytical Parameters at the Davis Howland Oil Co. site, 200  
Anderson Avenue, Rochester, NY. Monroe County Sewer Use Permit # 864.

Dear Mr. Aloï:

This office has received your letter dated September 6, 2012 in which you have petitioned this office for reduction in monitoring at the above referenced site. With your letter you have submitted historical data compiled for the period 2006 to 2012.

After a review of the data, this office finds that a reduction in monitoring will be granted. The permit required testing for Total Petroleum Hydrocarbons (TPH) and Semi Volatile Organic Compounds (SVOC) on a monthly basis have been eliminated. The requirement for pesticides testing on a semi-annual basis has also been removed. The decision to remove these testing and reporting requirements was based on the analytical data package and historical analytical testing results from 2006 to 2012 showing non detection of compounds in the above mentioned testing methods for at least the last three years.

Attached you will find a modified permit enclosure which has been modified to reflect these changes. Please replace the current enclosure with this modified copy as it will supersede your current enclosure and become effective October 1, 2012.

If you have any questions or concerns, please call me at 585-753-7658.

Sincerely,

Sean Keenan  
Industrial Waste Engineer

xc: file, Harry Reiter(Pretreatment Coordinator)



**COUNTY OF MONROE  
SEWER USE PERMIT ENCLOSURE**

NYSDEC Division of Environmental Remediation  
625 Broadway, 12<sup>th</sup> Floor  
Albany, NY 12233-7013

**PERMIT NUMBER:** 864  
**DISTRICT NUMBER:** 8575

TYPE OF BUSINESS: Groundwater Remediation  
LOCATION: Davis Howland Oil Co. Site – 200 Anderson Ave.  
Rochester, NY

SAMPLE POINT: IWC-864.1 - Sample Port – Air Stripper

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**REQUIRED MONITORING & EFFLUENT LIMITS**

SAMPLE POINT: IWC-864.1 - Sample Port – Air Stripper

SELF-MONITORING FREQUENCY: **Monthly**

SAMPLING PROTOCOL: Sampling and analysis shall be performed in accordance with the techniques prescribed in 40CFR part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health, approved method is acceptable. A grab sample, collected from the above noted sample point shall be analyzed for the following:

Purgeable Halocarbons  
Purgeable Aromatics  
pH  
Acetone (Monitor Only)

DISCHARGE LIMITATIONS: The summation of purgeable aromatics and purgeable halocarbons greater than 10 µg/l shall not exceed 2.13 mg/l. The pH shall be within 5.0-12.0 su.

**SPECIAL CONDITIONS:**

1. All groundwater must be treated regardless of the influent concentrations.
2. Monthly flow summaries shall be submitted for billing purposes. It is imperative these summaries are submitted in a timely manner. If there is no discharge for a given month, then a letter must be submitted stating so.

## **TERMS AND CONDITIONS**

### **GENERAL REQUIREMENTS:**

- A. The permittee agrees to accept and abide by all provisions of the Sewer Use Law of Monroe County(MCSUL) and of all pertinent rules or regulations now in force or shall be adopted in the future.
- B.1 In addition to the parameters/limits outlined, the total facility discharge shall meet all other concentration values as described in Article II, Section 10e of the Monroe County Pure Waters Districts, Rules and Regulations-Sewer Use Law of the County of Monroe.
- B.2 Included in Article II, Section 10e, is the definition of "Normal Sewage". "Normal Sewage" may be discharged to the sewer system in excess of the concentrations outlined in the Joint Rules and Regulations, however, the facility will be subject to the imposition of a sewer surcharge and possible self monitoring requirements as a result. Surcharging procedures are outlined in Article X of the MCSUL.
- B.3 Regulatory sampling for analytes not specified under "required monitoring" shall be conducted by the Industrial Waste Section at a minimum frequency of once every three (3) years.
- C. This permit is not assignable or transferable. The permit is issued to a specific user and location.
- D. Per Article VIII, Section 8.11 of the MCSUL, a violation by the permittee of the permit conditions may be cause for revocation or suspension of the permit after a Hearing by the Administrative Board, or if the violation is found to be within the emergency powers of the Director under Sections 4.5 or 5.5. The revocation is immediate upon receipt of notice to the Industrial User, however a Hearing shall be held as soon as possible.
- E. As provided under Article VIII, Section 8.1, the Director and his duly authorized representatives shall gain entry on to private lands by permission or duly issued warrant for the purpose of inspection, observation, measurement sampling and testing in accordance with the provisions of this law and its implementing Rules and Regulations. The Director or his representatives shall not have authority to inquire into any processes used in any industrial operation beyond that information having a direct bearing on the kind and source of discharge to the sewers or the on-site facilities for waste treatment. While performing the necessary work on private lands, referred to above, the Director or his duly authorized representative shall observe all safety rules applicable to the premises as established by the owner and/or occupant.

### **SPECIAL CONDITION:**

- A. All required monitoring shall be analyzed by a New York State Department of Health certified laboratory. All sampling and analysis must be performed in accordance with Title 40 Code of Federal Regulations Part 136.
- B. The pH range for this permit is 5.0 – 12.0 su. This range is specifically permitted by the Director as allowed under Article IV, Section 4.2 of the Monroe County Sewer Use Law. PH must be analyzed immediately.
- C. The summation of all Total Toxic Organics(TTO) Compounds as defined in the Code of Federal Regulations (40 CFR part 433.11(e)) with detection levels above 10 ug/l shall not exceed 2.13 mg/l as imposed by the Director under Article IV, Section 4.3 of the Monroe County Sewer Use Law unless Federal limits are more stringent under which the Federal limits will apply.
- D. Petroleum Oil and Grease shall not exceed 100 mg/l as imposed by the Director under Article IV, Section 4.3 of the Monroe County Sewer Use Law.
- E. Discharges containing Phenolic compounds shall not exceed 2.13 mg/l as imposed by the Director under Article IV, Section 4.3 of the Monroe County Sewer Use Law unless otherwise specified in the permit. These limits are applicable unless Federal limits are more stringent under which Federal limits will apply.

## **SURCHARGE CONCENTRATIONS:**

### **Concentration and/or characteristics of normal sewage:**

“Normal Sewage” shall mean sewage, industrial wastes or other wastes, which when analyzed, show concentration values with the following characteristics based on daily maximum limits:

- |                           |          |
|---------------------------|----------|
| a. B. O. D.               | 300 mg/l |
| b. Total Suspended Solids | 300 mg/l |
| c. Total Phosphorus, as P | 10 mg/l  |

Annual average concentrations above normal sewage are subject to surcharge as defined in Article X of the sewer use law.

## **DISCHARGE LIMITATIONS ( SEWER USE LIMITS )**

### **Permissible concentrations of toxic substances and/or substances the Department wishes to control:**

The concentration in sewage of any of the following toxic substances and/or substances the Department wishes to control shall not exceed the concentration limits specified when discharged into the County Sewer System; metal pollutants are expressed as total metals in mg/l (ppm): the following pollutant limits are based on daily maximum values:

- |                   |           |
|-------------------|-----------|
| a. Antimony (Sb)  | 1.0 mg/l  |
| b. Arsenic (As)   | 0.5 mg/l  |
| c. Barium (Ba)    | 2.0 mg/l  |
| d. Beryllium (Be) | 5.0 mg/l  |
| e. Cadmium (Cd)   | 1.0 mg/l  |
| f. Chromium (Cr)  | 3.0 mg/l  |
| g. Copper (Cu)    | 3.0 mg/l  |
| h. Cyanide (CN)   | 1.0 mg/l  |
| i. Iron (Fe)      | 5.0 mg/l  |
| j. Lead (Pb)      | 1.0 mg/l  |
| k. Manganese (Mn) | 5.0 mg/l  |
| l. Mercury (Hg)   | 0.05 mg/l |
| m. Nickel (Ni)    | 3.0 mg/l  |
| n. Selenium (Se)  | 2.0 mg/l  |
| o. Silver (Ag)    | 2.0 mg/l  |
| p. Thallium (Tl)  | 1.0 mg/l  |
| q. Zinc (Zn)      | 5.0 mg/l  |

## **REPORTING REQUIREMENTS:**

- A.** Per the requirements of 40 CFR, Part 403.5, Significant Industrial Users must submit Periodic Reports on Continued Compliance to the Control Authority on a biannual (2/yr) basis. Deadline dates of submission for these reports will be August 15 and February 15, respectively.
- B.** Discharge monitoring reports shall be submitted to the Control Authority upon receipt from the permittee's testing laboratory.
- C.** Any Industrial User subject to the reporting requirements of the General Pretreatment Regulations shall maintain records of all information resulting from any monitoring activities required by 403.12 for a minimum of three (3) years. These records shall be available for inspection and copying by the Control Authority. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Industrial User or the operation of the POTW Pretreatment Program or when requested by the Director or the Regional Administrator.

## **NOTIFICATION REQUIREMENTS:**

- A.** Pursuant to Article VIII, Section 8.4K, the permittee shall notify the Department within 24 hours of becoming aware that discharge monitoring is in violation of any permit limit. This notification shall be directed to the Industrial Waste Section at 585-753-7600 Option 4. The User shall also repeat sampling and analysis for the analyte in non-compliance and submit the results of the repeat analysis to Monroe County within 30 days after becoming aware of the violation.
- B.** Notify the Director in writing when considering a revision to the plant sewer system or any change in industrial waste discharges to the public sewers. The later encompasses either an increase or decrease in average daily volume or strength of waste or new wastes.
- C.** Notify the Director immediately of any accident, negligence, breakdown of pretreatment equipment or other occurrence that occasions discharge to the public sewer of any waste or process waters not covered by this permit.

## **SLUG CONTROL**

An Industrial User shall be required to report any/all slug discharges to the Monroe County sewer system by calling 585-753-7600 option 4. For the purpose of this permit enclosure, a slug discharge shall be identified as any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge. Following a review process, the Control Authority (Monroe County) shall determine the applicability of a facility slug control plan. If the Control Authority decides that a slug control plan is needed, the plan shall contain, at a minimum, the following elements:

- 1. Description of discharge practices, including non-routine batch discharges.
- 2. Description of stored chemicals.
- 3. Procedures for immediately notifying the Control Authority of slug discharges, including any discharge that would violate a prohibition under 40 CFR 403.5 (b), with procedures for follow up written notification within five (5) days.
- 4. If necessary, procedures to prevent adverse impact from accidental spills, including, but not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment for emergency purposes.

## **SNC DEFINITION:**

In accordance with 40 CFR 403.8 (f) (vii), an Industrial User is in significant noncompliance (SNC) if its violations meet one or more of the following criteria:

- A.** Chronic violations of wastewater discharge limits – defined as those which 66% or more of all the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter. This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus (ref. Article X – Monroe County Sewer Use Law).
- B.** Technical review criteria (TRC) violations – defined as those in which 33% or more of all the measurements for each pollutant parameter taken during a six month period equal or exceed the product of the daily maximum limit or the average limit times the applicable TRC. This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus (ref. Article X – Monroe County Sewer Use Law).
- C.** Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass-through (including endangering the health or POTW personnel or the general public).
- D.** Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the POTW's exercise of its emergency authority under paragraph (t)(1)(vi)(8) of 40 CFR part 403 to prevent such a discharge.
- E.** Failure to meet, within 90 days after the scheduled date, a compliance schedule milestone contained in a local control mechanism or enforcement order, for starting construction, completing construction or attaining final compliance.
- F.** Failure to provide, within 30 days after the due date, required reports such as BMRs, 90 day compliance reports, period reports on continued compliance.
- G.** Failure to accurately report noncompliance.
- H.** Any other violation or group of violations that the Control Authority determines will adversely affect the operation and implementation of the local Pretreatment Program.

## **PENALTIES**

Should the facility be considered in Significant Non-Compliance (SNC), based on the above mentioned criteria, the minimum enforcement response by Monroe County will be the publication of the company name in the Gannett Rochester newspaper. The company will be published as an Industrial User in Significant Non-Compliance (SNC). Fines and criminal penalties may follow this publication (ref. Article XII – Monroe County Sewer Use Law).

Nothing in this permit shall be construed to relieve the permittees from civil/criminal penalties for noncompliance under Article XII, Section 12.1(D) of the Sewer Use Law of the County of Monroe. Article XII, Section 12.1(D) provides that any person who violates a permit condition is subject to a civil penalty not to exceed \$10,000 for any one case and an additional penalty not to exceed \$10,000 for each day of continued violation.

C

## **October 2012 Groundwater Monitoring Event Field Notes and Analytical Data**




### Daily Field Activity Summary

EEEPC Project No.: <u>EN-003231-0001-03TCU</u>	NYSDEC WA No.:
Project Name: <u>Davis Howard</u>	Project Location: <u>Rochester, NY</u>
Date: <u>Monday 15 October 2012</u>	Weather:

Summary of Activities		
Equipment Used	Task	Activities Performed
<u>Heon Dpper T</u>		<u>Gauge wells</u>
<u>Mini Rec 3000</u>		<u>"Sniff" wells</u>

Field Tests Performed (Samples, Field Screening, Chemical Testing, etc.)
<u>gather water level / total depth of all wells + piezometers</u>
IDW Generated and Stored Onsite
<u> </u>
Planned Activities for Next Work Day
<u>begin sampling wells</u>
Remarks: (Visitors, Completion of Fieldwork, etc.)
<u> </u>



Site Manager Signature

10/15/12

Date

### Daily Field Activity Summary

EEEPC Project No.: <u>EN-003231-0001-03T10</u>	NYSDEC WA No.:
Project Name: <u>Davis Howland</u>	Project Location: <u>Rochester, NY</u>
Date: <u>10/16/12 Tuesday</u>	Weather: <u>Overcast, Misty</u>

Personnel On Site	Affiliation	Hours	Level of PPE
<u>Sarah Craig</u>	<u>EEEPC</u>	<u>12.05</u>	<u>D</u>
<u>Larry Reed</u>	<u>EEEPC</u>	<u>12.05</u>	<u>D</u>
<u>Tim Dillon</u>	<u>EEEPC</u>		<u>D</u>

#### Summary of Today's Activities

Pickup sample bottles (6 kits). Sample wells: MW-3S, MW-3R, MW-14R, MW-15R

#### Work Delays (Due To Weather, Maintenance, Breakdowns, Waiting For Decisions)

Only 1 vehicle so limited as to # of wells able to sample

#### Problems Encountered And Deviations From Work Plan

NA

#### Written And Verbal Instruction By NYSDEC (Include name of NYSDEC representative)

NA

#### New Safety Issues

NA

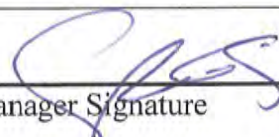
Site Manager Signature: <u>[Signature]</u>	Date: <u>10/16/12</u>
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### Daily Field Activity Summary

EEEEPC Project No.:	NYSDEC WA No.:
Project Name: <u>Davis Boulevard</u>	Project Location: <u>Rochester, NY</u>
Date: <u>10/16/12 Tuesday</u>	Weather: <u>Mostly Cloudy Scattered Showers 52°</u>

Summary of Activities		
Equipment Used	Task	Activities Performed
(2) Myron 6p ultralite		} Collect water samples
(2) Lamotte 2020ve		
(2) Heion WL indicator		
(2) Mini Rac 3000		

Field Tests Performed (Samples, Field Screening, Chemical Testing, etc.)	
Collect 4 MW Samples	MW 3R MW 3S MW 10R MW 15R
IDW Generated and Stored Onsite	
NA	
Planned Activities for Next Work Day	
Continue Sampling wells, Begin well maintenance	
Remarks: (Visitors, Completion of Fieldwork, etc.)	



Site Manager Signature

10/16/12

Date

### Daily Field Activity Summary

EEEPC Project No.: <u>EN-003231-0001-0370</u>	NYSDEC WA No.:
Project Name: <u>Dewis Hollow</u>	Project Location: <u>Rochester, NY</u>
Date: <u>Wed. 17 October 2012</u>	Weather: <u>Sunny breezy high at 70°</u>

Personnel On Site	Affiliation	Hours	Level of PPE
<u>S. Craig</u>	<u>EEEEPC</u>	<u>12.5</u>	<u>D</u>
<u>T. Dillon</u>	<u>EEEEPC</u>	<u>12.5</u>	<u>D</u>
<u>L. Reedl</u>	<u>EEEEPC</u>	<u>12.5</u>	<u>D</u>

#### Summary of Today's Activities

Sample: MW-15, MW-10R, MW-14S, MW-14R

#### Work Delays (Due To Weather, Maintenance, Breakdowns, Waiting For Decisions)

Only 1 vehicle

#### Problems Encountered And Deviations From Work Plan

NA

#### Written And Verbal Instruction By NYSDEC (Include name of NYSDEC representative)

NA

#### New Safety Issues

NA


Site Manager Signature: <u>[Signature]</u>	Date: <u>10/17/12</u>
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# **Daily Field Activity Summary**

EEEP Project No.: <u>EN-003231-0001-03TH</u>	NYSDEC WA No.:
Project Name: <u>Davis Howland</u>	Project Location: <u>Rochester NY</u>
Date: <u>10/17/12</u>	Weather: <u>Sunny breezy, high near 70</u>

Summary of Activities		
Equipment Used	Task	Activities Performed
(2) Myronck P Ultramix		} collect water samples
(2) Lamotte 2000e		
(2) Heion Dipper T		
(2) Minifac 3000 FID		

<b>Field Tests Performed (Samples, Field Screening, Chemical Testing, etc.)</b>
<u>Sample: MW-13</u>
<u>MW-10R</u>
<u>MW-14S</u>
<u>MW-14R</u>
<u>Atto</u>
<b>IDW Generated and Stored Onsite</b>
<b>Planned Activities for Next Work Day</b>
<u>Continue Sampling + replacing well pads</u>
<b>Remarks: (Visitors, Completion of Fieldwork, etc.)</b>



10/17/12  
Date

Site Manager Signature

### Daily Field Activity Summary

EEEPC Project No.: <u>EN-003231-0001-03H0</u>	NYSDEC WA No.:
Project Name: <u>Davis Houlard</u>	Project Location: <u>Rochester, NY</u>
Date: <u>Thursday 18 October 2012</u>	Weather: <u>Sunny, Windy, High near 65</u>

Personnel On Site	Affiliation	Hours	Level of PPE
<u>Sarah Craig</u>	<u>EEEPC</u>	<u>12.5</u>	<u>D</u>
<u>Tim Dillon</u>	<u>EEEPC</u>	<u>12.5</u>	<u>D</u>
<u>Henry Reed</u>	<u>EEEPC</u>	<u>12.5</u>	<u>D</u>

#### Summary of Today's Activities

Collect water samples. Continue well maintenance

#### Work Delays (Due To Weather, Maintenance, Breakdowns, Waiting For Decisions)

One vehicle - Well maintenance issues - details in logbook

#### Problems Encountered And Deviations From Work Plan

NA

#### Written And Verbal Instruction By NYSDEC (Include name of NYSDEC representative)

NA

#### New Safety Issues

NA

Site Manager Signature: 	Date: <u>10/18/12</u>
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# **Daily Field Activity Summary**

EEPC Project No.: <u>EN-003231-0001-0310</u>	NYSDEC WA No.:
Project Name: <u>DAVIS HIGHLAND</u>	Project Location: <u>ROCHESTER, NY</u>
Date: <u>10/18/12</u>	Weather:

Summary of Activities		
Equipment Used	Task	Activities Performed
(2) Myron Cop Ullmann		} Collect GW Samples
(2) Lamotte 2020we turb		
(2) Mini Pae 3000 PTD		
(2) Hevon Dipper T		

<b>Field Tests Performed (Samples, Field Screening, Chemical Testing, etc.)</b>												
<table> <tr> <td>Sample</td> <td>MW-12S</td> <td>MW-8R</td> </tr> <tr> <td></td> <td>MW-12R</td> <td>MW-13S</td> </tr> <tr> <td></td> <td>MW-2S</td> <td></td> </tr> <tr> <td></td> <td>MW-2R</td> <td></td> </tr> </table>	Sample	MW-12S	MW-8R		MW-12R	MW-13S		MW-2S			MW-2R	
Sample	MW-12S	MW-8R										
	MW-12R	MW-13S										
	MW-2S											
	MW-2R											
<b>IDW Generated and Stored Onsite</b>												
<b>Planned Activities for Next Work Day</b>												
Complete GW Sampling, Setup and complete indoor air sampling, Complete well maintenance												
<b>Remarks: (Visitors, Completion of Fieldwork, etc.)</b>												
NA												



10/18/12

Date

Site Manager Signature




# Daily Field Activity Summary

EEEP Project No.: <u>EN-003231-0001-03710</u>	NYSDEC WA No.:
Project Name: <u>Davis Howard</u>	Project Location: <u>Rochester, NY</u>
Date: <u>10/19/12</u>	Weather:

Summary of Activities		
Equipment Used	Task	Activities Performed
(2) Myron Ultrameter 1p		} Collected GW Samples } Collected air Samples
(2) Lamotte 2020we		
(2) Myron Dipper T		
(2) Minipac 3000 FID		

<b>Field Tests Performed (Samples, Field Screening, Chemical Testing, etc.)</b>
<u>GW Samples: MW-9S, MW-SR, RB-10/19/12</u>
<b>IDW Generated and Stored Onsite</b>
<u>NA</u>
<b>Planned Activities for Next Work Day</b>
<u>NA</u>
<b>Remarks: (Visitors, Completion of Fieldwork, etc.)</b>
<u>All work complete</u>



10/19/12  
Date

Site Manager Signature

## WELL PURGE &amp; SAMPLE RECORD

Site Name/Location: Dev. 14/10/2014

Well ID: MW 15

EEPC Project No.: EW003231-0001

Date: 12/17/12

Initial Depth to Water: 14.75 feet TOIC

Start Time: 0955

Total Well Depth: 17.99 feet TOIC

End Time: 10:25

Depth to Pump: 15.79 feet TOIC

☐ Bailer      ☒ Pump

Initial Pump Rate: \_\_\_\_\_ Lpm / gpm

Pump Type: Turbine

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 2 inches

adjusted to:                      at                      minutes

1x Well Volume: .52 gallons x 1.58

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
09:55	0	7.02	55.9	155	1344	—	27.1	15.09
10:00	1	7.02	58.1	127	1289	—	8.81	15.30
10:05	2	7.04	58.8	108	1295	—	3.45	—
10:10	3	7.10	58.3	99	1280	—	5.55	—
10:15	4	7.05	58.3	98	1275	—	7.56	—
10:20	5	7.05	59.3	98	1278	—	3.89	—
10:25	6	7.04	59.2	98	1275	—	2.86	—
10:30	7	7.04	58.1	98	1275	—	1.62	—
Final Sample Data:		7.04	59.1	98	1275	—	1.62	—

Sample ID: MW-15

~~Duplicate? ☐~~

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1035

MS/MSD? ☐

### Analyses:

### Methods:

Comments: Can not get water level, the meter (water level) is

☒ VOCs

- CLP

Hitting the Top of the Pyramid.

☐ SVOCs

☒ SW846

Spunge with butter

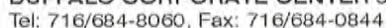
□ PCBs

☐ Drink. Wtr.☐ Metals

□ □ □

☐

Sampler(s): L. Roedel





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Tel: 716/684-8060, Fax: 716/684-0844

## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis/Howard Oil Corp

Well ID: MW-25

EEEPCC Project No.: EN-003231-0001-03110

Date: 10/18/12

Initial Depth to Water: 7.22 feet TOIC

Start Time: 12:10

Total Well Depth: 14.00 feet TOIC

End Time: 12:50

Depth to Pump: 12.00 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Typhoon

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 2 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 1.10 gallons 3ud = 3.31  
5ud = 5.52

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
12:10	0	6.87	67.7	-44	1357	-	10.99	10.51
12:15	1	6.87	67.6	-44	1325	-	9.60	10.89
12:20	2	6.83	68.4	-45	1435	-	4.26	10.75
12:25	3	6.80	68.3	-44	1486	-	3.79	10.80
12:30	4	6.81	68.7	-47	1555	-	1.27	10.80
12:35	5	6.83	68.9	-48	1579	-	0.65	10.80
12:40	6	6.79	68.9	-48	1581	-	0.60	10.80
12:45	7	6.79	68.9	-49	1580	-	0.64	10.80
12:50	8	6.79	68.9	-48	1582	-	0.50	10.80
Final Sample Data:		6.79	68.9	-48	1582	-	0.50	10.80

Sample ID: MW-25

Duplicate? ☐

Dupe Samp ID: TP

Sample Time: 12:50

MS/MSD? ☒

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

Sample with bailer

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): SCA, L. Reed



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## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland O.L. Company  
EEEP Project No.: EN-003231-0001-03 TIO

Well ID: MW-35  
Date: 10/10/12

Initial Depth to Water: 8.89 feet TOIC

Start Time: 1050

Total Well Depth: 17.10 feet TOIC

End Time: 1225

Depth to Pump: 14.10 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: 44phor

adjusted to: 500 mL at 0.3 minutes

Well Diameter: 2 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 1.33 gallons 3 vol = 4.0

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm nS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1050		7.95	17.7	125	834.8	—	9.10	9.31
1055		7.00	17.3	125	848.1	—	6.72	9.43
1105		7.00	17.8	121	858.2	—	1.83	9.54
1110	2.5	6.95	17.8	95	849.5	—	0.71	9.84
1115		6.97	17.8	84	872.4	—	0.40	9.94
1125		6.98	17.7	97	864.4	—	0.53	10.01
1135	5.5	6.97	17.9	114	869.8	—	0.43	10.08
1145		7.00	17.8	113	863.4	—	0.49	10.09
1155		7.00	17.9	121	861.3	—	0.44	10.13
1205	8.0	7.00	18.1	135	860.7	—	0.35	10.15
1215		7.00	18.3	127	861.8	—	0.35	10.20
1225	10	7.00	18.3	129	859.7	—	0.38	10.24
Final Sample Data:		7.00	18.3	129	859.7	—	0.38	10.24

Sample ID: MW-35

Duplicate? ☐

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1230

MS/MSD? ☐

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig

Sample with bailer



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## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Meadow

Well ID: MW 3R

EEEPCC Project No.: EN-003221-0001.03

Date: 10/16/12

Initial Depth to Water: 21.34 feet TOIC

Start Time: 10:27

Total Well Depth: 38.65 feet TOIC

End Time: 12:34

Depth to Pump: 35.65 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Typhor

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 4" inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 11.29 gallons 33.87

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
10:27	0	7.85	58.0	15	1514	—	11.33	20.79
10:37	3	7.18	58.7	18	1387	—	7.01	20.59
10:47	6	7.20	59.1	20	1507	—	2.98	20.95
10:57	9	7.14	59.2	19	1503	—	1.58	21.23
11:07	12	7.22	59.4	12	1447	—	0.41	21.80
11:17	15	7.22	59.3	9	1440	—	0.19	22.11
11:27	18	7.23	59.4	9	1471	—	0.19	22.14
11:37	20	7.23	60.0	9	1484	—	0.02	22.14
11:47	24	7.23	59.9	9	1482	—	0.12	22.14
12:07	27	7.21	59.9	9	1481	—	0.07	22.14
12:17	30	7.22	60.0	9	1482	—	0.13	22.14
12:27	35	7.22	59.9	9	1481	—	0.13	22.14
Final Sample Data:		7.22	59.9	9	1481	—	0.13	22.14

Sample ID: MW 3R

Duplicate? ☒

Dupe Samp ID: —

Sample Time: \_\_\_\_\_

MS/MSD? ☒

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): L. Reed

Sampled with bailer



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## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howard Oil Corp

Well ID: MW-SR

EEEP Project No.: EN-003231-0001-03T10

Date: 10/19/12

Initial Depth to Water: 21.69 feet TOIC

Start Time: 0947

Total Well Depth: 34.80 feet TOIC

End Time: 1140

Depth to Pump: 32.80 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm/gpm

Pump Type: Hydro

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 4 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 8.5 gallons

3xol = 25.7 gal  
5xol = 42.8 gal

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0947	0	7.14	15.1	-74	2094	-	99.17	22.21
0957		7.30	15.1	-81	2100	-	3.22	22.12
1007	5	7.38	14.9	-78	2104	-	2.85	22.61
1017		7.33	14.9	-77	2108	-	1.54	22.90
1027	10	7.37	14.9	-79	2088	-	5.77	23.27
1037		7.33	15.3	-81	2067	-	3.44	23.72
1047	15	7.31	15.2	-79	2083	-	2.22	23.72
1057		7.31	15.1	-80	2077	-	1.25	23.72
1107	20	7.31	15.2	-79	2077	-	1.03	23.70
1117		7.32	15.3	-79	2077	-	0.93	23.70
1127	25	7.31	15.3	-80	2079	-	0.84	23.70
1137	30	7.32	15.3	-80	2079	-	0.72	23.70
Final Sample Data:		7.32	15.3	-80	2079	-	0.72	23.70

Sample ID: MW-SR

Duplicate? ☒

Dupe Samp ID: -

Sample Time: 1140

MS/MSD? ☒

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): Janak Craig, L. Reed

Sample with bailer



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## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Boulevard C.I. Blvd

Well ID: MW-8R

EEEPCC Project No.: EN-003231-0001-03110

Date: 10/18/17

Initial Depth to Water: 22.94 feet TOIC

Start Time: 1340

Total Well Depth: 36.34 feet TOIC

End Time: 1520

Depth to Pump: 35.30 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Juphoon

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 4 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 8.78 gallons 3vol = 26.4 gal  
5vol = 44 gal

Time	Purge Volume (gallons/iters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1340	0	7.30	16.3	-98	1955	-	10.68	22.25
1350		7.17	15.5	-78	1933	-	7.40	25.05
1400		7.18	16.1	-80	1917	-	7.20	25.08
1410	5	7.18	16.1	-71	1921	-	40.9	25.45
1420		7.20	15.6	-60	1918	-	70.8	25.75
1430		7.18	15.7	-69	1935	-	79.4	25.74
1440	10	7.20	16.0	-70	1948	-	87.3	25.74
1450		7.20	16.1	-81	1966	-	106.6	25.73
1500		7.22	16.1	-89	1983	-	63.0	25.73
1510	15	7.23	15.8	-88	1982	-	32.9	25.73
1520	16	pumped dry. wait for recharge						
Final Sample Data:		7.19	17.1	-87	1989	-	32.9	25.71

Sample ID: MW-8R

Duplicate? ☒

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1600

MS/MSD? ☒

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig

Sampled with bailer





## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis-Henderson Oil Corporation

Well ID: MW-10R

EEEPCC Project No.: EN-003231-0001-03TTU

Date: 10/17/12

Initial Depth to Water: 19.35 feet TOIC

Start Time: 1000

Total Well Depth: 35.59 feet TOIC

End Time: 1250

Depth to Pump: 33.59 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Hyphoon

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 4 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 17.12 gallons

3Vol = 51.3gal  
5Vol = 85.5gal

Time	Purge Volume (gallons/iters)	pH (s.u.)	Temp. (°C, °F)	ORP (mV)	Conductivity (µS/cm, mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1000	0	7.44	13.9	152	936.8	—	4.62	19.60
1010		7.34	13.8	157	938.8	—	5.06	20.21
1020	5	7.31	13.8	155	907.0	—	3.23	20.52
1030		7.33	13.9	143	896.0	—	1.38	20.76
1040	<del>10</del>	7.32	14.1	135	894.9	—	1.17	20.75
1050	10	7.41	14.2	142	898.3	—	1.44	20.97
1100		7.34	13.9	136	892.7	—	1.03	21.45
1110	15	7.36	13.9	131	892.5	—	0.72	21.85
1120	20	7.31	13.9	129	900.8	—	0.90	22.05
1130	25	7.31	13.9	125	902.1	—	2.91	22.31
1140		7.32	14.1	122	863.7	—	3.92	22.42
1150		7.35	14.3	120	748.2	—	6.01	22.65
1200	35	7.30	14.4	119	810.9	—	3.07	22.47
1210	40	7.29	14.4	112	860.1	—	3.02	22.45
1220		7.29	14.4	109	899.6	—	2.58	22.44
Final Sample Data:		7.29	14.4	104	932.1	—	0.97	22.21

Sample ID: MW-10R

Duplicate? ☒

Dupe Samp ID: MW-10R20

Sample Time: 1255

MS/MSD? ☐

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig, L. Reed

Sample with bailer





# ecology and environment engineering, p.c.

International Specialists in the Environment

BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086

Tel: 716/684-8060, Fax: 716/684-0844

## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland

Well ID: 125

EEEPCC Project No.: EW 003231-0001-03

Date: 10/18/12

Initial Depth to Water: \_\_\_\_\_ feet TOIC

Start Time: 0951

Total Well Depth: 5.60 feet TOIC

End Time: 1026

Depth to Pump: 14.65 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Typhane

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 2 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 1.47 gallons 134.42

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
950	0	6.90	63.2	178	996.2	—	14.2	5.92
956	1	6.87	63.2	146	1008	—	7.75	6.09
10:01	2	6.87	63.1	142	1012	—	4.38	6.29
10:06	3	6.86	62.9	135	1011	—	2.35	6.29
10:11	4	6.90	62.6	133	1010	—	1.58	6.49
10:16	5	6.90	62.6	132	1009	—	1.11	6.49
1021	6	6.91	62.8	130	1006	—	1.15	6.49
1026	7	6.90	62.7	130	1004	—	1.13	6.49
Final Sample Data:		6.90	62.7	130	1004	—	1.13	6.49

Sample ID: MW-125

Duplicate? ☐

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1030

MS/MSD? ☐

### Analyses:

### Methods:

Comments: \_\_\_\_\_

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Chang



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Tel: 716/684-8060, Fax: 716/684-0844

## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howard Oil Corp

Well ID: MW-12R

EEEPCC Project No.: EN-003231-0001-08710

Date: 10/18/12

Initial Depth to Water: 21.30 feet TOIC

Start Time: 0920

Total Well Depth: 31.97 feet TOIC

End Time: 1020

Depth to Pump: \_\_\_\_\_ feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Hyphoon

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 4 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 6.96 gallons 3vol = 21gal  
5vol = 35gal

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm, nS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0920	0	7.40	15.0	74	847.8	—	11.94	21.90
0930		7.34	15.0	51	844.4	—	3.87	22.07
0940		7.33	15.2	58	863.7	—	0.71	22.13
0950	5	7.33	15.4	55	844.1	—	0.21	22.31
1000		7.36	15.4	62	863.5	—	0.21	22.37
1010		7.40	15.4	48	863.3	—	0.04	22.31
1020	10	7.34	15.3	51	863.3	—	0.01	22.32
1030	<del>10</del>	7.38	15.3	44	863.8	—	0.0	22.31
1040		7.42	15.4	47	844.2	—	0.18	22.31
1050	15	7.38	15.5	50	862.2	—	0.19	22.31
1100		7.37	15.4	48	844.3	—	0.02	22.31
1110		7.38	15.5	52	844.9	—	0.13	22.32
1120	30	7.37	15.4	53	863.4	—	0.13	22.32
Final Sample Data:		7.37	15.4	53	843.4	—	0.13	22.32

Sample ID: MW-12R

Duplicate? ☐

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1025

MS/MSD? ☐

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig

Sample with bailer

## WELL PURGE &amp; SAMPLE RECORD

Site Name/Location: Davis Boulevard

Well ID: MW 135

EEPC Project No.: EW-003231-0001-03

Date: 10/18/12

Initial Depth to Water: 6.86 feet TOIC

Start Time: 1456

Total Well Depth: 14.71 feet TOIC

End Time: 15 15

Depth to Pump: 12.7 feet TOIC

☐ Bailer      ☒ Pump

Initial Pump Rate:      Lpm / gpm

Pump Type: Typhoon

adjusted to:                      at                      minutes

Well Diameter: 2 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 1.2 gallons 3.8

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
14:56	0	7.57	64.7	198	864.3	—	36.6	6.86
15:01	1	7.36	64.5	81	761.7	—	4000	8.25
15:06	2	7.35	65.1	70	624.7	—	4000	10.35
15:11	3	7.35	66.3	74	739.8	—	4000	14.71
15:15	~4	DRY						
Final Sample Data:		7.95	63.5	102	783.6	—	4000	

Sample ID: MW135

Duplicate? ☐

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1100

MS/MSD? ☐

Analyses: Methods:

Comments: *Waiting for wall to Recharge. The samples are*

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.☐ Metals

10

☐

□

Sampler(s): C. Roedel





WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howard Oil Corporation

Well ID: MW-14R

EEEPCC Project No.: EN-003231-0001-03770

Date: 10/17/12

Initial Depth to Water: 6.80 feet TOIC

Start Time: 1358

Total Well Depth: 23.75 feet TOIC

End Time: 1648

Depth to Pump: 22.75 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 1 Lpm / gpm

Pump Type: Hyphoon

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 24 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 11.06 gallons 3rd = 33.2 gal  
5rd = 55.3 gal

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1358	0	7.30	19.0	-22	195.2	—	5.17	7.37
1408		7.38	17.6	-12	818.8	—	12.1	7.34
1418		7.42	17.3	-87	985.1	—	4.47	7.55
1428	4	7.48	17.4	-64	1098	—	1.67	7.62
1438	5	7.53	17.3	-37	1171	—	1.36	7.63
1448		7.52	17.2	-27	1189	—	0.60	7.52
1458		7.48	17.0	-26	1120	—	0.68	7.68
1508		7.52	17.0	-24	1170	—	0.60	7.81
1518	10	7.53	17.1	-22	1199	—	0.22	7.83
1528		7.53	17.0	-19	1166	—	0.56	7.82
1538	15	7.48	16.7	-18	1138	—	0.62	7.83
1548		7.53	17.0	-23	1198	—	0.18	7.83
1558	20	7.50	16.9	-20	1168	—	0.37	7.83
1608		7.49	16.8	-15	1131	—	0.45	7.83
1618	25	7.48	16.5	-18	1153	—	0.26	7.83
Final Sample Data:		7.50	16.4	22	1137	—	0.29	7.82

Sample ID: MW-14R

Duplicate? ☐

Dupe Samp ID: —

Sample Time: 1652

MS/MSD? ☒

Analyses:

Methods:

Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig

Sampled with bailer

## WELL PURGE &amp; SAMPLE RECORD

Site Name/Location: Davis Howland Co. Corp

Well ID: MW-14R

EEPC Project No.: EN-003231-0001-03770

Date: 10/17/12

Initial Depth to Water: 10 feet TOIC

See first page  
for information

Start Time: \_\_\_\_\_

Total Well Depth:        /        feet TOIC

End Time: 

Depth to Pump:        /        feet TOIC

☐ Bailer      ☒ Pump

Initial Pump Rate: / Lpm / gpm

Pump Type: \_\_\_\_\_

adjusted to:                      at                      minutes

Well Diameter: inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume:                      gallons

Time	Purge Volume <small>(gallons/liters)</small>	pH <small>(s.u.)</small>	Temp. <small>(°C/°F)</small>	ORP <small>(mV)</small>	Conductivity <small>(µS/cm · mS/cm)</small>	DO <small>(mg/L)</small>	Turbidity <small>(NTU)</small>	Water Level (feet)
1028		7.48	16.4	-19	1147	—	0.36	7.81
1038	33	7.46	16.3	-22	1131	—	0.23	7.82
1048	34	7.50	16.4	-22	1137		0.29	7.82
<b>Final Sample Data:</b>								

Sample ID: \_\_\_\_\_

Duplicate? ☐

Dupe Samp ID: \_\_\_\_\_

Sample Time:

MS/MSD? ☐

Analyses:

**Methods:**

Comments:

☒ VOCs

☐ CLP

See first page for sampling information

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.☐ Metals

□

☐☐

Sampler(s): \_\_\_\_\_



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## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland O.I. Corporation

Well ID: MW-15R

EEEPCC Project No.: EN-003231-0001-03770

Date: 10/16/12

Initial Depth to Water: 30.30 feet TOIC

Start Time: 1355

Total Well Depth: 14.39 feet TOIC

End Time: 1745

Depth to Pump: 13.39 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: \_\_\_\_\_ Lpm / gpm

Pump Type: tuphorm

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

Well Diameter: 4" inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 10.42 gallons 3 Vol: 31.25 gal  
Sub: 52.08 gal

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1555	0	7.46	13.3	101	1088	—	7.60	15.05
1605		7.11	13.7	76	1064	—	5.30	16.03
1625		7.11	13.8	75	995.7	—	4.00	16.07
1635		7.12	13.8	-41	900.1	—	2.51	16.20
1645		7.10	13.8	-69	914.3	—	1.41	16.30
1655		7.08	13.6	8	966.9	—	1.40	16.33
1705		7.13	13.6	46	824.4	—	1.28	16.35
1715		7.04	13.6	59	901.1	—	0.63	16.35
1725		7.08	13.5	63	997.2	—	0.54	16.37
1735		7.08	13.5	71	1038	—	0.53	16.35
1745	45	7.09	13.5	77	1092	—	0.50	16.35
Final Sample Data:		7.09	13.5	77	1092	—	0.50	16.35

Sample ID: MW-15R

Duplicate? ☒

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1750

MS/MSD? ☒

### Analyses:

### Methods:

### Comments:

☒ VOCs

☐ CLP

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig, L. Roedl

Sampled with bailer



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Tel: 716/684-8060, Fax: 716/684-0844

## WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis/Hawland

Well ID: #1 MW-16R

EEEP Project No.: EN-003231-0061-03 T10

Date: 10/16/12

Initial Depth to Water: 19.14 feet TOIC

Start Time: 1310

Total Well Depth: 31.20 feet TOIC

End Time: 1438

Depth to Pump: 30.20 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: \_\_\_\_\_ Lpm / gpm

Pump Type: Hydram

adjusted to: 325 at \_\_\_\_\_ minutes

Well Diameter: 4 inches

adjusted to: \_\_\_\_\_ at \_\_\_\_\_ minutes

1x Well Volume: 7.87 gallons

3vol = 23.63g  
5vol = 39.38g

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm, mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1310	0	7.19	15.2	-221	1587	—	4.0	20.81
1320	2	7.14	15.8	-199	1576	—	51.4	21.39
1330		7.14	15.7	-199	1568	—	21.0	22.38
1340	5	7.15	15.8	-187	1548	—	15.4	22.90
1350		7.25	16.1	-172	1441	—	32.0	23.82
1400		7.25	16.1	-161	1164	—	44.0	24.61
1410		7.29	16.4	-135	870.3	—	115	25.02
1420	8.5	7.26	16.7	-86	919.6	—	1170	25.90
1430		7.20	16.2	-48	973.2	—	1869	26.40
1438	well purged dry							
Final Sample Data:		7.19	13.8	-125	1320	—	<1000	26.40

Sample ID: MW-16R

Duplicate? ☐

Dupe Samp ID: \_\_\_\_\_

Sample Time: 1620

MS/MSD? ☐

Analyses: \_\_\_\_\_ Methods: \_\_\_\_\_

Comments: well purged dry - let recharge for ~1hr

☒ VOCs

☐ CLP

Sample with bailer

☐ SVOCs

☒ SW846

☐ PCBs

☐ Drink. Wtr.

☐ Metals

☐ \_\_\_\_\_

☐ \_\_\_\_\_

☐ \_\_\_\_\_

Sampler(s): S. Craig, L. Reed, J. Dillon



November 05, 2012

Service Request No: R1207074

Mr. Michael Aloï  
Ecology And Environment, Incorporated  
368 Pleasantview Drive  
Lancaster, NY 14086

**Laboratory Results for: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO**

Dear Mr. Aloï:

Enclosed are the results of the sample(s) submitted to our laboratory between October 17, 2012 and October 19, 2012. For your reference, these analyses have been assigned our service request number **R1207074**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Karen.Bunker@alsglobal.com.

Respectfully submitted,

**Columbia Analytical Services, Inc. dba ALS Environmental**

Karen Bunker  
Project Manager

Page 1 of 187



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## COLUMBIA ANALYTICAL SERVICES, INC.

**Client:** Ecology & Environment  
**Project:** Davis Howland Oil Co Site Water – Wells  
**Sample Matrix:** Water

**Service Request No.:** R1207074  
**Date Received:** 10/17-19/2012

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD).

#### Sample Receipt

Twenty-two water samples were received for analysis at ALS/Columbia Analytical Services on 10/17 - 19/2012. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

#### General Chemistry Parameters

pH was not performed in the field as recommended by EPA to meet a holding time of "immediate." An "H" flag indicates the problem. pH is a temperature dependent analysis, so the pH and temperature analysis were conducted by the laboratory as soon as possible upon receipt.

No other analytical or quality control problems were encountered during analysis.

#### Total Petroleum Hydrocarbons by DOH Method 310-13

No analytical or quality control problems were encountered during analysis.

#### Volatile Organic Compounds by EPA Method 601/602

2-Chloroethylvinyl ether is degraded by samples preserved to pH<2. The recoveries of this compound may be biased low.

Site QC is included for sample MW-2S (R1207074-015). All Matrix Spike (MS) and MS Duplicate (MSD) recoveries were within limits except for 2-Chloroethylvinyl ether due to the above noted issue. The recoveries are flagged as "\*\*".

The initial and continuing calibration criteria were met for all analytes except the ICAL performed on 4/9/11 in which Tetrachloroethene (11.5%), Bromomethane (10.3%), Carbon Tetrachloride (10.6%), trans-1,3-Dichloropropene (10.8%), Dibromochloromethane (10.9%), Chlorobenzene (10.7%), and Bromoform (10.7%) exceeded the 10% limit. The above compounds do not satisfy criteria of low-point std (0.5ppb) being within 30% of true-value when placed on LR fit. The above compounds do satisfy criteria of low-point standard being within 30% OF True-value when using average RF fit, therefore these compounds will remain on average RF fits. The Continuing Calibration Verification (CCV) and Laboratory Control Sample (LCS) had acceptable recoveries for these compounds. Only the samples MW-1S and MW-9S (R1207074-006 and -020 respectively) were affected as they had hits for Tetrachloroethene above the Method Reporting Limit (MRL). All data has been reported.

Hits above the calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. Subsequent hits in the dilution are flagged as "D".

No other analytical or quality control problems were encountered during analysis.

Approved by



Date

11/6/12

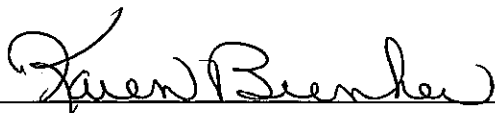
00002

**Semivolatile Organic Compounds by EPA Method 625**

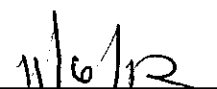
Site QC is included for sample MW-2S (R1207074-015). All Matrix Spike (MS) and MS Duplicate (MSD) recoveries were within limits except for Benzidine. LCS and DLCS recoveries were within QC acceptance limits with the exception of Benzidine which was outside of acceptable range low in the LCS and DLCS. Sample data may be biased low. The Relative Percent Difference between the LCS and DLCS was acceptable except for Benzidine. QC outliers are "\*" flagged on the appropriate form.

No other analytical or quality control problems were encountered during analysis.

Approved by



Date



00003

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1207074

<u>Lab ID</u>	<u>Client ID</u>
R1207074-001	MW-3S
R1207074-002	MW-3R
R1207074-003	TB101612
R1207074-004	MW-16R
R1207074-005	MW-15R
R1207074-006	MW-1S
R1207074-007	TB101712
R1207074-008	MW-10R
R1207074-009	MW-10RQ
R1207074-010	MW-14S
R1207074-011	MW-14R
R1207074-012	TB101812
R1207074-013	MW-12S
R1207074-014	MW-12R
R1207074-015	MW-2S
R1207074-016	MW-2R
R1207074-017	MW-8R
R1207074-018	MW-13S
R1207074-019	TB101922
R1207074-020	MW-9S
R1207074-021	RB-101912
R1207074-022	MW-5R

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Maine ID #NY0032	New Hampshire ID #
Connecticut ID # PH0556	Nebraska Accredited	294100 A/B
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to <http://alsglobal.com/environmental/laboratories/rochester-environmental-lab.aspx>

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-3S  
**Lab Code:** R1207074-001

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1230  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.88	pH Units		1	NA	10/17/12 18:36	H
Temperature of pH Analysis	SM 4500-H+ B	20.1	deg C		1	NA	10/17/12 18:36	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1230  
 Date Received: 10/17/12  
 Date Analyzed: 10/24/12 15:04

Sample Name: MW-3S  
 Lab Code: R1207074-001

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1008.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1230  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 15:04

**Sample Name:** MW-3S  
**Lab Code:** R1207074-001

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1008.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/24/12 15:04	
Bromochloromethane	80	48-120	10/24/12 15:04	
3-Fluorochlorobenzene (PID)	88	83-126	10/24/12 15:04	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1230  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/23/12 22:45

Sample Name: MW-3S  
 Lab Code: R1207074-001

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN539.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1230  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/23/12 22:45

**Sample Name:** MW-3S  
**Lab Code:** R1207074-001

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN539.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	86	28-157	10/23/12 22:45	
2-Fluorobiphenyl	84	39-119	10/23/12 22:45	
2-Fluorophenol	47	10-105	10/23/12 22:45	
Nitrobenzene-d5	81	37-117	10/23/12 22:45	
Phenol-d6	34	10-107	10/23/12 22:45	
p-Terphenyl-d14	90	40-133	10/23/12 22:45	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1230  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 08:30

**Sample Name:** MW-3S  
**Lab Code:** R1207074-001

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An324.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-3S  
**Lab Code:** R1207074-001  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/16/12**Date Received:** 10/17/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-3R  
**Lab Code:** R1207074-002

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1234  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.15		pH Units		1	NA	10/17/12 18:36	H
Temperature of pH Analysis	SM 4500-H+ B	20.0		deg C		1	NA	10/17/12 18:36	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1234  
 Date Received: 10/17/12  
 Date Analyzed: 10/24/12 13:22

Sample Name: MW-3R  
 Lab Code: R1207074-002

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1006.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.3	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	23	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	7.1	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	14	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	110 E	1.0	
156-59-2	cis-1,2-Dichloroethene	360 E	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	4.0	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1234  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 13:22

**Sample Name:** MW-3R  
**Lab Code:** R1207074-002

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1006.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	86	78-142	10/24/12 13:22	
Bromochloromethane	86	48-120	10/24/12 13:22	
3-Fluorochlorobenzene (PID)	90	83-126	10/24/12 13:22	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1234  
 Date Received: 10/17/12  
 Date Analyzed: 10/24/12 14:14

Sample Name: MW-3R  
 Lab Code: R1207074-002  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1007.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 D	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	6.1 D	5.0	
95-50-1	1,2-Dichlorobenzene	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0 U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0 U	5.0	
110-75-8	2-Chloroethyl Vinyl Ether	5.0 U	5.0	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-09-2	Methylene Chloride	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
79-01-6	Trichloroethene (TCE)	12 D	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0 U	5.0	
75-01-4	Vinyl Chloride	95 D	5.0	
156-59-2	cis-1,2-Dichloroethene	390 D	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
179601-23-1	m,p-Xylenes	10 U	10	
95-47-6	o-Xylene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1234  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 14:14

**Sample Name:** MW-3R  
**Lab Code:** R1207074-002  
**Run Type:** Dilution

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1007.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 5

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	84	78-142	10/24/12 14:14	
Bromochloromethane	85	48-120	10/24/12 14:14	
3-Fluorochlorobenzene (PID)	88	83-126	10/24/12 14:14	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1234  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/23/12 23:24

**Sample Name:** MW-3R  
**Lab Code:** R1207074-002

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN540.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1234  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/23/12 23:24

**Sample Name:** MW-3R  
**Lab Code:** R1207074-002

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN540.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7	U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7	U	4.7	
84-66-2	Diethyl Phthalate	4.7	U	4.7	
131-11-3	Dimethyl Phthalate	4.7	U	4.7	
206-44-0	Fluoranthene	4.7	U	4.7	
86-73-7	Fluorene	4.7	U	4.7	
118-74-1	Hexachlorobenzene	4.7	U	4.7	
87-68-3	Hexachlorobutadiene	4.7	U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7	U	4.7	
67-72-1	Hexachloroethane	4.7	U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7	U	4.7	
78-59-1	Isophorone	4.7	U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7	U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7	U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7	U	4.7	
91-20-3	Naphthalene	4.7	U	4.7	
98-95-3	Nitrobenzene	4.7	U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7	U	4.7	
85-01-8	Phenanthrene	4.7	U	4.7	
108-95-2	Phenol	4.7	U	4.7	
129-00-0	Pyrene	4.7	U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	28-157	10/23/12 23:24	
2-Fluorobiphenyl	81	39-119	10/23/12 23:24	
2-Fluorophenol	44	10-105	10/23/12 23:24	
Nitrobenzene-d5	73	37-117	10/23/12 23:24	
Phenol-d6	30	10-107	10/23/12 23:24	
p-Terphenyl-d14	87	40-133	10/23/12 23:24	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1234  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 08:57

**Sample Name:** MW-3R  
**Lab Code:** R1207074-002

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQUDATA\6890\DATA\102412\An325.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-3R  
**Lab Code:** R1207074-002  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/16/12**Date Received:** 10/17/12

<b>Analysis Method</b>	<b>Extracted/Digested By</b>	<b>Analyzed By</b>
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 0900  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 15:55

**Sample Name:** TB101612  
**Lab Code:** R1207074-003

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1009.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 0900  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 15:55

**Sample Name:** TB101612  
**Lab Code:** R1207074-003

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1009.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/24/12 15:55	
Bromochloromethane	80	48-120	10/24/12 15:55	
3-Fluorochlorobenzene (PID)	88	83-126	10/24/12 15:55	

## Analyst Summary Report

**Date Received:** 10/17/12

**Analyzed By**

BWOJTASIEWICZ

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-16R  
**Lab Code:** R1207074-004

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1610  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.14		pH Units		1	NA	10/17/12 18:36	H
Temperature of pH Analysis	SM 4500-H+ B	20.1		deg C		1	NA	10/17/12 18:36	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1610  
 Date Received: 10/17/12  
 Date Analyzed: 10/24/12 16:45

Sample Name: MW-16R  
 Lab Code: R1207074-004

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1010.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	7.4	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.6	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.2	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	62	1.0	
156-59-2	cis-1,2-Dichloroethene	140 E	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	2.2	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1610  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 16:45

**Sample Name:** MW-16R  
**Lab Code:** R1207074-004

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1010.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/24/12 16:45	
Bromochloromethane	84	48-120	10/24/12 16:45	
3-Fluorochlorobenzene (PID)	87	83-126	10/24/12 16:45	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1610  
 Date Received: 10/17/12  
 Date Analyzed: 10/25/12 19:00

Sample Name: MW-16R  
 Lab Code: R1207074-004  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1012.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	6.5	D	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.1	D	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
110-75-8	2-Chloroethyl Vinyl Ether	2.0	U	2.0	
71-43-2	Benzene	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	54	D	2.0	
156-59-2	cis-1,2-Dichloroethene	130	D	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	4.0	U	4.0	
95-47-6	o-Xylene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1610  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 19:00

**Sample Name:** MW-16R  
**Lab Code:** R1207074-004  
**Run Type:** Dilution

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1012.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 2

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	83	78-142	10/25/12 19:00	
Bromochloromethane	82	48-120	10/25/12 19:00	
3-Fluorochlorobenzene (PID)	87	83-126	10/25/12 19:00	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1610  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 00:02

Sample Name: MW-16R  
 Lab Code: R1207074-004

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN541.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/16/12 1610  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 00:02

Sample Name: MW-16R  
 Lab Code: R1207074-004

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN541.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	85	28-157	10/24/12 00:02	
2-Fluorobiphenyl	77	39-119	10/24/12 00:02	
2-Fluorophenol	44	10-105	10/24/12 00:02	
Nitrobenzene-d5	76	37-117	10/24/12 00:02	
Phenol-d6	30	10-107	10/24/12 00:02	
p-Terphenyl-d14	80	40-133	10/24/12 00:02	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1610  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 09:24

**Sample Name:** MW-16R  
**Lab Code:** R1207074-004

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An326.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-16R  
**Lab Code:** R1207074-004  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/16/12**Date Received:** 10/17/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-15R  
**Lab Code:** R1207074-005

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1750  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.07	pH Units		1	NA	10/17/12 18:36	H
Temperature of pH Analysis	SM 4500-H+ B	19.9	deg C		1	NA	10/17/12 18:36	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1750  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 17:34

**Sample Name:** MW-15R  
**Lab Code:** R1207074-005

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1011.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	2.0	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.4	1.0	
156-59-2	cis-1,2-Dichloroethene	7.3	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1750  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 17:34

**Sample Name:** MW-15R  
**Lab Code:** R1207074-005

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1011.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/24/12 17:34	
Bromochloromethane	79	48-120	10/24/12 17:34	
3-Fluorochlorobenzene (PID)	89	83-126	10/24/12 17:34	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1750  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 00:40

**Sample Name:** MW-15R  
**Lab Code:** R1207074-005

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN542.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1750  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 00:40

**Sample Name:** MW-15R  
**Lab Code:** R1207074-005

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN542.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	28-157	10/24/12 00:40	
2-Fluorobiphenyl	90	39-119	10/24/12 00:40	
2-Fluorophenol	52	10-105	10/24/12 00:40	
Nitrobenzene-d5	89	37-117	10/24/12 00:40	
Phenol-d6	34	10-107	10/24/12 00:40	
p-Terphenyl-d14	90	40-133	10/24/12 00:40	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/16/12 1750  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 09:51

**Sample Name:** MW-15R  
**Lab Code:** R1207074-005

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An327.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

COLUMBIA ANALYTICAL SERVICES, INC.

Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-15R  
**Lab Code:** R1207074-005  
**Matrix:** Water

**Service Request:** R1207074

**Date Collected:** 10/16/12

**Date Received:** 10/17/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-1S  
**Lab Code:** R1207074-006

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1035  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.98		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.1		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1035  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 18:27

**Sample Name:** MW-1S  
**Lab Code:** R1207074-006

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1012.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	3.4	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	4.4	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	26	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	34	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1035  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 18:27

**Sample Name:** MW-1S  
**Lab Code:** R1207074-006

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1012.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/24/12 18:27	
Bromochloromethane	80	48-120	10/24/12 18:27	
3-Fluorochlorobenzene (PID)	88	83-126	10/24/12 18:27	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1035  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 01:17

**Sample Name:** MW-1S  
**Lab Code:** R1207074-006

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN543.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1035  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 01:17

Sample Name: MW-1S  
 Lab Code: R1207074-006

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN543.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	93	28-157	10/24/12 01:17	
2-Fluorobiphenyl	89	39-119	10/24/12 01:17	
2-Fluorophenol	50	10-105	10/24/12 01:17	
Nitrobenzene-d5	89	37-117	10/24/12 01:17	
Phenol-d6	33	10-107	10/24/12 01:17	
p-Terphenyl-d14	80	40-133	10/24/12 01:17	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1035  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 10:17

**Sample Name:** MW-1S  
**Lab Code:** R1207074-006

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An328.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

## Analyst Summary Report

Service Request: R1207074

**Date Received:** 10/17/12

**Analyzed By**

BWOJTASIEWICZ

ZMIAO

MCYMBAL

DWARD

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 0900  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 19:17

**Sample Name:** TB101712  
**Lab Code:** R1207074-007

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1013.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 0900  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 19:17

**Sample Name:** TB101712  
**Lab Code:** R1207074-007

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1013.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	84	78-142	10/24/12 19:17	
Bromochloromethane	80	48-120	10/24/12 19:17	
3-Fluorochlorobenzene (PID)	87	83-126	10/24/12 19:17	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** TB101712  
**Lab Code:** R1207074-007  
**Matrix:** Water

**Service Request:** R1207074

**Date Collected:** 10/17/12

**Date Received:** 10/17/12

**Analysis Method**

**Extracted/Digested By**

**Analyzed By**

601/602

BWOJTASIEWICZ

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-10R  
**Lab Code:** R1207074-008

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.17	pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.1	deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 02:50

**Sample Name:** MW-10R  
**Lab Code:** R1207074-008

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1022.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10 U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	15	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
71-43-2	Benzene	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
75-09-2	Methylene Chloride	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	10 U	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	1100 E	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	10 U	10	
156-59-2	cis-1,2-Dichloroethene	37	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	20 U	20	
95-47-6	o-Xylene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 02:50

**Sample Name:** MW-10R  
**Lab Code:** R1207074-008

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1022.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/25/12 02:50	
Bromochloromethane	81	48-120	10/25/12 02:50	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 02:50	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 19:50

**Sample Name:** MW-10R  
**Lab Code:** R1207074-008  
**Run Type:** Dilution

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1013.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 20

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
110-75-8	2-Chloroethyl Vinyl Ether	20 U	20	
71-43-2	Benzene	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
75-09-2	Methylene Chloride	20 U	20	
100-41-4	Ethylbenzene	20 U	20	
127-18-4	Tetrachloroethene (PCE)	20 U	20	
108-88-3	Toluene	20 U	20	
79-01-6	Trichloroethene (TCE)	1400 D	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	20 U	20	
156-59-2	cis-1,2-Dichloroethene	48 D	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
179601-23-1	m,p-Xylenes	40 U	40	
95-47-6	o-Xylene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 19:50

**Sample Name:** MW-10R  
**Lab Code:** R1207074-008  
**Run Type:** Dilution

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1013.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 20

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	83	78-142	10/25/12 19:50	
Bromochloromethane	78	48-120	10/25/12 19:50	
3-Fluorochlorobenzene (PID)	88	83-126	10/25/12 19:50	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1255  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 01:55

Sample Name: MW-10R  
 Lab Code: R1207074-008

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN544.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1255  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 01:55

Sample Name: MW-10R  
 Lab Code: R1207074-008

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN544.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	89	28-157	10/24/12 01:55	
2-Fluorobiphenyl	84	39-119	10/24/12 01:55	
2-Fluorophenol	47	10-105	10/24/12 01:55	
Nitrobenzene-d5	85	37-117	10/24/12 01:55	
Phenol-d6	31	10-107	10/24/12 01:55	
p-Terphenyl-d14	92	40-133	10/24/12 01:55	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 10:44

**Sample Name:** MW-10R  
**Lab Code:** R1207074-008

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An329.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

## Analyst Summary Report

**Service Request: R1207074**

**Date Collected:** 10/17/12  
**Date Received:** 10/17/12

SuperSet Reference: **2-D0092133-1** rev 00

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.21	pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.1	deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 03:42

**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1023.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10 U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	19	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
71-43-2	Benzene	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
75-09-2	Methylene Chloride	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	10 U	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	1200 E	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	10 U	10	
156-59-2	cis-1,2-Dichloroethene	39	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	20 U	20	
95-47-6	o-Xylene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 03:42

**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1023.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	83	78-142	10/25/12 03:42	
Bromochloromethane	82	48-120	10/25/12 03:42	
3-Fluorochlorobenzene (PID)	88	83-126	10/25/12 03:42	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1255  
 Date Received: 10/17/12  
 Date Analyzed: 10/25/12 20:40

Sample Name: MW-10RQ  
 Lab Code: R1207074-009  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1014.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
110-75-8	2-Chloroethyl Vinyl Ether	20 U	20	
71-43-2	Benzene	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
75-09-2	Methylene Chloride	20 U	20	
100-41-4	Ethylbenzene	20 U	20	
127-18-4	Tetrachloroethene (PCE)	20 U	20	
108-88-3	Toluene	20 U	20	
79-01-6	Trichloroethene (TCE)	1300 D	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	20 U	20	
156-59-2	cis-1,2-Dichloroethene	41 D	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
179601-23-1	m,p-Xylenes	40 U	40	
95-47-6	o-Xylene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/25/12 20:40

**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009  
**Run Type:** Dilution

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1014.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 20

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/25/12 20:40	
Bromochloromethane	79	48-120	10/25/12 20:40	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 20:40	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 02:33

**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN545.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 02:33

**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN545.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	28-157	10/24/12 02:33	
2-Fluorobiphenyl	88	39-119	10/24/12 02:33	
2-Fluorophenol	47	10-105	10/24/12 02:33	
Nitrobenzene-d5	88	37-117	10/24/12 02:33	
Phenol-d6	32	10-107	10/24/12 02:33	
p-Terphenyl-d14	91	40-133	10/24/12 02:33	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1255  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 11:11

**Sample Name:** MW-10RQ  
**Lab Code:** R1207074-009

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQUDATA\68901\DATA\102412\An330.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

## Analyst Summary Report

**Date Received:** 10/17/12

Analyzed By

BWOJTASIEWICZ

ZMIAO

MCYMBAL

DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-14S  
**Lab Code:** R1207074-010

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1440  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.90		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.0		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1440  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 21:48

**Sample Name:** MW-14S  
**Lab Code:** R1207074-010

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1016.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	4.2	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1440  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 21:48

**Sample Name:** MW-14S  
**Lab Code:** R1207074-010

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1016.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	83	78-142	10/24/12 21:48	
Bromochloromethane	80	48-120	10/24/12 21:48	
3-Fluorochlorobenzene (PID)	88	83-126	10/24/12 21:48	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1440  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 03:10

Sample Name: MW-14S  
 Lab Code: R1207074-010

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN546.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1440  
**Date Received:** 10/17/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 03:10

**Sample Name:** MW-14S  
**Lab Code:** R1207074-010

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN546.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	28-157	10/24/12 03:10	
2-Fluorobiphenyl	87	39-119	10/24/12 03:10	
2-Fluorophenol	46	10-105	10/24/12 03:10	
Nitrobenzene-d5	85	37-117	10/24/12 03:10	
Phenol-d6	32	10-107	10/24/12 03:10	
p-Terphenyl-d14	92	40-133	10/24/12 03:10	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1440  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 11:38

**Sample Name:** MW-14S  
**Lab Code:** R1207074-010

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQUDATA\6890\DATA\102412\An331.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.****Analyst Summary Report**

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03  
**Sample Name:** MW-14S  
**Lab Code:** R1207074-010  
**Matrix:** Water

**Service Request:** R1207074

**Date Collected:** 10/17/12

**Date Received:** 10/17/12

<b>Analysis Method</b>	<b>Extracted/Digested By</b>	<b>Analyzed By</b>
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-14R  
**Lab Code:** R1207074-011

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1652  
**Date Received:** 10/17/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.35		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.0		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1652  
 Date Received: 10/17/12  
 Date Analyzed: 10/24/12 22:38

Sample Name: MW-14R  
 Lab Code: R1207074-011

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1017.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	49		1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0		1.0	
156-59-2	cis-1,2-Dichloroethene	5.8		1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	3.5		1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1652  
**Date Received:** 10/17/12  
**Date Analyzed:** 10/24/12 22:38

**Sample Name:** MW-14R  
**Lab Code:** R1207074-011

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1017.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	87	78-142	10/24/12 22:38	
Bromochloromethane	84	48-120	10/24/12 22:38	
3-Fluorochlorobenzene (PID)	88	83-126	10/24/12 22:38	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1652  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 03:48

Sample Name: MW-14R  
 Lab Code: R1207074-011

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN547.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/17/12 1652  
 Date Received: 10/17/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 03:48

Sample Name: MW-14R  
 Lab Code: R1207074-011

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN547.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	47 U	47	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
2,4,6-Tribromophenol	96	28-157	10/24/12 03:48
2-Fluorobiphenyl	88	39-119	10/24/12 03:48
2-Fluorophenol	51	10-105	10/24/12 03:48
Nitrobenzene-d5	87	37-117	10/24/12 03:48
Phenol-d6	35	10-107	10/24/12 03:48
p-Terphenyl-d14	93	40-133	10/24/12 03:48

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/17/12 1652  
**Date Received:** 10/17/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 12:05

**Sample Name:** MW-14R  
**Lab Code:** R1207074-011

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQUADATA\68901\DATA\102412\An332.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

## Analyst Summary Report

**Date Received:** 10/17/12

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12  
 Date Received: 10/18/12  
 Date Analyzed: 10/24/12 23:28

Sample Name: TB101812  
 Lab Code: R1207074-012

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1018.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/24/12 23:28

**Sample Name:** TB101812  
**Lab Code:** R1207074-012

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1018.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/24/12 23:28	
Bromochloromethane	79	48-120	10/24/12 23:28	
3-Fluorochlorobenzene (PID)	89	83-126	10/24/12 23:28	

## Analyst Summary Report

**Date Received:** 10/18/12

**Analyzed By**

BWOJTASIEWICZ

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-12S  
**Lab Code:** R1207074-013

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1030  
**Date Received:** 10/18/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.81	pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.2	deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1030  
 Date Received: 10/18/12  
 Date Analyzed: 10/25/12 00:19

Sample Name: MW-12S  
 Lab Code: R1207074-013

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1019.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	7.8	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	5.6	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1030  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 00:19

**Sample Name:** MW-12S  
**Lab Code:** R1207074-013

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1019.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	86	78-142	10/25/12 00:19	
Bromochloromethane	82	48-120	10/25/12 00:19	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 00:19	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1030  
 Date Received: 10/18/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 04:25

Sample Name: MW-12S  
 Lab Code: R1207074-013

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN548.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1030  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 04:25

**Sample Name:** MW-12S  
**Lab Code:** R1207074-013

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN548.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	28-157	10/24/12 04:25	
2-Fluorobiphenyl	90	39-119	10/24/12 04:25	
2-Fluorophenol	47	10-105	10/24/12 04:25	
Nitrobenzene-d5	84	37-117	10/24/12 04:25	
Phenol-d6	34	10-107	10/24/12 04:25	
p-Terphenyl-d14	91	40-133	10/24/12 04:25	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1030  
**Date Received:** 10/18/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 12:32

**Sample Name:** MW-12S  
**Lab Code:** R1207074-013

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An333.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-031  
**Sample Name:** MW-12S  
**Lab Code:** R1207074-013  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/18/12**Date Received:** 10/18/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-12R  
**Lab Code:** R1207074-014

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1125  
**Date Received:** 10/18/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.18		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.0		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1125  
 Date Received: 10/18/12  
 Date Analyzed: 10/25/12 01:09

Sample Name: MW-12R  
 Lab Code: R1207074-014

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1020.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1125  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 01:09

**Sample Name:** MW-12R  
**Lab Code:** R1207074-014

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1020.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	84	78-142	10/25/12 01:09	
Bromochloromethane	78	48-120	10/25/12 01:09	
3-Fluorochlorobenzene (PID)	87	83-126	10/25/12 01:09	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1125  
 Date Received: 10/18/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 05:03

Sample Name: MW-12R  
 Lab Code: R1207074-014

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN549.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1125  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 05:03

**Sample Name:** MW-12R  
**Lab Code:** R1207074-014

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN549.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	92	28-157	10/24/12 05:03	
2-Fluorobiphenyl	86	39-119	10/24/12 05:03	
2-Fluorophenol	49	10-105	10/24/12 05:03	
Nitrobenzene-d5	86	37-117	10/24/12 05:03	
Phenol-d6	33	10-107	10/24/12 05:03	
p-Terphenyl-d14	86	40-133	10/24/12 05:03	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1125  
**Date Received:** 10/18/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 13:26

**Sample Name:** MW-12R  
**Lab Code:** R1207074-014

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An335.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-12R  
**Lab Code:** R1207074-014  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/18/12**Date Received:** 10/18/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1250  
**Date Received:** 10/18/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.78		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.4		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1250  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 02:01

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1021.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.7		1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1250  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 02:01

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1021.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	84	78-142	10/25/12 02:01	
Bromochloromethane	82	48-120	10/25/12 02:01	
3-Fluorochlorobenzene (PID)	88	83-126	10/25/12 02:01	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1250  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 05:41

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN550.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1250  
 Date Received: 10/18/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 05:41

Sample Name: MW-2S  
 Lab Code: R1207074-015

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUATA\5973A\DATA\102312\CN550.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	106	28-157	10/24/12 05:41	
2-Fluorobiphenyl	88	39-119	10/24/12 05:41	
2-Fluorophenol	47	10-105	10/24/12 05:41	
Nitrobenzene-d5	84	37-117	10/24/12 05:41	
Phenol-d6	33	10-107	10/24/12 05:41	
p-Terphenyl-d14	88	40-133	10/24/12 05:41	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1250  
**Date Received:** 10/18/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 13:53

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An336.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-035  
**Sample Name:** MW-2S  
**Lab Code:** R1207074-015  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/18/12**Date Received:** 10/18/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-2R  
**Lab Code:** R1207074-016

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1320  
**Date Received:** 10/18/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.39		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.5		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1320  
 Date Received: 10/18/12  
 Date Analyzed: 10/25/12 09:33

Sample Name: MW-2R  
 Lab Code: R1207074-016

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1001.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	25		1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	8.3		1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	210	E	1.0	
156-59-2	cis-1,2-Dichloroethene	450	E	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	3.9		1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1320  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 09:33

**Sample Name:** MW-2R  
**Lab Code:** R1207074-016

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1001.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	87	78-142	10/25/12 09:33	
Bromochloromethane	91	48-120	10/25/12 09:33	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 09:33	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1320  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 21:31

**Sample Name:** MW-2R  
**Lab Code:** R1207074-016  
**Run Type:** Dilution

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1015.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	31 D	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10 U	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
71-43-2	Benzene	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
75-09-2	Methylene Chloride	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	10 U	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	10 U	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	260 D	10	
156-59-2	cis-1,2-Dichloroethene	640 D	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	20 U	20	
95-47-6	o-Xylene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1320  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 21:31

**Sample Name:** MW-2R  
**Lab Code:** R1207074-016  
**Run Type:** Dilution

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1015.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/25/12 21:31	
Bromochloromethane	81	48-120	10/25/12 21:31	
3-Fluorochlorobenzene (PID)	88	83-126	10/25/12 21:31	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1320  
 Date Received: 10/18/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 10:42

Sample Name: MW-2R  
 Lab Code: R1207074-016

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN558.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	9.4 U	9.4	
50-32-8	Benzo(a)pyrene	4.8	4.7	
205-99-2	3,4-Benzofluoranthene	5.0	4.7	
191-24-2	Benzo(g,h,i)perylene	4.8	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	5.7	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1320  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 10:42

**Sample Name:** MW-2R  
**Lab Code:** R1207074-016

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN558.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	11	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	8.0	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	96	28-157	10/24/12 10:42	
2-Fluorobiphenyl	91	39-119	10/24/12 10:42	
2-Fluorophenol	49	10-105	10/24/12 10:42	
Nitrobenzene-d5	96	37-117	10/24/12 10:42	
Phenol-d6	32	10-107	10/24/12 10:42	
p-Terphenyl-d14	76	40-133	10/24/12 10:42	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1320  
**Date Received:** 10/18/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 15:14

**Sample Name:** MW-2R  
**Lab Code:** R1207074-016

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An339.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-2R  
**Lab Code:** R1207074-016  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/18/12**Date Received:** 10/18/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-8R  
**Lab Code:** R1207074-017

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.11		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.3		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 11:16

**Sample Name:** MW-8R  
**Lab Code:** R1207074-017

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1003.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 20

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	150	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	56	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
110-75-8	2-Chloroethyl Vinyl Ether	20 U	20	
71-43-2	Benzene	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
75-09-2	Methylene Chloride	20 U	20	
100-41-4	Ethylbenzene	20 U	20	
127-18-4	Tetrachloroethene (PCE)	20 U	20	
108-88-3	Toluene	20 U	20	
79-01-6	Trichloroethene (TCE)	20 U	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	800	20	
156-59-2	cis-1,2-Dichloroethene	4100 E	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
179601-23-1	m,p-Xylenes	40 U	40	
95-47-6	o-Xylene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 11:16

**Sample Name:** MW-8R  
**Lab Code:** R1207074-017

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1003.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 20

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	84	78-142	10/25/12 11:16	
Bromochloromethane	82	48-120	10/25/12 11:16	
3-Fluorochlorobenzene (PID)	85	83-126	10/25/12 11:16	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1600  
 Date Received: 10/18/12  
 Date Analyzed: 10/25/12 12:07

Sample Name: MW-8R  
 Lab Code: R1207074-017  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1004.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	50	U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	U	50	
79-00-5	1,1,2-Trichloroethane	50	U	50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	150	D	50	
75-35-4	1,1-Dichloroethene (1,1-DCE)	60	D	50	
95-50-1	1,2-Dichlorobenzene	50	U	50	
107-06-2	1,2-Dichloroethane	50	U	50	
78-87-5	1,2-Dichloropropane	50	U	50	
541-73-1	1,3-Dichlorobenzene	50	U	50	
106-46-7	1,4-Dichlorobenzene	50	U	50	
110-75-8	2-Chloroethyl Vinyl Ether	50	U	50	
71-43-2	Benzene	50	U	50	
75-27-4	Bromodichloromethane	50	U	50	
75-25-2	Bromoform	50	U	50	
74-83-9	Bromomethane	50	U	50	
56-23-5	Carbon Tetrachloride	50	U	50	
108-90-7	Chlorobenzene	50	U	50	
75-00-3	Chloroethane	50	U	50	
67-66-3	Chloroform	50	U	50	
74-87-3	Chloromethane	50	U	50	
124-48-1	Dibromochloromethane	50	U	50	
75-09-2	Methylene Chloride	50	U	50	
100-41-4	Ethylbenzene	50	U	50	
127-18-4	Tetrachloroethene (PCE)	50	U	50	
108-88-3	Toluene	50	U	50	
79-01-6	Trichloroethene (TCE)	50	U	50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	820	D	50	
156-59-2	cis-1,2-Dichloroethene	4600	D	50	
10061-01-5	cis-1,3-Dichloropropene	50	U	50	
179601-23-1	m,p-Xylenes	100	U	100	
95-47-6	o-Xylene	50	U	50	
156-60-5	trans-1,2-Dichloroethene	50	U	50	
10061-02-6	trans-1,3-Dichloropropene	50	U	50	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 12:07

**Sample Name:** MW-8R  
**Lab Code:** R1207074-017  
**Run Type:** Dilution

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1004.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 50

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	83	78-142	10/25/12 12:07	
Bromochloromethane	81	48-120	10/25/12 12:07	
3-Fluorochlorobenzene (PID)	87	83-126	10/25/12 12:07	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 08:11

**Sample Name:** MW-8R  
**Lab Code:** R1207074-017

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN554.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	9.4 U	9.4	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 08:11

**Sample Name:** MW-8R  
**Lab Code:** R1207074-017

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN554.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7	U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7	U	4.7	
84-66-2	Diethyl Phthalate	4.7	U	4.7	
131-11-3	Dimethyl Phthalate	4.7	U	4.7	
206-44-0	Fluoranthene	4.7	U	4.7	
86-73-7	Fluorene	4.7	U	4.7	
118-74-1	Hexachlorobenzene	4.7	U	4.7	
87-68-3	Hexachlorobutadiene	4.7	U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7	U	4.7	
67-72-1	Hexachloroethane	4.7	U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7	U	4.7	
78-59-1	Isophorone	4.7	U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7	U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7	U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7	U	4.7	
91-20-3	Naphthalene	4.7	U	4.7	
98-95-3	Nitrobenzene	4.7	U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7	U	4.7	
85-01-8	Phenanthrene	4.7	U	4.7	
108-95-2	Phenol	4.7	U	4.7	
129-00-0	Pyrene	4.7	U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	108	28-157	10/24/12 08:11	
2-Fluorobiphenyl	90	39-119	10/24/12 08:11	
2-Fluorophenol	50	10-105	10/24/12 08:11	
Nitrobenzene-d5	97	37-117	10/24/12 08:11	
Phenol-d6	34	10-107	10/24/12 08:11	
p-Terphenyl-d14	88	40-133	10/24/12 08:11	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/25/12 08:22

**Sample Name:** MW-8R  
**Lab Code:** R1207074-017

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQUDATA\6890\DATA\102412\An351.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-8R  
**Lab Code:** R1207074-017  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/18/12**Date Received:** 10/18/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-13S  
**Lab Code:** R1207074-018

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.34		pH Units		1	NA	10/18/12 18:01	H
Temperature of pH Analysis	SM 4500-H+ B	20.4		deg C		1	NA	10/18/12 18:01	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1600  
 Date Received: 10/18/12  
 Date Analyzed: 10/25/12 12:57

Sample Name: MW-13S  
 Lab Code: R1207074-018

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1005.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.3	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.8	1.0	
156-59-2	cis-1,2-Dichloroethene	30	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12 12:57

**Sample Name:** MW-13S  
**Lab Code:** R1207074-018

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1005.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/25/12 12:57	
Bromochloromethane	78	48-120	10/25/12 12:57	
3-Fluorochlorobenzene (PID)	87	83-126	10/25/12 12:57	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/18/12 1600  
 Date Received: 10/18/12  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/24/12 08:49

Sample Name: MW-13S  
 Lab Code: R1207074-018

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQU\DATA\5973A\DATA\102312\CN555.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 08:49

**Sample Name:** MW-13S  
**Lab Code:** R1207074-018

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN555.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	28-157	10/24/12 08:49	
2-Fluorobiphenyl	76	39-119	10/24/12 08:49	
2-Fluorophenol	54	10-105	10/24/12 08:49	
Nitrobenzene-d5	89	37-117	10/24/12 08:49	
Phenol-d6	37	10-107	10/24/12 08:49	
p-Terphenyl-d14	63	40-133	10/24/12 08:49	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12 1600  
**Date Received:** 10/18/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 16:08

**Sample Name:** MW-13S  
**Lab Code:** R1207074-018

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An341.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03  
**Sample Name:** MW-13S  
**Lab Code:** R1207074-018  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/18/12**Date Received:** 10/18/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/19/12  
 Date Received: 10/19/12  
 Date Analyzed: 10/25/12 18:09

Sample Name: TB101922  
 Lab Code: R1207074-019

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1011.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 18:09

**Sample Name:** TB101922  
**Lab Code:** R1207074-019

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1011.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/25/12 18:09	
Bromochloromethane	77	48-120	10/25/12 18:09	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 18:09	

**COLUMBIA ANALYTICAL SERVICES, INC.**

**Analyst Summary Report**

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** TB101922  
**Lab Code:** R1207074-019  
**Matrix:** Water

**Service Request:** R1207074

**Date Collected:** 10/19/12

**Date Received:** 10/19/12

**Analysis Method**

**Extracted/Digested By**

**Analyzed By**

601/602

BWOJTASIEWICZ

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-9S  
**Lab Code:** R1207074-020

**Service Request:** R1207074  
**Date Collected:** 10/19/12 0950  
**Date Received:** 10/19/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.14		pH Units		1	NA	10/19/12 18:25	H
Temperature of pH Analysis	SM 4500-H+ B	20.1		deg C		1	NA	10/19/12 18:25	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 0950  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 13:48

**Sample Name:** MW-9S  
**Lab Code:** R1207074-020

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1006.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	3.7	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	16	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	49	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.2	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	22	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	30	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	19	1.0	
156-59-2	cis-1,2-Dichloroethene	51	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 0950  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 13:48

**Sample Name:** MW-9S  
**Lab Code:** R1207074-020

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1006.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/25/12 13:48	
Bromochloromethane	80	48-120	10/25/12 13:48	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 13:48	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 0950  
**Date Received:** 10/19/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 09:27

**Sample Name:** MW-9S  
**Lab Code:** R1207074-020

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN556.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 0950  
**Date Received:** 10/19/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 09:27

**Sample Name:** MW-9S  
**Lab Code:** R1207074-020

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN556.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	86	28-157	10/24/12 09:27	
2-Fluorobiphenyl	74	39-119	10/24/12 09:27	
2-Fluorophenol	46	10-105	10/24/12 09:27	
Nitrobenzene-d5	75	37-117	10/24/12 09:27	
Phenol-d6	31	10-107	10/24/12 09:27	
p-Terphenyl-d14	80	40-133	10/24/12 09:27	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 0950  
**Date Received:** 10/19/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 16:35

**Sample Name:** MW-9S  
**Lab Code:** R1207074-020

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An342.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.****Analyst Summary Report**

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** MW-9S  
**Lab Code:** R1207074-020  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/19/12**Date Received:** 10/19/12

<b>Analysis Method</b>	<b>Extracted/Digested By</b>	<b>Analyzed By</b>
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** RB-101912  
**Lab Code:** R1207074-021

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1040  
**Date Received:** 10/19/12

**Basis:** NA

## General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.57	pH Units		1	NA	10/19/12 18:25	H
Temperature of pH Analysis	SM 4500-H+ B	19.8	deg C		1	NA	10/19/12 18:25	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1040  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 14:38

**Sample Name:** RB-101912  
**Lab Code:** R1207074-021

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1007.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0 U	1.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1040  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 14:38

**Sample Name:** RB-101912  
**Lab Code:** R1207074-021

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1007.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	82	78-142	10/25/12 14:38	
Bromochloromethane	79	48-120	10/25/12 14:38	
3-Fluorochlorobenzene (PID)	87	83-126	10/25/12 14:38	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1040  
**Date Received:** 10/19/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 10:05

**Sample Name:** RB-101912  
**Lab Code:** R1207074-021

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN557.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1040  
**Date Received:** 10/19/12  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/24/12 10:05

**Sample Name:** RB-101912  
**Lab Code:** R1207074-021

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN557.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	4.7 U	4.7	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	100	28-157	10/24/12 10:05	
2-Fluorobiphenyl	83	39-119	10/24/12 10:05	
2-Fluorophenol	51	10-105	10/24/12 10:05	
Nitrobenzene-d5	89	37-117	10/24/12 10:05	
Phenol-d6	33	10-107	10/24/12 10:05	
p-Terphenyl-d14	93	40-133	10/24/12 10:05	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1040  
**Date Received:** 10/19/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 17:02

**Sample Name:** RB-101912  
**Lab Code:** R1207074-021

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An343.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940 U	940	
68476-31-3	Fuel Oil No. 4	940 U	940	
68476-33-5	Fuel Oil No. 6	940 U	940	
8006-61-9	Gasoline	940 U	940	
8008-20-6	Kerosene	940 U	940	
	Lube Oil	940 U	940	
112-40-3	n-Dodecane	940 U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-037  
**Sample Name:** RB-101912  
**Lab Code:** R1207074-021  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/19/12**Date Received:** 10/19/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	ZMIAO
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water  
**Sample Name:** MW-5R  
**Lab Code:** R1207074-022

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1143  
**Date Received:** 10/19/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.32		pH Units		1	NA	10/19/12 18:25	H
Temperature of pH Analysis	SM 4500-H+ B	20.1		deg C		1	NA	10/19/12 18:25	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1143  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 15:38

**Sample Name:** MW-5R  
**Lab Code:** R1207074-022

**Units:** µg/L  
**Basis:** NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602  
**Data File Name:** 1008.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	74	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10 U	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
71-43-2	Benzene	32	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
75-09-2	Methylene Chloride	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	10 U	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	26	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	350	10	
156-59-2	cis-1,2-Dichloroethene	770	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	20 U	20	
95-47-6	o-Xylene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1143  
**Date Received:** 10/19/12  
**Date Analyzed:** 10/25/12 15:38

**Sample Name:** MW-5R  
**Lab Code:** R1207074-022

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1008.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 10

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	84	78-142	10/25/12 15:38	
Bromochloromethane	81	48-120	10/25/12 15:38	
3-Fluorochlorobenzene (PID)	87	83-126	10/25/12 15:38	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: 10/19/12 1143  
 Date Received: 10/19/12  
 Date Extracted: 10/26/12  
 Date Analyzed: 11/1/12 00:12

Sample Name: MW-5R  
 Lab Code: R1207074-022

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973D\DATA\103112\AM187.D\

Analysis Lot: 316547  
 Extraction Lot: 170155  
 Instrument Name: R-MS-54  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	4.7 U	4.7	
122-66-7	1,2-Diphenylhydrazine	4.7 U	4.7	
88-06-2	2,4,6-Trichlorophenol	4.7 U	4.7	
120-83-2	2,4-Dichlorophenol	4.7 U	4.7	
105-67-9	2,4-Dimethylphenol	4.7 U	4.7	
51-28-5	2,4-Dinitrophenol	4.7 U	4.7	
121-14-2	2,4-Dinitrotoluene	4.7 U	4.7	
606-20-2	2,6-Dinitrotoluene	4.7 U	4.7	
91-58-7	2-Chloronaphthalene	4.7 U	4.7	
95-57-8	2-Chlorophenol	4.7 U	4.7	
88-75-5	2-Nitrophenol	4.7 U	4.7	
91-94-1	3,3'-Dichlorobenzidine	4.7 U	4.7	
534-52-1	4,6-Dinitro-o-cresol	4.7 U	4.7	
101-55-3	4-Bromophenyl Phenyl Ether	4.7 U	4.7	
59-50-7	4-Chloro-m-cresol	4.7 U	4.7	
7005-72-3	4-Chlorophenyl Phenyl Ether	4.7 U	4.7	
100-02-7	4-Nitrophenol	4.7 U	4.7	
83-32-9	Acenaphthene	4.7 U	4.7	
208-96-8	Acenaphthylene	4.7 U	4.7	
120-12-7	Anthracene	4.7 U	4.7	
56-55-3	Benz(a)anthracene	4.7 U	4.7	
92-87-5	Benzidine	94 U	94	
50-32-8	Benzo(a)pyrene	4.7 U	4.7	
205-99-2	3,4-Benzofluoranthene	4.7 U	4.7	
191-24-2	Benzo(g,h,i)perylene	4.7 U	4.7	
207-08-9	Benzo(k)fluoranthene	4.7 U	4.7	
108-60-1	Bis(1-chloroisopropyl) Ether	4.7 U	4.7	
111-91-1	Bis(2-chloroethoxy)methane	4.7 U	4.7	
111-44-4	Bis(2-chloroethyl) Ether	4.7 U	4.7	
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7 U	4.7	
218-01-9	Chrysene	4.7 U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7 U	4.7	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1143  
**Date Received:** 10/19/12  
**Date Extracted:** 10/26/12  
**Date Analyzed:** 11/1/12 00:12

**Sample Name:** MW-5R  
**Lab Code:** R1207074-022

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973D\DATA\103112\AM187.D\

**Analysis Lot:** 316547  
**Extraction Lot:** 170155  
**Instrument Name:** R-MS-54  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	4.7 U	4.7	
53-70-3	Dibenz(a,h)anthracene	4.7 U	4.7	
84-66-2	Diethyl Phthalate	4.7 U	4.7	
131-11-3	Dimethyl Phthalate	4.7 U	4.7	
206-44-0	Fluoranthene	4.7 U	4.7	
86-73-7	Fluorene	4.7 U	4.7	
118-74-1	Hexachlorobenzene	4.7 U	4.7	
87-68-3	Hexachlorobutadiene	4.7 U	4.7	
77-47-4	Hexachlorocyclopentadiene	4.7 U	4.7	
67-72-1	Hexachloroethane	4.7 U	4.7	
193-39-5	Indeno(1,2,3-cd)pyrene	4.7 U	4.7	
78-59-1	Isophorone	4.7 U	4.7	
621-64-7	N-Nitrosodi-n-propylamine	4.7 U	4.7	
62-75-9	N-Nitrosodimethylamine	4.7 U	4.7	
86-30-6	N-Nitrosodiphenylamine	4.7 U	4.7	
91-20-3	Naphthalene	4.7 U	4.7	
98-95-3	Nitrobenzene	4.7 U	4.7	
87-86-5	Pentachlorophenol (PCP)	47 U	47	
85-01-8	Phenanthrene	4.7 U	4.7	
108-95-2	Phenol	4.7 U	4.7	
129-00-0	Pyrene	4.7 U	4.7	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
2,4,6-Tribromophenol	101	28-157	11/1/12 00:12
2-Fluorobiphenyl	75	39-119	11/1/12 00:12
2-Fluorophenol	43	10-105	11/1/12 00:12
Nitrobenzene-d5	83	37-117	11/1/12 00:12
Phenol-d6	30	10-107	11/1/12 00:12
p-Terphenyl-d14	83	40-133	11/1/12 00:12

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/19/12 1143  
**Date Received:** 10/19/12  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 17:29

**Sample Name:** MW-5R  
**Lab Code:** R1207074-022

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQUDATA\6890\DATA\102412\An344.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	940	U	940	
68476-31-3	Fuel Oil No. 4	940	U	940	
68476-33-5	Fuel Oil No. 6	940	U	940	
8006-61-9	Gasoline	940	U	940	
8008-20-6	Kerosene	940	U	940	
	Lube Oil	940	U	940	
112-40-3	n-Dodecane	940	U	940	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analyst Summary Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-035  
**Sample Name:** MW-5R  
**Lab Code:** R1207074-022  
**Matrix:** Water

**Service Request:** R1207074**Date Collected:** 10/19/12**Date Received:** 10/19/12

Analysis Method	Extracted/Digested By	Analyzed By
601/602		BWOJTASIEWICZ
625	DMURPHY	JWU
NY 310-13	DMURPHY	MCYMBAL
SM 4500-H+ B		DWARD

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 10/24/12 10:31

Sample Name: Method Blank  
 Lab Code: RQ1212732-01

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1004.run

Analysis Lot: 315240  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 10/24/12 10:31

**Sample Name:** Method Blank  
**Lab Code:** RQ1212732-01

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1004.run

**Analysis Lot:** 315240  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/24/12 10:31	
Bromochloromethane	82	48-120	10/24/12 10:31	
3-Fluorochlorobenzene (PID)	89	83-126	10/24/12 10:31	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 10/25/12 07:17

Sample Name: Method Blank  
 Lab Code: RQ1212733-01

Units: µg/L  
 Basis: NA

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602  
 Data File Name: 1027.run

Analysis Lot: 315382  
 Instrument Name: R-GC-03  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	1.0	U	1.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 10/25/12 07:17

**Sample Name:** Method Blank  
**Lab Code:** RQ1212733-01

**Units:** Percent  
**Basis:** NA

**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602  
**Data File Name:** 1027.run

**Analysis Lot:** 315382  
**Instrument Name:** R-GC-03  
**Dilution Factor:** 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
3-Fluorochlorobenzene	85	78-142	10/25/12 07:17	
Bromochloromethane	79	48-120	10/25/12 07:17	
3-Fluorochlorobenzene (PID)	86	83-126	10/25/12 07:17	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: NA  
 Date Received: NA  
 Date Extracted: 10/22/12  
 Date Analyzed: 10/23/12 17:00

Sample Name: Method Blank  
 Lab Code: RQ1212499-01

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973A\DATA\102312\CN530.D\

Analysis Lot: 315259  
 Extraction Lot: 169751  
 Instrument Name: R-MS-51  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	5.0 U	5.0	
122-66-7	1,2-Diphenylhydrazine	5.0 U	5.0	
88-06-2	2,4,6-Trichlorophenol	5.0 U	5.0	
120-83-2	2,4-Dichlorophenol	5.0 U	5.0	
105-67-9	2,4-Dimethylphenol	5.0 U	5.0	
51-28-5	2,4-Dinitrophenol	50 U	50	
121-14-2	2,4-Dinitrotoluene	5.0 U	5.0	
606-20-2	2,6-Dinitrotoluene	5.0 U	5.0	
91-58-7	2-Chloronaphthalene	5.0 U	5.0	
95-57-8	2-Chlorophenol	5.0 U	5.0	
88-75-5	2-Nitrophenol	5.0 U	5.0	
91-94-1	3,3'-Dichlorobenzidine	5.0 U	5.0	
534-52-1	4,6-Dinitro-o-cresol	50 U	50	
101-55-3	4-Bromophenyl Phenyl Ether	5.0 U	5.0	
59-50-7	4-Chloro-m-cresol	5.0 U	5.0	
7005-72-3	4-Chlorophenyl Phenyl Ether	5.0 U	5.0	
100-02-7	4-Nitrophenol	50 U	50	
83-32-9	Acenaphthene	5.0 U	5.0	
208-96-8	Acenaphthylene	5.0 U	5.0	
120-12-7	Anthracene	5.0 U	5.0	
56-55-3	Benz(a)anthracene	5.0 U	5.0	
92-87-5	Benzidine	100 U	100	
50-32-8	Benzo(a)pyrene	5.0 U	5.0	
205-99-2	3,4-Benzofluoranthene	5.0 U	5.0	
191-24-2	Benzo(g,h,i)perylene	5.0 U	5.0	
207-08-9	Benzo(k)fluoranthene	5.0 U	5.0	
108-60-1	Bis(1-chloroisopropyl) Ether	5.0 U	5.0	
111-91-1	Bis(2-chloroethoxy)methane	5.0 U	5.0	
111-44-4	Bis(2-chloroethyl) Ether	5.0 U	5.0	
117-81-7	Bis(2-ethylhexyl) Phthalate	5.0 U	5.0	
85-68-7	Butyl Benzyl Phthalate	5.0 U	5.0	
218-01-9	Chrysene	5.0 U	5.0	
84-74-2	Di-n-butyl Phthalate	5.0 U	5.0	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** NA  
**Date Received:** NA  
**Date Extracted:** 10/22/12  
**Date Analyzed:** 10/23/12 17:00

**Sample Name:** Method Blank  
**Lab Code:** RQ1212499-01

**Units:** µg/L  
**Basis:** NA

## Semivolatile Organic Compounds by GC/MS

**Analytical Method:** 625  
**Prep Method:** EPA 3510C  
**Data File Name:** I:\ACQUDATA\5973A\DATA\102312\CN530.D\

**Analysis Lot:** 315259  
**Extraction Lot:** 169751  
**Instrument Name:** R-MS-51  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	5.0 U	5.0	
53-70-3	Dibenz(a,h)anthracene	5.0 U	5.0	
84-66-2	Diethyl Phthalate	5.0 U	5.0	
131-11-3	Dimethyl Phthalate	5.0 U	5.0	
206-44-0	Fluoranthene	5.0 U	5.0	
86-73-7	Fluorene	5.0 U	5.0	
118-74-1	Hexachlorobenzene	5.0 U	5.0	
87-68-3	Hexachlorobutadiene	5.0 U	5.0	
77-47-4	Hexachlorocyclopentadiene	5.0 U	5.0	
67-72-1	Hexachloroethane	5.0 U	5.0	
193-39-5	Indeno(1,2,3-cd)pyrene	5.0 U	5.0	
78-59-1	Isophorone	5.0 U	5.0	
621-64-7	N-Nitrosodi-n-propylamine	5.0 U	5.0	
62-75-9	N-Nitrosodimethylamine	5.0 U	5.0	
86-30-6	N-Nitrosodiphenylamine	5.0 U	5.0	
91-20-3	Naphthalene	5.0 U	5.0	
98-95-3	Nitrobenzene	5.0 U	5.0	
87-86-5	Pentachlorophenol (PCP)	5.0 U	5.0	
85-01-8	Phenanthrene	5.0 U	5.0	
108-95-2	Phenol	5.0 U	5.0	
129-00-0	Pyrene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
2,4,6-Tribromophenol	83	28-157	10/23/12 17:00
2-Fluorobiphenyl	87	39-119	10/23/12 17:00
2-Fluorophenol	46	10-105	10/23/12 17:00
Nitrobenzene-d5	79	37-117	10/23/12 17:00
Phenol-d6	33	10-107	10/23/12 17:00
p-Terphenyl-d14	91	40-133	10/23/12 17:00

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: NA  
 Date Received: NA  
 Date Extracted: 10/26/12  
 Date Analyzed: 10/31/12 22:21

Sample Name: Method Blank  
 Lab Code: RQ1212837-01

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973D\DATA\103112\AM184.D\

Analysis Lot: 316547  
 Extraction Lot: 170155  
 Instrument Name: R-MS-54  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	5.0 U	5.0	
122-66-7	1,2-Diphenylhydrazine	5.0 U	5.0	
88-06-2	2,4,6-Trichlorophenol	5.0 U	5.0	
120-83-2	2,4-Dichlorophenol	5.0 U	5.0	
105-67-9	2,4-Dimethylphenol	5.0 U	5.0	
51-28-5	2,4-Dinitrophenol	50 U	50	
121-14-2	2,4-Dinitrotoluene	5.0 U	5.0	
606-20-2	2,6-Dinitrotoluene	5.0 U	5.0	
91-58-7	2-Chloronaphthalene	5.0 U	5.0	
95-57-8	2-Chlorophenol	5.0 U	5.0	
88-75-5	2-Nitrophenol	5.0 U	5.0	
91-94-1	3,3'-Dichlorobenzidine	5.0 U	5.0	
534-52-1	4,6-Dinitro-o-cresol	50 U	50	
101-55-3	4-Bromophenyl Phenyl Ether	5.0 U	5.0	
59-50-7	4-Chloro-m-cresol	5.0 U	5.0	
7005-72-3	4-Chlorophenyl Phenyl Ether	5.0 U	5.0	
100-02-7	4-Nitrophenol	50 U	50	
83-32-9	Acenaphthene	5.0 U	5.0	
208-96-8	Acenaphthylene	5.0 U	5.0	
120-12-7	Anthracene	5.0 U	5.0	
56-55-3	Benz(a)anthracene	5.0 U	5.0	
92-87-5	Benzidine	100 U	100	
50-32-8	Benzo(a)pyrene	5.0 U	5.0	
205-99-2	3,4-Benzofluoranthene	5.0 U	5.0	
191-24-2	Benzo(g,h,i)perylene	5.0 U	5.0	
207-08-9	Benzo(k)fluoranthene	5.0 U	5.0	
108-60-1	Bis(1-chloroisopropyl) Ether	5.0 U	5.0	
111-91-1	Bis(2-chloroethoxy)methane	5.0 U	5.0	
111-44-4	Bis(2-chloroethyl) Ether	5.0 U	5.0	
117-81-7	Bis(2-ethylhexyl) Phthalate	5.0 U	5.0	
85-68-7	Butyl Benzyl Phthalate	5.0 U	5.0	
218-01-9	Chrysene	5.0 U	5.0	
84-74-2	Di-n-butyl Phthalate	5.0 U	5.0	

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074  
 Date Collected: NA  
 Date Received: NA  
 Date Extracted: 10/26/12  
 Date Analyzed: 10/31/12 22:21

Sample Name: Method Blank  
 Lab Code: RQ1212837-01

Units: µg/L  
 Basis: NA

## Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C  
 Data File Name: I:\ACQUDATA\5973D\DATA\103112\AM184.D\

Analysis Lot: 316547  
 Extraction Lot: 170155  
 Instrument Name: R-MS-54  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
117-84-0	Di-n-octyl Phthalate	5.0	U	5.0	
53-70-3	Dibenz(a,h)anthracene	5.0	U	5.0	
84-66-2	Diethyl Phthalate	5.0	U	5.0	
131-11-3	Dimethyl Phthalate	5.0	U	5.0	
206-44-0	Fluoranthene	5.0	U	5.0	
86-73-7	Fluorene	5.0	U	5.0	
118-74-1	Hexachlorobenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
77-47-4	Hexachlorocyclopentadiene	5.0	U	5.0	
67-72-1	Hexachloroethane	5.0	U	5.0	
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U	5.0	
78-59-1	Isophorone	5.0	U	5.0	
621-64-7	N-Nitrosodi-n-propylamine	5.0	U	5.0	
62-75-9	N-Nitrosodimethylamine	5.0	U	5.0	
86-30-6	N-Nitrosodiphenylamine	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
98-95-3	Nitrobenzene	5.0	U	5.0	
87-86-5	Pentachlorophenol (PCP)	50	U	50	
85-01-8	Phenanthrene	5.0	U	5.0	
108-95-2	Phenol	5.0	U	5.0	
129-00-0	Pyrene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	88	28-157	10/31/12 22:21	
2-Fluorobiphenyl	75	39-119	10/31/12 22:21	
2-Fluorophenol	49	10-105	10/31/12 22:21	
Nitrobenzene-d5	82	37-117	10/31/12 22:21	
Phenol-d6	34	10-107	10/31/12 22:21	
p-Terphenyl-d14	79	40-133	10/31/12 22:21	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** NA  
**Date Received:** NA  
**Date Extracted:** 10/23/12  
**Date Analyzed:** 10/24/12 18:23

**Sample Name:** Method Blank  
**Lab Code:** RQ1212576-01

**Units:** µg/L  
**Basis:** NA

**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13  
**Prep Method:** Method  
**Data File Name:** I:\ACQU\DATA\6890\DATA\102412\An346.D\

**Analysis Lot:** 315433  
**Extraction Lot:** 169858  
**Instrument Name:** R-GC-59  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
68476-30-2	Fuel Oil No. 2	1000	U	1000	
68476-31-3	Fuel Oil No. 4	1000	U	1000	
68476-33-5	Fuel Oil No. 6	1000	U	1000	
8006-61-9	Gasoline	1000	U	1000	
8008-20-6	Kerosene	1000	U	1000	
	Lube Oil	1000	U	1000	
112-40-3	n-Dodecane	1000	U	1000	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

**QA/QC Report**

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/18/12

**Replicate Sample Summary**  
**General Chemistry Parameters**

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** pH Units  
**Basis:** NA

Analyte Name	Method	MRL	Sample Result	MW-2SDUP Duplicate Sample R1207074-015DUP		RPD	RPD Limit
				Result	Average		
pH	SM 4500-H+ B	-	6.78	6.81	6.79	<1	0.10

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

## QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/25/12

## Matrix Spike Summary

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

**Analytical Method:** 601/602

Analyte Name	Sample Result	MW-2SMS Matrix Spike RQ1212732-04			MW-2SDMS Duplicate Matrix Spike RQ1212732-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	ND	18.2	20.0	91	17.7	20.0	89	41 - 138	2	30
1,1,2,2-Tetrachloroethane	ND	16.3	20.0	81	17.0	20.0	85	8 - 184	4	30
1,1,2-Trichloroethane	ND	16.0	20.0	80	15.8	20.0	79	39 - 136	1	30
1,1-Dichloroethane (1,1-DCA)	1.7	18.6	20.0	85	18.1	20.0	82	47 - 132	3	30
1,1-Dichloroethene (1,1-DCE)	ND	18.5	20.0	92	18.2	20.0	91	28 - 167	2	30
1,2-Dichlorobenzene	ND	16.9	20.0	84	17.4	20.0	87	0 - 208	3	30
1,2-Dichloroethane	ND	16.2	20.0	81	15.9	20.0	79	51 - 147	2	30
1,2-Dichloropropane	ND	17.5	20.0	87	17.1	20.0	85	44 - 156	2	30
1,3-Dichlorobenzene	ND	17.5	20.0	87	18.0	20.0	90	7 - 187	3	30
1,4-Dichlorobenzene	ND	16.7	20.0	83	16.9	20.0	85	42 - 143	1	30
2-Chloroethyl Vinyl Ether	ND	ND	20.0	0 *	ND	20.0	0 *	14 - 186	<1	30
Benzene	ND	17.0	20.0	85	17.6	20.0	88	39 - 150	4	30
Bromodichloromethane	ND	16.3	20.0	82	15.9	20.0	80	42 - 172	2	30
Bromoform	ND	16.7	20.0	84	17.0	20.0	85	13 - 159	1	30
Bromomethane	ND	18.6	20.0	93	19.4	20.0	97	0 - 144	4	30
Carbon Tetrachloride	ND	17.2	20.0	86	16.6	20.0	83	43 - 143	3	30
Chlorobenzene	ND	17.3	20.0	87	17.4	20.0	87	38 - 150	<1	30
Chloroethane	ND	18.7	20.0	93	18.4	20.0	92	46 - 137	2	30
Chloroform	ND	18.2	20.0	91	17.5	20.0	88	49 - 133	4	30
Chloromethane	ND	23.6	20.0	118	23.4	20.0	117	0 - 193	<1	30
Dibromochloromethane	ND	15.4	20.0	77	15.3	20.0	77	24 - 191	<1	30
Methylene Chloride	ND	17.6	20.0	88	16.9	20.0	84	25 - 162	4	30
Ethylbenzene	ND	16.5	20.0	82	16.9	20.0	84	32 - 160	2	30
Tetrachloroethene (PCE)	ND	17.2	20.0	86	16.5	20.0	82	26 - 162	4	30
Toluene	ND	16.9	20.0	84	17.5	20.0	87	46 - 148	4	30
Trichloroethene (TCE)	ND	18.0	20.0	90	17.3	20.0	87	35 - 146	4	30
Trichlorofluoromethane (CFC 11)	ND	18.0	20.0	90	17.5	20.0	88	21 - 156	2	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074

Date Collected: 10/18/12

Date Received: 10/18/12

Date Analyzed: 10/25/12

## Matrix Spike Summary

Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Sample Name: MW-2S  
 Lab Code: R1207074-015

Units: µg/L

Basis: NA

Analytical Method: 601/602

Analyte Name	Sample Result	MW-2SMS Matrix Spike RQ1212732-04			MW-2SDMS Duplicate Matrix Spike RQ1212732-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Vinyl Chloride	ND	22.9	20.0	114	23.1	20.0	115	28 - 163	<1	30
cis-1,2-Dichloroethene	ND	18.3	20.0	91	17.6	20.0	88	24 - 191	3	30
cis-1,3-Dichloropropene	ND	16.6	20.0	83	15.9	20.0	79	22 - 178	4	30
m,p-Xylenes	ND	30.6	40.0	77	31.4	40.0	78	68 - 111	2	30
o-Xylene	ND	15.9	20.0	79	16.2	20.0	81	70 - 113	2	30
trans-1,2-Dichloroethene	ND	17.5	20.0	87	16.9	20.0	84	38 - 155	4	30
trans-1,3-Dichloropropene	ND	16.8	20.0	84	16.4	20.0	82	22 - 178	3	30

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/24/12

**Matrix Spike Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

**Analytical Method:** 625  
**Prep Method:** EPA 3510C

Analyte Name	Sample Result	MW-2SMS Matrix Spike RQ1212499-04			MW-2SDMS Duplicate Matrix Spike RQ1212499-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,2,4-Trichlorobenzene	ND	69.5	94.3	74	69.4	94.3	74	29 - 85	<1	30
1,2-Diphenylhydrazine	ND	96.6	94.3	102	94.1	94.3	100	64 - 114	3	30
2,4,6-Trichlorophenol	ND	101	94.3	107	101	94.3	107	37 - 144	<1	30
2,4-Dichlorophenol	ND	92.4	94.3	98	90.2	94.3	96	39 - 135	2	30
2,4-Dimethylphenol	ND	95.7	94.3	101	91.7	94.3	97	32 - 119	4	30
2,4-Dinitrophenol	ND	97.5	94.3	103	97.5	94.3	103	0 - 191	<1	30
2,4-Dinitrotoluene	ND	98.7	94.3	105	104	94.3	110	39 - 139	5	30
2,6-Dinitrotoluene	ND	105	94.3	111	112	94.3	119	50 - 158	7	30
2-Chloronaphthalene	ND	81.5	94.3	86	84.5	94.3	90	60 - 118	4	30
2-Chlorophenol	ND	81.2	94.3	86	82.4	94.3	87	23 - 134	1	30
2-Nitrophenol	ND	102	94.3	108	101	94.3	107	29 - 182	1	30
3,3'-Dichlorobenzidine	ND	ND	94.3	0	ND	94.3	0	0 - 262	<1	30
4,6-Dinitro-o-cresol	ND	100	94.3	106	101	94.3	107	0 - 181	<1	30
4-Bromophenyl Phenyl Ether	ND	97.6	94.3	103	97.1	94.3	103	53 - 127	<1	30
4-Chloro-m-cresol	ND	98.1	94.3	104	97.9	94.3	104	22 - 147	<1	30
4-Chlorophenyl Phenyl Ether	ND	93.5	94.3	99	92.3	94.3	98	25 - 158	1	30
4-Nitrophenol	ND	49.1	94.3	52	65.9	94.3	70	0 - 132	29	30
Acenaphthene	ND	94.5	94.3	100	96.6	94.3	102	47 - 145	2	30
Acenaphthylene	ND	94.0	94.3	100	95.5	94.3	101	33 - 145	2	30
Anthracene	ND	105	94.3	111	102	94.3	108	27 - 133	3	30
Benz(a)anthracene	ND	102	94.3	109	99.2	94.3	105	33 - 143	3	30
Benzidine	ND	ND	94.4	0 *	ND	94.4	0 *	10 - 144	<1	30
Benzo(a)pyrene	ND	93.7	94.3	99	91.6	94.3	97	17 - 163	2	30
3,4-Benzofluoranthene	ND	101	94.3	107	93.6	94.3	99	24 - 159	8	30
Benzo(g,h,i)perylene	ND	128	94.3	136	127	94.3	135	0 - 219	1	30
Benzo(k)fluoranthene	ND	90.4	94.3	96	89.8	94.3	95	11 - 162	<1	30
Bis(1-chloroisopropyl) Ether	ND	85.9	94.3	91	83.3	94.3	88	36 - 166	3	30

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## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/24/12

**Matrix Spike Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

**Analytical Method:** 625  
**Prep Method:** EPA 3510C

Analyte Name	Sample Result	MW-2SMS Matrix Spike RQ1212499-04			MW-2SDMS Duplicate Matrix Spike RQ1212499-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bis(2-chloroethoxy)methane	ND	87.0	94.3	92	83.9	94.3	89	33 - 184	4	30
Bis(2-chloroethyl) Ether	ND	80.0	94.3	85	79.5	94.3	84	12 - 158	<1	30
Bis(2-ethylhexyl) Phthalate	ND	101	94.3	107	95.3	94.3	101	8 - 158	6	30
Butyl Benzyl Phthalate	ND	94.8	94.3	100	90.9	94.3	96	0 - 152	4	30
Chrysene	ND	104	94.3	110	99.4	94.3	105	17 - 168	5	30
Di-n-butyl Phthalate	ND	104	94.3	110	99.5	94.3	105	1 - 118	4	30
Di-n-octyl Phthalate	ND	86.3	94.3	92	84.3	94.3	89	4 - 146	2	30
Dibenz(a,h)anthracene	ND	121	94.3	129	119	94.3	126	0 - 227	2	30
Diethyl Phthalate	ND	100	94.3	106	99.7	94.3	106	0 - 114	<1	30
Dimethyl Phthalate	ND	96.9	94.3	103	98.2	94.3	104	0 - 112	1	30
Fluoranthene	ND	110	94.3	117	105	94.3	111	26 - 137	5	30
Fluorene	ND	98.3	94.3	104	97.8	94.3	104	59 - 121	<1	30
Hexachlorobenzene	ND	99.3	94.3	105	99.9	94.3	106	0 - 152	<1	30
Hexachlorobutadiene	ND	66.8	94.3	71	70.8	94.3	75	24 - 116	6	30
Hexachlorocyclopentadiene	ND	54.7	94.3	58	64.1	94.3	68	30 - 93	16	30
Hexachloroethane	ND	64.6	94.3	69	63.9	94.3	68	40 - 113	1	30
Indeno(1,2,3-cd)pyrene	ND	120	94.3	127	116	94.3	123	0 - 171	3	30
Isophorone	ND	94.8	94.3	101	90.9	94.3	96	21 - 196	4	30
N-Nitrosodi-n-propylamine	ND	90.2	94.3	96	88.2	94.3	94	0 - 230	2	30
N-Nitrosodimethylamine	ND	56.9	94.3	60	57.3	94.3	61	39 - 67	<1	30
N-Nitrosodiphenylamine	ND	110	94.3	116	108	94.3	114	50 - 117	2	30
Naphthalene	ND	80.1	94.3	85	79.7	94.3	84	21 - 133	<1	30
Nitrobenzene	ND	91.3	94.3	97	88.2	94.3	94	35 - 180	3	30
Pentachlorophenol (PCP)	ND	109	94.3	116	109	94.3	116	14 - 176	<1	30
Phenanthrene	ND	107	94.3	113	104	94.3	110	54 - 120	3	30
Phenol	ND	37.4	94.3	40	49.9	94.3	53	5 - 112	29	30

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**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/24/12

**Matrix Spike Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

**Analytical Method:** 625  
**Prep Method:** EPA 3510C

Analyte Name	Sample Result	MW-2SMS Matrix Spike RQ1212499-04			MW-2SDMS Duplicate Matrix Spike RQ1212499-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Pyrene	ND	95.7	94.3	101	95.0	94.3	101	52 - 115	<1	30

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**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Collected:** 10/18/12  
**Date Received:** 10/18/12  
**Date Analyzed:** 10/24/12

**Matrix Spike Summary**  
**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Sample Name:** MW-2S  
**Lab Code:** R1207074-015

**Units:** µg/L  
**Basis:** NA

**Analytical Method:** NY 310-13  
**Prep Method:** Method

Analyte Name	Sample Result	MW-2SMS Matrix Spike RQ1212576-04			MW-2SDMS Duplicate Matrix Spike RQ1212576-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Fuel Oil No. 2	ND	4730	4800	98	4340	4800	90	56 - 185	8	30

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## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Analyzed:** 10/24/12

**Lab Control Sample Summary**  
**Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved**

**Analytical Method:** 601/602**Units:** µg/L**Basis:** NA**Analysis Lot:** 315240

**Lab Control Sample**  
RQ1212732-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	19.5	20.0	97	41 - 138
1,1,2,2-Tetrachloroethane	19.0	20.0	95	8 - 184
1,1,2-Trichloroethane	18.5	20.0	93	39 - 136
1,1-Dichloroethane (1,1-DCA)	18.8	20.0	94	47 - 132
1,1-Dichloroethene (1,1-DCE)	18.8	20.0	94	28 - 167
1,2-Dichlorobenzene	19.5	20.0	97	0 - 208
1,2-Dichloroethane	18.8	20.0	94	51 - 147
1,2-Dichloropropane	20.2	20.0	101	44 - 156
1,3-Dichlorobenzene	20.5	20.0	102	7 - 187
1,4-Dichlorobenzene	19.7	20.0	98	42 - 143
2-Chloroethyl Vinyl Ether	16.6	20.0	83	14 - 186
Benzene	18.5	20.0	93	39 - 150
Bromodichloromethane	19.2	20.0	96	42 - 172
Bromoform	22.0	20.0	110	13 - 159
Bromomethane	21.5	20.0	108	0 - 144
Carbon Tetrachloride	18.7	20.0	94	43 - 143
Chlorobenzene	20.0	20.0	100	38 - 150
Chloroethane	19.5	20.0	98	46 - 137
Chloroform	20.1	20.0	101	49 - 133
Chloromethane	23.2	20.0	116	0 - 193
Dibromochloromethane	19.3	20.0	96	24 - 191
Methylene Chloride	18.5	20.0	93	25 - 162
Ethylbenzene	18.7	20.0	94	32 - 160
Tetrachloroethene (PCE)	19.2	20.0	96	26 - 162
Toluene	18.8	20.0	94	46 - 148
Trichloroethene (TCE)	19.4	20.0	97	35 - 146
Trichlorofluoromethane (CFC 11)	19.2	20.0	96	21 - 156
Vinyl Chloride	23.8	20.0	119	28 - 163
cis-1,2-Dichloroethene	19.4	20.0	97	24 - 191
cis-1,3-Dichloropropene	20.1	20.0	100	22 - 178
m,p-Xylenes	36.5	40.0	91	68 - 111
o-Xylene	18.6	20.0	93	70 - 113

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Analyzed:** 10/24/12

## Lab Control Sample Summary

## Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

**Analytical Method:** 601/602**Units:** µg/L**Basis:** NA**Analysis Lot:** 315240

## Lab Control Sample

RQ1212732-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	18.6	20.0	93	38 - 155
trans-1,3-Dichloropropene	21.4	20.0	107	22 - 178

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074

Date Analyzed: 10/25/12

## Lab Control Sample Summary

Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved

Analytical Method: 601/602

Units: µg/L

Basis: NA

Analysis Lot: 315382

## Lab Control Sample

RQ1212733-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	16.6	20.0	83	41 - 138
1,1,2,2-Tetrachloroethane	18.2	20.0	91	8 - 184
1,1,2-Trichloroethane	17.2	20.0	86	39 - 136
1,1-Dichloroethane (1,1-DCA)	16.2	20.0	81	47 - 132
1,1-Dichloroethene (1,1-DCE)	15.5	20.0	77	28 - 167
1,2-Dichlorobenzene	18.6	20.0	93	0 - 208
1,2-Dichloroethane	17.3	20.0	87	51 - 147
1,2-Dichloropropane	18.1	20.0	90	44 - 156
1,3-Dichlorobenzene	19.0	20.0	95	7 - 187
1,4-Dichlorobenzene	18.2	20.0	91	42 - 143
2-Chloroethyl Vinyl Ether	15.0	20.0	75	14 - 186
Benzene	16.2	20.0	81	39 - 150
Bromodichloromethane	17.6	20.0	88	42 - 172
Bromoform	20.8	20.0	104	13 - 159
Bromomethane	18.3	20.0	91	0 - 144
Carbon Tetrachloride	15.5	20.0	77	43 - 143
Chlorobenzene	18.2	20.0	91	38 - 150
Chloroethane	16.2	20.0	81	46 - 137
Chloroform	18.0	20.0	90	49 - 133
Chloromethane	19.0	20.0	95	0 - 193
Dibromochloromethane	18.1	20.0	90	24 - 191
Methylene Chloride	16.7	20.0	83	25 - 162
Ethylbenzene	16.4	20.0	82	32 - 160
Tetrachloroethene (PCE)	16.3	20.0	81	26 - 162
Toluene	16.5	20.0	83	46 - 148
Trichloroethene (TCE)	16.4	20.0	82	35 - 146
Trichlorofluoromethane (CFC 11)	15.9	20.0	79	21 - 156
Vinyl Chloride	19.2	20.0	96	28 - 163
cis-1,2-Dichloroethene	17.5	20.0	88	24 - 191
cis-1,3-Dichloropropene	18.3	20.0	92	22 - 178
m,p-Xylenes	32.0	40.0	80	68 - 111
o-Xylene	16.7	20.0	83	70 - 113

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074**Date Analyzed:** 10/25/12**Lab Control Sample Summary****Purgeable Halocarbons and Purgeable Aromatics by GC/PID/ELCD - Field Preserved****Analytical Method:** 601/602**Units:** µg/L**Basis:** NA**Analysis Lot:** 315382**Lab Control Sample**

RQ1212733-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	15.3	20.0	76	38 - 155
trans-1,3-Dichloropropene	19.7	20.0	99	22 - 178

**Results flagged with an asterisk (\*) indicate values outside control criteria.**

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Company Site - Wells 10/12/ EN-003231-0001-03TTO  
 Sample Matrix: Water

Service Request: R1207074

Date Analyzed: 10/23/12

Lab Control Sample Summary  
 Semivolatile Organic Compounds by GC/MS

Analytical Method: 625  
 Prep Method: EPA 3510C

Units: µg/L

Basis: NA

Extraction Lot: 169751

Analyte Name	Lab Control Sample RQ1212499-02			Duplicate Lab Control Sample RQ1212499-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,2,4-Trichlorobenzene	68.6	100	69	67.7	100	68	29 - 85	1	30
1,2-Diphenylhydrazine	99.0	100	99	94.4	100	94	64 - 114	5	30
2,4,6-Trichlorophenol	99.9	100	100	95.3	100	95	37 - 144	5	30
2,4-Dichlorophenol	94.1	100	94	90.4	100	90	39 - 135	4	30
2,4-Dimethylphenol	89.7	100	90	89.8	100	90	32 - 119	<1	30
2,4-Dinitrophenol	78.8	100	79	76.6	100	77	0 - 191	3	30
2,4-Dinitrotoluene	90.6	100	91	90.0	100	90	39 - 139	<1	30
2,6-Dinitrotoluene	106	100	106	105	100	105	50 - 158	<1	30
2-Chloronaphthalene	87.0	100	87	83.7	100	84	60 - 118	4	30
2-Chlorophenol	84.0	100	84	83.5	100	83	23 - 134	<1	30
2-Nitrophenol	90.3	100	90	90.9	100	91	29 - 182	<1	30
3,3'-Dichlorobenzidine	91.2	100	91	86.0	100	86	0 - 262	6	30
4,6-Dinitro-o-cresol	94.6	100	95	91.7	100	92	0 - 181	3	30
4-Bromophenyl Phenyl Ether	102	100	102	97.9	100	98	53 - 127	4	30
4-Chloro-m-cresol	99.3	100	99	97.5	100	97	22 - 147	2	30
4-Chlorophenyl Phenyl Ether	99.6	100	100	93.7	100	94	25 - 158	6	30
4-Nitrophenol	44.0	100	44	42.9	100	43	0 - 132	3	30
Acenaphthene	99.3	100	99	94.8	100	95	47 - 145	5	30
Acenaphthylene	99.1	100	99	97.4	100	97	33 - 145	2	30
Anthracene	105	100	105	101	100	101	27 - 133	4	30
Benz(a)anthracene	106	100	106	101	100	101	33 - 143	5	30
Benzidine	100 U	100	0 *	100 U	100	0 *	10 - 144	36 *	30
Benzo(a)pyrene	97.8	100	98	95.2	100	95	17 - 163	3	30
3,4-Benzofluoranthene	108	100	108	101	100	101	24 - 159	7	30
Benzo(g,h,i)perylene	110	100	110	104	100	104	0 - 219	5	30
Benzo(k)fluoranthene	102	100	102	99.1	100	99	11 - 162	3	30
Bis(1-chloroisopropyl) Ether	92.1	100	92	91.1	100	91	36 - 166	1	30
Bis(2-chloroethoxy)methane	94.2	100	94	89.2	100	89	33 - 184	5	30
Bis(2-chloroethyl) Ether	85.4	100	85	84.0	100	84	12 - 158	2	30
Bis(2-ethylhexyl) Phthalate	108	100	108	102	100	102	8 - 158	6	30
Butyl Benzyl Phthalate	102	100	102	98.3	100	98	0 - 152	4	30
Chrysene	108	100	108	103	100	103	17 - 168	5	30

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## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Analyzed:** 10/23/12

**Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Analytical Method:** 625  
**Prep Method:** EPA 3510C

**Units:** µg/L  
**Basis:** NA

**Extraction Lot:** 169751

Analyte Name	Lab Control Sample RQ1212499-02			Duplicate Lab Control Sample RQ1212499-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Di-n-butyl Phthalate	104	100	104	98.5	100	98	1 - 118	6	30
Di-n-octyl Phthalate	105	100	105	102	100	102	4 - 146	3	30
Dibenz(a,h)anthracene	107	100	107	103	100	103	0 - 227	3	30
Diethyl Phthalate	103	100	103	96.3	100	96	0 - 114	7	30
Dimethyl Phthalate	101	100	101	97.0	100	97	0 - 112	4	30
Fluoranthene	108	100	108	104	100	104	26 - 137	4	30
Fluorene	104	100	104	98.2	100	98	59 - 121	6	30
Hexachlorobenzene	101	100	101	94.8	100	95	0 - 152	7	30
Hexachlorobutadiene	65.2	100	65	66.0	100	66	24 - 116	1	30
Hexachlorocyclopentadiene	66.3	100	66	66.3	100	66	30 - 93	<1	30
Hexachloroethane	64.1	100	64	62.6	100	63	40 - 113	2	30
Indeno(1,2,3-cd)pyrene	105	100	105	101	100	101	0 - 171	4	30
Isophorone	99.8	100	100	96.8	100	97	21 - 196	3	30
N-Nitrosodi-n-propylamine	96.8	100	97	92.6	100	93	0 - 230	4	30
N-Nitrosodimethylamine	64.4	100	64	63.7	100	64	39 - 67	1	30
N-Nitrosodiphenylamine	111	100	111	106	100	106	50 - 117	5	30
Naphthalene	79.9	100	80	78.1	100	78	21 - 133	2	30
Nitrobenzene	88.7	100	89	90.1	100	90	35 - 180	2	30
Pentachlorophenol (PCP)	91.9	100	92	88.1	100	88	14 - 176	4	30
Phenanthrene	109	100	109	103	100	103	54 - 120	6	30
Phenol	42.2	100	42	39.1	100	39	5 - 112	8	30
Pyrene	108	100	108	104	100	104	52 - 115	3	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074  
**Date Analyzed:** 10/31/12

**Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Analytical Method:** 625  
**Prep Method:** EPA 3510C

**Units:** µg/L  
**Basis:** NA

**Extraction Lot:** 170155

Analyte Name	Lab Control Sample RQ1212837-02			Duplicate Lab Control Sample RQ1212837-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,2,4-Trichlorobenzene	72.4	100	72	77.6	100	78	29 - 85	7	30
1,2-Diphenylhydrazine	82.4	100	82	83.3	100	83	64 - 114	1	30
2,4,6-Trichlorophenol	94.0	100	94	99.8	100	100	37 - 144	6	30
2,4-Dichlorophenol	84.8	100	85	93.3	100	93	39 - 135	10	30
2,4-Dimethylphenol	75.3	100	75	81.5	100	82	32 - 119	8	30
2,4-Dinitrophenol	114	100	114	123	100	123	0 - 191	8	30
2,4-Dinitrotoluene	105	100	105	111	100	111	39 - 139	5	30
2,6-Dinitrotoluene	101	100	101	107	100	107	50 - 158	6	30
2-Chloronaphthalene	82.7	100	83	87.0	100	87	60 - 118	5	30
2-Chlorophenol	74.3	100	74	79.4	100	79	23 - 134	7	30
2-Nitrophenol	82.6	100	83	92.1	100	92	29 - 182	11	30
3,3'-Dichlorobenzidine	97.9	100	98	102	100	102	0 - 262	4	30
4,6-Dinitro-o-cresol	111	100	111	115	100	115	0 - 181	4	30
4-Bromophenyl Phenyl Ether	96.8	100	97	98.4	100	98	53 - 127	2	30
4-Chloro-m-cresol	87.8	100	88	96.8	100	97	22 - 147	10	30
4-Chlorophenyl Phenyl Ether	94.3	100	94	99.5	100	100	25 - 158	5	30
4-Nitrophenol	42.4	100	42	44.8	100	45	0 - 132	5	30
Acenaphthene	90.4	100	90	95.8	100	96	47 - 145	6	30
Acenaphthylene	92.2	100	92	98.9	100	99	33 - 145	7	30
Anthracene	96.5	100	96	97.4	100	97	27 - 133	<1	30
Benz(a)anthracene	96.8	100	97	98.5	100	99	33 - 143	2	30
Benzidine	100 U	100	0 *	100 U	100	0 *	10 - 144	9	30
Benzo(a)pyrene	93.1	100	93	95.4	100	95	17 - 163	2	30
3,4-Benzofluoranthene	107	100	107	107	100	107	24 - 159	<1	30
Benzo(g,h,i)perylene	103	100	103	101	100	101	0 - 219	2	30
Benzo(k)fluoranthene	95.2	100	95	94.1	100	94	11 - 162	1	30
Bis(1-chloroisopropyl) Ether	82.4	100	82	87.5	100	87	36 - 166	6	30
Bis(2-chloroethoxy)methane	89.7	100	90	98.5	100	99	33 - 184	9	30
Bis(2-chloroethyl) Ether	76.5	100	77	81.5	100	82	12 - 158	6	30
Bis(2-ethylhexyl) Phthalate	94.2	100	94	95.1	100	95	8 - 158	1	30
Butyl Benzyl Phthalate	90.3	100	90	91.4	100	91	0 - 152	1	30
Chrysene	96.3	100	96	98.6	100	99	17 - 168	2	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

## QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074**Date Analyzed:** 10/31/12

**Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Analytical Method:** 625  
**Prep Method:** EPA 3510C

**Units:** µg/L**Basis:** NA**Extraction Lot:** 170155

Analyte Name	Lab Control Sample RQ1212837-02			Duplicate Lab Control Sample RQ1212837-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Di-n-butyl Phthalate	92.9	100	93	95.4	100	95	1 - 118	3	30
Di-n-octyl Phthalate	96.8	100	97	99.4	100	99	4 - 146	3	30
Dibenz(a,h)anthracene	101	100	101	100	100	100	0 - 227	<1	30
Diethyl Phthalate	92.4	100	92	96.7	100	97	0 - 114	5	30
Dimethyl Phthalate	92.3	100	92	96.2	100	96	0 - 112	4	30
Fluoranthene	99.4	100	99	104	100	104	26 - 137	5	30
Fluorene	94.9	100	95	101	100	101	59 - 121	6	30
Hexachlorobenzene	94.8	100	95	95.3	100	95	0 - 152	<1	30
Hexachlorobutadiene	71.1	100	71	75.4	100	75	24 - 116	6	30
Hexachlorocyclopentadiene	86.0	100	86	90.6	100	91	30 - 93	5	30
Hexachloroethane	60.0	100	60	60.9	100	61	40 - 113	2	30
Indeno(1,2,3-cd)pyrene	97.8	100	98	97.3	100	97	0 - 171	<1	30
Isophorone	82.8	100	83	91.0	100	91	21 - 196	9	30
N-Nitrosodi-n-propylamine	81.1	100	81	86.6	100	87	0 - 230	6	30
N-Nitrosodimethylamine	45.7	100	46	47.0	100	47	39 - 67	3	30
N-Nitrosodiphenylamine	102	100	102	103	100	103	50 - 117	<1	30
Naphthalene	76.6	100	77	82.8	100	83	21 - 133	8	30
Nitrobenzene	80.5	100	80	89.4	100	89	35 - 180	11	30
Pentachlorophenol (PCP)	96.2	100	96	101	100	101	14 - 176	5	30
Phenanthrene	98.1	100	98	100	100	100	54 - 120	2	30
Phenol	35.7	100	36	37.6	100	38	5 - 112	5	30
Pyrene	98.4	100	98	98.7	100	99	52 - 115	<1	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Company Site -Wells 10/12/ EN-003231-0001-03TTO  
**Sample Matrix:** Water

**Service Request:** R1207074**Date Analyzed:** 10/24/12

**Lab Control Sample Summary**  
**Petroleum Products in Water (Hydrocarbon Scan) for State of New York**

**Analytical Method:** NY 310-13**Units:** µg/L**Prep Method:** Method**Basis:** NA**Extraction Lot:** 169858

Analyte Name	Lab Control Sample RQ1212576-02			Duplicate Lab Control Sample RQ1212576-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Fuel Oil No. 2	4850	5090	95	4870	5090	96	56 - 185	<1	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

[illegible]



## Cooler Receipt and Preservation

R1207074

5

Ecology And Environment, Incorporated  
Davis Howland Oil Company Site - Wells 10/12Project/Client E-E Folder NumberCooler received on 10/17/12 by: AL COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 4.6° 2.6°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 10/17/12 08:20Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank Sample Bottle

If out of Temperature, note packing/ice condition &amp; Client Approval to Run Samples:

All Samples held in storage location R-002 by AL on 10/17/12 at 0825  
5035 samples placed in storage location by on atPC Secondary Review: 10/17/12Cooler Breakdown: Date: 10/17/12 Time: 1203 by: ALU

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
  2. Did all bottle labels and tags agree with custody papers? YES NO
  3. Were correct containers used for the tests indicated? YES NO
  4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A
- Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>								
<4	NaHSO <sub>4</sub>								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>411100</u>	<u>10/13</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust:

Bottle lot numbers: 2-206-002, BDB26122, 061812-14, 060412-1W,  
Other Comments:PC Secondary Review: 10/16/12  
H:\SMODOCS\Cooler Receipt 5.doc

\*significant air bubbles: VOA &gt; 5-6 mm : WC &gt; 1 in. diameter

00181

Project Name <b>Davis Howard</b>		Project Number <b>EN-003231-0001-03710</b>		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
Project Manager <b>MIKE ALOI</b>		Report CC		PRESERVATIVE		0		1		0		0	
Company/Address <b>ECOLOGY + ENVIRONMENT 308 PLEASANT VIEW DR LANCASTER NY 14086</b>		Phone # <b>(716) 684-8000</b>		Email <b>malbi@ene.com</b>		NUMBER OF CONTAINERS		PRESERVATIVE		0		1	
Sampler's Signature		Sampler's Printed Name		DATE		SAMPLING TIME		MATRIX		FOR OFFICE USE ONLY LAB ID		REMARKS/ALTERNATE DESCRIPTION	
MW-1S				000	10/17/12	1035	GL	8					
IB101712				001	10/17/12	0900	W	3					
MW-10R				006	10/17/12	1255	GL	8					
MW-10RQ				004	10/17/12	1255	GL	8					
MW-14S				010	10/17/12	1440	GL	8					
MW-14R				011	10/17/12	1052	GL	8					
<p>SPECIAL INSTRUCTIONS/COMMENTS Metals</p> <p>See QAPP <input type="checkbox"/></p> <p>STATE WHERE SAMPLES WERE COLLECTED <b>NY</b></p> <p>RELINQUISHED BY <b>SARAH CRAIG</b> RECEIVED BY <b>MIKE ALOI</b></p> <p>Signature <b>SARAH CRAIG</b> Signature <b>MIKE ALOI</b></p> <p>Printed Name <b>SARAH CRAIG</b> Printed Name <b>MIKE ALOI</b></p> <p>Firm <b>E+E</b> Firm <b>ENE</b></p> <p>Date/Time <b>10/17/12 1747</b> Date/Time <b>10/17/12 1747</b></p>													
<p>TURNAROUND REQUIREMENTS</p> <p>RUSH (SURCHARGES APPLY)</p> <p>1 day 2 day 3 day</p> <p>4 day 5 day</p> <p>Standard <b>5</b></p> <p>REQUESTED REPORT DATE</p>				<p>REPORT REQUIREMENTS</p> <p>I. Results Only</p> <p>II. Results + QC Summaries (LCS, DUP, MS/MSD as required)</p> <p>III. Results + QC and Calibration Summaries</p> <p>IV. Data Validation Report with Raw Data</p>				<p>INVOICE INFORMATION</p> <p>PO #</p> <p>BILL TO:</p>					

000102



## Cooler Receipt and Preservation

R1207074

5

Ecology And Environment, Incorporated  
Davis Howland Oil Company Site - Wells 10/12Project/Client E+E Folder NumberCooler received on 10/17/12 by: SW COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
5. Were ~~ice~~ or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 10.3° 6.4° 3.3°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes YesIf No, Explain Below No No No No NoDate/Time Temperatures Taken: 10/17/12 1811Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition &amp; Client Approval to Run Samples:

All Samples held in storage location R-002 by SW on 10/17/12 at 1815  
5035 samples placed in storage location by on atPC Secondary Review: KB 10/18/12 on ice Rec'd same day as collectedCooler Breakdown: Date: 10/18/12 Time: 1147 by: SW

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>								
<4	NaHSO <sub>4</sub>								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>411100</u>	<u>10/13</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust:

Bottle lot numbers: 061112-1X, 061812-1X, 2-206-002,  
Other Comments:PC Secondary Review: 11/6/12 KB  
H:\SMODOCS\Cooler Receipt 5.doc

\*significant air bubbles: VOA &gt; 5-6 mm : WC &gt; 1 in. diameter

00183



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 3989

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Project Name <b>Davis Howard</b>		Project Number <b>EN-003231-0001-03770</b>		ANALYSIS REQUESTED (Include Method Number and Container Preservative)											
Project Manager <b>Mike Noi</b>		Report CC		PRESERVATIVE		D1		D1		D1		D1		D1	
Company/Address <b>ECOLOGY + ENVIRONMENT</b> <b>308 PLEASANTVIEW DR</b> <b>LANCASTER, NY 14086</b>		Email <b>MAILTO@ENE.COM</b>		Sample's Printed Name <b>SHAH CLATG</b>		NUMBER OF CONTAINERS		GC/MS VOAS ° 8280 • 624 • CLP		GC/MS SVOCs ° 8270 • 625		PESTICIDES ° 8021 • 601/602		PCBs ° 8081 • 608	
Client Sample ID		FOR OFFICE USE ONLY LAB ID		DATE		SAMPLING TIME		MATRIX		METALS, TOTAL (List in comments below)		METALS, DISSOLVED (List in comments below)		PRESERVATIVE KEY 0. NONE 1. HCL 2. HNO <sub>3</sub> 3. H <sub>2</sub> SO <sub>4</sub> 4. NaOH 5. Zn Acetate 6. MeOH 7. NaHSO <sub>4</sub> 8. Other	
TB101812	-012	10/18/12	1030	GW	3										
MW-125	-013	10/18/12	1030	GW	8										
MW-12R	-014	10/18/12	1125	GW	8										
MW-25	-015	10/18/12	1250	GW	8										
MW-25MS	-016	10/18/12	1250	GW	8										
MW-25MSD	-016	10/18/12	1320	GW	8										
MW-2R	-017	10/18/12	1600	GW	8										
MW-8R	-017	10/18/12	1600	GW	8										
MW-13S	-018	10/18/12	1600	GW	8										

SPECIAL INSTRUCTIONS/COMMENTS  
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED **NY**

RELINQUISHED BY	RECEIVED BY
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
Printed Name: <b>SHAH CLATG</b>	Printed Name: <b>SHAH CLATG</b>
Firm: <b>E+E</b>	Firm: <b>E+E</b>
Date/Time: <b>10/18/12 1725</b>	Date/Time: <b>10/18/12 1725</b>

TURNAROUND REQUIREMENTS  
RUSH (SURCHARGES APPLY)  
1 day 2 day 3 day  
4 day 5 day  
**Standard**

REQUESTED REPORT DATE

REPORT REQUIREMENTS  
I. Results Only  
II. Results + OC Summaries (LCS, DUP, MS/MSD as required)  
III. Results + OC and Calibration Summaries  
IV. Data Validation Report with Raw Data

INVOICE INFORMATION  
PO #  
BILL TO:

**R1207074 5**  
Ecology And Environment, Incorporated  
Davis Howard Oil Company Site - Wells 10/12

RELINQUISHED BY

Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

Cooler Receipt and Preservation **R1207074** **5**Ecology And Environment, Incorporated  
Davis Howland Oil Company Site - Wells 10/12Project/Client E+E Folder NumberCooler received on 10/18/12 by: DLW COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
  2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
  3. Did all bottles arrive in good condition (unbroken)? YES NO
  4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
  5. Were Ice or Ice packs present? YES NO
  6. Where did the bottles originate? ALS/ROC, CLIENT
  7. Temperature of cooler(s) upon receipt: 12.50 3.10 2.40
- Is the temperature within 0° - 6° C?: Yes Yes\* Yes\* Yes Yes
- If No, Explain Below No No No No No

Date/Time Temperatures Taken: 10/18/12 / 1741Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition &amp; Client Approval to Run Samples:

All Samples held in storage location R02 by DLW on 10/18/12 at 1745

5035 samples placed in storage location 4 by DLW on 10/18/12 at 1745

PC Secondary Review: 10/18/12 Rec'd same day as samples on iceCooler Breakdown: Date: 10/19/12 Time: 1215 by: DLW

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>								
<4	NaHSO <sub>4</sub>								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4/11/100</u>	<u>10/13</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: \_\_\_\_\_

Bottle lot numbers: BD1326122D, 2-206-002, 061112-1X

Other Comments: \_\_\_\_\_

PC Secondary Review: 11/6/12 ICB  
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\*significant air bubbles: VOA &gt; 5-6 mm : WC &gt; 1 in. diameter

00185

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[illegible]

Distribution: White - Lab Copy; Yellow - Return to Originator

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## Cooler Receipt and Preservation

R1207074 5  
Ecology And Environment, Incorporated  
Davis Howland Oil Company Site - Wells 10/12Project/Client Ecology + Env. Folder NumberCooler received on 10/19/12 by: WU COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 4.5°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 10/19/12 1454Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition &amp; Client Approval to Run Samples:

All Samples held in storage location R-002 by WU on 10/19/12 at 1455  
5035 samples placed in storage location by on atPC Secondary Review: 10/19/12Cooler Breakdown: Date: 10/19/12 Time: 1609 by: WU

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>								
<4	NaHSO <sub>4</sub>								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	4111100	10/13				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust:

Bottle lot numbers: 2-206-007, 082012-244, B0826122D  
Other Comments:PC Secondary Review: 11/6/12 KCB  
H:\SMODOCS\Cooler Receipt 5.doc

\*significant air bubbles: VOA &gt; 5-6 mm : WC &gt; 1 in. diameter

00187



November 20, 2012

Service Request No: R1207525

Mr. Michael Aloï  
Ecology And Environment, Incorporated  
368 Pleasantview Drive  
Lancaster, NY 14086

**Laboratory Results for: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01**

Dear Mr. Aloï:

Enclosed are the results of the sample(s) submitted to our laboratory on November 2, 2012. For your reference, these analyses have been assigned our service request number **R1207525**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Karen.Bunker@alsglobal.com.

Respectfully submitted,

**Columbia Analytical Services, Inc. dba ALS Environmental**

Karen Bunker  
Project Manager

Page 1 of 44



ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623

PHONE 585-288-5380 | FAX 585-288-8475

Columbia Analytical Services, Inc.

Part of the ALS Group A Campbell Brothers Limited Company

Environmental

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00001

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Ecology & Environment Service Request No.: R1207525  
Project: Davis Howland Oil Co 002700.DC14.02.01.01 Date Received: 11/2/2012  
Sample Matrix: Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD).

Sample Receipt

Nine water samples were received for analysis at Columbia Analytical Services on 11/2/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory. The samples arrived at a cooler temperature of 10.4°C, outside the guidelines of 0-6°C however they were on ice within hours of collection.

General Chemistry Parameters

pH was not performed in the field as recommended by EPA to meet a holding time of "immediate." An "H" flag indicates the problem. pH is a temperature dependent analysis, so the pH and temperature analysis were conducted by the laboratory as soon as possible upon receipt.

No other analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 624

The samples required the compound Acetone to be added to the analyte list. To accomplish this, the samples were analyzed by GC/MS method 624.

2-Chloroethylvinyl ether is degraded by samples preserved to pH<2. The recoveries of this compound may be biased low.

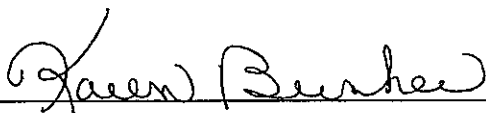
Hits above the calibration range of the standards are flagged as "E". The samples are then repeated at the appropriate level for the hit. Both sets of data are included in the report. Subsequent hits on the diluted sample are flagged as "D".

Laboratory Control Sample (LCS) recoveries were within QC acceptance limits.

All sample vials are checked for preservation after analysis to protect the integrity of the sample. All samples were analyzed within the proper holding time of 14 days for preserved samples. One location was found to be at a pH of >2, unpreserved: 007-P3 (R1207525-007). The sample was analyzed outside of the 7 day holding time for unpreserved vials, initially on the 11<sup>th</sup> day and repeated on the 14<sup>th</sup> day from collection. All CAS vials are certified as preserved. Matrix interference is suspected.

No other analytical or quality control problems were encountered during analysis.

Approved by



Date

11/20/12

00002

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1207525

<u>Lab ID</u>	<u>Client ID</u>
R1207525-001	001 In
R1207525-002	002 Out
R1207525-003	003 In
R1207525-004	004 Out
R1207525-005	005-P1
R1207525-006	006-P2
R1207525-007	007-P3
R1207525-008	008-PW1
R1207525-009	009-PW2

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

00003

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Maine ID #NY0032	New Hampshire ID #
Connecticut ID # PH0556	Nebraska Accredited	294100 A/B
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to <http://alsglobal.com/environmental/laboratories/rochester-environmental-lab.aspx>

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/ 2/12 1430  
 Date Received: 11/ 2/12  
 Date Analyzed: 11/15/12 16:42

Sample Name: 001 In  
 Lab Code: R1207525-001

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111512\M1960.D\

Analysis Lot: 318379  
 Instrument Name: R-MS-05  
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	22	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.2	5.0	
95-50-1	1,2-Dichlorobenzene	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0 U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0 U	5.0	
110-75-8	2-Chloroethyl Vinyl Ether	50 U	50	
67-64-1	Acetone	25 U	25	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-09-2	Methylene Chloride	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
79-01-6	Trichloroethene (TCE)	34	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0 U	5.0	
75-01-4	Vinyl Chloride	54	5.0	
156-59-2	cis-1,2-Dichloroethene	470	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
179601-23-1	m,p-Xylenes	10 U	10	
95-47-6	o-Xylene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1430  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/15/12 16:42

**Sample Name:** 001 In  
**Lab Code:** R1207525-001

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** 1:\ACQUDATA\MSVOA5\DATA\111512\M1960.D\

**Analysis Lot:** 318379  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 5

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	116	79-123	11/15/12 16:42		
4-Bromofluorobenzene	105	79-119	11/15/12 16:42		
Toluene-d8	101	83-120	11/15/12 16:42		

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/ 2/12 1432  
 Date Received: 11/ 2/12  
 Date Analyzed: 11/15/12 15:24

Sample Name: 002 Out  
 Lab Code: R1207525-002

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111512\M1958.D\

Analysis Lot: 318379  
 Instrument Name: R-MS-05  
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	9.1	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
110-75-8	2-Chloroethyl Vinyl Ether	20 U	20	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	13	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	10	2.0	
156-59-2	cis-1,2-Dichloroethene	210	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	4.0 U	4.0	
95-47-6	o-Xylene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1432  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/15/12 15:24

**Sample Name:** 002 Out  
**Lab Code:** R1207525-002

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQU\DATA\MSVOA5\DATA\111512\M1958.D\

**Analysis Lot:** 318379  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 2

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	114	79-123	11/15/12 15:24		
4-Bromofluorobenzene	107	79-119	11/15/12 15:24		
Toluene-d8	104	83-120	11/15/12 15:24		

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 003 In  
**Lab Code:** R1207525-003

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1438  
**Date Received:** 11/ 2/12

**Basis:** NA

## General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.30		pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	18.0		deg C		1	NA	11/5/12 17:15	H

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 004 Out  
**Lab Code:** R1207525-004

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1440  
**Date Received:** 11/ 2/12

**Basis:** NA

## General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	8.00		pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	18.2		deg C		1	NA	11/5/12 17:15	H

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 005-P1  
**Lab Code:** R1207525-005

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1450  
**Date Received:** 11/ 2/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.01		pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	18.1		deg C		1	NA	11/5/12 17:15	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/ 2/12 1450  
 Date Received: 11/ 2/12  
 Date Analyzed: 11/13/12 01:00

Sample Name: 005-P1  
 Lab Code: R1207525-005

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111112\M1908.D\

Analysis Lot: 318045  
 Instrument Name: R-MS-05  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.3		1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	9.4		1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0		1.0	
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10	U	10	
67-64-1	Acetone	5.0	U	5.0	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	17		1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	43		1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	2.4		1.0	
156-59-2	cis-1,2-Dichloroethene	100		1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1450  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/13/12 01:00

**Sample Name:** 005-P1  
**Lab Code:** R1207525-005

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQU\DATA\MS\VOA5\DATA\111112\M1908.D\

**Analysis Lot:** 318045  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	108	79-123	11/13/12 01:00		
4-Bromofluorobenzene	100	79-119	11/13/12 01:00		
Toluene-d8	102	83-120	11/13/12 01:00		

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 006-P2  
**Lab Code:** R1207525-006

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1500  
**Date Received:** 11/ 2/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	6.84		pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	18.0		deg C		1	NA	11/5/12 17:15	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/ 2/12 1500  
 Date Received: 11/ 2/12  
 Date Analyzed: 11/13/12 01:39

Sample Name: 006-P2  
 Lab Code: R1207525-006

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQU\DATA\MSVOA5\DATA\111112\M1909.D\

Analysis Lot: 318045  
 Instrument Name: R-MS-05  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	44	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	210 E	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	19	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
67-64-1	Acetone	5.0 U	5.0	
71-43-2	Benzene	1.7	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	180	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	92	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	300 E	1.0	
156-59-2	cis-1,2-Dichloroethene	640 E	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	21	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1500  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/13/12 01:39

**Sample Name:** 006-P2  
**Lab Code:** R1207525-006

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQU\DATA\MSVOA5\DATA\111112\M1909.D\

**Analysis Lot:** 318045  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	102	79-123	11/13/12 01:39		
4-Bromofluorobenzene	100	79-119	11/13/12 01:39		
Toluene-d8	101	83-120	11/13/12 01:39		

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/ 2/12 1500  
 Date Received: 11/ 2/12  
 Date Analyzed: 11/15/12 18:00

Sample Name: 006-P2  
 Lab Code: R1207525-006  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111512\M1962.D\

Analysis Lot: 318379  
 Instrument Name: R-MS-05  
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	35 D	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	200 D	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	29 D	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
110-75-8	2-Chloroethyl Vinyl Ether	100 U	100	
67-64-1	Acetone	50 U	50	
71-43-2	Benzene	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
75-09-2	Methylene Chloride	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	81 D	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	74 D	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	990 D	10	
156-59-2	cis-1,2-Dichloroethene	1500 D	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	20 U	20	
95-47-6	o-Xylene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	24 D	10	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

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Analytical Report**

**Units:**  $\mu\text{g/L}$   
**Basis:** NA

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 007-P3  
**Lab Code:** R1207525-007

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1510  
**Date Received:** 11/ 2/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.15		pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	17.9		deg C		1	NA	11/5/12 17:15	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/2/12 1510  
**Date Received:** 11/2/12  
**Date Analyzed:** 11/13/12 02:18

**Sample Name:** 007-P3  
**Lab Code:** R1207525-007

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 624  
**Data File Name:** I:\ACQU\DATA\MSVOA5\DATA\111112\M1910.D\

**Analysis Lot:** 318045  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	750	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.2	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	150	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	65	1.0	
95-50-1	1,2-Dichlorobenzene	1.6	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	2.0	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
67-64-1	Acetone	5.0 U	5.0	
71-43-2	Benzene	1.5	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.7	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	12	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1800 E	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	910 E	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	3.7	1.0	
156-59-2	cis-1,2-Dichloroethene	750 E	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	5.9	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Sample Name:** 007-P3  
**Lab Code:** R1207525-007

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1510  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/13/12 02:18

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQU\DATA\MSVOA5\DATA\111112\M1910.D\

**Analysis Lot:** 318045  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	109	79-123	11/13/12 02:18		
4-Bromofluorobenzene	100	79-119	11/13/12 02:18		
Toluene-d8	101	83-120	11/13/12 02:18		

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/2/12 1510  
 Date Received: 11/2/12  
 Date Analyzed: 11/16/12 07:44

Sample Name: 007-P3  
 Lab Code: R1207525-007  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111512\M1983.D\

Analysis Lot: 318698  
 Instrument Name: R-MS-05  
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	830	D	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	U	50	
79-00-5	1,1,2-Trichloroethane	50	U	50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	140	D	50	
75-35-4	1,1-Dichloroethene (1,1-DCE)	50	U	50	
95-50-1	1,2-Dichlorobenzene	50	U	50	
107-06-2	1,2-Dichloroethane	50	U	50	
78-87-5	1,2-Dichloropropane	50	U	50	
541-73-1	1,3-Dichlorobenzene	50	U	50	
106-46-7	1,4-Dichlorobenzene	50	U	50	
110-75-8	2-Chloroethyl Vinyl Ether	500	U	500	
67-64-1	Acetone	250	U	250	
71-43-2	Benzene	50	U	50	
75-27-4	Bromodichloromethane	50	U	50	
75-25-2	Bromoform	50	U	50	
74-83-9	Bromomethane	50	U	50	
56-23-5	Carbon Tetrachloride	50	U	50	
108-90-7	Chlorobenzene	50	U	50	
75-00-3	Chloroethane	50	U	50	
67-66-3	Chloroform	50	U	50	
74-87-3	Chloromethane	50	U	50	
124-48-1	Dibromochloromethane	50	U	50	
75-09-2	Methylene Chloride	50	U	50	
100-41-4	Ethylbenzene	50	U	50	
127-18-4	Tetrachloroethene (PCE)	2100	D	50	
108-88-3	Toluene	50	U	50	
79-01-6	Trichloroethene (TCE)	920	D	50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	50	U	50	
156-59-2	cis-1,2-Dichloroethene	5600	D	50	
10061-01-5	cis-1,3-Dichloropropene	50	U	50	
179601-23-1	m,p-Xylenes	100	U	100	
95-47-6	o-Xylene	50	U	50	
156-60-5	trans-1,2-Dichloroethene	50	U	50	
10061-02-6	trans-1,3-Dichloropropene	50	U	50	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Sample Name:** 007-P3  
**Lab Code:** R1207525-007  
**Run Type:** Dilution

**Service Request:** R1207525  
**Date Collected:** 11/2/12 1510  
**Date Received:** 11/2/12  
**Date Analyzed:** 11/16/12 07:44

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQUADATA\MSVOA5\DATA\111512\M1983.D\

**Analysis Lot:** 318698  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 50

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	104	79-123	11/16/12 07:44		
4-Bromofluorobenzene	103	79-119	11/16/12 07:44		
Toluene-d8	100	83-120	11/16/12 07:44		

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 008-PW1  
**Lab Code:** R1207525-008

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1520  
**Date Received:** 11/ 2/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.20	pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	18.1	deg C		1	NA	11/5/12 17:15	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1520  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/15/12 17:21

**Sample Name:** 008-PW1  
**Lab Code:** R1207525-008

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 624  
**Data File Name:** I:\ACQUDATA\MSVOA5\DATA\111512\M1961.D\

**Analysis Lot:** 318379  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 5

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40		5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	12		5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
110-75-8	2-Chloroethyl Vinyl Ether	50	U	50	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	46		5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	160		5.0	
156-59-2	cis-1,2-Dichloroethene	860		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	10	U	10	
95-47-6	o-Xylene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Now part of the ALS Group  
Analytical Report

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1520  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/15/12 17:21

**Units:**  $\mu\text{g/L}$   
**Basis:** NA

**Analytical Method:** 624  
**Data File Name:** I:\ACQUDATA\MSVOA5\DATA\111512\M1961.D\

Analysis Lot: 318379  
Instrument Name: R-MS-05  
Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	114	79-123	11/15/12 17:21		
4-Bromofluorobenzene	111	79-119	11/15/12 17:21		
Toluene-d8	103	83-120	11/15/12 17:21		

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**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

## Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water  
**Sample Name:** 009-PW2  
**Lab Code:** R1207525-009

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1530  
**Date Received:** 11/ 2/12

**Basis:** NA**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
pH	SM 4500-H+ B	7.15		pH Units		1	NA	11/5/12 17:15	H
Temperature of pH Analysis	SM 4500-H+ B	18.0		deg C		1	NA	11/5/12 17:15	H

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: 11/ 2/12 1530  
 Date Received: 11/ 2/12  
 Date Analyzed: 11/15/12 16:03

Sample Name: 009-PW2  
 Lab Code: R1207525-009

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111512\M1959.D\

Analysis Lot: 318379  
 Instrument Name: R-MS-05  
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.6	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	12	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.7	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
110-75-8	2-Chloroethyl Vinyl Ether	20 U	20	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	4.5	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	19	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	9.2	2.0	
156-59-2	cis-1,2-Dichloroethene	200	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	4.0 U	4.0	
95-47-6	o-Xylene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** 11/ 2/12 1530  
**Date Received:** 11/ 2/12  
**Date Analyzed:** 11/15/12 16:03

**Sample Name:** 009-PW2  
**Lab Code:** R1207525-009

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQU\DATA\MSVOA5\DATA\111512\M1959.D\

**Analysis Lot:** 318379  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 2

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	114	79-123	11/15/12 16:03		
4-Bromofluorobenzene	104	79-119	11/15/12 16:03		
Toluene-d8	102	83-120	11/15/12 16:03		

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 11/12/12 18:28

**Sample Name:** Method Blank  
**Lab Code:** RQ1213908-04

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 624  
**Data File Name:** 1:\ACQUDATA\MSVOA5\DATA\111112\M1898.D\

**Analysis Lot:** 318045  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
67-64-1	Acetone	5.0 U	5.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DCI4.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 11/12/12 18:28

**Sample Name:** Method Blank  
**Lab Code:** RQ1213908-04

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQUDATA\MSVOA5\DATA\111112\M1898.D\

**Analysis Lot:** 318045  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	107	79-123	11/12/12 18:28		
4-Bromofluorobenzene	100	79-119	11/12/12 18:28		
Toluene-d8	103	83-120	11/12/12 18:28		

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 11/15/12 10:51

Sample Name: Method Blank  
 Lab Code: RQ1213994-04

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 624  
 Data File Name: I:\ACQUDATA\MSVOA5\DATA\111512\M1951.D\

Analysis Lot: 318379  
 Instrument Name: R-MS-05  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
67-64-1	Acetone	5.0 U	5.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**Now part of the ALS Group  
Analytical Report**

**Service Request:** R1207525  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 11/15/12 10:51

**Units:**  $\mu\text{g/L}$   
**Basis:** NA

**Analytical Method:** 624  
**Data File Name:** I:\ACQUDATA\MSVOA5\DATA\I11512\M1951.D\

Analysis Lot: 318379  
Instrument Name: R-MS-05  
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	120	79-123	11/15/12 10:51		
4-Bromofluorobenzene	110	79-119	11/15/12 10:51		
Toluene-d8	105	83-120	11/15/12 10:51		

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## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 11/15/12 22:35

**Sample Name:** Method Blank  
**Lab Code:** RQ1214082-04

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 624  
**Data File Name:** I:\ACQUDATA\MSVOA5\DATA\111512\M1969.D\

**Analysis Lot:** 318698  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0 U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0 U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	
95-50-1	1,2-Dichlorobenzene	1.0 U	1.0	
107-06-2	1,2-Dichloroethane	1.0 U	1.0	
78-87-5	1,2-Dichloropropane	1.0 U	1.0	
541-73-1	1,3-Dichlorobenzene	1.0 U	1.0	
106-46-7	1,4-Dichlorobenzene	1.0 U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10 U	10	
67-64-1	Acetone	5.0 U	5.0	
71-43-2	Benzene	1.0 U	1.0	
75-27-4	Bromodichloromethane	1.0 U	1.0	
75-25-2	Bromoform	1.0 U	1.0	
74-83-9	Bromomethane	1.0 U	1.0	
56-23-5	Carbon Tetrachloride	1.0 U	1.0	
108-90-7	Chlorobenzene	1.0 U	1.0	
75-00-3	Chloroethane	1.0 U	1.0	
67-66-3	Chloroform	1.0 U	1.0	
74-87-3	Chloromethane	1.0 U	1.0	
124-48-1	Dibromochloromethane	1.0 U	1.0	
75-09-2	Methylene Chloride	1.0 U	1.0	
100-41-4	Ethylbenzene	1.0 U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0 U	1.0	
108-88-3	Toluene	1.0 U	1.0	
79-01-6	Trichloroethene (TCE)	1.0 U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0 U	1.0	
75-01-4	Vinyl Chloride	1.0 U	1.0	
156-59-2	cis-1,2-Dichloroethene	1.0 U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
95-47-6	o-Xylene	1.0 U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0 U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**Now part of the ALS Group  
Analytical Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 11/15/12 22:35

**Sample Name:** Method Blank  
**Lab Code:** RQ1214082-04

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624  
**Data File Name:** I:\ACQUDATA\MSVOA5\DATA\111512\M1969.D\

**Analysis Lot:** 318698  
**Instrument Name:** R-MS-05  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
<hr/>					
Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
1,2-Dichloroethane-d4	115	79-123	11/15/12 22:35		
4-Bromofluorobenzene	105	79-119	11/15/12 22:35		
Toluene-d8	101	83-120	11/15/12 22:35		

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Analyzed:** 11/12/12

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624**Units:** µg/L**Basis:** NA**Analysis Lot:** 318045

**Lab Control Sample**  
RQ1213908-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	22.8	20.0	114	52 - 162
1,1,2,2-Tetrachloroethane	18.2	20.0	91	46 - 157
1,1,2-Trichloroethane	18.9	20.0	94	52 - 150
1,1-Dichloroethane (1,1-DCA)	24.4	20.0	122	59 - 155
1,1-Dichloroethene (1,1-DCE)	19.7	20.0	98	0 - 234
1,2-Dichlorobenzene	19.5	20.0	98	70 - 130
1,2-Dichloroethane	18.2	20.0	91	49 - 155
1,2-Dichloropropane	20.9	20.0	105	0 - 210
1,3-Dichlorobenzene	21.8	20.0	109	70 - 130
1,4-Dichlorobenzene	19.7	20.0	98	70 - 130
2-Chloroethyl Vinyl Ether	20.2	20.0	101	0 - 305
Acetone	19.1	20.0	95	59 - 136
Benzene	20.5	20.0	102	37 - 151
Bromodichloromethane	20.5	20.0	103	35 - 155
Bromoform	16.5	20.0	83	45 - 169
Bromomethane	19.5	20.0	97	0 - 242
Carbon Tetrachloride	21.1	20.0	105	70 - 140
Chlorobenzene	20.0	20.0	100	37 - 160
Chloroethane	22.4	20.0	112	14 - 230
Chloroform	24.3	20.0	122	51 - 138
Chloromethane	22.4	20.0	112	0 - 273
Dibromochloromethane	19.0	20.0	95	53 - 149
Methylene Chloride	19.8	20.0	99	0 - 221
Ethylbenzene	22.5	20.0	113	37 - 162
Tetrachloroethene (PCE)	22.1	20.0	110	64 - 148
Toluene	21.0	20.0	105	47 - 150
Trichloroethene (TCE)	20.7	20.0	104	71 - 157
Trichlorofluoromethane (CFC 11)	24.4	20.0	122	17 - 181
Vinyl Chloride	21.2	20.0	106	0 - 251
cis-1,2-Dichloroethene	21.3	20.0	107	78 - 122
cis-1,3-Dichloropropene	19.7	20.0	98	0 - 227
m,p-Xylenes	43.6	40.0	109	83 - 122

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525**Date Analyzed:** 11/12/12

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624**Units:** µg/L**Basis:** NA**Analysis Lot:** 318045**Lab Control Sample**

RQ1213908-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	21.4	20.0	107	83 - 119
trans-1,2-Dichloroethene	19.6	20.0	98	54 - 156
trans-1,3-Dichloropropene	19.6	20.0	98	17 - 183

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client: Ecology And Environment, Incorporated  
 Project: Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
 Sample Matrix: Water

Service Request: R1207525

Date Analyzed: 11/15/12

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 624

Units: µg/L

Basis: NA

Analysis Lot: 318379

Lab Control Sample  
 RQ1213994-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	20.7	20.0	103	52 - 162
1,1,2,2-Tetrachloroethane	22.4	20.0	112	46 - 157
1,1,2-Trichloroethane	22.7	20.0	114	52 - 150
1,1-Dichloroethane (1,1-DCA)	21.0	20.0	105	59 - 155
1,1-Dichloroethene (1,1-DCE)	16.0	20.0	80	0 - 234
1,2-Dichlorobenzene	20.5	20.0	102	70 - 130
1,2-Dichloroethane	21.3	20.0	106	49 - 155
1,2-Dichloropropane	22.2	20.0	111	0 - 210
1,3-Dichlorobenzene	21.8	20.0	109	70 - 130
1,4-Dichlorobenzene	19.5	20.0	98	70 - 130
2-Chloroethyl Vinyl Ether	24.0	20.0	120	0 - 305
Acetone	24.2	20.0	121	59 - 136
Benzene	19.5	20.0	97	37 - 151
Bromodichloromethane	23.0	20.0	115	35 - 155
Bromoform	21.5	20.0	108	45 - 169
Bromomethane	15.8	20.0	79	0 - 242
Carbon Tetrachloride	20.8	20.0	104	70 - 140
Chlorobenzene	20.0	20.0	100	37 - 160
Chloroethane	16.9	20.0	85	14 - 230
Chloroform	22.6	20.0	113	51 - 138
Chloromethane	16.4	20.0	82	0 - 273
Dibromochloromethane	23.5	20.0	118	53 - 149
Methylene Chloride	16.9	20.0	84	0 - 221
Ethylbenzene	22.0	20.0	110	37 - 162
Tetrachloroethene (PCE)	21.1	20.0	105	64 - 148
Toluene	19.8	20.0	99	47 - 150
Trichloroethene (TCE)	19.1	20.0	95	71 - 157
Trichlorofluoromethane (CFC 11)	19.9	20.0	99	17 - 181
Vinyl Chloride	15.2	20.0	76	0 - 251
cis-1,2-Dichloroethene	19.0	20.0	95	78 - 122
cis-1,3-Dichloropropene	21.3	20.0	107	0 - 227
m,p-Xylenes	42.0	40.0	105	83 - 122

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525**Date Analyzed:** 11/15/12

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624**Units:** µg/L**Basis:** NA**Analysis Lot:** 318379**Lab Control Sample**

RQ1213994-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	20.6	20.0	103	83 - 119
trans-1,2-Dichloroethene	15.7	20.0	78	54 - 156
trans-1,3-Dichloropropene	23.1	20.0	116	17 - 183

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DCI4.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525  
**Date Analyzed:** 11/15/12

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624**Units:** µg/L**Basis:** NA**Analysis Lot:** 318698

**Lab Control Sample**  
RQ1214082-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	18.1	20.0	91	52 - 162
1,1,2,2-Tetrachloroethane	20.7	20.0	103	46 - 157
1,1,2-Trichloroethane	22.6	20.0	113	52 - 150
1,1-Dichloroethane (1,1-DCA)	19.4	20.0	97	59 - 155
1,1-Dichloroethene (1,1-DCE)	13.3	20.0	67	0 - 234
1,2-Dichlorobenzene	19.3	20.0	96	70 - 130
1,2-Dichloroethane	19.9	20.0	99	49 - 155
1,2-Dichloropropane	20.7	20.0	103	0 - 210
1,3-Dichlorobenzene	20.5	20.0	102	70 - 130
1,4-Dichlorobenzene	18.4	20.0	92	70 - 130
2-Chloroethyl Vinyl Ether	22.9	20.0	114	0 - 305
Acetone	22.3	20.0	111	59 - 136
Benzene	17.6	20.0	88	37 - 151
Bromodichloromethane	21.1	20.0	106	35 - 155
Bromoform	20.7	20.0	103	45 - 169
Bromomethane	12.8	20.0	64	0 - 242
Carbon Tetrachloride	18.3	20.0	92	70 - 140
Chlorobenzene	18.8	20.0	94	37 - 160
Chloroethane	14.6	20.0	73	14 - 230
Chloroform	20.8	20.0	104	51 - 138
Chloromethane	12.3	20.0	62	0 - 273
Dibromochloromethane	21.4	20.0	107	53 - 149
Methylene Chloride	15.5	20.0	77	0 - 221
Ethylbenzene	19.9	20.0	100	37 - 162
Tetrachloroethene (PCE)	18.6	20.0	93	64 - 148
Toluene	18.4	20.0	92	47 - 150
Trichloroethene (TCE)	18.5	20.0	92	71 - 157
Trichlorofluoromethane (CFC 11)	16.6	20.0	83	17 - 181
Vinyl Chloride	12.3	20.0	61	0 - 251
cis-1,2-Dichloroethene	17.6	20.0	88	78 - 122
cis-1,3-Dichloropropene	19.6	20.0	98	0 - 227
m,p-Xylenes	39.1	40.0	98	83 - 122

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** Ecology And Environment, Incorporated  
**Project:** Davis Howland Oil Co Site - 11/2012/ 002700.DC14.02.01.01  
**Sample Matrix:** Water

**Service Request:** R1207525**Date Analyzed:** 11/15/12

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 624**Units:** µg/L**Basis:** NA**Analysis Lot:** 318698**Lab Control Sample**

RQ1214082-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	19.5	20.0	97	83 - 119
trans-1,2-Dichloroethene	13.8	20.0	69	54 - 156
trans-1,3-Dichloropropene	21.1	20.0	105	17 - 183

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
Project Name	Project Number	Project Manager	Report CC	Preservative	1	2	3	4	5
David Howland	002700.DC14.02.01.01	Mike Aloia							
Company/Address	EEPC								
366 Pleasant View Drive									
Lancaster NY 14086									
Phone #	716 684 8060	Email	716 684 0844						
Signature	Michael Crawford								
Sample ID	001 In	DATE	11/2/12	SAMPLING TIME	2:30	MATRIX	W		
	002 Out				2:32				
	003 In				2:38				
	004 Out				2:40				
SPECIAL INSTRUCTIONS/COMMENTS									
Metals									
STATE WHERE SAMPLES WERE COLLECTED									
RELINQUISHED BY	Signature	Printed Name	Firm	DATE/TIME	RELINQUISHED BY	Signature	Printed Name	Firm	DATE/TIME
Michael Crawford	Michael Crawford	EEPC	11/2/12	17:25	Michael Crawford	Michael Crawford	EEPC	11/2/12	17:25
RECEIVED BY	Signature	Printed Name	Firm	DATE/TIME	RECEIVED BY	Signature	Printed Name	Firm	DATE/TIME
David Howland	David Howland	EEPC	11/2/12	17:25	David Howland	David Howland	EEPC	11/2/12	17:25
See QAPP <input type="checkbox"/>									
TURNAROUND REQUIREMENTS									
RUSH (SURCHARGES APPLY)									
1 day 2 day 3 day									
4 day 5 day									
Standard									
REQUESTED REPORT DATE									
REPORT REQUIREMENTS									
I. Results Only									
II. Results + QC Summaries (LCS, DUP, MSMSD as required)									
III. Results + QC and Calibration Summaries									
IV. Data Validation Report with Raw Data									
Edata Yes No									
RECEIVED BY									
Signature									
Printed Name									
Firm									
Date/Time									
INVOICE INFORMATION									
PO #									
BILL TO:									
RECEIVED BY									
Signature									
Printed Name									
Firm									
Date/Time									

**Distribution:** White - Lab Copy; Yellow - Return to Originator

00043



# Cooler Receipt and Preservation Check Form

Project/Client E+E Folder Number R1207525

Cooler received on 11/2/12 by: SW COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
5. Were ~~ice~~ or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 10.4°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 11/2/12 1726

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location R-002 by SW on 11/2/12 at 1730  
5035 samples placed in storage location by on at

PC Secondary Review: SW 11/5/12

Cooler Breakdown: Date: 11/5/12 Time: 1005 0905 by: RP

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK  No = Samples were preserved at lab as listed  PM OK to Adjust:
≥12	NaOH									
≤2	HNO <sub>3</sub>									
≤2	H <sub>2</sub> SO <sub>4</sub>									
<4	NaHSO <sub>4</sub>									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-							
	Zn Aceta	-	-							
	HCl	*	*	<u>1452800244</u>	<u>10/13</u>					

Bottle lot numbers: BD0261237, 2-207-001

Other Comments:

PC Secondary Review: 108 11/20/12

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

H:\SMODOCS\Cooler Receipt 5.doc

00044

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

<b>ProjectID</b>	<b>Lab Work Order</b>
Davis Howland Oil Company Site Semiannual GW-October 2012	R1207074

**Work Orders, Tests and Number of Samples included in this DUSR**

<b>Work Orders</b>	<b>Matrix</b>	<b>Test Method</b>	<b>Method Name</b>	<b>Number of Samples</b>	<b>Sample Type</b>
R1207074	WG	E601-2	Purgeable Halocarbons and Purgeable Aromatics by GC/MS	16	N
R1207074	WG	E601-2	Purgeable Halocarbons and Purgeable Aromatics by GC/MS	1	FD
R1207074	WQ	E601-2	Purgeable Halocarbons and Purgeable Aromatics by GC/MS	1	RB
R1207074	WQ	E601-2	Purgeable Halocarbons and Purgeable Aromatics by GC/MS	4	TB
R1207074	WG	E625	Semivolatile Organic Compounds by GC/MS	16	N
R1207074	WG	E625	Semivolatile Organic Compounds by GC/MS	1	FD
R1207074	WQ	E625	Semivolatile Organic Compounds by GC/MS	1	RB
R1207074	WG	NY 310-13	Petroleum Products in Water (Hydrocarbon Scan)	16	N
R1207074	WG	NY 310-13	Petroleum Products in Water (Hydrocarbon Scan)	1	FD
R1207074	WQ	NY 310-13	Petroleum Products in Water (Hydrocarbon Scan)	1	RB
R1207074	WG	SM 4500-H+B	pH and Temperature	16	N
R1207074	WG	SM 4500-H+B	pH and Temperature	1	FD
R1207074	WQ	SM 4500-H+B	pH and Temperature	1	RB

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

**Table 1 Sample Summary Tables from Electronic Data Deliverable**

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/MSD	ID Corrections
R1207074	WG	MW-3S	R1207074-001	10/16/12			None
R1207074	WG	MW-3R	R1207074-002	10/16/12			None
R1207074	WQ	TB101612	R1207074-003	10/16/12			None
R1207074	WG	MW-16R	R1207074-004	10/16/12			None
R1207074	WG	MW-15R	R1207074-005	10/16/12			None
R1207074	WG	MW-1S	R1207074-006	10/17/12			None
R1207074	WQ	TB101712	R1207074-007	10/17/12			None
R1207074	WG	MW-10R	R1207074-008	10/17/12			None
R1207074	WG	MW-10RQ	R1207074-009	10/17/12			None
R1207074	WG	MW-14S	R1207074-010	10/17/12			None
R1207074	WG	MW-14R	R1207074-011	10/17/12			None
R1207074	WQ	TB101812	R1207074-012	10/18/12			None
R1207074	WG	MW-12S	R1207074-013	10/18/12			None
R1207074	WG	MW-12R	R1207074-014	10/18/12			None
R1207074	WG	MW-2S	R1207074-015	10/18/12	MD	MS/MSD	None
R1207074	WG	MW-2R	R1207074-016	10/18/12			None
R1207074	WG	MW-8R	R1207074-017	10/18/12			None
R1207074	WG	MW-13S	R1207074-018	10/18/12			None
R1207074	WQ	TB101922	R1207074-019	10/19/12			None
R1207074	WG	MW-9S	R1207074-020	10/19/12			None
R1207074	WQ	RB-101912	R1207074-021	10/19/12			None
R1207074	WG	MW-5R	R1207074-022	10/19/12			None

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes. pH/temperature analysis was not requested on the COCs; however they were required and were performed. The MS/MSD was not listed on the COC; however it was required and was performed.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Field duplicate was supplied for sample MW-10R, trip blanks supplied for each cooler/day. One rinsate blank was supplied for the sampling round.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes. The laboratory reported results for “Lube Oil” per method NY 310-13, however, the laboratory stated that the equivalent NYSDEC valid value is “Motor Oils”; therefore the validator renamed the cas_rn and analyte

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

	accordingly in the EDD.
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within holding times. Although pH was analyzed by the laboratory and the required holding time is specified in the procedure as "immediate", the samples were analyzed upon receipt in the laboratory within 24 hours of sampling; therefore the results were not qualified.

Insert Holding time table below.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to [Tables](#) List

<b>Volatile Organics and Semi-volatile Organics by GCMS</b>	
<b>Description</b>	<b>Notes and Qualifiers</b>
Any compounds present in method, trip and field blanks (see Table 2)?	No
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	None
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

<b>Volatile Organics and Semi-volatile Organics by GCMS</b>	
<b>Description</b>	<b>Notes and Qualifiers</b>
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No – For volatile organics analyses, the MS and MSD for 2-Chloroethyl vinyl ether were below criteria. Acid preservation (which was used for these samples) is known to degrade this compound; therefore all sample results are qualified R (all are nondetects). For semivolatile organics analyses, the MS and MSD were below criteria for benzidine (below); benzidine was not detected in any of the samples. Sample results for benzidine are qualified with R because LCS and MS/MSD recoveries are 0%.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – For semivolatile organics analyses, LCS recovery for Benzidine is below criteria at 0%, therefore sample results for benzidine are qualified with R (all are nondetects).
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	N/A
Is initial calibration for target compounds <10 %RSD or curve fit?	No. For volatile organics several compounds in one initial calibration standard were slightly above 10% criteria; however, the remaining initial and continuing calibration criteria were met; therefore no results are qualified on this basis.
Is continuing calibration for target compounds < 20.5%D.	N/A
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes. Several samples were diluted for volatile organics analyses due to high target compound concentration.
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

<b>General Analytical Methods</b>	
<b>Description</b>	<b>Notes and Qualifiers</b>
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	None.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount.	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

<b>Summary of Potential Impacts on Data Usability</b>
<b>Major Concerns</b>
Volatile organics: The use of hydrochloric acid to preserve the samples for VOA analysis caused rejection of 2-chloroethylvinyl ether results. Semivolatile organics: The 0% recovery for benzidine in both the LCS/LCSD and MS/MSD pairs resulted in rejection of the nondetect sample results.
<b>Minor Concerns</b>
None.

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

**Table 2 - List of Positive Results for Blank Samples**

None

**Table 2A - List of Samples Qualified for Method Blank Contamination**

None

**Table 2B - List of Samples Qualified for Field Blank Contamination**

None

**Table 3 - List of Samples with Surrogates outside Control Limits**

None

**Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits**

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
E601-2	MW-2SMS	MS	2-Chloroethyl Vinyl Ether	ND	20.0	0	1	14	186	R
E601-2	MW-2SDMS	MSD	2-Chloroethyl Vinyl Ether	ND	20.0	0	1	14	186	R
E625	MW-2SMS	MS	Benzidine	ND	94.4	0	1	10	144	R
E625	MW-2SDMS	MSD	Benzidine	ND	94.4	0	1	10	144	R

**Table 5 - List LCS Recoveries outside Control Limits**

Method	Sample ID	Analyte	Spike Amount	Rec.	Low Limit	High Limit	Samp Qual
E625	RQ1212499-02	Benzidine	100	0	10	144	R
E625	RQ1212837-02	Benzidine	100	0	10	144	R

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: November 28, 2012</b>	<b>Completed by: J. Z. Christopher</b>

**Table 6 –Samples that were Reanalyzed**

Sample ID	Lab ID	Method	Sample Type	Action
MW-10R	R1207074-008	E601-2	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only
MW-10RQ	R1207074-009	E601-2	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only
MW-16R	R1207074-004	E601-2	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only
MW-2R	R1207074-016	E601-2	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only
MW-3R	R1207074-002	E601-2	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only
MW-8R	R1207074-017	E601-2	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only

**Table 7 – Summary of Field Duplicate Results**

Method	Analyte	Unit	PQL	MW-10R	MW-10RQ	Relative Percent Difference (RPD)	Rating	Samp Qual
E601-2	1,1-DICHLOROETHENE	ug/L	1	15	19	23.5	Good	None
E601-2	CIS-1,2-DICHLOROETHYLENE	ug/L	1	37	39	5.26	Good	None
E601-2	TRICHLOROETHYLENE (TCE)	ug/L	1	1400	1300	7.41	Good	None
SM 4500-H+ B	pH	SU	N/A	7.21	7.17	0.56	Good	None

Key:

A = Analyte

NC = Not Calculated

ND = Not Detected

PQL = Practical Quantitation Limit

RPD = Relative Percent Difference

T = Tentatively Identified Compound

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: December 7, 2012</b>	<b>Completed by: J. Z. Christopher</b>

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

<b>ProjectID</b>	<b>Lab Work Order</b>
Davis Howland Oil Company Site Semiannual GW-October 2012	R1207525

#### Work Orders, Tests and Number of Samples included in this DUSR

<b>Work Orders</b>	<b>Matrix</b>	<b>Test Method</b>	<b>Method Name</b>	<b>Number of Samples</b>	<b>Sample Type</b>
R1207525	WG	E624	Purgeable Aromatics by GC/MS	7	N
R1207525	WG	SM 4500-H+B	pH and Temperature	7	N

**Table 1 Sample Summary Tables from Electronic Data Deliverable**

<b>Work Order</b>	<b>Matrix</b>	<b>Sample ID</b>	<b>Lab ID</b>	<b>Sample Date</b>	<b>Lab QC</b>	<b>MS/MSD</b>	<b>ID Corrections</b>
R1207525	WG	001 IN	R1207525-001	11/2/12			None
R1207525	WG	002 OUT	R1207525-002	11/2/12			None
R1207525	WG	003 IN	R1207525-003	11/2/12			None
R1207525	WG	004 OUT	R1207525-004	11/2/12			None
R1207525	WQ	005-P1	R1207525-005	11/2/12			None
R1207525	WG	006-P2	R1207525-006	11/2/12			None
R1207525	WG	007-P3	R1207525-007	11/2/12			None
R1207525	WG	008-PW1	R1207525-008	11/2/12			None
R1207525	WG	009-PW2	R1207525-009	11/2/12			None

<b>General Sample Information</b>	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	No. The samples arrived at a temperature greater than 10 degrees C; therefore, all detected VOC results are qualified with J and all nondetected results are qualified with UJ.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – No field duplicate, trip blank, or equipment blank was collected for this SDG; however, they were not required.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes.

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: December 7, 2012</b>	<b>Completed by: J. Z. Christopher</b>

Any holding time violations (See table below)?	No - All samples were prepared and analyzed within holding times. Acid preservation (which was used for these samples) is known to degrade 2-Chloroethyl vinyl ether; therefore all sample results for this compound are qualified R (all are nondetects). The pH of one acid -reserved VOC vial for sample 007-P3 was found after analysis to be >2; matrix effect is suspected; however, the second vial (analyzed at dilution) was found to have ph <2 after analysis. Results are qualified J/UJ. Sample pH was analyzed by the laboratory and the required holding time is specified in the procedure as "immediate" (in the field), the samples were stored at 4 deg. C upon receipt at the laboratory and analyzed within three days of sampling; therefore the results were not qualified.
--	--

Insert Holding time table below.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to [Tables](#) List

<b>Volatile Organics by GCMS</b>	
<b>Description</b>	<b>Notes and Qualifiers</b>
Any compounds present in method, trip and field blanks (see Table 2)?	No
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	None
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: December 7, 2012</b>	<b>Completed by: J. Z. Christopher</b>

<b>Volatile Organics by GCMS</b>	
<b>Description</b>	<b>Notes and Qualifiers</b>
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes. MS/MSD for the analytical batch were performed using another client's sample.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	N/A
Is initial calibration for target compounds <10 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes. Four samples were diluted for volatile organics analyses due to high target compound concentration. (Two of those samples were analyzed only with dilution >1X therefore are not included in Table 6.)
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	N/A – No field duplicate samples were required for this SDG.

<b>General Analytical Methods</b>	
<b>Description</b>	<b>Notes and Qualifiers</b>
Any compounds present in method and field blanks as noted on Table 2?	N/A
For samples, if results are <5 times the blank then "U" flag data.	N/A
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	N/A
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount.	N/a
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do field duplicate results show good precision for all compounds (see Table 7)?	N/A – No field duplicate samples were required for this SDG.

<b>Summary of Potential Impacts on Data Usability</b>
<b>Major Concerns</b>
Volatile organics: The use of hydrochloric acid to preserve the samples for VOA analysis caused rejection of 2-chloroethylvinyl ether results. Samples received by the laboratory above 10 degrees C caused qualification of all VOC results J/UJ. One vial of one sample was found to be at pH >2 after VOC analysis; therefore VOC results for that sample are qualified J/UJ.
<b>Minor Concerns</b>
None.

<b>Data Usability Summary Report</b>	<b>Project: Davis Howland Oil Company</b>
<b>Date Completed: December 7, 2012</b>	<b>Completed by: J. Z. Christopher</b>

**Table 2 - List of Positive Results for Blank Samples**

None

**Table 2A - List of Samples Qualified for Method Blank Contamination**

None

**Table 2B - List of Samples Qualified for Field Blank Contamination**

None

**Table 3 - List of Samples with Surrogates outside Control Limits**

None

**Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits**

None

**Table 5 - List LCS Recoveries outside Control Limits**

None

**Table 6 –Samples that were Reanalyzed**

Sample ID	Lab ID	Method	Sample Type	Action
006-P2	R1207525-006	E624	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only
007-P3	R1207525-007	E624	SAMP/DL	Report SAMP results except report DL result for SAMP E flag data only

**Table 7 – Summary of Field Duplicate Results**

None

Key:

A = Analyte

NC = Not Calculated

ND = Not Detected

PQL = Practical Quantitation Limit

RPD = Relative Percent Difference

T = Tentatively Identified Compound

**D**

## **2009 Fact Sheet**

**NEW YORK STATE  
DEPARTMENT OF**



**ENVIRONMENTAL  
CONSERVATION**

**Dear Interested Citizen:**

This Fact Sheet is to inform you about the ongoing activities at the Davis Howland site. If you have any questions or would like more information, please do not hesitate to contact:

**Mr. William Welling**  
**NYSDEC Project Manager**  
625 Broadway, 12<sup>th</sup> Floor  
Albany, N.Y. 12233-7013  
**(518) 402-9638**

or

**Lisa Silvestri**  
**Citizen Participation Specialist**  
NYSDEC - Region 8 Avon  
6274 East Avon-Lima Road  
Avon, NY 14414-9519  
**(585) 226-5326**

For site related health questions, please contact the following New York State Department of Health (NYSDOH) representative:

**Mr. Joseph Crua**  
**Public Health Specialist**  
NYSDOH  
Flanigan Square, 547 River Street  
Troy, NY 12180  
**(518) 402-7860 or**  
**(800) 458-1158, ext. 27860**

# FACT SHEET

## DAVIS HOWLAND OIL CORPORATION

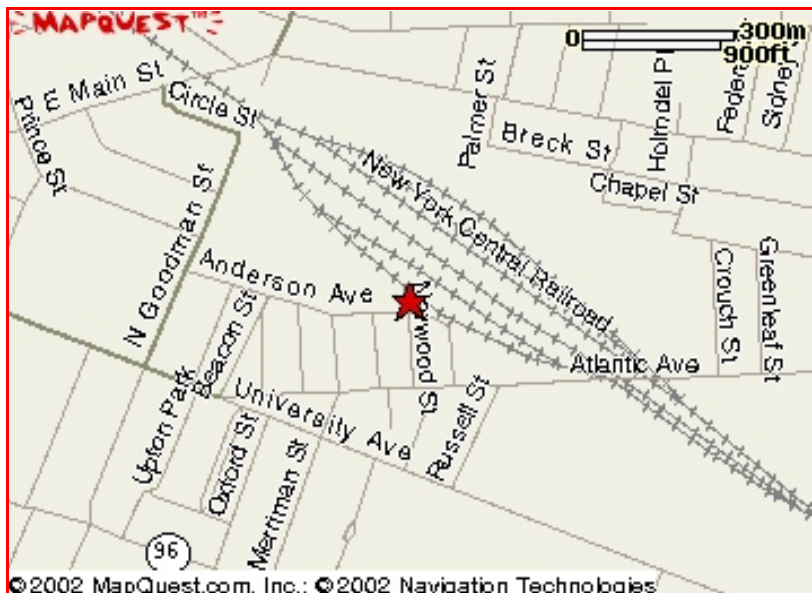
**Update of Cleanup Activities at the  
Davis Howland Oil Corporation Site  
200 Anderson Avenue, Rochester, NY**

**December 2009**

### Introduction:

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) want to update you on the cleanup at the Davis Howland Oil Corporation (Davis Howland) inactive hazardous waste disposal site. The NYSDEC is cleaning up this site as part of its State Superfund Program to investigate and remediate inactive hazardous waste disposal sites throughout New York State. The State implemented the cleanup plan using money from the 1986 Environmental Quality Bond Act.

The Davis Howland Site (site) is located at 200 Anderson Avenue in the City of Rochester (see map below). The cleanup was necessary to address groundwater and soils beneath the site that has been contaminated with chemicals known as volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). VOCs are chemicals that can evaporate easily and contain carbon, such as ingredients in paint thinners and some solvents. SVOCs are less volatile than VOCs, and include some of the chemicals found in petroleum fuels, coal products, and tar. The highest contaminant concentrations in soil and groundwater were in the immediate vicinity of the building. Although residents in the area are served with municipal water, cleanup is proceeding to prevent the potential exposure to chemicals in the soil and groundwater.



**Davis Howland Site Location Map**  
**200 Anderson Avenue, City of Rochester, County of Monroe**

## **Operation and Maintenance:**

As part of current activities at the site, NYSDEC representatives continue to operate and maintain a combined groundwater and soil treatment system that collects and treats contaminated groundwater and soil vapors (air trapped in soil and rock fractures) below the former spill area. The treatment system consists of 47 air injection points (to inject clean air into the ground), 6 soil vapor extraction points (to collect/remove contaminated air from underground), 3 groundwater extraction wells (to collect/remove contaminated groundwater), and 2 bedrock groundwater trench recovery wells (to collect/remove contaminated groundwater).

The remedial treatment system became operational in August 2002 and was monitored and maintained through February 2003 by a remedial construction contractor, the Tyree Organization (Tyree), under NYSDEC supervision. During this time, the treatment system was determined to be satisfactorily removing contamination from the groundwater and soil. In April 2003, the construction contract between the NYSDEC and Tyree was determined to be substantially complete. NYSDEC then contracted the engineering services of Ecology & Environment Engineers (E&E) from Buffalo to restart and operate the treatment system. E&E subsequently subcontracted Niagara Environmental Dynamics, Inc. (NEDI), to restart the treatment system in May 2003 and perform future operation, monitoring, and maintenance responsibilities. Currently, treated water is being sampled, monitored and discharged under permit to the existing Monroe County Department of Environmental Services sewer line along Anderson Avenue. Treated air is being sampled, monitored and discharged in accordance with NYS guidelines. Operation, monitoring, and maintenance will be performed on the system until such time it is determined that continued operation would not result in further significant groundwater and soil contaminant removal.

## **What Happens Next:**

E&E and NEDI are currently under contract to operate and maintain the treatment system until April 2004. Groundwater contaminant levels will continue to be monitored and reported to the NYSDEC and NYSDOH during that time frame. Groundwater samples will be collected periodically to determine contaminant level trends, which are anticipated to decrease over time. Once all of the data have been collected and reviewed, the NYSDEC will evaluate the feasibility to continue operating the treatment system.

## **For More Information:**

The Rochester Public Library (Rundell Branch) has been designated as the local document repository in order to provide you with access to project information. Documents regarding past site investigations, construction, and O&M activities at the Davis Howland site are available for review at:

Rochester Public Library  
Rundell Branch  
115 South Avenue  
Rochester, NY 14604-1896  
Hours: Monday 9am-9pm  
Tuesday & Wednesday 9am-6pm  
Thursday 9am-9pm  
Friday 9am-6pm  
(585) 428-7300

and at:

NYSDEC's Region 8 Avon Office  
6274 East Avon-Lima Road  
Avon, NY 14414  
Hours: Monday - Friday 8:30am - 4:45pm  
For an appointment, contact Lisa Silvestri at  
(585) 226-5326.

The NYSDEC and the NYSDOH will keep you informed throughout the remedial program. Your understanding and involvement in this project will help to ensure an effective remedial program. You are encouraged to contact the people listed on the front of this fact sheet at any time with questions, comments or concerns. Because our mailing list includes property owners of businesses and apartments, we encourage you and the building owners to share this fact sheet with your neighbors and tenants, and/or post this fact sheet in a prominent area of your building for tenants, employees, or visitors to view.