2015
Periodic Review Report
Former Davis-Howland Oil Corporation Site
NYSDEC Site No. 8-28-088
City of Rochester
Monroe County, New York

February 2016

Prepared for:

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

Prepared by:

ECOLOGY AND ENVIRONMENT ENGINEERING, P.C.
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Lancaster, New York 14086

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List of Abbreviations and Acronyms

ALTA	American Land Title Association
AS	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
EEEPC	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
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

List of Abbreviations and Acronyms (cont.)

Popli	Popli Design Group
QA/QC	quality assurance/quality control
RI	remedial investigation
ROD	record of decision
RSO	Remedial Site Optimization
SMP	Site Management Plan
SOW	scope of work
SVE	soil vapor extraction
SVOC	semivolatile organic compound
TCA	trichloroethane
TCE	trichloroethene
TPH	total petroleum hydrocarbon
VOC	volatile organic compound

Enclosure 1

Engineering Controls – Engineering Standby Contractor Certification Form

Former Davis-Howland Oil Corporation Site
NYSDEC Site No. 8-28-088

Enclosure 1
Engineering Controls - Standby Consultant/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: 0.2

Reporting Period: December 31, 2014 to December 31, 2015

	YES	NO
1. Is the information above correct?	☒	☐
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?	☐	☒
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
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?	☐	☒
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?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

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.

Signature of Standby Consultant/Contractor Date

SITE NO. 828088 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
106.84-1-6	Samille, Inc., Lawrence R. Klepper	Monitoring Plan Site Management Plan O&M Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction IC/EC Plan

An Environmental Notice was filed with Monroe County clerk on 8/15/2013 in Book 11290, pages 171-176 as miscellaneous record. The Controls requires:

No disturbance that threatens the integrity of the Engineering controls, no disturbance of the engineering controls, adherence to the Site Management Plan, allowance of access by the NYSDEC, land use is to be used for industrial use only, and no groundwater water is to be used for drinking water unless properly treated.

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.

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.

Box 5

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 compete.

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.

_____ _____

Signature of Standby Consultant/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 Thomas R. Heins at Ecology and Environment Engineering, P.C.
print name

368 Pleasant View Drive

Lancaster, NY 14086,
(print business address)

am certifying as a Professional Engineer.

Thomas Heins 1/29/16

Signature of Professional Engineer | Stamp (Required for PE) | Date

STATE OF NEW YORK
THOMAS R. HEINS
No. 65443
LICENSED PROFESSIONAL ENGINEER

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 calendar year 2015. This PRR also provides information concerning the institutional and engineering 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 *Site Management Plan, Former Davis-Howland Oil Corporation Site, NYSDEC Site No. 8-28-088* (EEEPC 2014a).

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 to process and recycle waste oil, grease, and other lubricants. In 1994, DHOC closed and all manufacturing and product-processing operations ceased.

Between 1974 and the early 1990s, the New York State Department of Environmental Conservation (NYSDEC) received reports of releases of materials at the Site, including 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 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.

Remedial actions have been performed and remedial systems have been installed at the Site, specifically at the parcel located at 192 through 200 Anderson Avenue, the adjacent parcels at 190 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 survey of the properties associated with the Site was performed in 2012 and is presented in Appendix A.

The approximately 1.5-acre Site is located in an area that includes residences and 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

The 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 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. The collection piping consists of lateral collection slot-drains (primarily 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 bedrock 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. P-1 was shut down indefinitely in November 2013 following recommendations in the 2012 PRR. All four active pumping wells pump groundwater to the treatment trailer for processing. All of 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 volatizes the VOCs in the groundwater. The air discharged from the air stripper is vented 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 to groundwater under the paved AS/SVE area on a weekly basis.

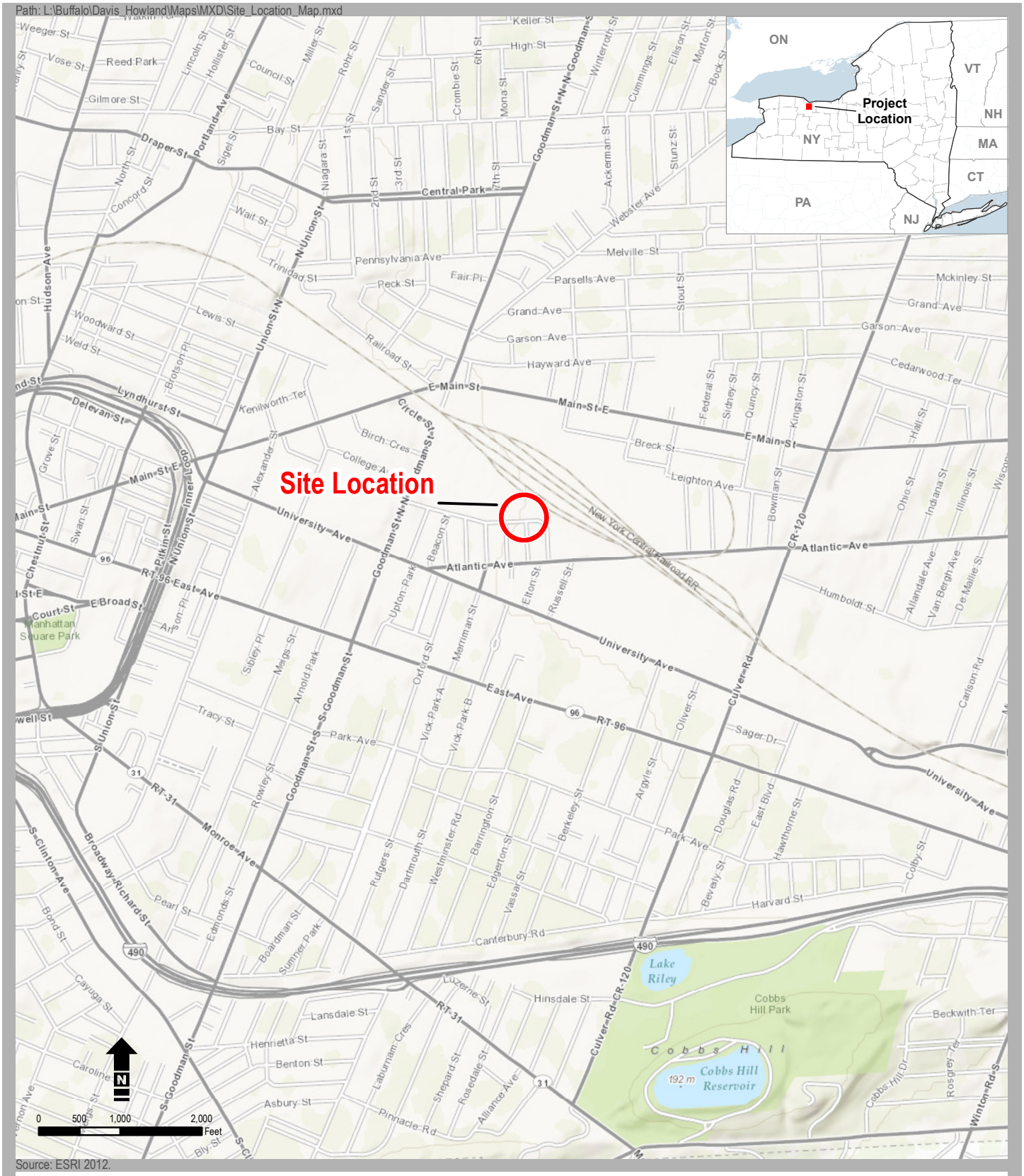

Figure 1-1
Site Location Map
Former Davis-Howland Oil Corporation
Rochester, NY

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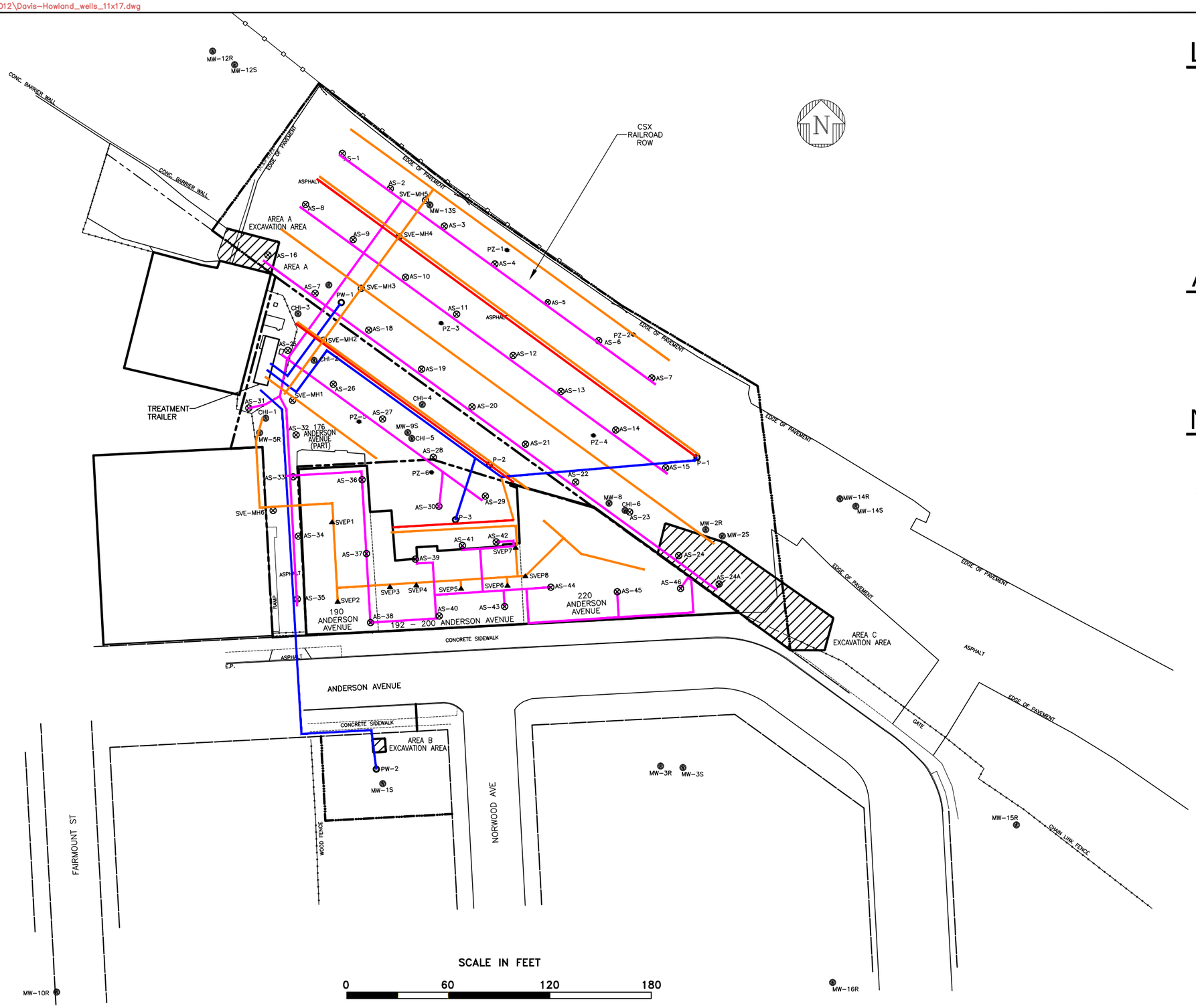


LEGEND

- MONITORING WELL
- PIEZOMETER
- PUMPING WELL
- AIR SPARGE POINT
- SOIL VAPOR EXTRACTION POINT
- SHALLOW GW PUMPING WELL COLLECTION TRENCH
- SOIL VAPOR EXTRACTION COLLECTION TRENCH/LINE
- PUMPING WELL LINES
- AIR SPARGE LINES

ABBREVIATIONS

AS	AIR SPARGE
CH	CLEAN HARBOR
MH	MANHOLE
MW	MONITORING WELL
PART	PARTIAL
PZ	PIEZOMETER
SVE	SOIL VAPOR EXTRACTION

NOTES

1. PIEZOMETERS, MONITORING WELLS, BUILDINGS AND PROPERTY LINES ARE BASED ON A SURVEY BY POPLI DESIGN GROUP, ARCHITECTURE AND ENGINEERING P.C. DATED DEC 7, 2012.
2. PUMPING WELL LINES, SOIL VAPOR EXTRACTION LINES AND AIR SPARGE LINES BASED ON AS-BUILT DRAWINGS BY ECOLOGY AND ENVIRONMENT P.C DATED NOVEMBER 2006.
3. STREET LOCATIONS ARE APPROXIMATE.

ecology and environment engineering p.c.

FIGURE 1-2 SITE PLAN
FORMER DAVIS HOWLAND OIL CORPORATION SITE
MONROE COUNTY, ROCHESTER, NY

2 Remedial Systems Compliance

2.1 Groundwater Treatment

Treated groundwater is discharged from the Site to the Monroe County combined storm and sanitary sewer system under Monroe County Sewer Use Permit No. 864, effective from May 29, 2013, through May 29, 2016. This permit will need to be renewed in 2016 to continue system operation and groundwater treatment. Table 2-1 presents the permit criteria currently in place.

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

Parameter	Analytical Method	Permit Criterion
Effluent flow (average discharge); based on effluent meter	–	Not to exceed 28 gpm
Acetone	40 CFR 136-625	Monitor only
pH (s.u.)	MCAWW 150.1	5.0 to 12.0
Purgeable halocarbons	40 CFR 136-625	The analytical summation of this group of contaminants shall not exceed 2.13 ppm in the effluent discharge.
Purgeable aromatics		

Key:
CFR = Code of Federal Regulations
gpm = gallons per minute
MCAWW = (U.S. Environmental Protection Agency) Methods for Chemical Analysis of Water and Wastes
ppm = parts per million
s.u. = standard units

In 2015, the analytical results for 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 accordance with the Final Site Management Plan (SMP; EEEPC 2014a), soil vapors from the AS/SVE system are monitored when requested by the NYSDEC. No air monitoring was completed in 2015.

3 Evaluation of Site Institutional and Engineering Controls

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 (RODs) issued for the Site. Programmatically, the ICs that are necessary to provide for the effectiveness of this phase of the remedial action include an SMP and deed restrictions/environmental notices. The following are currently listed as ICs for the Site on Enclosure 1 – Institutional Controls – Standby Consultant/Contractor Certification Form included with this report:

- SMP
- Soils Management Plan
- Monitoring Plan
- O&M Plan
- Ground Water Use Restriction
- Land Use Restriction
- IC/EC Plan

The current SMP (EEEPC 2014a) includes a soils management plan, monitoring plan, and O&M plan.

An environmental notice was filed and recorded with the Monroe County Clerk on August 15, 2013, in Book 11290, pages 171-176, as a record that informs future owners of development restrictions on the property due to environmental concerns. The ICs require that there be no disturbance that threatens the integrity of the ECs, no disturbance of the ECs, adherence to the SMP, allowance of access by NYSDEC, that land be used for industrial use only, and that no groundwater is to be used for drinking water unless properly treated. A copy of the environmental notice for the Site is provided in Appendix D of the SMP.

The ICs at the Site restrict disturbance of residual contaminated material. Current and future Site owners are required to perform soil characterization and disposal/reuse activities in accordance with NYSDEC regulations if residual contaminated soil is disturbed or excavated.

3.2 Engineering Controls

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

- A groundwater treatment system consisting of monitoring wells, bedrock groundwater pumping wells, and an air stripper;
- An 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.

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 pumping wells P-2 and P-3 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 on soils beneath and near the buildings located at 190 through 220 Anderson Avenue.

Operational changes were implemented in November 2013 as a result of recommendations made in the 2012 PRR. These changes included turning off overburden pumping well P-1. There have been no other changes to ECs at the Site.

4 Evaluation of Remedial Treatment Operations

4.1 System Operational Uptime in 2015

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 failures affect operations of the remedial treatment systems. To limit downtime, the systems have 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 2015 the groundwater treatment system operated 7,416 hours out of a possible 8,760 hours, for an uptime operation of approximately 85%. The downtime for the treatment system was due to the pulse pumping evaluations completed as part of the Remedial Site Optimization (RSO) Scope of Work (SOW). The bedrock and overburden groundwater extraction wells were pulsed on a monthly basis for four months. Pumping wells were shut down on August 13, 2015, and remained off until September 14, 2015, when they were put back into operation. The wells were again shut down on October 15, 2015, and were put back into operation on November 19, 2015. The wells then continued to operate for the remainder of the year. Table 4-1 provides details on the monthly operation of the groundwater treatment system.

The AS/SVE system operated for 6,060 hours out of a possible 8,760 hours, for an uptime of approximately 69%. The downtime for the AS/SVE system was due to malfunctions with the air compressor, blower, and blower motor. Repairs to the air compressor were made in June 2015, the blower was serviced in July 2015, and the blower motor was replaced in August 2015. During this time, minimal operation of the AS/SVE system occurred. Following completion of these repairs and replacement of equipment, the system operated at 100% uptime for the remainder of the year.

Table 4-1 Former Davis-Howland Oil Corporation Site Groundwater Treatment System Uptime in 2015

Reporting Period	Reporting Hours/ Maximum Hours	Operational Uptime (%)
December 29, 2014 to January 30, 2015	768/768	100%
January 30, 2015 to February 27, 2015	672/672	100%
February 27, 2015 to March 26, 2015	648/648	100%
March 26, 2015 to April 30, 2015	840/840	100%
April 30, 2015 to May 28, 2015	672/672	100%
May 28, 2015 to June 25, 2015	672/672	100%
June 25, 2015 to July 31, 2015	864/864	100%
July 31, 2015 to August 26, 2015	312/624	50%
August 26, 2015 to September 23, 2015	480/672	71%
September 23, 2015 to October 29, 2015	528/864	61%
October 29, 2015 to November 24, 2015	120/624	19%
November 24, 2015 to December 29, 2015	840/840	100%
Total Hours of Operation in 2015	**7,416/8,760**	**85%**

Additional details are presented in the monthly OM&M reports (EEEPC 2015a through 2015l).

4.2 Groundwater Processed and Discharged through the Remedial Treatment System in 2015

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 632,100 gallons of treated groundwater to the Monroe County sanitary sewer system from December 29, 2014, to December 29, 2015 (see Table 4-2). The 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, RSO evaluations, and equipment efficiency and maintenance requirements.

The average flow rate while the system was in operation was approximately 1.42 gallons per minute.

Table 4-2 Groundwater Processed and Discharged by the Groundwater Treatment System in 2015

Month	Actual Period	Gallons Treated
January 2015	December 29, 2014, to January 30, 2015	56,700
February 2015	January 30, 2015, to February 27, 2015	29,700
March 2015	February 27, 2015, to March 26, 2015	68,400
April 2015	March 26, 2015, to April 30, 2015	141,600
May 2015	April 30, 2015, to May 28, 2015	64,200
June 2015	May 28, 2015, to June 25, 2015	52,700
July 2015	June 25, 2015, to July 31, 2015	66,400
August 2015	July 31, 2015, to August 26, 2015	21,500
September 2015	August 26, 2015, to September 23, 2015	24,900
October 2015	September 23, 2015, to October 29, 2015	36,600
November 2015	October 29, 2015, to November 24, 2015	15,000
December 2015	November 24, 2015, to December 29, 2015	54,400
	Total Gallons Treated in 2015	**632,100**

4.3 Volatile Organic Compounds Removed from Groundwater in 2015 (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 December 29, 2014, to December 29, 2015, approximately 2.89 pounds of VOCs were removed from the groundwater by the air stripper system in 2015 (see Table 4-3). Total VOCs removed from the Site also include 0.7 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 3.59 pounds of VOCs were removed from the Site by the groundwater pumping and treatment system during 2015. Additional VOC results are presented in the monthly OM&M reports (EEEPC 2015a through 2015l).

Table 4-3 VOCs Removed by the Former Davis-Howland Oil Corporation Site Groundwater Treatment System in 2015

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 2015	12/29/14 to 1/30/15	385	103	73%	0.13	0.18
February 2015	1/30/15 to 2/27/15	882	76	91%	0.20	0.22
March 2015	2/27/15 to 3/26/15	1,052	52	95%	0.57	0.60
April 2015	3/26/15 to 4/30/15	565	208	63%	0.42	0.67
May 2015	4/30/15 to 5/28/15	353	56	84%	0.16	0.19
June 2015	5/28/15 to 6/25/15	294	70	76%	0.10	0.13
July 2015	6/25/15 to 7/31/15	256	61	76%	0.11	0.14
August 2015	7/31/15 to 8/26/15	485	47	90%	0.08	0.09
September 2015	8/26/15 to 9/23/15	1,972	838	58%	0.24	0.41
October 2015	9/23/15 to 10/29/15	832	55	93%	0.24	0.25
November 2015	10/29/15 to 11/24/15	1,293	221	83%	0.13	0.16
December 2015	11/24/15 to 12/29/15	1,207	81	93%	0.51	0.55
				Total	**2.89**	**3.59**

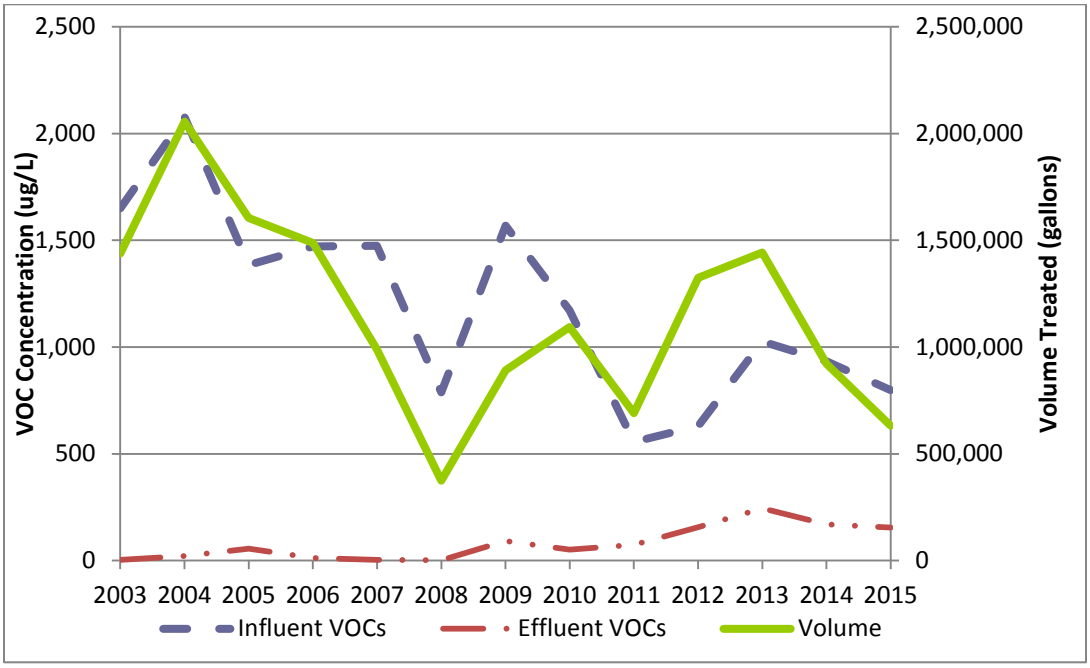
Key:
µg/L = Micrograms per liter.
VOC = Volatile organic compound.

Figure 4-1 shows the historical treatment trend for the DHOC Site from 2003 through 2015. 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. Effluent concentrations from the groundwater treatment system have been increasing since 2011, but continue to remain under the sewer permit discharge limit. The effectiveness of the air stripper and the procedures for cleaning air stripper will be evaluated in 2016. The current contaminant composition of the groundwater being treated will be compared to the historical composition as part of the RSO.

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 wellhead to the treatment system trailer. This obstruction was cleared in spring 2012, and a regular cleaning/maintenance program for this line has been implemented. The line was cleaned again in November 2013, August 2014, March 2015, and October 2015. Pump P-1 was shut down indefinitely in November 2013 as was recommended in the 2012 PRR for the Site (EEEPC 2013). The decrease in volume in 2015 was a result of the pulse pumping evaluation completed as part of the RSO work plan. All groundwater pumps were offline for a total of two months between August and November 2015.

4.4 Groundwater Treatment - 2015

The effluent from the remedial treatment system met the discharge permit requirements (see Appendix B) for each month of 2015. 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.



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, 2003-2015

Table 4-4 2015 Monthly Compliance Results for Treated Groundwater Effluent, Former Davis-Howland Oil Corporation Site

Month	Average Effluent (gpm)	pH (s.u.)	Purgeable Halocarbons and Purgeable Aromatics (ppm)	Permit Compliance
Discharge Permit Limits	**28**	**5.0-12.0**	**2.13**	
January	1.23	7.93	0.10	Yes
February	0.74	8.31	0.08	Yes
March	1.76	7.80	0.05	Yes
April	2.81	8.06	0.21	Yes
May	2.81	8.19	0.06	Yes
June	1.31	8.10	0.07	Yes
July	1.28	8.25	0.06	Yes
August	0.57	8.03	0.05	Yes

Table 4-4 2015 Monthly Compliance Results for Treated Groundwater Effluent, Former Davis-Howland Oil Corporation Site

Month	Average Effluent (gpm)	pH (s.u.)	Purgeable Halocarbons and Purgeable Aromatics (ppm)	Permit Compliance
September	0.86	7.56	0.84	Yes
October	1.16	8.32	0.05	Yes
November	2.08	7.58	0.22	Yes
December	2.70	8.08	0.08	Yes

Key:
gpm = gallons per minute
s.u. = standard units
ppm = parts per million

5 General Status of Remedial Treatment Equipment

In 2015, OM&M of the DHOC Site remedial treatment system was performed on a weekly basis by EEEPC's OM&M subcontractor, Popli Design Group (Popli). In the event of a major component malfunction (resulting in a component shut-down) or treatment 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 subsequently developed. Upon acceptance by NYSDEC, the corrective action is initiated.

Analytical services for the Site are provided by ALS Environmental. 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
AS/SVE System	NA	X	As requested by NYSDEC

Key:
NA = Not applicable.

5.1 Remedial Treatment System Equipment Condition, Replacement, and Repairs in 2015

The main components of the remedial treatment system, including the chemical sequestering system, equalization tank, 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 well network remains in working condition, with the exception of P-1, which was shut down in November 2013 following recommendations in the 2012 PRR. Following shut down of P-1, all associated pumping equipment was removed from the well.

Items that have had significant maintenance requirements over the last few years have been the pumps and the flow meters/flow sensors for the groundwater pumping system, the air sparge compressor, the AS/SVE flow sensor/pressure gauge/control valve assemblies, and electronic control components. These components have been in operation for over 10 years and are subject to harsh conditions. The following non-regular maintenance activities were performed in 2015.

- The flow meter for PW-1 was cleaned on March 12, 2015.
- During troubleshooting of the SVE system in April 2015, the compressor for the air sparge system was found to be malfunctioning. The unit was disconnected and delivered to D&W Industrial for service on April 17, 2015. The compressor was re-installed on May 13, 2015, and the system has continued to function normally.
- During the inspection on June 19, 2015, the SVE blower was malfunctioning. The SVE blower was removed on June 22, 2015, and sent to D&W Industrial for repair. The repaired SVE blower was reinstalled on July 15, 2015. Following restarting of the system, the SVE motor also was found to be not functioning properly. The SVE motor was removed on July 20, 2015, and brought to D&W Industrial for evaluation. D&W Industrial determined that the motor needed new bearings and new copper winding. Parts and labor to repair the motor would have been more expensive than purchasing a new motor, so a new SVE motor was purchased and installed on August 20, 2015. The AS/SVE system has been operating properly since the new motor was installed.
- The high level float in the EQ Tank was replaced on July 9, 2015.
- PW-1 was operating below the normal flow rate and was cleaned in March and October 2015.
- Sampling point SVE-8 was damaged in October 2015. The piping and associated fittings were repaired in November 2015.

Other issues regarding operations include shallow groundwater depths measured by piezometers associated with pumping well P-1. Following the indefinite shutdown of pumping well P-1 on November 15, 2013, the groundwater levels measured from piezometers PZ-1 and PZ-2 in 2015 (located near the edge of pavement on the northern portion of the CSX right-of-way) continue to indicate a groundwater depth of less than 4 feet below ground surface. In accordance with the SMP, the depth to groundwater in areas of active air sparging and soil vapor extraction must be maintained at 4 feet below ground surface to prevent the groundwater from interfering with the collection of soil vapors. However, the AS/SVE portion of the remedial treatment system in the area of PZ-1 and PZ-2 has been shutdown in order to focus the VOC vapor extraction process under the on-site buildings; therefore, it is no longer necessary to maintain a minimum groundwater depth of 4 feet below ground surface in this area.

5.2 Groundwater Monitoring Well Network Inspection

Between October 9 and 16, 2015, EEEPC conducted inspections of overburden and bedrock groundwater monitoring wells. The purpose of these inspections was to document the physical condition of the wells and 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; however, three monitoring wells (MW-3S, MW-3R, and MW-15R) have damaged curb boxes and are in need of minor repairs. A summary of the monitoring well inspection findings is presented in Table 5-2.

Table 5-2 Summary of October 2015 Well Inspection, Former Davis-Howland Oil Corporation Site

Well Identification	Date Inspected	Well Casing ID (inches)	Inspection Observations
CHI-1	10/9/2015	2	
CHI-6	10/9/2015	2	
MW-1S	10/14/2015	2	
MW-2S	10/14/2015	2	
MW-3S	10/15/2015	2	Needs new curb box
MW-9S	10/13/2015	2	
MW-12S	10/9/2015	2	
MW-13S	10/9/2015	2	
MW-14S	10/13/2015	2	
MW-2R	10/14/2015	4	
MW-3R	10/15/2015	2	Needs new bolts
MW-5R	10/14/2015	4	
MW-8R	10/13/2015	4	
MW-10R	10/16/2015	4	
MW-12R	10/9/2015	4	
MW-14R	10/13/2015	4	
MW-15R	10/15/2015	4	Needs new curb box
MW-16R	10/15/2015	4	

Table 5-2 Summary of October 2015 Well Inspection, Former Davis-Howland Oil Corporation Site

Well Identification	Date Inspected	Well Casing ID (inches)	Inspection Observations
PZ-1	10/16/2015	1	
PZ-2	10/16/2015	1	
PZ-3	10/16/2015	1	
PZ-4	10/16/2015	1	

Key:
ID = inner diameter

6 2015 Groundwater Sampling Event Summary

This section discusses the groundwater monitoring activities performed at the Site in October 2015 and compares the results to historical data. Field activities were conducted according to the Groundwater Monitoring and Long-term Well Sampling Procedures included as Appendix J of the Final SMP (EEEPC 2014a). Sampling locations are identified on Figure 1-2. An addendum to the existing EEEPC Site-Specific Health and Safety Plan was prepared and is included as Appendix K of the SMP.

6.1 Field Activities

6.1.1 Monitoring Well Sampling

Groundwater samples were collected from 16 monitoring wells, four piezometers, and four extraction wells at the Site from October 9 through 16, 2015. Samples could not be collected from monitoring wells CHI-1 and CHI-6 because they were dry. Pumping well P-1 was shutdown indefinitely in November 2013, and all pumping components were removed from the well. This well was not sampled as part of the annual sampling event. Water levels were not measured in pumping wells P-2, P-3, PW-1, and PW-2; the average groundwater elevation in these wells is determined based on pumping levels. Non-dedicated sampling equipment was decontaminated in accordance with the Groundwater Monitoring and Long-term Well Sampling Procedures included as Appendix J of the SMP. Purge and decontamination water were handled according to procedures outlined in Section 6.1.3.

Prior to purging, static water levels were measured to the nearest 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, and the suffix "S" denotes a monitoring well that is screened in the shallow overburden groundwater zone.

Table 6-1 October 2015 Groundwater Elevations, Former Davis-Howland Oil Corporation Site

Well ID	Measurement Date	Measured Total Depth (feet TOIC)	Ground Elevation (feet amsl)	TOIC Elevation (feet amsl)	Depth to Water (feet TOIC)	Groundwater Elevation (feet amsl)
Shallow Overburden Wells						
CHI-1	10/9/2015	5.61	498.54	498.19	Dry	< 493.6
CHI-6	10/9/2015	8.08	496.61	497.77	Dry	< 489.8
MW-1S	10/14/2015	17.75	500.23	499.72	12.9	486.82
MW-2S	10/14/2015	14.01	496.03	497.48	5.65	491.83
MW-3S	10/15/2015	17.1	497.97	497.46	8.39	489.07
MW-9S	10/13/2015	15.91	497.94	498.01	7.26	490.75
MW-12S	10/9/2015	14.67	495.78	495.33	2.42	492.91
MW-13S	10/9/2015	13.75	496.24	496.95	3.35	493.6
MW-14S	10/13/2015	12.95	495.48	495.16	2.79	492.37
PZ-1	10/16/2015	12.22	497.21	496.92	3.29	493.63
PZ-2	10/16/2015	12.5	497.13	496.87	3.43	493.44
PZ-3	10/16/2015	13.5	497.87	497.56	5.64	491.92
PZ-4	10/16/2015	11.53	497.76	497.22	4.5	492.72
PZ-5	10/15/2015	12.07	498.41	497.8	6.80	491
PZ-6	10/15/2015	11.52	499.21	498.72	8.10	490.62
P-2	10/9/2015	--	--	495.93	--	486.78[1]
P-3	10/9/2015	--	--	496.80	--	488.83[1]
Deep Bedrock Wells						
MW-2R	10/14/2015	26.09	496.14	497.54	16.45	481.09
MW-3R	10/15/2015	38.09	498.16	497.74	16.77	480.97
MW-5R	10/14/2015	34.75	501.32	498.23	14.17	484.06
MW-8R	10/13/2015	36.65	499.63	497.64	16.31	481.33
MW-10R	10/16/2015	35.51	497.89	497.44	17.48	479.96
MW-12R	10/9/2015	32	496.86	495.42	19	476.42
MW-14R	10/13/2015	33.98	495.6	495.18	5.95	489.23
MW-15R	10/15/2015	30.34	494.68	494.14	15.26	478.88
MW-16R	10/15/2015	31.19	493.48	493.04	19.34	473.7
PW-1	10/9/2015	--	--	494.41	--	472.38[1]
PW-2	10/9/2015	--	--	496.92	--	470.54[1]

[1] Represents average groundwater elevation in pumping well.

Key:
amsl = Above mean sea level.
MW = Monitoring well.
TOIC = Top of inner casing.
-- = Data not applicable or not obtained for these wells.

Monitoring well purging was completed using a submersible pump with new polyethylene tubing or disposable polyethylene bailers on new polypropylene line. For the four pumping wells that were sampled, the pumps were active at the time of sampling, and grab samples were collected directly from sample ports before treatment. Measurements of temperature, pH, conductivity, turbidity, and oxidation-reduction potential (ORP) were recorded throughout the well-purging process and immediately prior to sampling. The final water quality measurements are presented in Table 6-2. Except as noted, purging was continued at each well until the groundwater quality parameters were stable and/or a minimum of three well volumes of water had been purged from the well. The only exception included MW-16R, which was purged dry and sampled after sufficient recharge had occurred. Appendix C presents copies of the monitoring well purge and sample records for the October 2015 sampling event.

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

Well ID	Sample Date	pH (s.u.)	Temperature (°C)	ORP (mV)	Conductivity (µS/cm)	Unfiltered Turbidity (NTU)
Overburden Wells						
MW-1S	10/14/2015	7.21	12.9	41.0	1,072	2.19
MW-2S	10/14/2015	6.60	18.0	-25.9	1,720	0.80
MW-3S	10/15/2015	6.88	18.7	79.5	840.0	10.9
MW-9S	10/13/2015	7.31	17.7	93.0	761.2	4.46
MW-12S	10/9/2015	6.70	18.1	156	1,020	1.85
MW-13S	10/9/2015	7.04	19.6	79.8	0.65	4.21
MW-14S	10/13/2015	6.76	19.0	49.0	590.0	5.17
Bedrock Wells						
MW-2R	10/14/2015	7.15	16.1	-147	1,790	7.02
MW-3R	10/15/2015	7.36	14.2	-104	1,460	3.29
MW-5R	10/14/2015	7.46	11.9	-76.0	1,099	1.16
MW-8R	10/13/2015	7.04	14.5	-99.6	1,770	0.54
MW-10R	10/16/2015	7.15	13.7	65.3	980.0	1.25
MW-12R	10/9/2015	7.06	14.7	26.0	830.0	1.31
MW-14R	10/13/2015	7.20	15.2	-59.1	980.0	4.80
MW-15R	10/15/2015	6.97	14.4	20.1	930.0	3.00
MW-16R	10/15/2015	7.62	15.1	-121	813.2	36.2
PZ-1	10/16/2015	7.54	15.5	-60.0	538.7	9.69
PZ-2	10/16/2015	7.69	16.2	-1.0	729.7	44.6
PZ-3	10/16/2015	6.98	16.9	-6.0	1796	4.49
PZ-4	10/16/2015	7.80	16.3	-27.0	466.9	14.2

Key:
°C = Degrees Celsius.
µS/cm = Microsiemens per centimeter.
NTU = Nephelometric turbidity unit.
s.u. = Standard units.

Upon collection, samples were labeled and immediately placed in a cooler maintained with ice at approximately 4°C. The samples were delivered directly to the laboratory by the EEEPC field team with chain-of-custody documents. Groundwater samples were submitted to the ALS Environmental laboratory in Rochester, New York, for VOC analysis by United States Environmental Protection Agency (EPA) Method 624, SVOCs by EPA Method 625, and petroleum product identification by Method NY310-13.

6.1.2 Quality Assurance/Quality Control Review

In addition to the normal field samples, quality assurance/quality control (QA/QC) samples were collected. Trip blanks accompanied each 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. Sample portions for VOCs collected on a single day were transported in the same cooler. To check consistency in sample collection, one duplicate sample was collected from monitoring well MW-9S. The sample consisted of aliquots of sample media placed in separate sample containers and labeled as separate samples (MW-9S-OCT15 and MW-9S-OCT15Q). Additionally, extra volume for matrix spike/matrix spike duplicate (MS/MSD) analyses was collected from monitoring well MW-12R 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. Field duplicates and MS/MSD samples are typically collected at a rate of one per 20 field samples per the Master Quality Assurance Project Plan (EEEPC 2011). For this event, one duplicate sample and one MS/MSD sample were collected for 24 wells. This collection rate is considered acceptable with no impact on data usability due to the routine nature of this sampling.

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. Concerns identified during the data review include the following:

- A rinsate blank was not collected during the sampling event. The sampling protocol specifies for a rinsate blank to be collected to determine whether contamination is present from non-dedicated equipment. Therefore, potential carry over could not be assessed, but based on results from prior sampling events, this is not expected to affect data quality;
- Benzidine results were rejected due to the analyte being recovered in the laboratory control sample/laboratory control sample duplicate and the MS/MSD at 0%. The analyte was not detected in the samples and is not a contaminant of concern; and
- Fuel Oil No. 2 was recovered below criteria in the MS/MSD of sample MW-12R-OCT15. The sample results were non-detect and qualified "UJ" as estimated non-detections.

6.1.3 Investigation-Derived Waste Management

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 placed into the equalization tank of the on-site groundwater treatment system.

Expendable PPE generated during the investigation (including gloves and plastic sheeting) was bagged and removed from the site for disposal as non-regulated solid waste.

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 at depths of about 15 to 27 feet.

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 description 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 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, 2013). In 2012, 2013, and 2014, the flow was primarily to the southwest, with localized groundwater sinks in the middle of the Site, near the pumping wells (EEEPC 2015m).

As shown on Figure 6-1, overburden groundwater flow in October 2015 was once again primarily towards the southwest, with a localized groundwater sink in the middle of the Site in the vicinity of pumping wells P-2 and P-3. An estimated limit of groundwater capture was developed based on the flow vectors calculated from the groundwater elevations and is depicted on Figure 6-1. Groundwater within this curve, including that in the vicinity of MW-13S, PZ-1, PZ-2, PZ-3, and PZ-4, is captured by pumping wells P-2 and P-3. Water outside to the east and west of this line flows off-site to the southwest. The average horizontal gradient at the Site outside of the capture zone (between MW-2S and MW-1S) is approximately 0.02 feet per foot (ft/ft) and is higher (0.09 ft/ft) within the capture zone (between P-2 and PZ-4).

6.2.2 Bedrock Aquifer

Historically, the 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 (EEEPC 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 (EEEPC 2007, 2009, 2010, 2013). In 2012, 2013, and 2014, similar outward radial flow from MW-5R and MW-14R were observed, but enhanced capture was also evident at pumping wells PW-1 and PW-2, which is thought to be related to well maintenance producing higher flow rates (EEEPC 2015m).

The primary bedrock groundwater flow direction in October 2015 (see Figure 6-1) was very similar to that observed in 2012, 2013, and 2014. The flow direction is variable across the site, with radial capture by pumping wells PW-1 and PW-2. Groundwater mounds were observed in the vicinity of MW-5R on the west side of the site and at MW-14R on the east side of the site. An estimated limit of groundwater capture was developed based on the flow vectors calculated from the groundwater elevations and is depicted on Figure 6-1. Groundwater on the northwest side of the line is captured by either PW-1 or PW-2. Radial flow outward from MW-5R is also captured by theses pumping wells except possibly for the area due west of MW-5R. East of the limit of capture, groundwater eventually flows off-site to the south, past MW-15R and MW-16R. On the western portion of the Site, the magnitude of the horizontal gradient is variable (approximately 0.06 ft/ft between MW-5R and PW-2 to 0.13 ft/ft between MW-5R and PW-1). East of the limit of capture, the horizontal gradient is approximately 0.05 ft/ft (near MW-16R).

6.3 Analytical Results

This section presents the analytical results for the October 2015 groundwater samples collected at the DHOC Site and compares them to historical results. The October 2015 laboratory results of detected contaminants for overburden monitoring wells are presented in Table 6-3; the detected contaminants for bedrock monitoring wells are presented in Table 6-4; and the detected contaminants for pumping wells are presented in Table 6-5. Groundwater sample results discussed below were compared to the NYSDEC Class GA groundwater standards and guidance values (NYSDEC 1998). The complete laboratory report for the October 2015 sampling event is provided in Appendix C.

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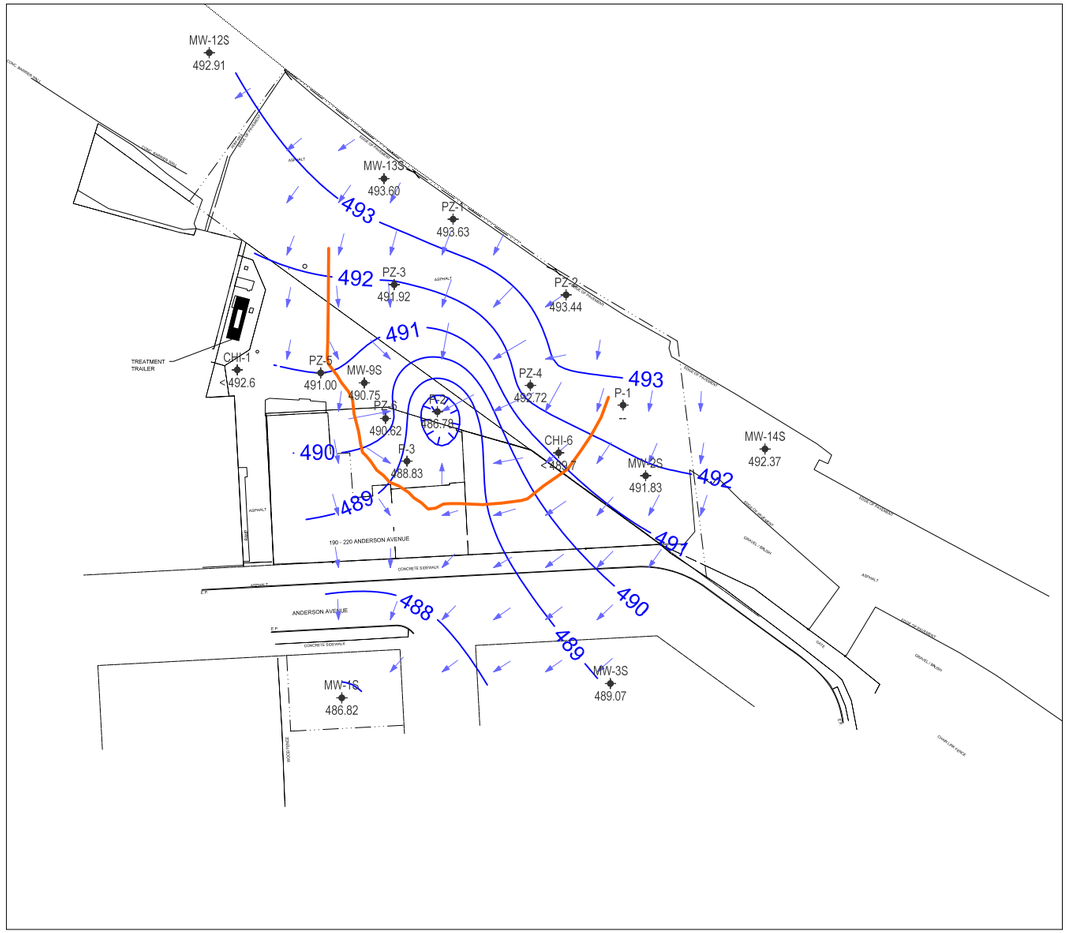
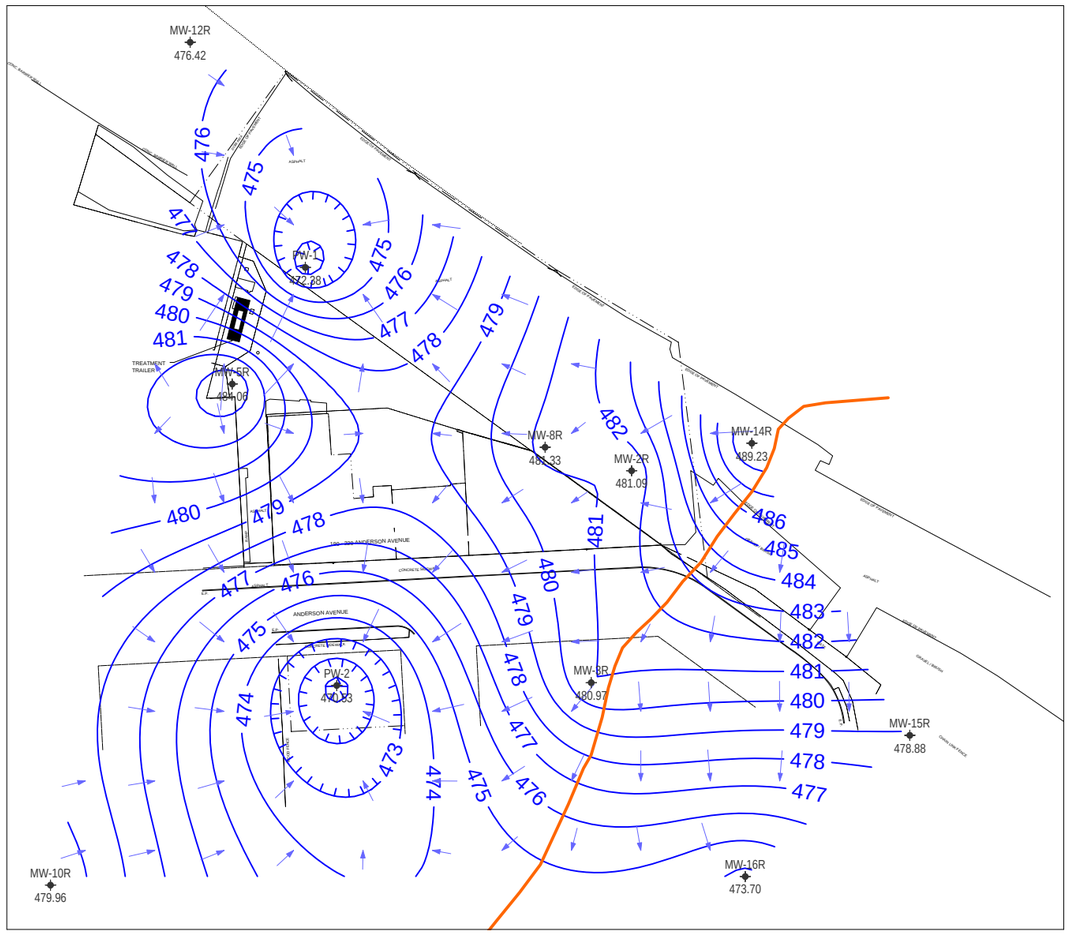
N

Groundwater Elevation Isopleths
Overburden Monitoring Wells



Groundwater Elevation Isopleths
Bedrock Monitoring Wells



Notes:
1) Groundwater elevations measured October 9 - 16, 2015.
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 average level maintained by the pumps.

Legend

- Approximate Limit of Capture of Pumping Wells
- Groundwater Flow Direction and Relative Magnitude of Gradient
- Groundwater elevation isopleth

0 100 200 300
SCALE IN FEET

ecology and environment engineering, p.c.
Global Environmental Specialists

FIGURE 6-1
Groundwater Elevation Isopleths
Overburden and Bedrock Monitoring Wells
October 2015
Former Davis-Howland Oil Corporation Site
Rochester, NY

Table 6-3 Summary of Positive Analytical Results for Groundwater Samples from Overburden Monitoring Wells
Former Davis-Howland Oil Corporation Site, Rochester, NY

Analyte	Screening Criteria [1]	MW-12S 10/09/15	MW-13S 10/09/15	MW-14S 10/13/15	MW-1S 10/14/15	MW-2S 10/14/15	MW-3S 10/15/15	MW-9S 10/13/15	MW-9S-Q 10/13/15	PZ-01 10/16/15	PZ-02 10/16/15	PZ-03 10/16/15	PZ-04 10/16/15
Volatile Organics by Method E624 (µg/L)													
1,1,1-Trichloroethane	5	0.20 U	**1.4**	0.20 U	**1.9**	0.20 U	0.20 U	**1.1**	**1.1**	0.20 U	**1.3**	**1.8**	**12**
1,1-Dichloroethane	5	0.21 U	**1.0**	0.21 U	**0.61 J**	**1.6**	0.21 U	**8.3**	**8.5**	**0.21 J**	**0.85 J**	**10**	**9.0**
1,1-Dichloroethene	5	0.20 U	0.20 U	0.20 U	**0.31 J**	0.20 U	0.20 U	**0.23 J**	**0.28 J**	**0.21 J**	0.20 U	**0.37 J**	**1.4 J**
1,2-Dichlorobenzene	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**8.5**	**9.5**	0.25 U	0.25 U	0.25 U	0.50 U
1,3-Dichlorobenzene	3	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	**0.26 J**	0.22 U	0.22 U	0.22 U	0.44 U
1,4-Dichlorobenzene	3	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.76 J**	**0.81 J**	0.20 U	0.20 U	0.20 U	0.40 U
Chloroform	7	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.42 J**	**0.43 J**	0.20 U	0.20 U	0.20 U	0.40 U
cis-1,2-Dichloroethylene	5	0.20 U	**7.3**	0.20 U	**12**	**5.0**	0.20 U	**30**	**30**	**5.8**	**2.9**	**12**	**240**
Tetrachloroethylene (PCE)	5	0.20 U	**0.33 J**	0.20 U	**3.0**	0.20 U	0.20 U	**50**	**49**	0.20 U	**1.2**	0.20 U	**4.4**
trans-1,2-Dichloroethene	5	0.20 U	**0.24 J**	0.20 U	0.20 U	0.20 U	0.20 U	**2.3**	**2.3**	0.20 U	0.20 U	**0.32 J**	**2.3**
Trichloroethylene (TCE)	5	0.20 U	**1.4**	0.20 U	**19**	0.20 U	0.20 U	**42**	**41**	**4.4**	**2.3**	**3.0**	**150**
Vinyl Chloride	2	0.20 U	0.20 U	0.20 U	0.20 U	**0.37 J**	0.20 U	**1.7**	**1.9**	**0.36 J**	0.20 U	**1.2**	**6.6**
Semi-volatile Organics by Method E625 (µg/L)													
Bis(2-ethylhexyl)phthalate	5	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	**5.2**	1.2 U	1.2 U	1.2 U	1.2 U
Fuels by Method NY310-13 (µg/L)													
Fuel Oil #2	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Fuel Oil #4	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Fuel Oil #6	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Gasoline	NA	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Kerosene	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Lube Oil	NA	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
N-Dodecane	NA	1000 U	1000 U	1000 U	1000 U	**1200**	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

Key:

Qualifiers

J = Estimated value

U = Not detected (method detection limit shown)

Other

NA = Not regulated/no available criteria

µg/L = Micrograms per liter

"-Q" denotes field duplicate sample

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.
4. Gasoline and Lube Oil are reported only as "Absent" or "Present" based on the method.

Source: Ecology and Environment Engineering, P.C. 2015

Table 6-4 Summary of Positive Analytical Results for Groundwater Samples from Bedrock Monitoring Wells
Former Davis-Howland Oil Corporation Site, Rochester, NY

Analyte	Screening Criteria [1]	MW-10R 10/16/15	MW-12R 10/09/15	MW-14R 10/13/15	MW-15R 10/15/15	MW-16R 10/15/15	MW-2R 10/14/15	MW-3R 10/15/15	MW-5R 10/14/15	MW-8R 10/13/15
Volatile Organics by Method E624 (µg/L)										
1,1,1-Trichloroethane	5	**7.7 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	2.0 U	0.50 U	5.0 U
1,1-Dichloroethane	5	**3.1 J**	0.21 U	0.21 U	**0.47 J**	**8.0**	**44**	**52**	**33**	**97**
1,1-Dichloroethene	5	**10**	**0.32 J**	**0.22 J**	0.20 U	**1.4**	**11**	**18**	**6.3**	**41**
Benzene	1	2.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	2.0 U	**3.9**	5.0 U
cis-1,2-Dichloroethylene	5	**19**	**9.3**	**6.1**	**6.1**	**140**	**940**	**1400**	**340**	**2800**
Ethylbenzene	5	2.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	2.0 U	0.50 U	**8.3 J**
Trichloroethylene (TCE)	5	**950**	**16**	**38**	**1.7**	**0.65 J**	**0.96 J**	**5.4 J**	**50**	**14 J**
Vinyl Chloride	2	2.0 U	**0.27 J**	**0.83 J**	**1.2**	**46**	**110**	**320**	**120**	**460**
Semi-volatile Organics by Method E625 (µg/L)										
Benzo(b)Fluoranthene	0.0020	1.0 U	1.0 U	1.0 U	1.0 U	**1.1 J**	1.0 U	1.0 U	1.0 U	1.0 U
Bis(2-ethylhexyl)phthalate	5	1.2 U	1.2 U	**1.3 J**	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Pyrene	50	1.0 U	1.0 U	1.0 U	1.0 U	**1.0 J**	1.0 U	1.0 U	1.0 U	1.0 U
Fuels by Method NY310-13 (µg/L)										
Fuel Oil #2	NA	1000 U	1000 UJ	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Fuel Oil #4	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Fuel Oil #6	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Gasoline	NA	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Kerosene	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Lube Oil	NA	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
N-Dodecane	NA	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

Key:

Qualifiers

J = Estimated value

U = Not detected (method detection limit shown)

UJ = Not detected/estimated detection limit

Other

NA = Not regulated/no available criteria

µg/L = Micrograms per liter

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.

Source: Ecology and Environment Engineering, P.C. 2015

Table 6-5 Summary of Positive Analytical Results for Groundwater Samples from Pumping Wells
Former Davis-Howland Oil Corporation Site, Rochester, NY

Analyte	Screening Criteria [1]	P-2 10/15/15	P-3 10/15/15	PW-1 10/15/15	PW-2 10/15/15
Volatile Organics by Method E624 (µg/L)					
1,1,1-Trichloroethane	5	**23**	**160**	**8.6**	**1.1 J**
1,1-Dichloroethane	5	**120**	**47**	**48**	**32**
1,1-Dichloroethene	5	**4.4 J**	**28**	**5.0**	**5.8**
Benzene	1	1.0 U	4.0 U	**0.44 J**	0.50 U
Chloroethane	5	**1.7 J**	4.8 U	**0.80 J**	0.60 U
cis-1,2-Dichloroethylene	5	**560**	**2900**	**370**	**370**
Tetrachloroethylene (PCE)	5	**12**	**3700**	**44**	**0.98 J**
trans-1,2-Dichloroethene	5	**8.3**	**4.4 J**	**4.2**	**1.3 J**
Trichloroethylene (TCE)	5	**56**	**1000**	**34**	**12**
Vinyl Chloride	2	**190**	**8.2 J**	**94**	**4.0**

Key:

Qualifiers

J = Estimated value

U = Not detected (method detection limit shown)

Other

µg/L = Micrograms per liter

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.

Source: Ecology and Environment Engineering, P.C. 2015

6.3.1 Overburden Groundwater Results

Volatile Organic Compounds

Twelve different VOCs were detected in one or more groundwater samples collected from overburden wells. Nine of these compounds are chlorinated aliphatic VOCs (cVOCs), including tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), and their degradation by-products, as well as three chlorinated aromatic VOCs (dichlorobenzene [DCB] isomers).

Seven VOCs were detected in one or more wells at concentrations exceeding NYSDEC Class GA groundwater standards. These chemicals (and their maximum concentrations in overburden groundwater samples) included the following:

- 1,1,1-Trichloroethane (1,1,1,-TCA) in PZ-04 at 12 µg/L;
- 1,1-Dichloroethane (1,1-DCA) in three wells, with a maximum concentration of 10 µg/L in PZ-03;
- 1,2-Dichlorobenzene in MW-9S at 9.5 µg/L;
- cis-1,2-Dichloroethene (cis-DCE) in six wells, with a maximum concentration of 240 µg/L in PZ-04;
- PCE in MW-9S at 50 µg/L;
- TCE in three wells, with a maximum concentration of 150 µg/L in PZ-04; and
- Vinyl chloride in PZ-04 at 6.6 µg/L.

The concentrations of VOCs in overburden groundwater monitoring wells were highest in PZ-04. The total concentration of chlorinated aliphatic (straight-chained) hydrocarbons in PZ-04 was 430 µg/L in 2015. In addition, 1,1,1,-TCA, 1,1-DCA, 1,1-DCE, cis-DCE, TCE, and vinyl chloride were detected in this well at concentrations higher than in any other monitoring well sampled.

Semivolatile Organic Compounds

One SVOC was detected in the overburden groundwater samples in 2015. Bis(2-ethylhexyl)phthalate was detected only in the field duplicate collected from well MW-9S. This compound was not detected in the normal field sample from this well and has not been detected previously in overburden monitoring wells. This compound is a plasticizing agent and common field/lab contaminant and is not a site-specific contaminant of concern.

Petroleum Products

Only one petroleum product was identified in the overburden groundwater samples collected during the 2015 sampling event. n-Dodecane was present at 1,200 µg/L in well MW-2S, which is similar to the concentration reported in 2014 at MW-2S (1,300 µg/L) (EEEPC 2015m). Otherwise, all petroleum products have been non-detect since 2009, when n-dodecane was detected at 1,000 µg/L in MW-2S.

6.3.2 Bedrock Groundwater Results

Volatile Organic Compounds

Eight different VOCs were detected in one or more of the groundwater samples collected from bedrock monitoring wells, including cVOCs (TCE, 1,1,1-TCA, and their degradation by-products) and BTEX (benzene, toluene, ethyl benzene, and xylene). The concentrations of all detected VOCs exceeded NYSDEC Class GA groundwater standards in at least one well. These chemicals (and their maximum concentrations in bedrock groundwater samples) include the following:

- 1,1,1-TCA in MW-10R at an estimated 7.7 µg/L;
- 1,1-DCA in five wells, with a maximum of 97 µg/L at MW-8R;
- 1,1-DCE in five wells, with a maximum of 41 µg/L at MW-8R;
- Benzene in MW-5R at 3.9 µg/L;
- cis-1,2-DCE in all nine wells, with a maximum of 2,800 µg/L at MW-8R;
- Ethylbenzene in MW-8R, at an estimated 8.3 µg/L;
- TCE in six wells, with a maximum of 950 µg/L in MW-10R; and
- Vinyl chloride in five wells, with a maximum of 460 µg/L in MW-8R.

The maximum total cVOC concentration detected in bedrock groundwater samples was approximately 3,400 µg/L in MW-8R, primarily due to 2,800 µg/L of cis-1,2-DCE. In MW-2R, the total cVOC concentrations increased from 350 µg/L to 1,100 µg/L from 2014 to 2015, following an increasing trend since 2013. In MW-3R, total cVOCs increased slightly, from 1,700 µg/L to 1,800 µg/L. Concentrations of total cVOCs in other bedrock monitoring wells were mostly down from or similar to 2014 concentrations, and are generally lower than or similar to previous concentrations in 2012 and 2011 (see Table 6-6). The maximum total cVOC concentration has consistently been detected in MW-8R. The concentrations in this well have increased since 1998, achieving a maximum of approximately 14,000 µg/L in 2010. Since 2011, concentrations in MW-8R have remained relatively stable between 4,600 and 5,700 µg/L; however, total cVOCs exhibited a decline, from 5,400 µg/L in 2014 to 3,400 µg/L in 2015. BTEX was detected in two wells (MW-5R and MW-8R) compared to four detections in 2014. In 2015, benzene was detected at a concentration of 3.9 µg/L in MW-5R and ethylbenzene was detected at 8.3 µg/L in MW-8R (see Table 6-7). PCE was not detected in the bedrock monitoring wells during the 2015 sampling event, but there were minor detections of PCE in the bedrock monitoring wells in 2013 and 2014.

Semivolatile Organic Compounds

Three SVOCs were detected in 2015. Bis(2-ethylhexyl)phthalate was detected at a low concentration in MW-14R. This compound had not been detected previously in bedrock monitoring wells. This compound is a plasticizing agent and common field/lab contaminant and is not a site-specific contaminant of concern.

MW-16R contained low concentrations of benzo(b)fluoranthene and pyrene, two polynuclear aromatic hydrocarbons (PAHs). PAHs had not been previously detected in this well but had been detected previously in MW-2R. In 2011, six PAHs were detected in MW-2R at a total concentration of approximately 39 µg/L.

Petroleum Products

No petroleum products were identified in any of the bedrock groundwater samples.

6.3.3 Pumping Well Groundwater Results

Volatile Organic Compounds

Ten different VOCs were detected in one or more of the groundwater samples collected from the four pumping wells that were sampled in 2015, including cVOCs (PCE, TCE, 1,1,1-TCA, and their degradation by-products), and benzene. A total of eight VOCs were detected at concentrations that exceeded NYSDEC Class GA groundwater standards, including:

- 1,1,1-TCA in three wells, with a maximum of 160 µg/L in P-3;
- 1,1-DCA in all four wells, with a maximum of 120 µg/L in P-2;
- 1,1-DCE in two wells, with a maximum of 28 µg/L in P-3;
- cis-1,2-DCE in all four wells, with a maximum of 2,900 µg/L in P-3;
- PCE in three wells, with a maximum of 3,700 µg/L in P-3;
- trans-1,2-DCE in P-2 at 8.3 µg/L;
- TCE in all four wells, with a maximum of 1,000 µg/L in P-3; and
- Vinyl chloride in all four wells, with a maximum of 190 µg/L in P-2.

The highest total cVOC concentration, approximately 7,800 µg/L, was detected in overburden pumping well P-3, followed by approximately 980 µg/L at overburden pumping well P-2. Total cVOC concentrations in bedrock pumping wells (PW-1 and PW-2) were lower than the concentrations in the overburden pumping wells and were similar to one another (610 and 430 µg/L, respectively). The highest single contaminant concentration detected in a bedrock pumping well sample was 370 µg/L of cis-1,2-DCE at both PW-1 and PW-2. The highest single contaminant concentration detected in an overburden pumping well sample was 3,700 µg/L of PCE in P-3, followed closely by 2,900 µg/L of cis-1,2-DCE, also in P-3. Although P-3 contains the highest concentrations of contaminants among the overburden wells, the capture zone is centered around this pumping well and P-2. It is likely that the elevated concentrations exhibited at P-3 are the result of contaminants being drawn in by the pumping system for treatment.

6.3.4 Comparison with Historical Analytical Data

The October 2015 concentration isopleths of BTEX and cVOCs in the overburden and bedrock groundwater samples are presented on Figures 6-2 and 6-3, respec-

tively. Tables 6-6 and 6-7 present historical cVOC and BTEX results, respectively. The following is a summary of the findings:

- Overall, total BTEX concentrations in the overburden groundwater have decreased significantly since 1998. BTEX was not detected in the seven overburden monitoring wells from 2009 to 2012, and in 2013 and 2014 only very low estimated concentrations (0.88 µg/L and 0.12 µg/L, respectively) were detected in MW-9S. BTEX was not detected in any of the seven overburden wells in 2015. In 1997 and 1998, significant concentrations of BTEX were detected in overburden wells MW-9S (1,420 µg/L and 4,700 µg/L) and MW-13S (10,600 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 occurring in 1997 at MW-5R (200 µg/L) and MW-8R (126 µg/L). Since 1997, BTEX concentrations have decreased to the point where only one or two wells have contained relatively low concentrations of BTEX from 2007 to 2013. In 2014, four wells had detections of BTEX at relatively low concentrations. MW-5R has consistently contained some BTEX since 1997, but the concentration had decreased to 2 µg/L by 2014. In 2015, BTEX was detected in only two of the nine bedrock wells (MW-5R and MW-8R) at very low concentrations (3.9 µg/L and 8.3 µg/L, respectively).
- Overall, cVOC concentrations in the overburden wells have decreased significantly since 1997 and 1998. The highest concentrations of cVOCs were detected in 1998 (15,000 µg/L in MW-9S and 40,000 µg/L in MW-13S). Total cVOC concentrations decreased significantly between 1998 and 2004. The number of wells with detectable levels of cVOCs has ranged from three to six wells since 2007, and concentrations remained relatively stable from 2010 to 2012. In 2013, the total cVOC concentrations dropped or remained essentially the same as in 2012 in the wells with the exception of MW-9S, where it increased from 140 to 240 µg/L. In 2014, total cVOC concentrations were similar to those in 2013 but mostly showed slight decreases. In 2015, the concentrations in MW-12S and MW-3S were non-detect, the concentrations in MW-1S and MW-12S had decreased, and the concentrations in MW-2S and MW-13S had increased slightly. Additional samples were taken in 2015 at four overburden piezometers not previously monitored (PZ-01, PZ-02, PZ-03, and PZ-04). Total cVOC concentrations in these wells ranged from 9 µg/L in PZ-02 to 430 µg/L in PZ-04.
- Overall, cVOC concentrations in most bedrock wells have decreased since 1997 or 1998, when significant concentrations (>1,000 µg/L) were detected in six of the nine wells (MW-2R, MW-3R, MW-5R, MW-8R, MW-10R, and MW-16R). The cVOC concentrations generally decreased until 2010 and have remained relatively stable (all less than 2,000 µg/L except MW-8R) since 2010. The total cVOC concentration in MW-8R increased to a maximum of approximately 14,000 µg/L in 2010 and has since decreased, but this well continues to exhibit the highest cVOC concentration (3,400 µg/L in

2015) of the wells at the Site, due primarily to cis-1,2-DCE. However, the cVOC concentration has dropped significantly since 2014, when the total cVOC concentration was measured at 5,400 µg/L. Increased concentrations were observed at two monitoring wells: MW-2R and MW-3R. In well MW-2R, the 2015 total cVOC concentration (1,106 µg/L) was lower than the historical maximum of 2,100 µg/L detected in 1997, but the concentration was above the 31 µg/L detected in 2013. In well MW-3R, the 2015 total cVOC concentration (1,795 µg/L) was lower than the historical maximum of 4,300 µg/L detected in 1998, but the concentration was above the 410 µg/L detected in 2010. The total cVOC concentration in these two wells is primarily influenced by high concentrations of cis-1,2-DCE.

Table 6-6 Historical Total Chlorinated VOCs Results for Monitoring Wells

Well ID	Sample Date										
	2015	2014	2013	2012	2011	2010	2009	2007	2004	1998	1997
Overburden Monitoring Wells											
MW-1S	**37**	**38**	**41**	**68**	**67**	NA	**45**	**98**	**410**	**120**	**19**
MW-2S	**7.0**	**6.3**	**2.5**	**1.7**	**1.9**	**1.3**	ND	**1.4**	ND	NA	**3.0**
MW-3S	ND	**0.30**	**0.68**	ND	ND	ND	ND	**4.6**	ND	ND	ND
MW-9S	**140**	**180**	**240**	**140**	**140**	**140**	**92**	**48**	**32**	**15,000**	**6,300**
MW-12S	ND	**0.30**	**0.36**	**13**	ND	ND	ND	**4.4**	ND	**6.0**	**29**
MW-13S	**12**	**9.9**	**12**	**33**	ND	**19**	**3.7**	**69**	**41**	**40,000**	**36,000**
MW-14S	ND	ND	ND	**4.2**	ND	ND	ND	**0.36**	ND	**2.0**	**4.0**
PZ-01	**11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-02	**8.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-03	**29**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-04	**430**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bedrock Monitoring Wells											
MW-2R	**1,100**	**350**	**31**	**940**	**1,200**	**240**	NA	NA	**940**	NA	**2,100**
MW-3R	**1,800**	**1,700**	**1,400**	**530**	**960**	**410**	**1,600**	**3,300**	**1,200**	**4,300**	**3,200**
MW-5R	**550**	**650**	**340**	**1,200**	**160**	**1,400**	**210**	**2,700**	**1,100**	**4,200**	**5,200**
MW-8R	**3,400**	**5,400**	**4,600**	**5,600**	**5,700**	**14,000**	**5,800**	**4,300**	**3,800**	NA	**2,600**
MW-10R	**990**	**1,200**	**1,400**	**1,500**	**1,400**	**160**	**1,200**	**1,600**	**1,200**	**3,000**	**2,300**
MW-12R	**26**	**41**	**34**	ND	**45**	**35**	**66**	**75**	**22**	NA	**270**
MW-14R	**45**	**59**	**72**	**59**	**61**	**54**	**45**	**67**	**17**	**50**	**22**
MW-15R	**10**	**12**	**11**	**11**	**11**	**6.4**	**4.7**	**7.4**	**7.7**	NA	**35**
MW-16R	**200**	**230**	**180**	**210**	**220**	**48**	**320**	**250**	**260**	**2,400**	**1,100**

Notes:

Analytical results are all in micrograms per liter (µg/L).

Key:

ND = Not detected

NA = Not analyzed

Chlorinated VOCs = sum of chlorinated aliphatic hydrocarbon concentrations (does not include dichlorobenzenes)

Table 6-7 Historical Total BTEX Results for Monitoring Wells

Well ID	Sample Date										
	2015	2014	2013	2012	2011	2010	2009	2007	2004	1998	1997
Overburden Monitoring Wells											
MW-1S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.0**
MW-9S	ND	**0.12 J**	**0.88 J**	ND	ND	ND	ND	**2.5**	**1.5**	**4,700**	**1,420**
MW-12S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-13S	ND	ND	ND	ND	ND	ND	ND	ND	**0.34**	**9,440**	**10,600**
MW-14S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bedrock Monitoring Wells											
MW-2R	ND	ND	ND	ND	**4.7**	ND	ND	NA	**1.2**	NA	ND
MW-3R	ND	ND	ND	ND	ND	ND	ND	ND	**20**	ND	ND
MW-5R	**3.9**	**2.3**	**4.6**	**32**	**45**	**45**	**3.1**	**15**	**71**	**42**	**200**
MW-8R	**8.3**	**12 J**	**16**	ND	ND	ND	ND	**21**	**18**	NA	**126**
MW-10R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-12R	ND	**0.14 J**	ND	ND	ND	ND	ND	ND	ND	NA	**4.0**
MW-14R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15R	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND
MW-16R	ND	**0.11 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

Analytical results are all in micrograms per liter (µg/L).

Key:

BTEX = sum of benzene, toluene, ethylbenzene, and xylene concentrations

J = value is estimated

NA = not analyzed

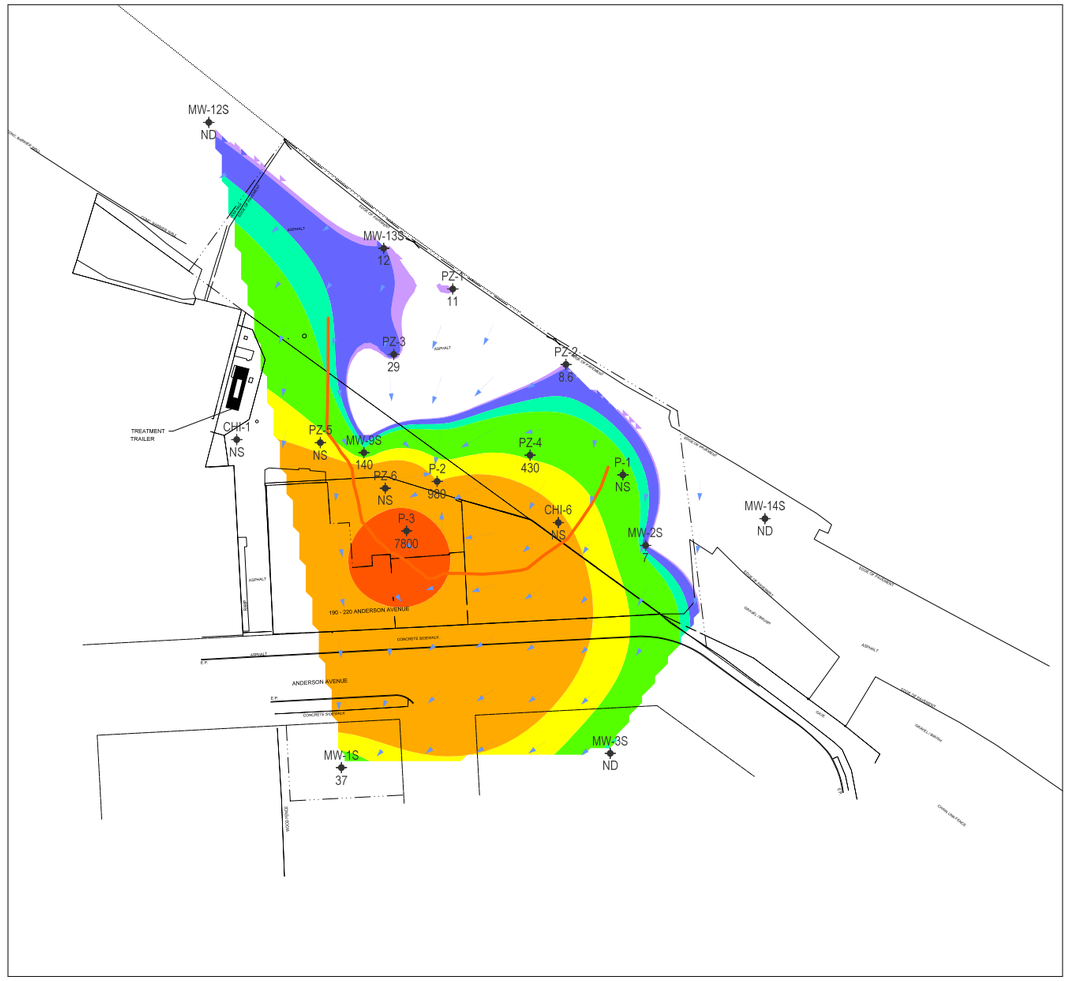
ND = Not detected

Source: Ecology and Environment Engineering, P.C. 2015

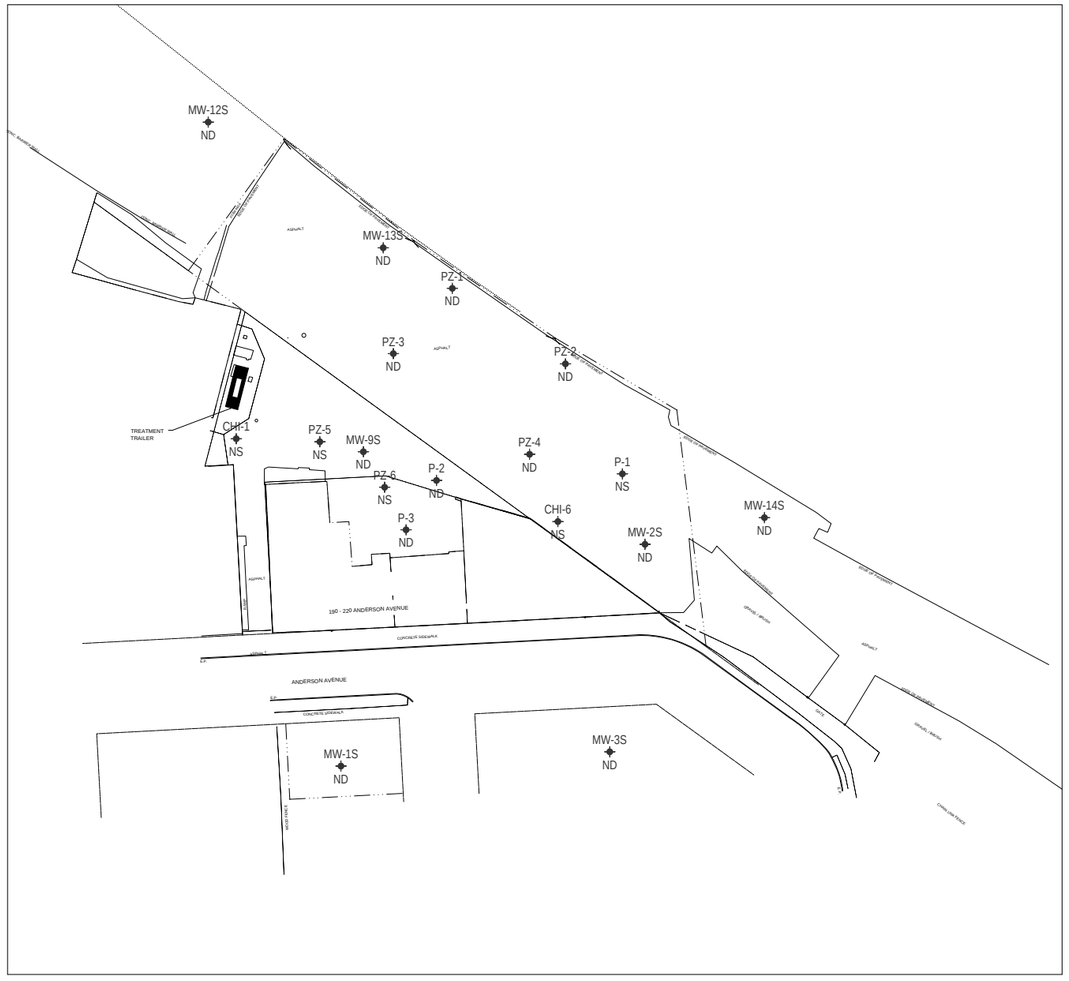
1703074.0012.03
DavisHowland_VOC_GW-OB_2015.srf - 01/13/2016

N

Total Chlorinated VOC Concentrations (µg/L)



Total BTEX Concentrations (µg/L)



Notes:
1) BTEX = sum of benzene, toluene, ethylbenzene, and xylene isomers (there were no BTEX dectection in October 2015).
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 (i.e., dichlorobenzene isomers) in MW-9S (11 µg/L).
4) ND = not detected.
5) NS = not sampled.

0 5 10 50 100 500 1,000 5,000 10,000
CONCENTRATION IN MICROGRAMS PER LITER

0 100 200 300
SCALE IN FEET

Legend
- Approximate Limit of Capture of Pumping Wells
- Groundwater Flow Direction and Relative Magnitude of Gradient

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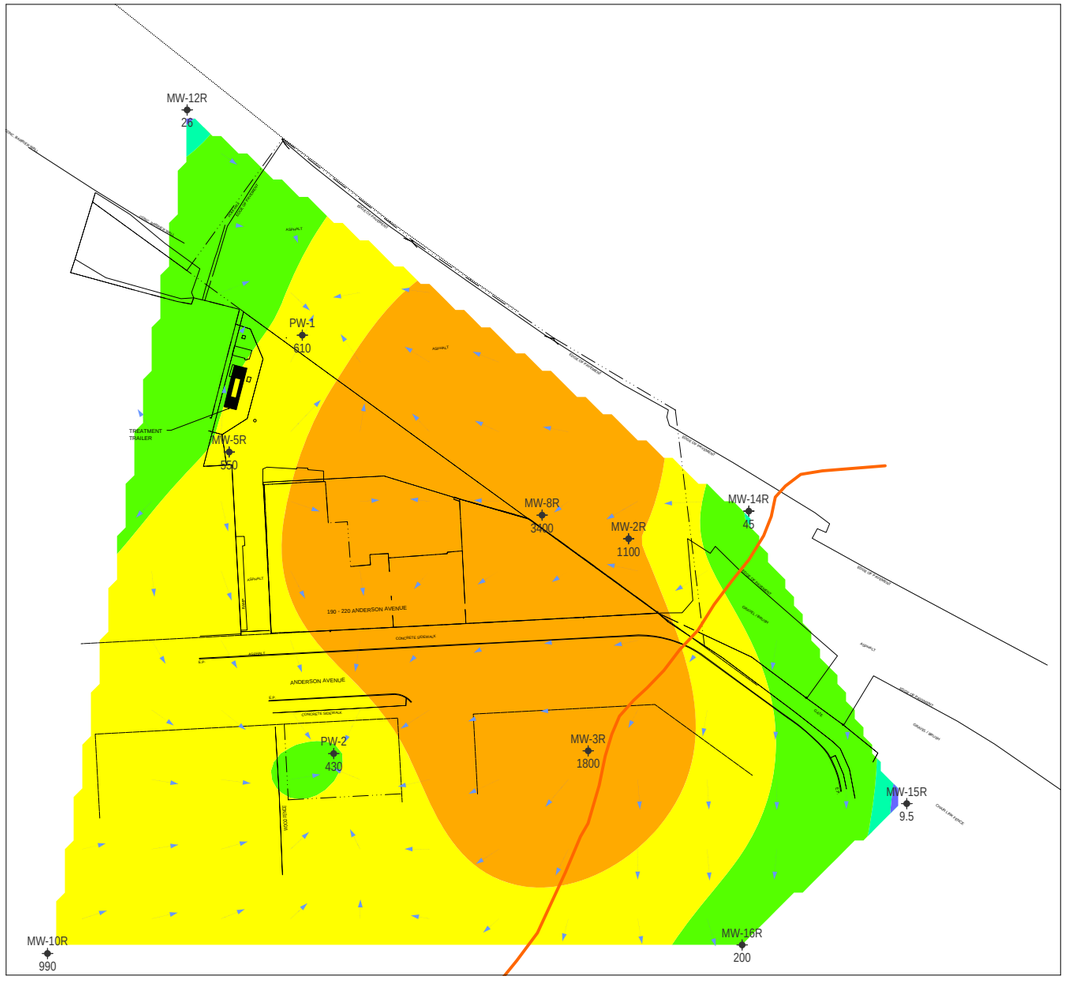
FIGURE 6-2
Total BTEX and Chlorinated VOCs
in Overburden Groundwater, October 2015
Former Davis-Howland Oil Corporation Site
Rochester, New York

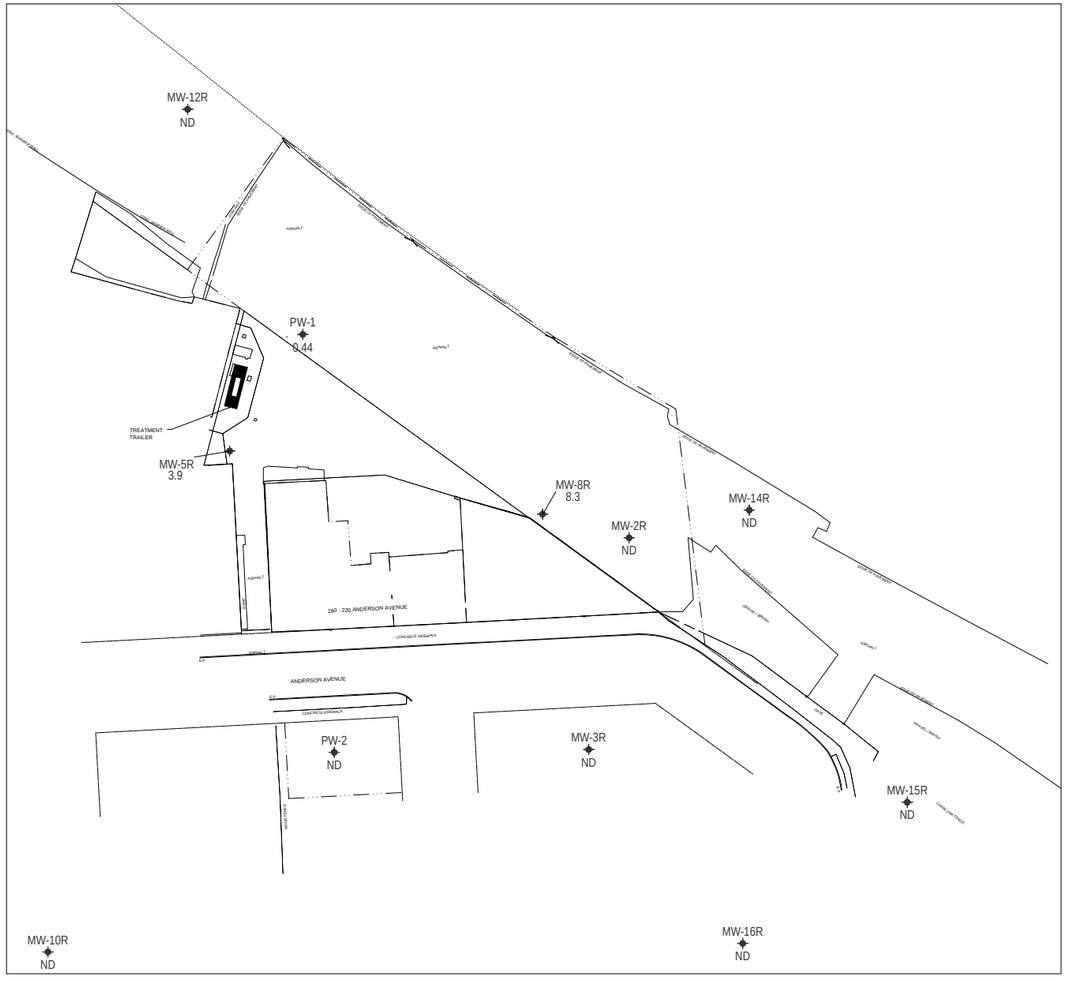
1703074.0012.03
DavisHowland_VOC_GW-Bdrk_2015.srf - 01/13/2016

N

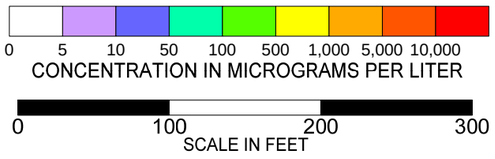
Total Chlorinated VOC Concentrations (µg/L)



Total BTEX Concentrations (µg/L)



Notes:
1) BTEX = sum of benzene, toluene, ethylbenzene, and xylene isomers
   (the only detections were benzene in MW-5R and PW-1 and ethylbenze in MW-8R).
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
5) NS = not sampled



Legend

Approximate Limit of Capture of Pumping Wells

Groundwater Flow Direction and Relative Magnitude of Gradient

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FIGURE 6-3
Total BTEX and Total Chlorinated VOCs in Bedrock Groundwater, October 2015
Former Davis-Howland Oil Corporation Site
Rochester, New York

7 Actions to Support Eventual Site Closure

The overall project goals are to (1) reduce the concentrations of VOCs in the soils beneath the capped or paved area north of the DHOC buildings on Anderson Avenue to meet the standards, criteria, and guidance values (SCGs) found in NYSDEC soil cleanup guidance Final Commissioner Policy CP-51 (October 21, 2010) and 6 NYCRR Part 375 soil cleanup objectives; and (2) 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 groundwater recovery system and overall remedial treatment system. Efforts to support closure are presented in 7.1.

In June 2015, an RSO SOW detailing actions to be taken towards eventual site closure was finalized, and work on site optimization began. A summary of the RSO evaluations completed in 2015 is provided in Section 7.2. A detailed RSO Evaluation Report will be submitted following the completion of all sampling and evaluations, expected in early 2016.

7.1 Efforts to Support Site Closure

When in operation in 2015, the groundwater treatment system continued to reduce VOC contamination in the extracted groundwater to levels to below the criteria set by the sewer discharge permit. Based on a review of the reported analytical data for the long-term groundwater monitoring program from January 1997 to October 2015, VOC concentrations have decreased over time. The most recent groundwater monitoring data were compared with historical data to determine whether changes in the long-term monitoring program are warranted.

7.1.1 BTEX

BTEX concentrations in the overburden groundwater have decline significantly since 1998. BTEX compounds were not detected in the overburden groundwater in 2015, and were detected at low concentrations below groundwater standards in 2013 and 2014. To streamline the long-term monitoring program and reduce sampling and reporting costs, it is recommended that sampling and analysis for BTEX compounds in the overburden groundwater wells be reduced or eliminated.

BTEX concentrations have declined significantly in the bedrock groundwater and are no longer detectable in many wells where they were previously present. In

2015, only two bedrock monitoring wells contained concentrations of BTEX compounds above NYSDEC remedial goals, and the concentrations were relatively low compared to historic maxima. At this time, sampling and analysis for BTEX in the bedrock groundwater should remain as part of the long-term monitoring program.

7.1.2 PAHs

PAH concentrations have generally been non-detect since 2009. The exception is, n-dodecane, a component found in fuel, which has been detected three times in MW-2S: in 2015 at a concentration of 1,200 µg/L, in 2014 at a concentration of 1,300 µg/L, and in 2009 at a concentration of 1,000 µg/L. Sampling and analysis for PAHs should be removed from the long-term monitoring program except for at monitoring well MW-2S.

7.1.3 VOCs

While VOC concentrations on-site have continued to decrease relative to historical maximums, sampling and analysis for VOCs should continue as part of the long-term monitoring program. Based on an evaluation of the historical monitoring data, MW-12S may be removed from the annual sampling event. TCE and cis-DCE were last detected above groundwater standards in this well in 2012; therefore, the frequency of sampling this well may be reduced.

7.1.4 Treatment System Operations

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. Total VOC concentrations in all monitoring wells have decreased relative to historical maximums. Continued operation of the treatment systems is recommended, while continuing to evaluate influent and effluent concentrations and treatment system efficiency.

The results of the long-term groundwater monitoring program indicate that the contaminant plume extends to the northeast and southwest of the Site. The extent of off-site contaminant transport via groundwater to the south remains unclear, although PW-2 appears to capture the contaminated groundwater in the bedrock aquifer from the south and southwest. Installation of additional overburden and bedrock monitoring wells to the southwest of the site is recommended in order to provide more information on groundwater conditions in this area. Continued monitoring of the bedrock groundwater well network, and maintenance of the associated groundwater and/or pumping wells on a regular basis to maintain a high pumping rate for treatment is recommended.

RSO evaluation efforts will provide further information on existing contamination at the site and the capability of the existing systems. The results of the additional sampling completed as part of the RSO work will be used to determine whether potential source areas remain at the site. Evaluations of the existing system and

additional remediation options will be completed to determine the best future course for meeting remedial goals.

7.2 Remedial System Optimization

The following actions and evaluations were completed in accordance with the RSO SOW.

- In 2015, two rounds of air sampling of the SVE system were completed. One round was completed with the system in operation, and the other round was completed after the AS/SVE systems had been shut down for a month. One additional sampling round is planned in early 2016 with the system in operation. The results of this sampling will be included in the evaluation of the existing AS/SVE system and to evaluate the feasibility of using sub-slab depressurization systems at the Site to mitigate soil vapor impacts in the buildings.
- The overburden and bedrock pumping wells P-2, P-3, PW-1, and PW-2 were pulsed for four months (one month on, one month off, one month on, one month off). The wells were sampled every month during this evaluation prior to switching the pulsing sequence. The results of this evaluation will be compared to previous results collected during continuous operation of the system to evaluate whether pulsing of the wells resulted in more efficient contaminant removal.
- Ten soil borings were installed at the site and subsequent soil sampling was completed. The results from these samples will be used to evaluate the possible presence of a remaining source area.
- The potential for bioremediation at the site to increase the rate of VOC destruction in groundwater is being evaluated. The analytical results of the most recent groundwater and soil boring samplings will be used as part of this evaluation. Based on the results of this evaluation, a pilot study may be proposed to test the effectiveness of this alternative at the site to further degrade the VOC contamination.
- Piezometers PZ-1, PZ-2, PZ-3, and PZ-4 were sampled as part of the annual long-term groundwater monitoring program to aid in the delineation of cVOC concentrations on the upgradient side of the extraction wells. Based on the groundwater sampling results, it is recommended that locations PZ-2, PZ-3, and PZ-4 be included in the annual sampling event. The sample results from these locations help to delineate plume concentrations along the northern site border and between this border and the extraction wells, and the samples from these locations replace samples that cannot be collected from CHI-6 and P-1. Location PZ-1 is close to and has similar concentrations as MW-13S and is recommended for exclusion from annual sampling.

8 Annual Remedial Action Costs

The 2015 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 2015 cost for operating the remedial treatment system at the Site was $144,403.

Table 8-1 2015 Remedial Action Costs for the Former Davis-Howland Oil Corporation Site

Description	WA D007617-12
Sub – OM&M Services	$24,449
Sub – RSO Evaluations	$4,470
Sub – Analytical Services (O&M and GW Monitoring	$8,456
Sub – Analytical Services (RSO Evaluations)	$16,550
Utilities – Electric	$7,543
Utilities – Telephone	$511
Replacement Equipment	$5,469
Long-term Monitoring Program	$20,978
EEEPC Administration, Management, and Reporting	$34,469
EEEPC RSO Evaluations and Reporting	$21,508
2015 Total	**$144,403**

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 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 2015. The local reporting newspaper in Rochester, New York, is the *Democrat and Chronicle*.

10 References

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_____. 2015h. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, August 2015 Operations, Maintenance, and Monitoring Report.*

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_____. 2015l. *Davis-Howland Oil Company Site, EEEPC Contract # D004442, Site # 8-28-088, December 2015 Operations, Maintenance, and Monitoring Report.*

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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.

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A ALTA Survey

TABLES OF ENGINEERING CONTROLS

POINT ID	NORTHING	EASTING
AS-1	1152375.3	1415877.3
AS-2	1152354.5	1415905.7
AS-3	1152332.3	1415937.6
AS-4	1152309.9	1415967.5
AS-5	1152287.3	1415998.8
AS-6	1152264.5	1416028.9
AS-7	1152242.5	1416060.3
AS-8	1152345.1	1415855.6
AS-9	1152324.3	1415883.7
AS-10	1152302.2	1415914.7
AS-11	1152280.3	1415944.9
AS-12	1152255.8	1415978.3
AS-13	1152234.6	1416006.6
AS-14	1152211.7	1416039.0
AS-15	1152189.3	1416068.6
AS-16	1152315.3	1415833.4
AS-17	1152292.6	1415861.3
AS-18	1152270.8	1415892.9
AS-19	1152247.7	1415924.2
AS-20	1152225.4	1415954.0
AS-21	1152203.4	1415985.6
AS-22	1152180.9	1416015.3

POINT ID	NORTHING	EASTING
AS-23	1152163.2	1416047.2
AS-24	1152137.4	1416076.2
AS-24A	1152120.7	1416100.1
AS-25	1152258.8	1415845.1
AS-26	1152238.8	1415872.0
AS-27	1152218.3	1415901.2
AS-28	1152195.6	1415931.1
AS-29	1152172.6	1415961.9
AS-30	1152166.7	1415934.4
AS-31	1152224.6	1415822.0
AS-32	1152208.9	1415850.0
AS-33	1152184.0	1415848.3
AS-34	1152148.9	1415851.3
AS-35	1152111.7	1415850.7
AS-BV1	1152350.4	1415903.8
AS-BV2	1152347.6	1415908.1
AS-BV3	1152319.9	1415882.8
AS-BV4	1152316.8	1415886.8
AS-BV5	1152289.5	1415860.3
AS-BV6	1152286.6	1415864.3
AS-BV7	1152259.2	1415859.9
AS-BV8	1152229.2	1415847.9
AS-BV9	1152219.9	1415852.9
AS-BV10	1152255.6	1415856.4
AS-BV11	1152297.6	1415899.3
SVE-MH1	1152232.9	1415843.0
SVE-MH2	1152264.8	1415866.2
SVE-MH3	1152295.5	1415888.5
SVE-MH4	1152326.0	1415910.8
SVE-MH5	1152347.6	1415926.5
SVE-MH6	1152164.1	1415836.4

POINT ID	NORTHING	EASTING	GROUND ELEV.	CASING ELEV.	RISER ELEV.
CHI-1	1152218.7	1415832.1	498.54	498.54	498.19
CHI-6	1152164.1	1416044.5	498.08	498.08	497.77
MW-1S	1152002.6	1415901.2	499.95	499.95	499.72
MW-2S	1152149.0	1416182.0	497.71	497.71	497.48
MW-3S	1152012.0	1416078.7	497.82	497.82	497.46
MW-9S	1152210.2	1415916.0	498.41	498.41	498.01
MW-12S	1152427.8	1415813.6	495.74	495.74	495.33
MW-13S	1152344.8	1415929.1	497.25	497.25	496.95
MW-14S	1152166.6	1416180.9	495.43	495.43	495.16
MW-2R	1152152.8	1416092.2	497.72	497.72	497.54
MW-3R	1152012.9	1416065.5	498.02	498.02	497.74
MW-5R	1152210.1	1415828.4	498.63	498.63	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-12R	1152435.8	1415800.6	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	1152287.1	1415876.7	498.02	498.02	**494.41***
PW-2	1152011.1	1415897.4	500.02	500.02	**496.92***
P-1	1152195.5	1416087.0	497.61	497.61	**495.26***
P-2	1152191.2	1415964.4	498.56	498.56	**495.93***
P-3	1152158.6	1415944.2	499.91	499.91	**496.80***
PZ-1	1152318.1	1415974.7	497.21	497.21	496.92
PZ-2	1152268.2	1416049.4	497.13	497.13	496.87
PZ-3	1152275.0	1415935.8	497.87	497.87	497.56
PZ-4	1152208.5	1416025.8	497.76	497.76	497.22
PZ-5	1152216.8	1415887.2	498.41	498.41	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 73°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± 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± 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 3°05'03" W a distance of 100.00 feet to a point, thence; (2) N 86°58'27" E a distance of 40.02 feet to a point, thence; S 3°01'33" E along the easterly line of Lot 184 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 39.92 feet to the point of beginning, being 3,997± square feet or 0.092 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 a deed 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 03°05'51" W 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± 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 7°03'26" E a distance of 157.49 feet to a point on the first mentioned street boundary, thence; N 54°00'38" W along said street boundary a distance of 37.83 feet to the point of beginning, being 39,868± 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 75.00 feet to the point of beginning, being 3,751± 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 YROK CENTRAL RAILROAD - V76/3", DATED JUNE 30, 1917, PREPARED BY OFFICE OF THE VALUATION ENGINEER (NYCRR).

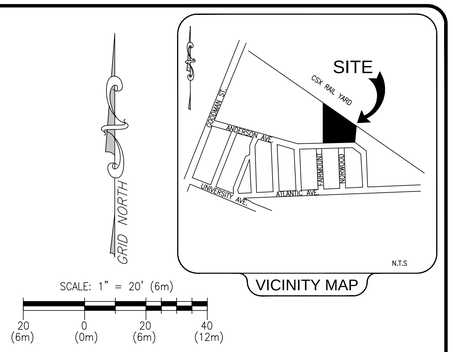
2.) MAP ENTITLED "PERRY, BLY & HOLMES TRACT" DATED AUGUST 1, 1871, PREPARED BY CHARLES R. BABBITT, CITY CIVIL ENGINEER, FILED IN LIBER 3 OF MAPS, PAGE 18.

3.) MAP ENTITLED "ROCHESTER CITY SURVEY DISTRICT 26 MAP 16.

ABSTRACTS OF TITLE

(1) ABSTRACT OT TITLE NO. 174327, PREPARED BY STEWART TITLE INSURANCE COMPANY, DATED OCTOBER 23, 2012.

(2) ABSTRACT OT TITLE NO. 174328, PREPARED BY STEWART TITLE INSURANCE COMPANY, DATED OCTOBER 23, 2012.



SCALE: 1" = 20' (6m)

20 (6m) 0 (0m) 20 (6m) 40 (12m)

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.

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

SURVEY NOTES

1. COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (CORS) - NEW YORK STATE PLANE COORDINATE SYSTEM, WEST ZONE.
2. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. MAPPING UNITS ARE U.S. SURVEY FEET.
4. THE CONTOUR INTERVAL IS 1 FOOT.
5. 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

D R A F T

JEFFREY F. PHILLIPS, LS 50773
FOR: POPLI DESIGN GROUP
555 Penbrooke Drive
Penfield, NY 14526
Phone: 585-388-2060

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
- BOL. BOLLARD / POST
- CITY MONUMENT
- 48.0 BUILDING DIMENSION
- U.G. UNDER GROUND

SURVEY BY:

PREPARED FOR:

T:\Proposals\Survey\1_company logos_Ecology\ogo.jpg

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

Department of **Environmental Services**
Monroe County, New York

Maggie Brooks
County Executive

Michael J. Garland, P.E.
Director

January 4, 2016

Mr. William Welling
NYSDEC Div. of Env. Remed.
625 Broadway, 12th Floor
Albany, NY 12233-7013

Re: Updated Monroe County Sewer Use Permit

Dear Mr. William Welling:

Please be advised that changes have been made to the Monroe County Sewer Use Law (the Law) which effect your Monroe County issued Sewer Use Permit. Due to these changes, which became effective January 1, 2016, Monroe County is required to re-issue all current permits. In no way have these changes altered your permit requirments, they are mearly changes to sections of your permit "Terms and Conditions" that reference the Law. These references were no longer accurate due to reorganization of the new 2016 Law. Your permit has been modified only where there was a reference to specific articles, parts or sections of the Law. These references in your permit were changed to reflect the correct articles, parts or sections of the new 2016 Law.

Enclosed is a copy of your facility's modified Sewer Use Permit. This document replaces your existing permit effective upon receipt. It is recommended that you distribute this new version to those responsible parties who are familiar with the permit requirements and content and destroy the old version. This new current version does not change your permit expiration date. This date remains the same and is listed on the first page in the upper right hand corner of your revised permit.

If you have any questions or concerns plese give me a call at (585) 753-7658.

Sincerely,

Sean P. Keenan
Pretreatment Coordinator

CL#10000136

COUNTY OF MONROE
SEWER USE PERMIT RENEWAL

Firm Name:	NYSDEC Div. of Env. Remed. 200 Anderson Avenue, Davis How	Permit Number: Fee: Expires:	864 $ 75.00 **May 29, 2016**
Mailing Addr:	625 Broadway, 12th Floor Albany, NY 12233-7013	W/C Expire: District No:	8/1/13 8575
Business Type:	Groundwater Remediation		

Has there been any revision to the plant sewer system or any change in industrial wastes discharged to the public sewer in the past twelve months

Yes: __ No: X If yes, please explain in a separate letter.

Average monthly consumption for the past twelve (12) months:

Water Account No.(s) N/A (cu ft/gal) N/A

In consideration of the granting of this renewal permit the undersigned agrees to comply with all the requirements in the Initial Permit as listed under II.

Name of person to be contacted for inspection & sampling purposes:

Type or Print: Michael Aloi Ecology and Environment Phone No: 716-684-8060

YOUR PERMIT MUST BE SIGNED AS FOLLOWS:

1. For a corporation: by a responsible corporate officer. A corporate officer means:
   (a) A president, secretary, treasurer or vice - president of the corporation in charge of a principal business function, or any other person who performs similar policy - or decision - making functions for the corporation: or
   (b) The manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second - quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. By a duly authorized representative of the individual designated in items (1) or (2) above if:

   (a) The authorization is made in writing by the individual described in items (1) or (2);
   (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the Industrial Discharge originates such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; (A duly authorized representative may thus be either a named individual or any individual occupying named position); and
   (c) The written authorization is submitted to this Department.

Print or Type: William B. Welling Phone No: 518-402-9638

Signature: William B. Welling Date: 4/25/2013

Title: NYSDEC Project Manager

Renewal Approved by: Michael J. Garland Issued this 16 day of May 2013.

Michael J. Garland, P.E.
Director of Environmental Services-PureWaters
Monroe County

COUNTY OF MONROE
SEWER USE PERMIT ENCLOSURE

NYSDEC Division of Environmental Remediation
625 Broadway, 12th 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

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 listed within the MCSUL and as described in Article III, Section 3.3(d) of the Law.

B.2 Included in Article II, Section 2.1, is the definition of "Normal Sewage". "Normal Sewage" may be discharged to the sewer system in excess of the concentrations outlined in the definition, 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 Monroe County 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 IX, section 9.9 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 Section 9.6. The revocation is immediate upon receipt of notice to the Industrial User. If the revocation or suspension is issued under Section 9.6, a Hearing shall be held as soon as possible.

E. As provided under Article VI, Section 6.1, the Director and/or 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 III, Section 3.3(b) of the MCSUL. pH must be analyzed within 15 minutes of the time of collection as specified in 40 CFR, part 136.

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 III, Section 3.3 of the MCSUL unless Federal limits are more stringent under which the Federal limits will apply.

D. Discharges of wax, fats, oil or grease shall not exceed 100 mg/l as imposed by the Director under Article III, Section 3.3 of the MCSUL.

E. Discharges containing Phenolic compounds shall not exceed 2.13 mg/l as imposed by the Director under Article III, Section 3.3 of the MCSUL 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, section 10.7 of the MCSUL.

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 <u>total</u> 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. Reports submitted from industrial users identified as Significant Industrial Users (SIU) must be accompanied by a certification statement as required by 40 CFR part 403 and the MCSUL, Article VI, section 6.12.

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 40 CFR, part 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 VI, Section 6.10(5), 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 Discharge Control Plan (SDCP) 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 (ref. Article IX, section 9.19 – MCSUL). This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus.

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 (ref. Article IX, section 9.19 – MCSUL). This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus.

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, periodic 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 IX – MCSUL).

Nothing in this permit shall be construed to relieve the permittees from civil/criminal penalties for noncompliance under Article IX, Section 9.7(a)(5) MCSUL. Article IX provides that any person who violates a permit condition is subject to a civil penalty not to exceed $25,000 for any one case and an additional penalty not to exceed $25,000 for each day of continued violation.

C

October 2014 Groundwater Monitoring Event Field Notes and Analytical Data

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-15
EEEPC Project No.: 1703074.0012.03
Date: 10/14/15

Initial Depth to Water: 12.90 feet TOIC
Total Well Depth: 17.75 feet TOIC
Depth to Pump: 16.75 feet TOIC
Initial Pump Rate: 1 (Lpm) / gpm
adjusted to: 0.500 L/min at 1330
adjusted to: _____ at _____

Start Time: 1320
End Time: 1355
☐ Bailer ☒ Pump
Pump Type: Mini Typhoon
Well Diameter: 2 inches
1x Well Volume: 0.8 gallons x3 = 2.4 gals

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)
1320	0	7.43	12.6	69	1111		24.1	13.58
1330	1	7.24	13.0	35	1068		9.31	13.60
1335	2	7.20	13.1	34	1068		25.6	13.76
1340	3	7.22	13.0	39	1070		6.70	13.77
1345	4	7.19	13.0	41	1074		2.58	13.77
1350	5	7.21	12.9	41	1072		2.19	13.77
Final Sample Data:		7.21	12.9	41	1072	~	2.19	13.77

10/14/15

Sample ID: MW-15-OCT15
Sample Time: 1355
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses:
☒ VOCs
☒ SVOCs
☐ PCBs
☐ Pest.
☐ Metals/CN
☐ Dioxin

Methods:
☐ CLP
☐ SW846
☐ EPA/CWA
☒ TPH

Comments: Regulator was turned high for a second around 1333 causing numbers to fall out

Sampler(s): T. Dillon

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-2R
EEEPC Project No.: 1703074.0012.03
Date: 10/14/15

Initial Depth to Water: 16.45 feet TOIC
Start Time: 10:20
Total Well Depth: 26.09 feet TOIC
End Time: 11:35
Depth to Pump: 25.09 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 200 Lpm / gpm (MSL)
Pump Type: Typhoon
adjusted to: _____ at _____
Well Diameter: 4" inches
adjusted to: _____ at _____
1x Well Volume: _____ gallons

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)
10:20	0	7.34	15.3	-104.5	1.84	0.99	13.80	17.15
10:25	1.0	7.23	15.3	-107.6	1.84	0.73	13.62	17.41
10:30	2.0	7.17	15.6	-104.2	1.84	0.65	14.22	17.61
10:35	3.0	7.14	15.7	-113.4	1.83	0.81	13.23	17.70
10:40	4.0	7.14	16.1	-112.3	1.83	0.72	12.34	18.0
10:45	5.0	7.14	15.8	-115.2	1.95	0.58	12.65	18.30
10:50	6.0	7.14	15.5	-117.1	1.76	0.48	10.63	18.51
10:55	7.0	7.12	15.5	-124.2	1.78	0.45	10.58	18.79
11:00	8.0	7.15	15.8	-143.9	1.78	0.42	8.83	18.99
11:05	9.0	7.15	16.3	-129.9	1.76	0.54	9.19	19.08
11:10	10.0	7.15	16.6	-129.6	1.77	0.51	8.71	19.10
11:15	11.0	7.15	16.0	-142.3	1.78	0.50	8.40	19.25
11:20	12.0	7.15	16.0	-149.1	1.79	0.49	8.25	19.29
11:25	13.0	7.15	16.2	-150.0	1.80	0.48	7.34	19.30
11:30	14.0	7.15	16.1	-147.2	1.79	0.49	7.02	19.30
Final Sample Data:		7.15	16.1	-147.2	1.79	0.49	7.02	19.30

Sample ID: MW 2R-OCT15
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 11:35
MS/MSD? ☐
No. of Bottles: _____

Analyses:
☒ VOCs
☒ SVOCs
☐ PCBs
☐ Pest.
☐ Metals/CN
☐ Dioxin

Methods:
☐ CLP
☐ SW846
☐ EPA/CWA
☒ TPH

Comments: Water Level Just Keep Dropping at 200mls per minute

Sampler(s): L. Rand C

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY — Well ID: MW2S

EEEPC Project No.: 1703074.0012.03 — Date: 10/14/15

Initial Depth to Water: 5.65 feet TOIC — Start Time: 11:55

Total Well Depth: 14.01 feet TOIC — End Time: 12:55

Depth to Pump: 13.01 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 100 Lpm / gpm mls — Pump Type: Typhoon

adjusted to: ______ at ______ — Well Diameter: 2 inches

adjusted to: ______ at ______ — 1x Well Volume: ______ gallons

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)
11:55	0	6.71	17.9	-55.5	1.73	5.94	7.78	6.29
12:00	500	6.64	17.7	-38.8	1.73	4.95	7.74	6.49
12:05	1.0	6.64	18.0	-37.4	1.73	4.50	8.08	6.58
12:10	1.5	6.63	17.9	-34.6	1.73	4.22	6.11	6.58
12:15	2.0	6.62	18.1	-31.7	1.73	3.38	3.91	6.62
12:20	2.5	6.61	18.0	-29.9	1.73	3.00	4.31	6.64
12:25	3.0	6.61	18.0	-28.6	1.72	2.88	5.72	6.64
12:30	3.5	6.61	17.9	-27.2	1.72	2.46	3.27	6.64
12:35	4.0	6.61	18.0	-26.7	1.72	2.40	3.0	6.64
12:40	4.5	6.61	17.9	-26.3	1.72	2.17	3.85	6.64
12:45	5.0	6.60	18.0	-25.8	1.72	1.77	2.55	6.64
12:50	5.5	6.60	17.9	-25.7	1.72	1.79	1.90	6.64
12:55	6.0	6.60	18.0	-25.9	1.72	1.78	.80	6.64
	[signature] 10/14/15		[signature]					
Final Sample Data:		6.60	18.0	-25.9	1.72	1.78	.80	6.64

Sample ID: MW2S-Oct15 — Duplicate? ☐ — Dupe Samp ID: ______

Sample Time: 13:00 — MS/MSD? ☐ — No. of Bottles: ______

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ EPA/CWA
☐ Pest.	☒ TPH
☐ Metals/CN	
☐ Dioxin	

Comments: Well was dropping in water level to Fest.

Sampler(s): L. Rccrr

Well Purge Form.xls

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-3R
EEEPC Project No.: 1703074.0012.03
Date: 10/15/15

Initial Depth to Water: 16.77 feet TOIC
Total Well Depth: 38.09 feet TOIC
Depth to Pump: 37.09 feet TOIC
Initial Pump Rate: 1 (Lpm) / gpm
adjusted to: 1.5 Lpm at 1110
adjusted to: 0.200 Lpm at 1228

Start Time: 1050
End Time: 1235
☐ Bailer ☒ Pump
Pump Type: Mini Typhoon
Well Diameter: 4 inches
1x Well Volume: 14 gallons x3 = 42 gals

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)
1055	1	7.24	12.7	-113	1472		100.3	17.23
1100	3 4	7.24	13.1	-107	1449		35.3	17.81
1110	6	7.45	13.5	-105	1416		12.9	18.06
1120	9	7.37	13.6	-100	1429		12.55	19.19
1130	13	7.42	13.9	-102	1397		9.60	19.58
1145	20	7.38	14.7	-101	1379		5.89	21.64
1155	25	7.50	13.5	-104	1412		6.12	21.06
1205	30	7.45	13.9	-104	1440		5.17	21.96
1215	35	7.32	13.1	-99	1456		3.70	21.91
1225	40	7.39	14.3	-101	1462		3.04	21.10
1230	43	7.36	14.2	-104	1460		3.29	19.35
Final Sample Data:		7.36	14.2	-104	1460		3.29	19.35

JDH 10/15/15

Sample ID: MW-3R-OCT15
Sample Time: 1235
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID:
No. of Bottles:

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ IPA
☐ Metals/CN
☐ Dioxin

Comments: Well looks like it was damaged and new pad was built; Flow was irregular needed constant adjustment to maintain 1.5 Lpm.

Sampler(s): T. Dillon

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-35
EEEPC Project No.: 1703074.0012.03
Date: 10/15/15

Initial Depth to Water: 8.39 feet TOIC
Total Well Depth: 17.10 feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: 200 Lpm / gpm (mis)
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 12:44
End Time: 13:30
☐ Bailer ☒ Pump
Pump Type: Typhoon
Well Diameter: 2 inches
1x Well Volume: _____ gallons

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)
12:44	0	7.02	18.2	90.6	0.84	0.34	20.8	8.48
12:49	1.0	6.93	18.7	81.2	0.84	0.35	24.7	8.59
12:54	2.0	6.92	18.9	78.5	0.84	0.42	27.4	8.64
12:59	3.0	6.91	18.8	78.8	0.84	0.40	25.2	8.69
13:04	4.2	6.89	18.8	79.7	0.84	0.48	16.6	8.69
13:09	5.4	6.89	18.8	79.6	0.84	0.49	16.1	8.69
13:14	6.6	6.89	18.8	79.6	0.84	0.51	14.2	8.69
13:19	7.0	6.88	18.8	79.5	0.84	0.50	13.34	8.69
13:24	8.2	6.88	18.7	79.5	0.84	0.49	10.86	8.69
Final Sample Data:		6.88	18.7	79.5	0.84	0.49	10.86	8.69

Sample ID: MW35-Oct15
Sample Time: 13:30
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ EPA/CWA
☐ Pest.	☒ TAL
☐ Metals/CN	
☐ Dioxin	

Comments: _____

Sampler(s): C. Rood

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-5R
EEEPC Project No.: 1703074.0012.03
Date: 10/14/15

Initial Depth to Water: 14.17 feet TOIC
Total Well Depth: 34.75 feet TOIC
Depth to Pump: 32.75 feet TOIC
Initial Pump Rate: 2 (Lpm) / gpm
adjusted to: 200 mL/min at 1035
adjusted to: 1.5 L/min at 1050

Start Time: 0950
End Time: 1110
☐ Bailer ☒ Pump
Pump Type: Mini typhoon
Well Diameter: 4 inches
1x Well Volume: 13.4 gallons V3 = 40.3 gals

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)
0950	2	7.53	11.5	-97	2439	~~—~~	14.10	—
~~0955~~ 1005	8	7.38	11.8	-91	1766		2.56	15.78
1010	14	7.32	11.9	-82	1244		1.60	15.98
1015	16	7.31	11.9	-83	1161		0.97	16.04
1020	19	7.35	11.9	-83	1136		2.05	16.04
1025	23	7.36	11.6	-79	1122		1.60	16.25
1035	—	7.36	11.7	-76	1123		0.93	16.25
1050	27	7.50	11.7	-75	1142		3.51	15.58
1100	37	7.48	11.5	-76	1109		1.38	15.87
1105	41	7.46	11.9	-76	1099		1.16	15.91
Final Sample Data:		7.46	11.9	-76	1099	—	1.16	15.91

T. Dillon 10/14/15

Sample ID: MW-5R-0CT15
Sample Time: 1110
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID:
No. of Bottles:

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TPH
☐ Metals/CN
☐ Dioxin

Comments: Flow kept ~~—~~ changing from 1 gal/min to 2 gal/min; 1035 T. Dillon had to run to bathroom so flow was slowed to 200mL/min and L Rodell monitored purging. Samples taken at 200mL/min.

Sampler(s): T. Dillon

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW8R
EEEPC Project No.: 1703074.0012.03
Date: 10/13/15

Initial Depth to Water: 16.31 feet TOIC
Total Well Depth: 36.65 feet TOIC
Depth to Pump: 35.65 feet TOIC
Initial Pump Rate: .225 Lpm / gpm (m^L/s)
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 14:10
End Time: 14:55
☐ Bailer ☒ Pump
Pump Type: Typhoon
Well Diameter: 4 inches
1x Well Volume: _____ gallons

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)
14:10	0	7.09	14.7	-89.0	1.77	1.48	8.74	16.37
14:15	1.1	7.03	14.1	-113.9	1.78	0.27	0.29	17.90
14:20	2.2	7.03	14.	-114.0	1.78	0.27	3.64	18.10
14:25	3.3	7.03	14.2	-114.4	1.78	0.27	5.73	18.25
14:30	4.3	7.03	14.3	-109.6	1.78	0.29	4.92	18.41
14:35	5.3	7.03	14.4	-98.7	1.78	0.67	4.93	18.41
14:40	6.3	7.04	14.5	-102.6	1.77	0.51	4.99	18.41
14:45	7.3	7.04	14.4	-99.8	1.78	0.53	4.80	18.41
14:50	8.3	7.04	14.5	-99.6	1.77	0.54	4.78	18.41
Final Sample Data:		7.04	14.5	-99.6	1.77	0.54	4.78	18.41

Sample ID: MW8-Oct 15
Sample Time: 2:55
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ EPA/CWA
☐ Pest.	☒ TPH
☐ Metals/CN	
☐ Dioxin	

Comments: _____

Sampler(s): L. Rock C

Well Purge Form.xls

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-95
EEEPC Project No.: 1703074.0012.03
Date: 10/13/15

Initial Depth to Water: 7.26 feet TOIC
Total Well Depth: 15.91 feet TOIC
Depth to Pump: 14.91 feet TOIC
Initial Pump Rate: 0,200 (ppm) / gpm
adjusted to: 0.400 at 1125
adjusted to: _____ at _____

Start Time: 1052
End Time: 1145
☐ Bailer ☒ Pump
Pump Type: M.i. Typhoon
Well Diameter: 2 inches
1x Well Volume: 1.4 gallons x3 = 4.2 gals

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)
1055	1	6.7	18.1	141	773.1		89	11.96
1105	3	7.22	17.8	139	766.9		17.6	11.96
1115	5	7.33	17.6	121	766.9		8.43	11.96
1125	5 adjusted	7.38	18.00	94	760.0		11.32	12.37
1135	7	7.31	17.7	93	761.2		4.46	12.37
Final Sample Data:		7.31	17.7	93	761.2		4.46	12.37

10/13/15

Sample ID: MW-95-OCT15
Sample Time: 1145
Duplicate? ☒
MS/MSD? ☐
Dupe Samp ID: MW-95-OCT15-FD
No. of Bottles: 7

Analyses: ☒ VOCs ☒ SVOCs ☐ PCBs ☐ Pest. ☐ Metals/CN ☐ Dioxin
Methods: ☐ CLP ☐ SW846 ☐ EPA/CWA ☒ TP17

Comments: Regulator on m.i. typoon not working so a flow valve was used to control flow. Once 3x volume was reached a bailer was used to collect VOCs and the pump was used to collect SVOCs. More volume purged due to rain water collecting in annulus and some went down hole.

Sampler(s): T. Dillon

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW10R
EEEPC Project No.: 1703074.0012.03
Date: 10/10/15

Initial Depth to Water: 17.48 feet TOIC
Start Time: Purge 1 of 1
Total Well Depth: 35.51 feet TOIC
End Time:
Depth to Pump: 34.51 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 200 Lpm / gpm mls
Pump Type: Typhoon
adjusted to: _____ at _____
Well Diameter: 4 inches
adjusted to: _____ at _____
1x Well Volume: _____ gallons

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)
11:45	15	7.17	13.7	63.6	0.99	0.24	1.20	17.85
11:50	16	7.16	13.7	64.3	0.98	0.23	1.36	17.85
11:55	17	7.16	13.7	64.6	0.98	0.23	1.64	17.85
12:00	18	7.15	13.7	65.3	0.98	0.22	1.25	17.85
Final Sample Data:		7.15	13.7	65.3	0.98	0.22	1.25	17.85

Sample ID: MW10R-Oct15
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 12:10
MS/MSD? ☐
No. of Bottles: _____

Analyses:	Methods:
☑ VOCs	☐ CLP
☑ SVOCs	☐ SW846
☐ PCBs	☐ EPA/CWA
☐ Pest.	☑ TAL
☐ Metals/CN	
☐ Dioxin	

Comments: _____

Sampler(s): C. Reed C

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10f2

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW10R
EEEPC Project No.: 1703074.0012.03
Date: 10/14/15

Initial Depth to Water: 17.48 feet TOIC
Total Well Depth: 35.51 feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: 200 Lpm / gpm (mls)
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 10:30
End Time: 12:10
☐ Bailer ☒ Pump
Pump Type: Typhoon
Well Diameter: 4 inches
1x Well Volume: _____ gallons

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)
10:30	0	7.10	13.4	79.2	1.00	3.03	4.71	17.63
10:35	1L	7.10	13.6	80.8	1.03	3.60	4.35	17.64
10:40	2	7.11	13.5	74.6	1.03	1.58	4.42	17.68
10:45	3	7.10	13.3	52.6	1.03	0.56	3.97	1282
10:50	4	7.11	13.6	45.6	1.03	0.50	4.22	17.85
10:55	5	7.12	13.7	45.1	1.03	0.45	3.26	17.85
11:00	6	7.12	13.5	45.0	1.02	0.37	2.70	17.85
11:05	7	7.13	13.6	45.6	1.02	0.32	3.16	17.85
11:10	8	7.13	13.7	47.3	1.02	0.30	3.98	17.85
11:15	9	7.14	13.7	50.1	1.01	0.29	3.30	17.85
11:20	10	7.13	13.7	50.6	1.01	0.29	2.71	17.85
11:25	11	7.14	13.7	53.6	1.01	0.26	2.78	17.85
11:30	12	7.14	13.6	56.3	1.00	0.27	2.04	17.85
11:35	13	7.15	13.7	60.4	0.99	0.25	2.69	17.85
11:40	14	7.15	13.7	62.4	0.99	0.25	1.50	17.85
Final Sample Data:								

Sample ID: MW10R-Oct15
Sample Time: 12:10
Duplicate? ☐ Dupe Samp ID: _____
MS/MSD? ☐ No. of Bottles: _____

Analyses: / Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TAL
☐ Metals/CN
☐ Dioxin

Comments: _____

Sampler(s): L. Ruane

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-12R
EEEPC Project No.: 1703074.0012.03
Date: 10/9/15

Initial Depth to Water: 19.00 feet TOIC
Total Well Depth: 32.00 feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: 250 (mLpm) gpm
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 1133
End Time: 1218
☐ Bailer ☒ Pump
Pump Type: mini-typhoon
Well Diameter: 4 inches
1x Well Volume: 8.48 gallons 25.46=3vol

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)
1133	0	7.27	15.0	30.9	0.83	0.61	23.7	19.31
1138	.33	7.13	15.1	42.4	0.83	0.45	13.88	19.34
1143	.66	7.10	15.1	43.2	0.83	0.39	7.62	19.35
1148	.99	7.08	15.1	42.2	0.83	0.33	3.92	19.37
1153	1.32	7.07	15.0	35.3	0.83	0.33	1.97	19.41
1158	1.65	7.06	14.9	30.9	0.83	0.52	1.49	19.43
1203	1.98	7.06	14.8	28.3	0.83	0.33	1.50	19.43
1208	2.31	7.06	14.8	27.7	0.83	0.31	1.78	19.43
1213	2.64	7.06	14.7	26.4	0.83	0.25	1.38	19.45
1218	2.97	7.06	14.7	26.0	0.83	0.24	1.31	19.47
Final Sample Data:		7.06	14.7	26.0	0.83	0.24	1.31	19.47

Sample ID: MW-12R-0415
~~Duplicate?~~ ☐ ~~Dupe Samp ID:~~ _____
Sample Time: 1220
MS/MSD? ☒ No. of Bottles: 21

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☐ _____
☐ Metals/CN
☐ Dioxin
* TPH

Comments: PID reading: 0.0 ppm

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

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-12S
EEEPC Project No.: 1703074.0012.03
Date: 10/9/15
Initial Depth to Water: ~~3.09~~ 2.42 feet TOIC
Start Time: 1025
Total Well Depth: 14.67 feet TOIC
End Time: 1105
Depth to Pump: _____ feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 300 (mL)pm / gpm
Pump Type: mini-typhoon
adjusted to: _____ at _____
Well Diameter: 2 inches
adjusted to: _____ at _____
1x Well Volume: 1.99 gallons 3vol=5.99

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)
1025	0	6.31	17.1	221.2	1.00	4.49	12.81	
1030	.39	6.52	17.6	196.7	1.00	1.01	11.00	3.51
1035	.79	6.59	17.8	185.0	0.97	1.10	6.82	3.56
1040	1.18	6.67	17.9	172.6	0.98	1.09	3.60	3.75
1045	1.58	6.68	18.0	168.0	0.99	1.01	2.81	3.79
1050	1.98	6.69	18.0	164.0	1.00	0.90	2.42	3.81
1055	2.37	6.69	18.0	160.3	1.02	0.86	2.14	3.90
1100	2.77	6.70	18.0	159.1	1.02	0.81	1.77	3.94
1105	3.17	6.70	18.1	155.5	~~1.02~~ 1.02	0.72	1.85	3.99
Final Sample Data:		6.70	18.1	155.5	1.02	0.72	1.85	3.99

Sample ID: MW-12S-OCT15
~~Duplicate?~~ ☐
Dupe Samp ID: _____
Sample Time: 1107
~~MS/MSD?~~ ☐
No. of Bottles: 7

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☐ _____
☐ Metals/CN
☐ Dioxin
TPH

Comments: PID reading: 0.0ppm

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

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-13S
EEEPC Project No.: 1703074.0012.03
Date: 10/9/15

Initial Depth to Water: 3.35 feet TOIC
Total Well Depth: 13.75 feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: 100 (M) Lpm / gpm
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 1314
End Time: 1414
☐ Bailer ☒ Pump
Pump Type: mini typhoon
Well Diameter: 2 inches
1x Well Volume: 1.69 gallons 3vol = 5.08

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)
1314	0	7.12	19.1	-4.3	0.65	2.74	22.5	
1319	.13	7.09	19.3	7.5	0.64	2.01	19.2	3.38
1324	.26	7.09	19.5	5.7	0.63	1.65	17.8	3.38
1329	.39	7.09	19.5	17.3	0.63	2.18	15.4	3.38
1334	.53	7.09	19.6	42.2	0.61	2.10	13.3	3.40
1339	.66	7.09	19.6	56.4	0.61	2.22	13.20	3.41
1344	.79	7.08	19.6	68.3	0.62	2.34	9.54	3.41
1349	.92	7.07	19.5	75.6	0.63	2.16	7.53	3.42
1354	1.05	7.06	19.5	78.9	0.64	1.87	5.76	3.42
1359	1.18	7.05	19.6	79.7	0.64	2.20	5.05	3.42
~~1404~~	1.32	7.04	19.6	79.5	0.65	2.13	4.13	3.42
1409	1.45	7.04	19.6	79.6	0.65	2.10	3.86	3.42
1414	1.58	7.04	19.6	79.8	0.65	2.12	4.21	3.42
Final Sample Data:		7.04	19.6	79.8	0.65	2.12	4.21	3.42

Sample ID: MW-13S-0915
~~Duplicate?~~ ☐
Dupe Samp ID: _____
Sample Time: 1417
~~MS/MSD?~~ ☐
No. of Bottles: 7

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☒ EPA/CWA
☐ Pest. ☐ _____
☐ Metals/CN
☐ Dioxin
☒ TPH

Comments: PID reading: 0.0ppm

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

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY

Well ID: MW-14R

EEEPC Project No.: 1703074.0012.03

Date: 10/13/15

Initial Depth to Water: 5.95 feet TOIC

Start Time: 11:00

Total Well Depth: 33.98 feet TOIC

End Time: 12:08

Depth to Pump: 32.98 feet TOIC

☐ Bailer ☒ Pump

Initial Pump Rate: 250 mLs Lpm / gpm

Pump Type: Typhoon

adjusted to: ______ at ______

Well Diameter: 4 inches

adjusted to: ______ at ______

1x Well Volume: ______ gallons

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)
11:00	0	7.18	16.2	-90.2	1.01	2.91	11.87	6.24
11:05	1.25	7.15	15.7	-96.8	1.01	2.49	10.70	6.24
11:10	2.50	7.14	16.8	-110.2	1.01	1.86	16.9	6.24
11:15	3.75	7.16	16.3	-112.3	1.00	1.90	11.50	6.24
11:20	4.0	7.18	16.1	-111.2	1.00	1.99	12.78	6.24
11:25	4.25	7.20	15.8	-110.7	1.00	1.91	13.28	6.24
11:30	5.20	7.20	15.3	-102.6	1.00	1.35	9.13	6.24
11:35	6.25	7.20	15.5	-70.2	0.98	1.33	5.65	6.24
11:40	7.0	7.20	15.4	-70.0	0.98	1.33	5.22	6.24
11:45	8.25	7.22	15.5	-59.1	0.98	1.29	4.86	6.24
11:50	9.50	7.20	15.4	-59.3	0.98	1.24	4.80	6.24
11:55	10.75	7.20	15.3	-59.2	0.98	1.24	4.77	6.24
12:00	11.0	7.20	15.2	-59.1	0.98	1.23	4.80	6.24
		Lauren Rauh 10/13/15						
Final Sample Data:		7.20	15.2	-59.1	0.98	1.23	4.80	6.24

Sample ID: MW14R-oct15

Sample Time: 12:05

Duplicate? ☐

Dupe Samp ID: ______

MS/MSD? ☐

No. of Bottles: ______

Analyses:
- ☒ VOCs
- ☒ SVOCs
- ☐ PCBs
- ☐ Pest.
- ☐ Metals/CN
- ☐ Dioxin

Methods:
- ☐ CLP
- ☐ SW846
- ☐ EPA/CWA
- ☒ TPH

Comments: ______

Sampler(s): L. Rauh

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW145
EEEPC Project No.: 1703074.0012.03
Date: 10/13/15

Initial Depth to Water: 2.79 feet TOIC
Total Well Depth: 12.95 feet TOIC
Depth to Pump: 11.95 feet TOIC
Initial Pump Rate: 200 mL/min Lpm / gpm (mls)
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 12:35
End Time: 13:40
☐ Bailer ☒ Pump
Pump Type: Typhoon
Well Diameter: 2" inches
1x Well Volume: _____ gallons

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)
12:35	0	6.74	18.1	42.6	0.402	2.32	42.0	3.54
12:40	1.0	6.71	17.9	43.2	0.409	2.22	29.0	3.54
12:45	2.0	6.70	18.8	57.4	0.422	2.05	23.7	3.54
12:50	3.0	6.72	19.5	62.2	0.443	2.02	15.6	3.54
12:55	4.0	6.73	19.1	63.9	0.468	2.41	16.8	3.54
13:00	5.0	6.74	18.9	63.3	0.505	1.75	12.0	3.54
13:05	6.0	6.75	19.0	63.0	0.533	1.39	12.83	3.54
13:10	7.0	6.75	19.3	64.0	0.552	1.30	11.16	3.54
13:15	8.0	6.76	19.2	63.9	0.553	1.32	11.75	3.54
13:20	9.0	6.76	19.1	49.0	0.59	0.97	5.62	3.54
13:25	10.0	6.76	19.0	49.0	0.59	0.98	5.18	3.54
13:30	11.0	6.76	19.0	49.0	0.59	0.98	5.16	3.54
13:35	12.0	6.76	19.0	49.0	0.59	0.97	5.17	3.54
Final Sample Data:		6.76	19.0	49.0	0.57	0.97	5.17	3.54

Sample ID: MW145-oct15
Sample Time: 13:40
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses:
☒ VOCs
☒ SVOCs
☐ PCBs
☐ Pest.
☐ Metals/CN
☐ Dioxin

Methods:
☐ CLP
☐ SW846
☐ EPA/CWA
☒ TPH

Comments: _____

Sampler(s): L. Rood

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-15R
EEEPC Project No.: 1703074.0012.03
Date: 10/15/15

Initial Depth to Water: 15.26 feet TOIC
Total Well Depth: 30.34 feet TOIC
Depth to Pump: 29.34 feet TOIC
Initial Pump Rate: 200 Lpm / gpm (mls)
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 10:45
End Time: 12:05
☐ Bailer ☑ Pump
Pump Type: Typhoon
Well Diameter: 4 inches
1x Well Volume: _____ gallons

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)
10:45	0	7.05	13.7	27.6	0.97	6.53	8.40	15.51
10:50	1.0	6.97	14.1	+7.8	1.01	1.66	10.01	15.81
10:55	2.0	6.96	14.2	-10.1	1.00	1.99	9.21	15.81
11:00	3.0	6.97	14.2	-15.7	0.99	1.01	8.08	15.91
11:05	4.0	6.98	14.6	-16.0	0.93	0.97	6.75	15.91
11:10	5.0	6.99	14.4	-14.4	0.95	0.79	5.86	15.91
11:15	6.0	7.00	14.4	-8.0	0.93	0.66	5.74	15.91
11:20	7.0	7.01	14.5	-5.1	0.93	0.54	5.94	15.91
11:25	8.0	7.00	14.7	1.6	0.92	0.49	4.19	15.91
11:30	9.0	6.99	14.7	4.2	0.52	0.67	5.06	15.91
11:35	10.0	6.99	14.4	18.7	0.93	0.34	3.07	15.91
11:40	11.0	6.98	14.4	19.8	0.93	0.34	4.87	15.91
11:45	12.0	6.99	14.4	19.2	0.93	0.33	5.38	15.91
11:50	13.0	6.98	14.5	19.0	0.93	0.34	3.02	15.91
12:00	14.0	6.97	14.4	20.1	0.93	0.34	3.0	15.91
Final Sample Data:		6.97	14.4	20.1	0.93	0.34	3.0	15.91

Sample ID: MW15R-Oct15
Sample Time: 12:05
Duplicate? ☐ Dupe Samp ID: _____
MS/MSD? ☐ No. of Bottles: _____

Analyses: Methods:
☑ VOCs ☐ CLP
☑ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TCL
☐ Metals/CN
☐ Dioxin

Comments: _____
Sampler(s): C. Rock

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Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: MW-16R
EEEPC Project No.: 1703074.0012.03
Date: 10/15/15

Initial Depth to Water: 19.34 feet TOIC
Total Well Depth: 31.19 feet TOIC
Depth to Pump: 30.19 feet TOIC
Initial Pump Rate: 0.700 (lpm) gpm
adjusted to: _____ at _____
adjusted to: _____ at _____

Start Time: 1315
End Time: 1345
☐ Bailer ☒ Pump
Pump Type: Mini Typhoon
Well Diameter: 4 inches
1x Well Volume: 7.7 gallons X3 = 23.2 gals

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)
1315	0	8.23	15.5	-12	614.1		63	20.21
1325	4	7.82	14.9	-118	842.0		54	22.44
1330	5	7.62	15.1	-121	813.2		36.2	25.32
1345	— D RY		well	—	—	—	—	—
Final Sample Data:		7.62	15.1	-121	813.2		36.2	25.32

10/15/15

Sample ID: MW-16R-OCT15
Sample Time: 1400
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses: / Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TPH
☐ Metals/CN
☐ Dioxin

Comments: VOL samples collected at 200mL/min. Sulfur smell from water. Curb box looks damaged.

Sampler(s): T. Dillon

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: P2-1
EEEPC Project No.: 1703074.0012.03
Date: 10/16/15

Initial Depth to Water: 3.29 feet TOIC
Start Time: 1120
Total Well Depth: 12.22 feet TOIC
End Time: 1140
Depth to Pump: 11.22 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 0.400 (Lpm) / gpm
Pump Type: Peri pump
adjusted to: 0.200 at 1135
Well Diameter: 1 inches
adjusted to: _____ at _____
1x Well Volume: 0.37 gallons x3 = 1.1 gals

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)
1120	0	8.10	15.5	38	457.7	—	15.7	5.36
1125	0.5	7.73	15.9	10	395.4	—	10.04	7.13
1130	1.0	7.58	15.8	-35	502.7	—	11.21	8.10
1135	1.5	7.54	15.5	-60	538.7	—	9.64	8.44
Final Sample Data:		7.54	15.5	-60	538.7	—	9.69	8.44

J. Dilio 10/16/15

Sample ID: P2-1-OCT15
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1140
MS/MSD? ☐
No. of Bottles: _____

Analyses: / Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TOTH
☐ Metals/CN
☐ Dioxin

Comments: _____

Sampler(s): T. Dilio

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: PZ-2
EEEPC Project No.: 1703074.0012.03
Date: 10/16/15

Initial Depth to Water: 3.43 feet TOIC
Total Well Depth: 12.50 feet TOIC
Depth to Pump: 11.50 feet TOIC
Initial Pump Rate: 0.400 (lpm) / gpm
adjusted to: 0.220 at 1208
adjusted to: _____ at _____

Start Time: 1153
End Time: 1210
☐ Bailer ☒ Pump
Pump Type: peri pump
Well Diameter: 1 inches
1x Well Volume: 0.4 gallons X 3 = 1.1 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)
1153	0	7.85	16.1	-77	714.4	—	895	4.11
1158	0.5	7.58	16.3	-42	699.5	—	96	8.64
1203	1.0	7.56	16.1	-17	729.1	—	42.2	9.83
1208	1.5	7.69	16.2	-1	729.7	—	44.6	9.83
Final Sample Data:		7.64	16.2	-1	729.7	—	44.6	9.83

S-Pal 10/16/15

Sample ID: PZ-2-20151015
Sample Time: 1210
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TPH
☐ Metals/CN
☐ Dioxin

Comments: _____
Sampler(s): T. D. Wilson

ecology and environment engineering, p.c.
Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: PZ-3
EEEPC Project No.: 1703074.0012.03
Date: 10/16/15

Initial Depth to Water: 5.64 feet TOIC
Total Well Depth: 13.5 feet TOIC
Depth to Pump: 13.0 feet TOIC
Initial Pump Rate: 0.400 (Lpm) / gpm
adjusted to: 0.200 at 1055
adjusted to: _____ at _____

Start Time: 1045
End Time: 1200
☐ Bailer ☒ Pump
Pump Type: peri. pump
Well Diameter: 1 inches
1x Well Volume: 0.3 gallons x 3 = 1.0 gal

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (uS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1045	0.5	6.55	15.8	90	1458	—	27.6	7.00
1050	1.0	6.83	17.3	23	1780	↓	10.25	8.15
1055	1.5	6.98	16.9	-6	1796	↓	4.49	8.68
Final Sample Data:		6.98	16.9	-6	1796		4.49	8.68

10/16/15

Sample ID: PZ-3-OCT15
Sample Time: 1200
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses: / Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ EPA/CWA
☐ Pest. ☒ TPH
☐ Metals/CN
☐ Dioxin

Comments: _____

Sampler(s): T. D. Wood

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Global Environmental Specialists

WELL PURGE & SAMPLE RECORD

Site Name/Location: Davis Howland Oil Company, Rochester, NY
Well ID: PZ-4
EEEPC Project No.: 1703074.0012.03
Date: 10/16/15

Initial Depth to Water: 4.50 feet TOIC
Total Well Depth: 11.53 feet TOIC
Depth to Pump: 10.53 feet TOIC
Initial Pump Rate: 0.400 (Lpm) / gpm
adjusted to: 0.200 at 1243
adjusted to: _____ at _____

Start Time: 1233
End Time: 1300
☐ Bailer ☒ Pump
Pump Type: Peri. pump
Well Diameter: 1 inches
1x Well Volume: 0.29 gallons X = 3 = 0.9 gals

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)
1233	0	8.36	15.9	6	226.0	—	1004	5.04
1238	0.5	7.75	15.2	-29	545.4	—	4.75	8.11
1243	1.0	7.80	16.3	-27	466.9	—	14.2	9.22
~~1248~~	~~1.5~~							
Final Sample Data:		7.80	16.3	-27	466.9	—	14.2	9.22

10/16/15

Sample ID: PZ-4-Oct15
Sample Time: 1245
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____
No. of Bottles: _____

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ EPA/CWA
☐ Pest.	☒ TPH
☐ Metals/CN	
☐ Dioxin	

Comments: Sampling was slow due to low recharge rate.

Sampler(s): T. Dillon

October 26, 2015 Service Request No:R1508866

Ms. Ashlee Patnode
Ecology And Environment, Incorporated
368 Pleasantview Drive
Lancaster, NY 14086

Laboratory Results for: Davis Howland Oil Company Site - SW 10/2015

Dear Ms.Patnode,

Enclosed are the results of the sample(s) submitted to our laboratory October 15, 2015
For your reference, these analyses have been assigned our service request number **R1508866.**

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 ALS Environmental 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,

ALS Group USA, Corp. dba ALS Environmental

Karen Bunker
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

ALS Environmental

Client:	Ecology & Environment
Service Request No.:	R1508866
Project:	Davis Howland 10/2015 Semiannual
Date Received:	10/15,16/15
Sample Matrix:	Water
Project/Case No.:	

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS. 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 (20) water samples were collected and received for analysis at ALS on 10/15-16/15. 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 range of 13.6-14.3°C and 1.9-2.3°C respectively. The samples were received on ice on the same day as collected.

Volatile Organic Compounds

The samples were analyzed by GC/MS Method 624.

The Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) recoveries and RPD's were acceptable.

All sample vials were unpreserved and analyzed within 7 days as per the method.

The Laboratory Method Blank was free from Contamination except for Bromomethane on the 10/20/15 run. Affected data has been flagged as "B".

Hits between the Method Reporting Limit (MRL) and Method Detection Limit (MDL) have been flagged as "J", estimated.

No analytical or quality control problems were encountered during analysis.

Semivolatile Organic Compounds

The samples were analyzed by GC/MS Method 625.

The Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) had acceptable recoveries for these compounds except for Diphenylhydrazine (LCSD only) and Benzidine which was recovered below the Method Reporting Limit and has been flagged as "*". All RPD's were acceptable.

The samples were extracted and analyzed within holding time as per the method.

The Laboratory Method Blanks were free from contamination.

Surrogate recoveries were within acceptance limits.

No analytical or quality control problems were encountered during analysis.

NYSDEC 310-13

Samples were analyzed for Petroleum Products by NYSDEC 310-13 methodology. As per NYS, Gasoline and Lube Oil are required to be reported as Present or Absent rather than quantitatively. (Please note: this causes an error on the NYS EQUIS EDD).

The Initial and Continuing Calibration criteria were met for all samples.

Any hits that do not match the standards are reported as "n-Dodecane."

The Laboratory Method Blank (MB) was free from contamination.

The Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) recoveries were within QC acceptance limits. The RPD calculations were acceptable.

The Laboratory Method Blank was free from contamination.

All samples were analyzed within the appropriate holding time from collection to analysis.

No other analytical or QC problems were encountered.

Client: Ecology And Environment, Incorporated **Service Request:**R1508866

Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1508866-001	PW-1-OCT 15	10/15/2015	1005
R1508866-002	PW-2-01	10/15/2015	1216
R1508866-003	PW-2-02	10/15/2015	1216
R1508866-004	PW-2-03	10/15/2015	1216
R1508866-005	P-2-01	10/15/2015	1227
R1508866-006	P-2-02	10/15/2015	1227
R1508866-007	P-2-03	10/15/2015	1227
R1508866-008	P-3-01	10/15/2015	1242
R1508866-009	P-3-02	10/15/2015	1242
R1508866-010	P-3-03	10/15/2015	1242
R1508866-011	TB101515	10/15/2015	1000
R1508866-012	MW15R-Oct15	10/15/2015	1208
R1508866-013	MW3R-Oct15	10/15/2015	1235
R1508866-014	MW16R-Oct15	10/15/2015	1400
R1508866-015	MW-3S-Oct15	10/15/2015	1330
R1508866-016	MW10R-Oct15	10/16/2015	1210
R1508866-017	PZ1-Oct15	10/16/2015	1140
R1508866-018	PZ2-Oct15	10/16/2015	1210
R1508866-019	PZ-3-Oct15	10/16/2015	1200
R1508866-020	PZ4-Oct15	10/16/2015	1245

REPORT QUALIFIERS AND DEFINITIONS

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/Arclors).
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 ñNotesò 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 ñimmediateò 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 (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
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	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs 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 case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 10:05
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-1-OCT 15	**Units:**	ug/L
Lab Code:	R1508866-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**8.6**	2.0	0.40	2	10/16/15 17:59	
1,1,2,2-Tetrachloroethane	2.0 U	2.0	0.40	2	10/16/15 17:59	
1,1,2-Trichloroethane	2.0 U	2.0	0.40	2	10/16/15 17:59	
1,1-Dichloroethane (1,1-DCA)	**48**	2.0	0.42	2	10/16/15 17:59	
1,1-Dichloroethene (1,1-DCE)	**5.0**	2.0	0.40	2	10/16/15 17:59	
1,2-Dichlorobenzene	2.0 U	2.0	0.50	2	10/16/15 17:59	
1,2-Dichloroethane	2.0 U	2.0	0.40	2	10/16/15 17:59	
1,2-Dichloropropane	2.0 U	2.0	0.40	2	10/16/15 17:59	
1,3-Dichlorobenzene	2.0 U	2.0	0.44	2	10/16/15 17:59	
1,4-Dichlorobenzene	2.0 U	2.0	0.40	2	10/16/15 17:59	
2-Chloroethyl Vinyl Ether	20 U	20	1.2	2	10/16/15 17:59	
Acetone	10 U	10	5.6	2	10/16/15 17:59	
Benzene	**0.44 J**	2.0	0.40	2	10/16/15 17:59	
Bromodichloromethane	2.0 U	2.0	0.40	2	10/16/15 17:59	
Bromoform	2.0 U	2.0	0.40	2	10/16/15 17:59	
Bromomethane	2.0 U	2.0	0.88	2	10/16/15 17:59	
Carbon Tetrachloride	2.0 U	2.0	0.40	2	10/16/15 17:59	
Chlorobenzene	2.0 U	2.0	0.40	2	10/16/15 17:59	
Chloroethane	**0.80 J**	2.0	0.48	2	10/16/15 17:59	
Chloroform	2.0 U	2.0	0.40	2	10/16/15 17:59	
Chloromethane	2.0 U	2.0	0.40	2	10/16/15 17:59	
Dibromochloromethane	2.0 U	2.0	0.40	2	10/16/15 17:59	
Methylene Chloride	2.0 U	2.0	0.40	2	10/16/15 17:59	
Ethylbenzene	2.0 U	2.0	0.40	2	10/16/15 17:59	
Tetrachloroethene (PCE)	**44**	2.0	0.40	2	10/16/15 17:59	
Toluene	2.0 U	2.0	0.40	2	10/16/15 17:59	
Trichloroethene (TCE)	**34**	2.0	0.40	2	10/16/15 17:59	
Trichlorofluoromethane (CFC 11)	2.0 U	2.0	0.40	2	10/16/15 17:59	
Vinyl Chloride	**94**	2.0	0.40	2	10/16/15 17:59	
cis-1,2-Dichloroethene	**370**	2.0	0.40	2	10/16/15 17:59	
cis-1,3-Dichloropropene	2.0 U	2.0	0.40	2	10/16/15 17:59	
m,p-Xylenes	4.0 U	4.0	0.52	2	10/16/15 17:59	
o-Xylene	2.0 U	2.0	0.40	2	10/16/15 17:59	
trans-1,2-Dichloroethene	**4.2**	2.0	0.40	2	10/16/15 17:59	
trans-1,3-Dichloropropene	2.0 U	2.0	0.40	2	10/16/15 17:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	106	81 - 127	10/16/15 17:59	
4-Bromofluorobenzene	97	79 - 123	10/16/15 17:59	
Toluene-d8	102	83 - 120	10/16/15 17:59	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 10:05
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-1-OCT 15	**Units:**	ug/L
Lab Code:	R1508866-001	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 00:54	10/16/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 00:54	10/16/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 00:54	10/16/15	
Gasoline	**Absence**	-	1	10/23/15 00:54	10/16/15	
Kerosene	1000 U	1000	1	10/23/15 00:54	10/16/15	
Lube Oil	**Absence**	-	1	10/23/15 00:54	10/16/15	
n-Dodecane	1000 U	1000	1	10/23/15 00:54	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 10:05
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-1-OCT 15	**Units:**	ug/L
Lab Code:	R1508866-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/20/15 05:51	10/16/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/20/15 05:51	10/16/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/20/15 05:51	10/16/15	
2,4-Dinitrophenol	47 U	47	20	1	10/20/15 05:51	10/16/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/20/15 05:51	10/16/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/20/15 05:51	10/16/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/20/15 05:51	10/16/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/20/15 05:51	10/16/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/20/15 05:51	10/16/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/20/15 05:51	10/16/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/20/15 05:51	10/16/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/20/15 05:51	10/16/15	
4-Nitrophenol	47 U	47	5.9	1	10/20/15 05:51	10/16/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Anthracene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Benzidine	94 U	94	90	1	10/20/15 05:51	10/16/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/20/15 05:51	10/16/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/20/15 05:51	10/16/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/20/15 05:51	10/16/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/20/15 05:51	10/16/15	
Chrysene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/20/15 05:51	10/16/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/20/15 05:51	10/16/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Fluorene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/20/15 05:51	10/16/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/20/15 05:51	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 10:05
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-1-OCT 15	**Units:**	ug/L
Lab Code:	R1508866-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/20/15 05:51	10/16/15	
Isophorone	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/20/15 05:51	10/16/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Naphthalene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/20/15 05:51	10/16/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/20/15 05:51	10/16/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Phenol	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	
Pyrene	4.7 U	4.7	1.0	1	10/20/15 05:51	10/16/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	88	28 - 157	10/20/15 05:51	
2-Fluorobiphenyl	77	39 - 119	10/20/15 05:51	
2-Fluorophenol	44	10 - 105	10/20/15 05:51	
Nitrobenzene-d5	78	37 - 117	10/20/15 05:51	
Phenol-d6	30	10 - 107	10/20/15 05:51	
p-Terphenyl-d14	93	40 - 133	10/20/15 05:51	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:16
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-2-01	**Units:**	ug/L
Lab Code:	R1508866-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**1.1 J**	2.5	0.50	2.5	10/20/15 22:11	
1,1,2,2-Tetrachloroethane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
1,1,2-Trichloroethane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
1,1-Dichloroethane (1,1-DCA)	**32**	2.5	0.53	2.5	10/20/15 22:11	
1,1-Dichloroethene (1,1-DCE)	**5.8**	2.5	0.50	2.5	10/20/15 22:11	
1,2-Dichlorobenzene	2.5 U	2.5	0.63	2.5	10/20/15 22:11	
1,2-Dichloroethane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
1,2-Dichloropropane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
1,3-Dichlorobenzene	2.5 U	2.5	0.55	2.5	10/20/15 22:11	
1,4-Dichlorobenzene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
2-Chloroethyl Vinyl Ether	25 U	25	1.5	2.5	10/20/15 22:11	
Acetone	13 U	13	6.9	2.5	10/20/15 22:11	
Benzene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Bromodichloromethane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Bromoform	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Bromomethane	2.5 U	2.5	1.1	2.5	10/20/15 22:11	
Carbon Tetrachloride	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Chlorobenzene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Chloroethane	2.5 U	2.5	0.60	2.5	10/20/15 22:11	
Chloroform	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Chloromethane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Dibromochloromethane	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Methylene Chloride	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Ethylbenzene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Tetrachloroethene (PCE)	**0.98 J**	2.5	0.50	2.5	10/20/15 22:11	
Toluene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Trichloroethene (TCE)	**12**	2.5	0.50	2.5	10/20/15 22:11	
Trichlorofluoromethane (CFC 11)	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
Vinyl Chloride	**4.0**	2.5	0.50	2.5	10/20/15 22:11	
cis-1,2-Dichloroethene	**370**	2.5	0.50	2.5	10/20/15 22:11	
cis-1,3-Dichloropropene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
m,p-Xylenes	5.0 U	5.0	0.65	2.5	10/20/15 22:11	
o-Xylene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	
trans-1,2-Dichloroethene	**1.3 J**	2.5	0.50	2.5	10/20/15 22:11	
trans-1,3-Dichloropropene	2.5 U	2.5	0.50	2.5	10/20/15 22:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	99	81 - 127	10/20/15 22:11	
4-Bromofluorobenzene	98	79 - 123	10/20/15 22:11	
Toluene-d8	102	83 - 120	10/20/15 22:11	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:16
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-2-02	**Units:**	ug/L
Lab Code:	R1508866-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
1,2-Diphenylhydrazine	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
2,4,6-Trichlorophenol	5.0 U	5.0	1.4	1	10/20/15 06:17	10/16/15	
2,4-Dichlorophenol	5.0 U	5.0	1.3	1	10/20/15 06:17	10/16/15	
2,4-Dimethylphenol	5.0 U	5.0	1.5	1	10/20/15 06:17	10/16/15	
2,4-Dinitrophenol	50 U	50	20	1	10/20/15 06:17	10/16/15	
2,4-Dinitrotoluene	5.0 U	5.0	1.6	1	10/20/15 06:17	10/16/15	
2,6-Dinitrotoluene	5.0 U	5.0	1.8	1	10/20/15 06:17	10/16/15	
2-Chloronaphthalene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
2-Chlorophenol	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
2-Nitrophenol	5.0 U	5.0	1.4	1	10/20/15 06:17	10/16/15	
3,3'-Dichlorobenzidine	5.0 U	5.0	4.5	1	10/20/15 06:17	10/16/15	
4,6-Dinitro-o-cresol	50 U	50	11	1	10/20/15 06:17	10/16/15	
4-Bromophenyl Phenyl Ether	5.0 U	5.0	2.2	1	10/20/15 06:17	10/16/15	
4-Chloro-m-cresol	5.0 U	5.0	1.2	1	10/20/15 06:17	10/16/15	
4-Chlorophenyl Phenyl Ether	5.0 U	5.0	1.2	1	10/20/15 06:17	10/16/15	
4-Nitrophenol	50 U	50	5.9	1	10/20/15 06:17	10/16/15	
Acenaphthene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Acenaphthylene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Anthracene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Benz(a)anthracene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Benzidine	99 U	99	90	1	10/20/15 06:17	10/16/15	
Benzo(a)pyrene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
3,4-Benzofluoranthene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Benzo(g,h,i)perylene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Benzo(k)fluoranthene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Bis(1-chloroisopropyl) Ether	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Bis(2-chloroethoxy)methane	5.0 U	5.0	2.2	1	10/20/15 06:17	10/16/15	
Bis(2-chloroethyl) Ether	5.0 U	5.0	1.3	1	10/20/15 06:17	10/16/15	
Bis(2-ethylhexyl) Phthalate	5.0 U	5.0	1.2	1	10/20/15 06:17	10/16/15	
Butyl Benzyl Phthalate	5.0 U	5.0	2.4	1	10/20/15 06:17	10/16/15	
Chrysene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Di-n-butyl Phthalate	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Di-n-octyl Phthalate	5.0 U	5.0	1.2	1	10/20/15 06:17	10/16/15	
Dibenz(a,h)anthracene	5.0 U	5.0	1.3	1	10/20/15 06:17	10/16/15	
Diethyl Phthalate	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Dimethyl Phthalate	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Fluoranthene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Fluorene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Hexachlorobenzene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Hexachlorobutadiene	5.0 U	5.0	1.3	1	10/20/15 06:17	10/16/15	
Hexachlorocyclopentadiene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Hexachloroethane	5.0 U	5.0	1.2	1	10/20/15 06:17	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:16
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-2-02	**Units:**	ug/L
Lab Code:	R1508866-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	5.0 U	5.0	1.2	1	10/20/15 06:17	10/16/15	
Isophorone	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
N-Nitrosodi-n-propylamine	5.0 U	5.0	1.3	1	10/20/15 06:17	10/16/15	
N-Nitrosodimethylamine	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
N-Nitrosodiphenylamine	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Naphthalene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Nitrobenzene	5.0 U	5.0	1.6	1	10/20/15 06:17	10/16/15	
Pentachlorophenol (PCP)	50 U	50	6.9	1	10/20/15 06:17	10/16/15	
Phenanthrene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Phenol	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	
Pyrene	5.0 U	5.0	1.0	1	10/20/15 06:17	10/16/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	89	28 - 157	10/20/15 06:17	
2-Fluorobiphenyl	78	39 - 119	10/20/15 06:17	
2-Fluorophenol	50	10 - 105	10/20/15 06:17	
Nitrobenzene-d5	81	37 - 117	10/20/15 06:17	
Phenol-d6	34	10 - 107	10/20/15 06:17	
p-Terphenyl-d14	95	40 - 133	10/20/15 06:17	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:16
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	PW-2-03	**Units:**	ug/L
Lab Code:	R1508866-004	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 01:16	10/16/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 01:16	10/16/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 01:16	10/16/15	
Gasoline	**Absence**	-	1	10/23/15 01:16	10/16/15	
Kerosene	1000 U	1000	1	10/23/15 01:16	10/16/15	
Lube Oil	**Absence**	-	1	10/23/15 01:16	10/16/15	
n-Dodecane	1000 U	1000	1	10/23/15 01:16	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:27
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-2-01	**Units:**	ug/L
Lab Code:	R1508866-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**23**	5.0	1.0	5	10/16/15 19:03	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1.0	5	10/16/15 19:03	
1,1,2-Trichloroethane	5.0 U	5.0	1.0	5	10/16/15 19:03	
1,1-Dichloroethane (1,1-DCA)	**120**	5.0	1.1	5	10/16/15 19:03	
1,1-Dichloroethene (1,1-DCE)	**4.4 J**	5.0	1.0	5	10/16/15 19:03	
1,2-Dichlorobenzene	5.0 U	5.0	1.3	5	10/16/15 19:03	
1,2-Dichloroethane	5.0 U	5.0	1.0	5	10/16/15 19:03	
1,2-Dichloropropane	5.0 U	5.0	1.0	5	10/16/15 19:03	
1,3-Dichlorobenzene	5.0 U	5.0	1.1	5	10/16/15 19:03	
1,4-Dichlorobenzene	5.0 U	5.0	1.0	5	10/16/15 19:03	
2-Chloroethyl Vinyl Ether	50 U	50	3.0	5	10/16/15 19:03	
Acetone	25 U	25	14	5	10/16/15 19:03	
Benzene	5.0 U	5.0	1.0	5	10/16/15 19:03	
Bromodichloromethane	5.0 U	5.0	1.0	5	10/16/15 19:03	
Bromoform	5.0 U	5.0	1.0	5	10/16/15 19:03	
Bromomethane	5.0 U	5.0	2.2	5	10/16/15 19:03	
Carbon Tetrachloride	5.0 U	5.0	1.0	5	10/16/15 19:03	
Chlorobenzene	5.0 U	5.0	1.0	5	10/16/15 19:03	
Chloroethane	**1.7 J**	5.0	1.2	5	10/16/15 19:03	
Chloroform	5.0 U	5.0	1.0	5	10/16/15 19:03	
Chloromethane	5.0 U	5.0	1.0	5	10/16/15 19:03	
Dibromochloromethane	5.0 U	5.0	1.0	5	10/16/15 19:03	
Methylene Chloride	5.0 U	5.0	1.0	5	10/16/15 19:03	
Ethylbenzene	5.0 U	5.0	1.0	5	10/16/15 19:03	
Tetrachloroethene (PCE)	**12**	5.0	1.0	5	10/16/15 19:03	
Toluene	5.0 U	5.0	1.0	5	10/16/15 19:03	
Trichloroethene (TCE)	**56**	5.0	1.0	5	10/16/15 19:03	
Trichlorofluoromethane (CFC 11)	5.0 U	5.0	1.0	5	10/16/15 19:03	
Vinyl Chloride	**190**	5.0	1.0	5	10/16/15 19:03	
cis-1,2-Dichloroethene	**560**	5.0	1.0	5	10/16/15 19:03	
cis-1,3-Dichloropropene	5.0 U	5.0	1.0	5	10/16/15 19:03	
m,p-Xylenes	10 U	10	1.3	5	10/16/15 19:03	
o-Xylene	5.0 U	5.0	1.0	5	10/16/15 19:03	
trans-1,2-Dichloroethene	**8.3**	5.0	1.0	5	10/16/15 19:03	
trans-1,3-Dichloropropene	5.0 U	5.0	1.0	5	10/16/15 19:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	81 - 127	10/16/15 19:03	
4-Bromofluorobenzene	98	79 - 123	10/16/15 19:03	
Toluene-d8	104	83 - 120	10/16/15 19:03	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:27
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-2-02	**Units:**	ug/L
Lab Code:	R1508866-006	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/20/15 06:43	10/16/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/20/15 06:43	10/16/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/20/15 06:43	10/16/15	
2,4-Dinitrophenol	47 U	47	20	1	10/20/15 06:43	10/16/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/20/15 06:43	10/16/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/20/15 06:43	10/16/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/20/15 06:43	10/16/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/20/15 06:43	10/16/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/20/15 06:43	10/16/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/20/15 06:43	10/16/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/20/15 06:43	10/16/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/20/15 06:43	10/16/15	
4-Nitrophenol	47 U	47	5.9	1	10/20/15 06:43	10/16/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Anthracene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Benzidine	94 U	94	90	1	10/20/15 06:43	10/16/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/20/15 06:43	10/16/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/20/15 06:43	10/16/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/20/15 06:43	10/16/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/20/15 06:43	10/16/15	
Chrysene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/20/15 06:43	10/16/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/20/15 06:43	10/16/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Fluorene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/20/15 06:43	10/16/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/20/15 06:43	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:27
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-2-02	**Units:**	ug/L
Lab Code:	R1508866-006	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/20/15 06:43	10/16/15	
Isophorone	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/20/15 06:43	10/16/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Naphthalene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/20/15 06:43	10/16/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/20/15 06:43	10/16/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Phenol	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	
Pyrene	4.7 U	4.7	1.0	1	10/20/15 06:43	10/16/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	90	28 - 157	10/20/15 06:43	
2-Fluorobiphenyl	76	39 - 119	10/20/15 06:43	
2-Fluorophenol	46	10 - 105	10/20/15 06:43	
Nitrobenzene-d5	79	37 - 117	10/20/15 06:43	
Phenol-d6	31	10 - 107	10/20/15 06:43	
p-Terphenyl-d14	91	40 - 133	10/20/15 06:43	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:27
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-2-03	**Units:**	ug/L
Lab Code:	R1508866-007	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 01:39	10/16/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 01:39	10/16/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 01:39	10/16/15	
Gasoline	**Absence**	-	1	10/23/15 01:39	10/16/15	
Kerosene	1000 U	1000	1	10/23/15 01:39	10/16/15	
Lube Oil	**Absence**	-	1	10/23/15 01:39	10/16/15	
n-Dodecane	1000 U	1000	1	10/23/15 01:39	10/16/15	

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Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:42
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-3-01	**Units:**	ug/L
Lab Code:	R1508866-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**160**		20	4.0	20	10/16/15 17:25	
1,1,2,2-Tetrachloroethane	20	U	20	4.0	20	10/16/15 17:25	
1,1,2-Trichloroethane	20	U	20	4.0	20	10/16/15 17:25	
1,1-Dichloroethane (1,1-DCA)	**47**		20	4.2	20	10/16/15 17:25	
1,1-Dichloroethene (1,1-DCE)	**28**		20	4.0	20	10/16/15 17:25	
1,2-Dichlorobenzene	20	U	20	5.0	20	10/16/15 17:25	
1,2-Dichloroethane	20	U	20	4.0	20	10/16/15 17:25	
1,2-Dichloropropane	20	U	20	4.0	20	10/16/15 17:25	
1,3-Dichlorobenzene	20	U	20	4.4	20	10/16/15 17:25	
1,4-Dichlorobenzene	20	U	20	4.0	20	10/16/15 17:25	
2-Chloroethyl Vinyl Ether	200	U	200	12	20	10/16/15 17:25	
Acetone	100	U	100	56	20	10/16/15 17:25	
Benzene	20	U	20	4.0	20	10/16/15 17:25	
Bromodichloromethane	20	U	20	4.0	20	10/16/15 17:25	
Bromoform	20	U	20	4.0	20	10/16/15 17:25	
Bromomethane	20	U	20	8.8	20	10/16/15 17:25	
Carbon Tetrachloride	20	U	20	4.0	20	10/16/15 17:25	
Chlorobenzene	20	U	20	4.0	20	10/16/15 17:25	
Chloroethane	20	U	20	4.8	20	10/16/15 17:25	
Chloroform	20	U	20	4.0	20	10/16/15 17:25	
Chloromethane	20	U	20	4.0	20	10/16/15 17:25	
Dibromochloromethane	20	U	20	4.0	20	10/16/15 17:25	
Methylene Chloride	20	U	20	4.0	20	10/16/15 17:25	
Ethylbenzene	20	U	20	4.0	20	10/16/15 17:25	
Tetrachloroethene (PCE)	**3700**		20	4.0	20	10/16/15 17:25	
Toluene	20	U	20	4.0	20	10/16/15 17:25	
Trichloroethene (TCE)	**1000**		20	4.0	20	10/16/15 17:25	
Trichlorofluoromethane (CFC 11)	20	U	20	4.0	20	10/16/15 17:25	
Vinyl Chloride	**8.2**	**J**	20	4.0	20	10/16/15 17:25	
cis-1,2-Dichloroethene	**2900**		20	4.0	20	10/16/15 17:25	
cis-1,3-Dichloropropene	20	U	20	4.0	20	10/16/15 17:25	
m,p-Xylenes	40	U	40	5.2	20	10/16/15 17:25	
o-Xylene	**4.4**	**J**	20	4.0	20	10/16/15 17:25	
trans-1,2-Dichloroethene	**4.4**	**J**	20	4.0	20	10/16/15 17:25	
trans-1,3-Dichloropropene	20	U	20	4.0	20	10/16/15 17:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	103	81 - 127	10/16/15 17:25	
4-Bromofluorobenzene	96	79 - 123	10/16/15 17:25	
Toluene-d8	101	83 - 120	10/16/15 17:25	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:42
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-3-02	**Units:**	ug/L
Lab Code:	R1508866-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/20/15 07:08	10/16/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/20/15 07:08	10/16/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/20/15 07:08	10/16/15	
2,4-Dinitrophenol	47 U	47	20	1	10/20/15 07:08	10/16/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/20/15 07:08	10/16/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/20/15 07:08	10/16/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/20/15 07:08	10/16/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/20/15 07:08	10/16/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/20/15 07:08	10/16/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/20/15 07:08	10/16/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/20/15 07:08	10/16/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/20/15 07:08	10/16/15	
4-Nitrophenol	47 U	47	5.9	1	10/20/15 07:08	10/16/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Anthracene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Benzidine	94 U	94	90	1	10/20/15 07:08	10/16/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/20/15 07:08	10/16/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/20/15 07:08	10/16/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/20/15 07:08	10/16/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/20/15 07:08	10/16/15	
Chrysene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/20/15 07:08	10/16/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/20/15 07:08	10/16/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Fluorene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/20/15 07:08	10/16/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/20/15 07:08	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:42
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-3-02	**Units:**	ug/L
Lab Code:	R1508866-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/20/15 07:08	10/16/15	
Isophorone	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/20/15 07:08	10/16/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Naphthalene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/20/15 07:08	10/16/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/20/15 07:08	10/16/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Phenol	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	
Pyrene	4.7 U	4.7	1.0	1	10/20/15 07:08	10/16/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	88	28 - 157	10/20/15 07:08	
2-Fluorobiphenyl	75	39 - 119	10/20/15 07:08	
2-Fluorophenol	46	10 - 105	10/20/15 07:08	
Nitrobenzene-d5	77	37 - 117	10/20/15 07:08	
Phenol-d6	31	10 - 107	10/20/15 07:08	
p-Terphenyl-d14	93	40 - 133	10/20/15 07:08	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:42
Sample Matrix:	Water	**Date Received:**	10/15/15 15:48
Sample Name:	P-3-03	**Units:**	ug/L
Lab Code:	R1508866-010	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1100 U	1100	1.1	10/23/15 02:01	10/16/15	
Fuel Oil No. 4	1100 U	1100	1.1	10/23/15 02:01	10/16/15	
Fuel Oil No. 6	1100 U	1100	1.1	10/23/15 02:01	10/16/15	
Gasoline	**Absence**	-	1.1	10/23/15 02:01	10/16/15	
Kerosene	1100 U	1100	1.1	10/23/15 02:01	10/16/15	
Lube Oil	**Absence**	-	1.1	10/23/15 02:01	10/16/15	
n-Dodecane	1100 U	1100	1.1	10/23/15 02:01	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 10:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	TB101515	**Units:**	ug/L
Lab Code:	R1508866-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/20/15 17:24	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 17:24	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 17:24	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.21	1	10/20/15 17:24	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.20	1	10/20/15 17:24	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 17:24	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 17:24	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 17:24	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 17:24	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 17:24	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 17:24	
Acetone	5.0 U	5.0	2.8	1	10/20/15 17:24	
Benzene	1.0 U	1.0	0.20	1	10/20/15 17:24	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 17:24	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 17:24	
Bromomethane	**0.53 BJ**	1.0	0.44	1	10/20/15 17:24	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 17:24	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 17:24	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 17:24	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 17:24	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 17:24	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 17:24	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 17:24	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 17:24	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 17:24	
Toluene	1.0 U	1.0	0.20	1	10/20/15 17:24	
Trichloroethene (TCE)	1.0 U	1.0	0.20	1	10/20/15 17:24	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 17:24	
Vinyl Chloride	1.0 U	1.0	0.20	1	10/20/15 17:24	
cis-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 17:24	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 17:24	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 17:24	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 17:24	
trans-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 17:24	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 17:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	107	81 - 127	10/20/15 17:24	
4-Bromofluorobenzene	94	79 - 123	10/20/15 17:24	
Toluene-d8	97	83 - 120	10/20/15 17:24	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:08
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW15R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/20/15 17:56	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 17:56	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 17:56	
1,1-Dichloroethane (1,1-DCA)	**0.47 J**	1.0	0.21	1	10/20/15 17:56	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.20	1	10/20/15 17:56	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 17:56	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 17:56	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 17:56	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 17:56	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 17:56	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 17:56	
Acetone	5.0 U	5.0	2.8	1	10/20/15 17:56	
Benzene	1.0 U	1.0	0.20	1	10/20/15 17:56	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 17:56	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 17:56	
Bromomethane	1.0 U	1.0	0.44	1	10/20/15 17:56	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 17:56	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 17:56	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 17:56	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 17:56	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 17:56	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 17:56	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 17:56	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 17:56	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 17:56	
Toluene	1.0 U	1.0	0.20	1	10/20/15 17:56	
Trichloroethene (TCE)	**1.7**	1.0	0.20	1	10/20/15 17:56	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 17:56	
Vinyl Chloride	**1.2**	1.0	0.20	1	10/20/15 17:56	
cis-1,2-Dichloroethene	**6.1**	1.0	0.20	1	10/20/15 17:56	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 17:56	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 17:56	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 17:56	
trans-1,2-Dichloroethene	**0.41 J**	1.0	0.20	1	10/20/15 17:56	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 17:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	98	81 - 127	10/20/15 17:56	
4-Bromofluorobenzene	96	79 - 123	10/20/15 17:56	
Toluene-d8	100	83 - 120	10/20/15 17:56	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:08
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW15R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-012	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 03:31	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 03:31	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 03:31	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 03:31	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 03:31	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 03:31	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 03:31	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:08
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW15R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-012	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 21:03	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 21:03	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 21:03	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 21:03	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 21:03	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 21:03	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 21:03	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 21:03	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 21:03	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 21:03	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 21:03	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 21:03	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 21:03	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 21:03	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 21:03	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 21:03	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 21:03	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 21:03	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 21:03	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 21:03	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 21:03	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 21:03	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:08
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW15R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-012	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 21:03	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 21:03	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 21:03	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 21:03	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/21/15 21:03	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	99	28 - 157	10/21/15 21:03	
2-Fluorobiphenyl	89	39 - 119	10/21/15 21:03	
2-Fluorophenol	49	10 - 105	10/21/15 21:03	
Nitrobenzene-d5	87	37 - 117	10/21/15 21:03	
Phenol-d6	32	10 - 107	10/21/15 21:03	
p-Terphenyl-d14	93	40 - 133	10/21/15 21:03	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:35
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW3R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	10 U	10	2.0	10	10/20/15 22:43	
1,1,2,2-Tetrachloroethane	10 U	10	2.0	10	10/20/15 22:43	
1,1,2-Trichloroethane	10 U	10	2.0	10	10/20/15 22:43	
1,1-Dichloroethane (1,1-DCA)	**52**	10	2.1	10	10/20/15 22:43	
1,1-Dichloroethene (1,1-DCE)	**18**	10	2.0	10	10/20/15 22:43	
1,2-Dichlorobenzene	10 U	10	2.5	10	10/20/15 22:43	
1,2-Dichloroethane	10 U	10	2.0	10	10/20/15 22:43	
1,2-Dichloropropane	10 U	10	2.0	10	10/20/15 22:43	
1,3-Dichlorobenzene	10 U	10	2.2	10	10/20/15 22:43	
1,4-Dichlorobenzene	10 U	10	2.0	10	10/20/15 22:43	
2-Chloroethyl Vinyl Ether	100 U	100	6.0	10	10/20/15 22:43	
Acetone	50 U	50	28	10	10/20/15 22:43	
Benzene	10 U	10	2.0	10	10/20/15 22:43	
Bromodichloromethane	10 U	10	2.0	10	10/20/15 22:43	
Bromoform	10 U	10	2.0	10	10/20/15 22:43	
Bromomethane	10 U	10	4.4	10	10/20/15 22:43	
Carbon Tetrachloride	10 U	10	2.0	10	10/20/15 22:43	
Chlorobenzene	10 U	10	2.0	10	10/20/15 22:43	
Chloroethane	10 U	10	2.4	10	10/20/15 22:43	
Chloroform	10 U	10	2.0	10	10/20/15 22:43	
Chloromethane	10 U	10	2.0	10	10/20/15 22:43	
Dibromochloromethane	10 U	10	2.0	10	10/20/15 22:43	
Methylene Chloride	10 U	10	2.0	10	10/20/15 22:43	
Ethylbenzene	10 U	10	2.0	10	10/20/15 22:43	
Tetrachloroethene (PCE)	10 U	10	2.0	10	10/20/15 22:43	
Toluene	10 U	10	2.0	10	10/20/15 22:43	
Trichloroethene (TCE)	**5.4 J**	10	2.0	10	10/20/15 22:43	
Trichlorofluoromethane (CFC 11)	10 U	10	2.0	10	10/20/15 22:43	
Vinyl Chloride	**320**	10	2.0	10	10/20/15 22:43	
cis-1,2-Dichloroethene	**1400**	10	2.0	10	10/20/15 22:43	
cis-1,3-Dichloropropene	10 U	10	2.0	10	10/20/15 22:43	
m,p-Xylenes	20 U	20	2.6	10	10/20/15 22:43	
o-Xylene	10 U	10	2.0	10	10/20/15 22:43	
trans-1,2-Dichloroethene	**3.3 J**	10	2.0	10	10/20/15 22:43	
trans-1,3-Dichloropropene	10 U	10	2.0	10	10/20/15 22:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	105	81 - 127	10/20/15 22:43	
4-Bromofluorobenzene	98	79 - 123	10/20/15 22:43	
Toluene-d8	98	83 - 120	10/20/15 22:43	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:35
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW3R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-013	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 03:54	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 03:54	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 03:54	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 03:54	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 03:54	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 03:54	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 03:54	10/20/15	

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:35
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW3R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 21:28	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 21:28	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 21:28	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 21:28	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 21:28	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 21:28	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 21:28	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 21:28	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 21:28	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 21:28	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 21:28	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 21:28	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 21:28	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 21:28	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 21:28	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 21:28	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 21:28	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 21:28	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 21:28	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 21:28	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 21:28	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 21:28	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 12:35
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW3R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 21:28	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 21:28	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 21:28	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 21:28	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/21/15 21:28	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	28 - 157	10/21/15 21:28	
2-Fluorobiphenyl	89	39 - 119	10/21/15 21:28	
2-Fluorophenol	45	10 - 105	10/21/15 21:28	
Nitrobenzene-d5	85	37 - 117	10/21/15 21:28	
Phenol-d6	28	10 - 107	10/21/15 21:28	
p-Terphenyl-d14	92	40 - 133	10/21/15 21:28	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 14:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW16R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/20/15 21:39	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 21:39	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 21:39	
1,1-Dichloroethane (1,1-DCA)	**8.0**	1.0	0.21	1	10/20/15 21:39	
1,1-Dichloroethene (1,1-DCE)	**1.4**	1.0	0.20	1	10/20/15 21:39	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 21:39	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 21:39	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 21:39	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 21:39	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 21:39	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 21:39	
Acetone	5.0 U	5.0	2.8	1	10/20/15 21:39	
Benzene	1.0 U	1.0	0.20	1	10/20/15 21:39	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 21:39	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 21:39	
Bromomethane	1.0 U	1.0	0.44	1	10/20/15 21:39	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 21:39	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 21:39	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 21:39	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 21:39	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 21:39	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 21:39	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 21:39	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 21:39	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 21:39	
Toluene	1.0 U	1.0	0.20	1	10/20/15 21:39	
Trichloroethene (TCE)	**0.65 J**	1.0	0.20	1	10/20/15 21:39	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 21:39	
Vinyl Chloride	**46**	1.0	0.20	1	10/20/15 21:39	
cis-1,2-Dichloroethene	**140**	1.0	0.20	1	10/20/15 21:39	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 21:39	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 21:39	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 21:39	
trans-1,2-Dichloroethene	**1.3**	1.0	0.20	1	10/20/15 21:39	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 21:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	81 - 127	10/20/15 21:39	
4-Bromofluorobenzene	98	79 - 123	10/20/15 21:39	
Toluene-d8	100	83 - 120	10/20/15 21:39	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 14:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW16R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-014	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 04:16	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 04:16	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 04:16	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 04:16	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 04:16	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 04:16	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 04:16	10/20/15	

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 14:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW16R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-014	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 21:54	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 21:54	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 21:54	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 21:54	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 21:54	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 21:54	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 21:54	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 21:54	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 21:54	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 21:54	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 21:54	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 21:54	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 21:54	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 21:54	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
3,4-Benzofluoranthene	**1.1 J**	4.7	1.0	1	10/21/15 21:54	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 21:54	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 21:54	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 21:54	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 21:54	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 21:54	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 21:54	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 21:54	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 21:54	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 14:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW16R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-014	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 21:54	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 21:54	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 21:54	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 21:54	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 21:54	10/20/15	
Pyrene	**1.0 J**	4.7	1.0	1	10/21/15 21:54	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	28 - 157	10/21/15 21:54	
2-Fluorobiphenyl	86	39 - 119	10/21/15 21:54	
2-Fluorophenol	46	10 - 105	10/21/15 21:54	
Nitrobenzene-d5	82	37 - 117	10/21/15 21:54	
Phenol-d6	30	10 - 107	10/21/15 21:54	
p-Terphenyl-d14	103	40 - 133	10/21/15 21:54	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 13:30
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW-3S-Oct15	**Units:**	ug/L
Lab Code:	R1508866-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/20/15 18:27	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 18:27	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 18:27	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.21	1	10/20/15 18:27	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.20	1	10/20/15 18:27	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 18:27	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 18:27	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 18:27	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 18:27	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 18:27	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 18:27	
Acetone	5.0 U	5.0	2.8	1	10/20/15 18:27	
Benzene	1.0 U	1.0	0.20	1	10/20/15 18:27	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 18:27	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 18:27	
Bromomethane	1.0 U	1.0	0.44	1	10/20/15 18:27	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 18:27	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 18:27	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 18:27	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 18:27	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 18:27	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 18:27	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 18:27	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 18:27	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 18:27	
Toluene	1.0 U	1.0	0.20	1	10/20/15 18:27	
Trichloroethene (TCE)	1.0 U	1.0	0.20	1	10/20/15 18:27	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 18:27	
Vinyl Chloride	1.0 U	1.0	0.20	1	10/20/15 18:27	
cis-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 18:27	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 18:27	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 18:27	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 18:27	
trans-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 18:27	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 18:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	103	81 - 127	10/20/15 18:27	
4-Bromofluorobenzene	96	79 - 123	10/20/15 18:27	
Toluene-d8	101	83 - 120	10/20/15 18:27	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 13:30
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW-3S-Oct15	**Units:**	ug/L
Lab Code:	R1508866-015	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 05:01	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 05:01	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 05:01	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 05:01	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 05:01	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 05:01	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 05:01	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 13:30
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW-3S-Oct15	**Units:**	ug/L
Lab Code:	R1508866-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 22:20	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 22:20	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 22:20	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 22:20	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 22:20	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 22:20	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 22:20	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 22:20	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 22:20	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 22:20	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 22:20	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 22:20	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 22:20	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 22:20	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 22:20	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 22:20	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 22:20	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 22:20	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 22:20	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 22:20	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 22:20	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 22:20	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/15/15 13:30
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW-3S-Oct15	**Units:**	ug/L
Lab Code:	R1508866-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 22:20	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 22:20	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 22:20	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 22:20	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/21/15 22:20	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	28 - 157	10/21/15 22:20	
2-Fluorobiphenyl	93	39 - 119	10/21/15 22:20	
2-Fluorophenol	50	10 - 105	10/21/15 22:20	
Nitrobenzene-d5	91	37 - 117	10/21/15 22:20	
Phenol-d6	32	10 - 107	10/21/15 22:20	
p-Terphenyl-d14	104	40 - 133	10/21/15 22:20	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW10R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**7.7 J**	10	2.0	10	10/20/15 23:15	
1,1,2,2-Tetrachloroethane	10 U	10	2.0	10	10/20/15 23:15	
1,1,2-Trichloroethane	10 U	10	2.0	10	10/20/15 23:15	
1,1-Dichloroethane (1,1-DCA)	**3.1 J**	10	2.1	10	10/20/15 23:15	
1,1-Dichloroethene (1,1-DCE)	**10**	10	2.0	10	10/20/15 23:15	
1,2-Dichlorobenzene	10 U	10	2.5	10	10/20/15 23:15	
1,2-Dichloroethane	10 U	10	2.0	10	10/20/15 23:15	
1,2-Dichloropropane	10 U	10	2.0	10	10/20/15 23:15	
1,3-Dichlorobenzene	10 U	10	2.2	10	10/20/15 23:15	
1,4-Dichlorobenzene	10 U	10	2.0	10	10/20/15 23:15	
2-Chloroethyl Vinyl Ether	100 U	100	6.0	10	10/20/15 23:15	
Acetone	50 U	50	28	10	10/20/15 23:15	
Benzene	10 U	10	2.0	10	10/20/15 23:15	
Bromodichloromethane	10 U	10	2.0	10	10/20/15 23:15	
Bromoform	10 U	10	2.0	10	10/20/15 23:15	
Bromomethane	10 U	10	4.4	10	10/20/15 23:15	
Carbon Tetrachloride	10 U	10	2.0	10	10/20/15 23:15	
Chlorobenzene	10 U	10	2.0	10	10/20/15 23:15	
Chloroethane	10 U	10	2.4	10	10/20/15 23:15	
Chloroform	10 U	10	2.0	10	10/20/15 23:15	
Chloromethane	10 U	10	2.0	10	10/20/15 23:15	
Dibromochloromethane	10 U	10	2.0	10	10/20/15 23:15	
Methylene Chloride	10 U	10	2.0	10	10/20/15 23:15	
Ethylbenzene	10 U	10	2.0	10	10/20/15 23:15	
Tetrachloroethene (PCE)	**4.8 J**	10	2.0	10	10/20/15 23:15	
Toluene	10 U	10	2.0	10	10/20/15 23:15	
Trichloroethene (TCE)	**950**	10	2.0	10	10/20/15 23:15	
Trichlorofluoromethane (CFC 11)	10 U	10	2.0	10	10/20/15 23:15	
Vinyl Chloride	10 U	10	2.0	10	10/20/15 23:15	
cis-1,2-Dichloroethene	**19**	10	2.0	10	10/20/15 23:15	
cis-1,3-Dichloropropene	10 U	10	2.0	10	10/20/15 23:15	
m,p-Xylenes	20 U	20	2.6	10	10/20/15 23:15	
o-Xylene	10 U	10	2.0	10	10/20/15 23:15	
trans-1,2-Dichloroethene	**6.3 J**	10	2.0	10	10/20/15 23:15	
trans-1,3-Dichloropropene	10 U	10	2.0	10	10/20/15 23:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	103	81 - 127	10/20/15 23:15	
4-Bromofluorobenzene	92	79 - 123	10/20/15 23:15	
Toluene-d8	101	83 - 120	10/20/15 23:15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW10R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-016	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 05:24	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 05:24	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 05:24	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 05:24	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 05:24	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 05:24	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 05:24	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW10R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-016	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 22:45	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 22:45	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 22:45	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 22:45	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 22:45	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 22:45	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 22:45	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 22:45	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 22:45	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 22:45	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 22:45	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 22:45	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 22:45	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 22:45	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 22:45	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 22:45	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 22:45	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 22:45	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 22:45	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 22:45	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 22:45	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 22:45	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	MW10R-Oct15	**Units:**	ug/L
Lab Code:	R1508866-016	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 22:45	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 22:45	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 22:45	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 22:45	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/21/15 22:45	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	105	28 - 157	10/21/15 22:45	
2-Fluorobiphenyl	99	39 - 119	10/21/15 22:45	
2-Fluorophenol	47	10 - 105	10/21/15 22:45	
Nitrobenzene-d5	85	37 - 117	10/21/15 22:45	
Phenol-d6	29	10 - 107	10/21/15 22:45	
p-Terphenyl-d14	101	40 - 133	10/21/15 22:45	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 11:40
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ1-Oct15	**Units:**	ug/L
Lab Code:	R1508866-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/20/15 18:59	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 18:59	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 18:59	
1,1-Dichloroethane (1,1-DCA)	**0.21 J**	1.0	0.21	1	10/20/15 18:59	
1,1-Dichloroethene (1,1-DCE)	**0.21 J**	1.0	0.20	1	10/20/15 18:59	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 18:59	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 18:59	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 18:59	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 18:59	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 18:59	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 18:59	
Acetone	5.0 U	5.0	2.8	1	10/20/15 18:59	
Benzene	1.0 U	1.0	0.20	1	10/20/15 18:59	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 18:59	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 18:59	
Bromomethane	1.0 U	1.0	0.44	1	10/20/15 18:59	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 18:59	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 18:59	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 18:59	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 18:59	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 18:59	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 18:59	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 18:59	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 18:59	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 18:59	
Toluene	1.0 U	1.0	0.20	1	10/20/15 18:59	
Trichloroethene (TCE)	**4.4**	1.0	0.20	1	10/20/15 18:59	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 18:59	
Vinyl Chloride	**0.36 J**	1.0	0.20	1	10/20/15 18:59	
cis-1,2-Dichloroethene	**5.8**	1.0	0.20	1	10/20/15 18:59	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 18:59	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 18:59	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 18:59	
trans-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 18:59	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 18:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	104	81 - 127	10/20/15 18:59	
4-Bromofluorobenzene	98	79 - 123	10/20/15 18:59	
Toluene-d8	102	83 - 120	10/20/15 18:59	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 11:40
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ1-Oct15	**Units:**	ug/L
Lab Code:	R1508866-017	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 05:46	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 05:46	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 05:46	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 05:46	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 05:46	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 05:46	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 05:46	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 11:40
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ1-Oct15	**Units:**	ug/L
Lab Code:	R1508866-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 23:11	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 23:11	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 23:11	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 23:11	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 23:11	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 23:11	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 23:11	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 23:11	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 23:11	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 23:11	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 23:11	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 23:11	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 23:11	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 23:11	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 23:11	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 23:11	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 23:11	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 23:11	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 23:11	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 23:11	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 23:11	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 23:11	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 11:40
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ1-Oct15	**Units:**	ug/L
Lab Code:	R1508866-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 23:11	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 23:11	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 23:11	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 23:11	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/21/15 23:11	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	99	28 - 157	10/21/15 23:11	
2-Fluorobiphenyl	93	39 - 119	10/21/15 23:11	
2-Fluorophenol	46	10 - 105	10/21/15 23:11	
Nitrobenzene-d5	81	37 - 117	10/21/15 23:11	
Phenol-d6	28	10 - 107	10/21/15 23:11	
p-Terphenyl-d14	94	40 - 133	10/21/15 23:11	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ2-Oct15	**Units:**	ug/L
Lab Code:	R1508866-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**1.3**	1.0	0.20	1	10/20/15 19:31	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 19:31	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 19:31	
1,1-Dichloroethane (1,1-DCA)	**0.85 J**	1.0	0.21	1	10/20/15 19:31	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.20	1	10/20/15 19:31	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 19:31	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 19:31	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 19:31	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 19:31	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 19:31	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 19:31	
Acetone	5.0 U	5.0	2.8	1	10/20/15 19:31	
Benzene	1.0 U	1.0	0.20	1	10/20/15 19:31	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 19:31	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 19:31	
Bromomethane	1.0 U	1.0	0.44	1	10/20/15 19:31	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 19:31	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 19:31	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 19:31	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 19:31	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 19:31	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 19:31	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 19:31	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 19:31	
Tetrachloroethene (PCE)	**1.2**	1.0	0.20	1	10/20/15 19:31	
Toluene	1.0 U	1.0	0.20	1	10/20/15 19:31	
Trichloroethene (TCE)	**2.3**	1.0	0.20	1	10/20/15 19:31	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 19:31	
Vinyl Chloride	1.0 U	1.0	0.20	1	10/20/15 19:31	
cis-1,2-Dichloroethene	**2.9**	1.0	0.20	1	10/20/15 19:31	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 19:31	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 19:31	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 19:31	
trans-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 19:31	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 19:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	81 - 127	10/20/15 19:31	
4-Bromofluorobenzene	100	79 - 123	10/20/15 19:31	
Toluene-d8	101	83 - 120	10/20/15 19:31	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ2-Oct15	**Units:**	ug/L
Lab Code:	R1508866-018	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 06:09	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 06:09	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 06:09	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 06:09	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 06:09	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 06:09	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 06:09	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ2-Oct15	**Units:**	ug/L
Lab Code:	R1508866-018	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/21/15 23:36	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/21/15 23:36	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/21/15 23:36	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/21/15 23:36	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/21/15 23:36	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/21/15 23:36	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/21/15 23:36	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/21/15 23:36	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/21/15 23:36	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/21/15 23:36	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/21/15 23:36	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/21/15 23:36	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/21/15 23:36	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Benzidine	94 U	94	90	1	10/21/15 23:36	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/21/15 23:36	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/21/15 23:36	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/21/15 23:36	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/21/15 23:36	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/21/15 23:36	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/21/15 23:36	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/21/15 23:36	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/21/15 23:36	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:10
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ2-Oct15	**Units:**	ug/L
Lab Code:	R1508866-018	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/21/15 23:36	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/21/15 23:36	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/21/15 23:36	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/21/15 23:36	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/21/15 23:36	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	105	28 - 157	10/21/15 23:36	
2-Fluorobiphenyl	93	39 - 119	10/21/15 23:36	
2-Fluorophenol	46	10 - 105	10/21/15 23:36	
Nitrobenzene-d5	85	37 - 117	10/21/15 23:36	
Phenol-d6	29	10 - 107	10/21/15 23:36	
p-Terphenyl-d14	93	40 - 133	10/21/15 23:36	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ-3-Oct15	**Units:**	ug/L
Lab Code:	R1508866-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**1.8**	1.0	0.20	1	10/20/15 20:03	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 20:03	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 20:03	
1,1-Dichloroethane (1,1-DCA)	**10**	1.0	0.21	1	10/20/15 20:03	
1,1-Dichloroethene (1,1-DCE)	**0.37 J**	1.0	0.20	1	10/20/15 20:03	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 20:03	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 20:03	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 20:03	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 20:03	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 20:03	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 20:03	
Acetone	5.0 U	5.0	2.8	1	10/20/15 20:03	
Benzene	1.0 U	1.0	0.20	1	10/20/15 20:03	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 20:03	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 20:03	
Bromomethane	1.0 U	1.0	0.44	1	10/20/15 20:03	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 20:03	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 20:03	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 20:03	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 20:03	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 20:03	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 20:03	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 20:03	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 20:03	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 20:03	
Toluene	1.0 U	1.0	0.20	1	10/20/15 20:03	
Trichloroethene (TCE)	**3.0**	1.0	0.20	1	10/20/15 20:03	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 20:03	
Vinyl Chloride	**1.2**	1.0	0.20	1	10/20/15 20:03	
cis-1,2-Dichloroethene	**12**	1.0	0.20	1	10/20/15 20:03	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 20:03	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 20:03	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 20:03	
trans-1,2-Dichloroethene	**0.32 J**	1.0	0.20	1	10/20/15 20:03	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 20:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	101	81 - 127	10/20/15 20:03	
4-Bromofluorobenzene	96	79 - 123	10/20/15 20:03	
Toluene-d8	102	83 - 120	10/20/15 20:03	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ-3-Oct15	**Units:**	ug/L
Lab Code:	R1508866-019	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 06:31	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 06:31	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 06:31	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 06:31	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 06:31	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 06:31	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 06:31	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ-3-Oct15	**Units:**	ug/L
Lab Code:	R1508866-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/22/15 00:02	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/22/15 00:02	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/22/15 00:02	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/22/15 00:02	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/22/15 00:02	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/22/15 00:02	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/22/15 00:02	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/22/15 00:02	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/22/15 00:02	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/22/15 00:02	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/22/15 00:02	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/22/15 00:02	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/22/15 00:02	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Benzidine	94 U	94	90	1	10/22/15 00:02	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/22/15 00:02	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/22/15 00:02	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/22/15 00:02	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/22/15 00:02	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/22/15 00:02	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/22/15 00:02	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/22/15 00:02	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/22/15 00:02	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:00
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ-3-Oct15	**Units:**	ug/L
Lab Code:	R1508866-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/22/15 00:02	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/22/15 00:02	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/22/15 00:02	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/22/15 00:02	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/22/15 00:02	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	108	28 - 157	10/22/15 00:02	
2-Fluorobiphenyl	95	39 - 119	10/22/15 00:02	
2-Fluorophenol	47	10 - 105	10/22/15 00:02	
Nitrobenzene-d5	86	37 - 117	10/22/15 00:02	
Phenol-d6	30	10 - 107	10/22/15 00:02	
p-Terphenyl-d14	98	40 - 133	10/22/15 00:02	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:45
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ4-Oct15	**Units:**	ug/L
Lab Code:	R1508866-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**12**	2.0	0.40	2	10/20/15 20:35	
1,1,2,2-Tetrachloroethane	2.0 U	2.0	0.40	2	10/20/15 20:35	
1,1,2-Trichloroethane	2.0 U	2.0	0.40	2	10/20/15 20:35	
1,1-Dichloroethane (1,1-DCA)	**9.0**	2.0	0.42	2	10/20/15 20:35	
1,1-Dichloroethene (1,1-DCE)	**1.4 J**	2.0	0.40	2	10/20/15 20:35	
1,2-Dichlorobenzene	2.0 U	2.0	0.50	2	10/20/15 20:35	
1,2-Dichloroethane	2.0 U	2.0	0.40	2	10/20/15 20:35	
1,2-Dichloropropane	2.0 U	2.0	0.40	2	10/20/15 20:35	
1,3-Dichlorobenzene	2.0 U	2.0	0.44	2	10/20/15 20:35	
1,4-Dichlorobenzene	2.0 U	2.0	0.40	2	10/20/15 20:35	
2-Chloroethyl Vinyl Ether	20 U	20	1.2	2	10/20/15 20:35	
Acetone	10 U	10	5.6	2	10/20/15 20:35	
Benzene	2.0 U	2.0	0.40	2	10/20/15 20:35	
Bromodichloromethane	2.0 U	2.0	0.40	2	10/20/15 20:35	
Bromoform	2.0 U	2.0	0.40	2	10/20/15 20:35	
Bromomethane	2.0 U	2.0	0.88	2	10/20/15 20:35	
Carbon Tetrachloride	2.0 U	2.0	0.40	2	10/20/15 20:35	
Chlorobenzene	2.0 U	2.0	0.40	2	10/20/15 20:35	
Chloroethane	2.0 U	2.0	0.48	2	10/20/15 20:35	
Chloroform	2.0 U	2.0	0.40	2	10/20/15 20:35	
Chloromethane	2.0 U	2.0	0.40	2	10/20/15 20:35	
Dibromochloromethane	2.0 U	2.0	0.40	2	10/20/15 20:35	
Methylene Chloride	2.0 U	2.0	0.40	2	10/20/15 20:35	
Ethylbenzene	2.0 U	2.0	0.40	2	10/20/15 20:35	
Tetrachloroethene (PCE)	**4.4**	2.0	0.40	2	10/20/15 20:35	
Toluene	2.0 U	2.0	0.40	2	10/20/15 20:35	
Trichloroethene (TCE)	**150**	2.0	0.40	2	10/20/15 20:35	
Trichlorofluoromethane (CFC 11)	2.0 U	2.0	0.40	2	10/20/15 20:35	
Vinyl Chloride	**6.6**	2.0	0.40	2	10/20/15 20:35	
cis-1,2-Dichloroethene	**240**	2.0	0.40	2	10/20/15 20:35	
cis-1,3-Dichloropropene	2.0 U	2.0	0.40	2	10/20/15 20:35	
m,p-Xylenes	4.0 U	4.0	0.52	2	10/20/15 20:35	
o-Xylene	2.0 U	2.0	0.40	2	10/20/15 20:35	
trans-1,2-Dichloroethene	**2.3**	2.0	0.40	2	10/20/15 20:35	
trans-1,3-Dichloropropene	2.0 U	2.0	0.40	2	10/20/15 20:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	104	81 - 127	10/20/15 20:35	
4-Bromofluorobenzene	98	79 - 123	10/20/15 20:35	
Toluene-d8	100	83 - 120	10/20/15 20:35	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:45
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ4-Oct15	**Units:**	ug/L
Lab Code:	R1508866-020	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 06:54	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 06:54	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 06:54	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 06:54	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 06:54	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 06:54	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 06:54	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:45
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ4-Oct15	**Units:**	ug/L
Lab Code:	R1508866-020	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
1,2-Diphenylhydrazine	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
2,4,6-Trichlorophenol	4.7 U	4.7	1.4	1	10/22/15 00:28	10/20/15	
2,4-Dichlorophenol	4.7 U	4.7	1.3	1	10/22/15 00:28	10/20/15	
2,4-Dimethylphenol	4.7 U	4.7	1.5	1	10/22/15 00:28	10/20/15	
2,4-Dinitrophenol	47 U	47	20	1	10/22/15 00:28	10/20/15	
2,4-Dinitrotoluene	4.7 U	4.7	1.6	1	10/22/15 00:28	10/20/15	
2,6-Dinitrotoluene	4.7 U	4.7	1.8	1	10/22/15 00:28	10/20/15	
2-Chloronaphthalene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
2-Chlorophenol	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
2-Nitrophenol	4.7 U	4.7	1.4	1	10/22/15 00:28	10/20/15	
3,3'-Dichlorobenzidine	4.7 U	4.7	4.5	1	10/22/15 00:28	10/20/15	
4,6-Dinitro-o-cresol	47 U	47	11	1	10/22/15 00:28	10/20/15	
4-Bromophenyl Phenyl Ether	4.7 U	4.7	2.2	1	10/22/15 00:28	10/20/15	
4-Chloro-m-cresol	4.7 U	4.7	1.2	1	10/22/15 00:28	10/20/15	
4-Chlorophenyl Phenyl Ether	4.7 U	4.7	1.2	1	10/22/15 00:28	10/20/15	
4-Nitrophenol	47 U	47	5.9	1	10/22/15 00:28	10/20/15	
Acenaphthene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Acenaphthylene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Anthracene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Benz(a)anthracene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Benzidine	94 U	94	90	1	10/22/15 00:28	10/20/15	
Benzo(a)pyrene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
3,4-Benzofluoranthene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Benzo(g,h,i)perylene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Benzo(k)fluoranthene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Bis(1-chloroisopropyl) Ether	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Bis(2-chloroethoxy)methane	4.7 U	4.7	2.2	1	10/22/15 00:28	10/20/15	
Bis(2-chloroethyl) Ether	4.7 U	4.7	1.3	1	10/22/15 00:28	10/20/15	
Bis(2-ethylhexyl) Phthalate	4.7 U	4.7	1.2	1	10/22/15 00:28	10/20/15	
Butyl Benzyl Phthalate	4.7 U	4.7	2.4	1	10/22/15 00:28	10/20/15	
Chrysene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Di-n-butyl Phthalate	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Di-n-octyl Phthalate	4.7 U	4.7	1.2	1	10/22/15 00:28	10/20/15	
Dibenz(a,h)anthracene	4.7 U	4.7	1.3	1	10/22/15 00:28	10/20/15	
Diethyl Phthalate	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Dimethyl Phthalate	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Fluoranthene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Fluorene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Hexachlorobenzene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Hexachlorobutadiene	4.7 U	4.7	1.3	1	10/22/15 00:28	10/20/15	
Hexachlorocyclopentadiene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Hexachloroethane	4.7 U	4.7	1.2	1	10/22/15 00:28	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	10/16/15 12:45
Sample Matrix:	Water	**Date Received:**	10/16/15 14:14
Sample Name:	PZ4-Oct15	**Units:**	ug/L
Lab Code:	R1508866-020	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	4.7 U	4.7	1.2	1	10/22/15 00:28	10/20/15	
Isophorone	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
N-Nitrosodi-n-propylamine	4.7 U	4.7	1.3	1	10/22/15 00:28	10/20/15	
N-Nitrosodimethylamine	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
N-Nitrosodiphenylamine	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Naphthalene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Nitrobenzene	4.7 U	4.7	1.6	1	10/22/15 00:28	10/20/15	
Pentachlorophenol (PCP)	47 U	47	6.9	1	10/22/15 00:28	10/20/15	
Phenanthrene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Phenol	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	
Pyrene	4.7 U	4.7	1.0	1	10/22/15 00:28	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	111	28 - 157	10/22/15 00:28	
2-Fluorobiphenyl	99	39 - 119	10/22/15 00:28	
2-Fluorophenol	57	10 - 105	10/22/15 00:28	
Nitrobenzene-d5	89	37 - 117	10/22/15 00:28	
Phenol-d6	36	10 - 107	10/22/15 00:28	
p-Terphenyl-d14	101	40 - 133	10/22/15 00:28	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512677-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/16/15 11:19	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/16/15 11:19	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/16/15 11:19	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.21	1	10/16/15 11:19	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.20	1	10/16/15 11:19	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/16/15 11:19	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/16/15 11:19	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/16/15 11:19	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/16/15 11:19	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/16/15 11:19	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/16/15 11:19	
Acetone	5.0 U	5.0	2.8	1	10/16/15 11:19	
Benzene	1.0 U	1.0	0.20	1	10/16/15 11:19	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/16/15 11:19	
Bromoform	1.0 U	1.0	0.20	1	10/16/15 11:19	
Bromomethane	1.0 U	1.0	0.44	1	10/16/15 11:19	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/16/15 11:19	
Chlorobenzene	1.0 U	1.0	0.20	1	10/16/15 11:19	
Chloroethane	1.0 U	1.0	0.24	1	10/16/15 11:19	
Chloroform	1.0 U	1.0	0.20	1	10/16/15 11:19	
Chloromethane	1.0 U	1.0	0.20	1	10/16/15 11:19	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/16/15 11:19	
Methylene Chloride	1.0 U	1.0	0.20	1	10/16/15 11:19	
Ethylbenzene	1.0 U	1.0	0.20	1	10/16/15 11:19	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/16/15 11:19	
Toluene	1.0 U	1.0	0.20	1	10/16/15 11:19	
Trichloroethene (TCE)	1.0 U	1.0	0.20	1	10/16/15 11:19	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/16/15 11:19	
Vinyl Chloride	1.0 U	1.0	0.20	1	10/16/15 11:19	
cis-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/16/15 11:19	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/16/15 11:19	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/16/15 11:19	
o-Xylene	1.0 U	1.0	0.20	1	10/16/15 11:19	
trans-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/16/15 11:19	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/16/15 11:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	103	81 - 127	10/16/15 11:19	
4-Bromofluorobenzene	96	79 - 123	10/16/15 11:19	
Toluene-d8	103	83 - 120	10/16/15 11:19	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512822-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.20	1	10/20/15 15:10	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.20	1	10/20/15 15:10	
1,1,2-Trichloroethane	1.0 U	1.0	0.20	1	10/20/15 15:10	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.21	1	10/20/15 15:10	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.20	1	10/20/15 15:10	
1,2-Dichlorobenzene	1.0 U	1.0	0.25	1	10/20/15 15:10	
1,2-Dichloroethane	1.0 U	1.0	0.20	1	10/20/15 15:10	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/20/15 15:10	
1,3-Dichlorobenzene	1.0 U	1.0	0.22	1	10/20/15 15:10	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/20/15 15:10	
2-Chloroethyl Vinyl Ether	10 U	10	0.60	1	10/20/15 15:10	
Acetone	5.0 U	5.0	2.8	1	10/20/15 15:10	
Benzene	1.0 U	1.0	0.20	1	10/20/15 15:10	
Bromodichloromethane	1.0 U	1.0	0.20	1	10/20/15 15:10	
Bromoform	1.0 U	1.0	0.20	1	10/20/15 15:10	
Bromomethane	**0.49 J**	1.0	0.44	1	10/20/15 15:10	
Carbon Tetrachloride	1.0 U	1.0	0.20	1	10/20/15 15:10	
Chlorobenzene	1.0 U	1.0	0.20	1	10/20/15 15:10	
Chloroethane	1.0 U	1.0	0.24	1	10/20/15 15:10	
Chloroform	1.0 U	1.0	0.20	1	10/20/15 15:10	
Chloromethane	1.0 U	1.0	0.20	1	10/20/15 15:10	
Dibromochloromethane	1.0 U	1.0	0.20	1	10/20/15 15:10	
Methylene Chloride	1.0 U	1.0	0.20	1	10/20/15 15:10	
Ethylbenzene	1.0 U	1.0	0.20	1	10/20/15 15:10	
Tetrachloroethene (PCE)	1.0 U	1.0	0.20	1	10/20/15 15:10	
Toluene	1.0 U	1.0	0.20	1	10/20/15 15:10	
Trichloroethene (TCE)	1.0 U	1.0	0.20	1	10/20/15 15:10	
Trichlorofluoromethane (CFC 11)	1.0 U	1.0	0.20	1	10/20/15 15:10	
Vinyl Chloride	1.0 U	1.0	0.20	1	10/20/15 15:10	
cis-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 15:10	
cis-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 15:10	
m,p-Xylenes	2.0 U	2.0	0.26	1	10/20/15 15:10	
o-Xylene	1.0 U	1.0	0.20	1	10/20/15 15:10	
trans-1,2-Dichloroethene	1.0 U	1.0	0.20	1	10/20/15 15:10	
trans-1,3-Dichloropropene	1.0 U	1.0	0.20	1	10/20/15 15:10	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	99	81 - 127	10/20/15 15:10	
4-Bromofluorobenzene	97	79 - 123	10/20/15 15:10	
Toluene-d8	99	83 - 120	10/20/15 15:10	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512505-01	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/22/15 19:39	10/16/15	
Fuel Oil No. 4	1000 U	1000	1	10/22/15 19:39	10/16/15	
Fuel Oil No. 6	1000 U	1000	1	10/22/15 19:39	10/16/15	
Gasoline	**Absence**	-	1	10/22/15 19:39	10/16/15	
Kerosene	1000 U	1000	1	10/22/15 19:39	10/16/15	
Lube Oil	**Absence**	-	1	10/22/15 19:39	10/16/15	
n-Dodecane	1000 U	1000	1	10/22/15 19:39	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512726-01	**Basis:**	NA

NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Analysis Method: NY 310-13 Modified
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Fuel Oil No. 2	1000 U	1000	1	10/23/15 02:24	10/20/15	
Fuel Oil No. 4	1000 U	1000	1	10/23/15 02:24	10/20/15	
Fuel Oil No. 6	1000 U	1000	1	10/23/15 02:24	10/20/15	
Gasoline	**Absence**	-	1	10/23/15 02:24	10/20/15	
Kerosene	1000 U	1000	1	10/23/15 02:24	10/20/15	
Lube Oil	**Absence**	-	1	10/23/15 02:24	10/20/15	
n-Dodecane	1000 U	1000	1	10/23/15 02:24	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512504-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
1,2-Diphenylhydrazine	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
2,4,6-Trichlorophenol	5.0 U	5.0	1.4	1	10/20/15 03:17	10/16/15	
2,4-Dichlorophenol	5.0 U	5.0	1.3	1	10/20/15 03:17	10/16/15	
2,4-Dimethylphenol	5.0 U	5.0	1.5	1	10/20/15 03:17	10/16/15	
2,4-Dinitrophenol	50 U	50	20	1	10/20/15 03:17	10/16/15	
2,4-Dinitrotoluene	5.0 U	5.0	1.6	1	10/20/15 03:17	10/16/15	
2,6-Dinitrotoluene	5.0 U	5.0	1.8	1	10/20/15 03:17	10/16/15	
2-Chloronaphthalene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
2-Chlorophenol	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
2-Nitrophenol	5.0 U	5.0	1.4	1	10/20/15 03:17	10/16/15	
3,3'-Dichlorobenzidine	5.0 U	5.0	4.5	1	10/20/15 03:17	10/16/15	
4,6-Dinitro-o-cresol	50 U	50	11	1	10/20/15 03:17	10/16/15	
4-Bromophenyl Phenyl Ether	5.0 U	5.0	2.2	1	10/20/15 03:17	10/16/15	
4-Chloro-m-cresol	5.0 U	5.0	1.2	1	10/20/15 03:17	10/16/15	
4-Chlorophenyl Phenyl Ether	5.0 U	5.0	1.2	1	10/20/15 03:17	10/16/15	
4-Nitrophenol	50 U	50	5.9	1	10/20/15 03:17	10/16/15	
Acenaphthene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Acenaphthylene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Anthracene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Benz(a)anthracene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Benzidine	100 U	100	90	1	10/20/15 03:17	10/16/15	
Benzo(a)pyrene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
3,4-Benzofluoranthene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Benzo(g,h,i)perylene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Benzo(k)fluoranthene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Bis(1-chloroisopropyl) Ether	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Bis(2-chloroethoxy)methane	5.0 U	5.0	2.2	1	10/20/15 03:17	10/16/15	
Bis(2-chloroethyl) Ether	5.0 U	5.0	1.3	1	10/20/15 03:17	10/16/15	
Bis(2-ethylhexyl) Phthalate	5.0 U	5.0	1.2	1	10/20/15 03:17	10/16/15	
Butyl Benzyl Phthalate	5.0 U	5.0	2.4	1	10/20/15 03:17	10/16/15	
Chrysene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Di-n-butyl Phthalate	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Di-n-octyl Phthalate	5.0 U	5.0	1.2	1	10/20/15 03:17	10/16/15	
Dibenz(a,h)anthracene	5.0 U	5.0	1.3	1	10/20/15 03:17	10/16/15	
Diethyl Phthalate	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Dimethyl Phthalate	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Fluoranthene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Fluorene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Hexachlorobenzene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Hexachlorobutadiene	5.0 U	5.0	1.3	1	10/20/15 03:17	10/16/15	
Hexachlorocyclopentadiene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Hexachloroethane	5.0 U	5.0	1.2	1	10/20/15 03:17	10/16/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512504-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	5.0 U	5.0	1.2	1	10/20/15 03:17	10/16/15	
Isophorone	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
N-Nitrosodi-n-propylamine	5.0 U	5.0	1.3	1	10/20/15 03:17	10/16/15	
N-Nitrosodimethylamine	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
N-Nitrosodiphenylamine	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Naphthalene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Nitrobenzene	5.0 U	5.0	1.6	1	10/20/15 03:17	10/16/15	
Pentachlorophenol (PCP)	50 U	50	6.9	1	10/20/15 03:17	10/16/15	
Phenanthrene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Phenol	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	
Pyrene	5.0 U	5.0	1.0	1	10/20/15 03:17	10/16/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	89	28 - 157	10/20/15 03:17	
2-Fluorobiphenyl	80	39 - 119	10/20/15 03:17	
2-Fluorophenol	52	10 - 105	10/20/15 03:17	
Nitrobenzene-d5	82	37 - 117	10/20/15 03:17	
Phenol-d6	35	10 - 107	10/20/15 03:17	
p-Terphenyl-d14	99	40 - 133	10/20/15 03:17	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512700-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
1,2-Diphenylhydrazine	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
2,4,6-Trichlorophenol	5.0 U	5.0	1.4	1	10/21/15 19:46	10/20/15	
2,4-Dichlorophenol	5.0 U	5.0	1.3	1	10/21/15 19:46	10/20/15	
2,4-Dimethylphenol	5.0 U	5.0	1.5	1	10/21/15 19:46	10/20/15	
2,4-Dinitrophenol	50 U	50	20	1	10/21/15 19:46	10/20/15	
2,4-Dinitrotoluene	5.0 U	5.0	1.6	1	10/21/15 19:46	10/20/15	
2,6-Dinitrotoluene	5.0 U	5.0	1.8	1	10/21/15 19:46	10/20/15	
2-Chloronaphthalene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
2-Chlorophenol	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
2-Nitrophenol	5.0 U	5.0	1.4	1	10/21/15 19:46	10/20/15	
3,3'-Dichlorobenzidine	5.0 U	5.0	4.5	1	10/21/15 19:46	10/20/15	
4,6-Dinitro-o-cresol	50 U	50	11	1	10/21/15 19:46	10/20/15	
4-Bromophenyl Phenyl Ether	5.0 U	5.0	2.2	1	10/21/15 19:46	10/20/15	
4-Chloro-m-cresol	5.0 U	5.0	1.2	1	10/21/15 19:46	10/20/15	
4-Chlorophenyl Phenyl Ether	5.0 U	5.0	1.2	1	10/21/15 19:46	10/20/15	
4-Nitrophenol	50 U	50	5.9	1	10/21/15 19:46	10/20/15	
Acenaphthene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Acenaphthylene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Anthracene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Benz(a)anthracene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Benzidine	100 U	100	90	1	10/21/15 19:46	10/20/15	
Benzo(a)pyrene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
3,4-Benzofluoranthene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Benzo(g,h,i)perylene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Benzo(k)fluoranthene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Bis(1-chloroisopropyl) Ether	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Bis(2-chloroethoxy)methane	5.0 U	5.0	2.2	1	10/21/15 19:46	10/20/15	
Bis(2-chloroethyl) Ether	5.0 U	5.0	1.3	1	10/21/15 19:46	10/20/15	
Bis(2-ethylhexyl) Phthalate	5.0 U	5.0	1.2	1	10/21/15 19:46	10/20/15	
Butyl Benzyl Phthalate	5.0 U	5.0	2.4	1	10/21/15 19:46	10/20/15	
Chrysene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Di-n-butyl Phthalate	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Di-n-octyl Phthalate	5.0 U	5.0	1.2	1	10/21/15 19:46	10/20/15	
Dibenz(a,h)anthracene	5.0 U	5.0	1.3	1	10/21/15 19:46	10/20/15	
Diethyl Phthalate	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Dimethyl Phthalate	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Fluoranthene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Fluorene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Hexachlorobenzene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Hexachlorobutadiene	5.0 U	5.0	1.3	1	10/21/15 19:46	10/20/15	
Hexachlorocyclopentadiene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Hexachloroethane	5.0 U	5.0	1.2	1	10/21/15 19:46	10/20/15	

Analytical Report

Client:	Ecology And Environment, Incorporated	**Service Request:**	R1508866
Project:	Davis Howland Oil Company Site - SW 10/2015/1703074.0012	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1512700-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 625
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Indeno(1,2,3-cd)pyrene	5.0 U	5.0	1.2	1	10/21/15 19:46	10/20/15	
Isophorone	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
N-Nitrosodi-n-propylamine	5.0 U	5.0	1.3	1	10/21/15 19:46	10/20/15	
N-Nitrosodimethylamine	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
N-Nitrosodiphenylamine	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Naphthalene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Nitrobenzene	5.0 U	5.0	1.6	1	10/21/15 19:46	10/20/15	
Pentachlorophenol (PCP)	50 U	50	6.9	1	10/21/15 19:46	10/20/15	
Phenanthrene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Phenol	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	
Pyrene	5.0 U	5.0	1.0	1	10/21/15 19:46	10/20/15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	28 - 157	10/21/15 19:46	
2-Fluorobiphenyl	88	39 - 119	10/21/15 19:46	
2-Fluorophenol	54	10 - 105	10/21/15 19:46	
Nitrobenzene-d5	86	37 - 117	10/21/15 19:46	
Phenol-d6	36	10 - 107	10/21/15 19:46	
p-Terphenyl-d14	92	40 - 133	10/21/15 19:46	

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/16/15

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1512677-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624	21.1	20.0	105	52-162
1,1,2,2-Tetrachloroethane	624	16.9	20.0	84	46-157
1,1,2-Trichloroethane	624	19.4	20.0	97	52-150
1,1-Dichloroethane (1,1-DCA)	624	19.9	20.0	99	59-155
1,1-Dichloroethene (1,1-DCE)	624	18.9	20.0	94	10-234
1,2-Dichlorobenzene	624	18.1	20.0	91	18-190
1,2-Dichloroethane	624	20.4	20.0	102	49-155
1,2-Dichloropropane	624	18.8	20.0	94	10-210
1,3-Dichlorobenzene	624	18.3	20.0	92	59-156
1,4-Dichlorobenzene	624	18.1	20.0	91	18-190
2-Chloroethyl Vinyl Ether	624	16.3	20.0	81	10-305
Acetone	624	15.6	20.0	78	55-130
Benzene	624	19.4	20.0	97	37-151
Bromodichloromethane	624	21.0	20.0	105	35-155
Bromoform	624	19.2	20.0	96	45-169
Bromomethane	624	16.9	20.0	84	10-242
Carbon Tetrachloride	624	23.3	20.0	116	70-140
Chlorobenzene	624	20.2	20.0	101	37-160
Chloroethane	624	18.0	20.0	90	14-230
Chloroform	624	20.6	20.0	103	51-138
Chloromethane	624	15.7	20.0	79	10-273
Dibromochloromethane	624	20.3	20.0	102	53-149
Methylene Chloride	624	18.7	20.0	93	10-221
Ethylbenzene	624	19.1	20.0	96	37-162
Tetrachloroethene (PCE)	624	19.4	20.0	97	64-148
Toluene	624	19.2	20.0	96	47-150
Trichloroethene (TCE)	624	20.8	20.0	104	71-157
Trichlorofluoromethane (CFC 11)	624	21.0	20.0	105	17-181
Vinyl Chloride	624	20.6	20.0	103	10-251
cis-1,2-Dichloroethene	624	18.7	20.0	94	72-125
cis-1,3-Dichloropropene	624	19.8	20.0	99	10-227
m,p-Xylenes	624	37.9	40.0	95	76-131
o-Xylene	624	18.5	20.0	93	78-127

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/16/15

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1512677-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	624	19.1	20.0	96	54-156
trans-1,3-Dichloropropene	624	21.5	20.0	108	17-183

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/20/15

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1512822-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624	21.1	20.0	105	52-162
1,1,2,2-Tetrachloroethane	624	18.3	20.0	91	46-157
1,1,2-Trichloroethane	624	19.9	20.0	100	52-150
1,1-Dichloroethane (1,1-DCA)	624	20.1	20.0	101	59-155
1,1-Dichloroethene (1,1-DCE)	624	19.9	20.0	99	10-234
1,2-Dichlorobenzene	624	18.4	20.0	92	18-190
1,2-Dichloroethane	624	20.4	20.0	102	49-155
1,2-Dichloropropane	624	18.5	20.0	93	10-210
1,3-Dichlorobenzene	624	18.6	20.0	93	59-156
1,4-Dichlorobenzene	624	18.1	20.0	90	18-190
2-Chloroethyl Vinyl Ether	624	18.2	20.0	91	10-305
Acetone	624	21.6	20.0	108	55-130
Benzene	624	19.1	20.0	95	37-151
Bromodichloromethane	624	21.4	20.0	107	35-155
Bromoform	624	18.5	20.0	92	45-169
Bromomethane	624	18.9	20.0	95	10-242
Carbon Tetrachloride	624	23.7	20.0	118	70-140
Chlorobenzene	624	20.8	20.0	104	37-160
Chloroethane	624	18.7	20.0	94	14-230
Chloroform	624	20.3	20.0	102	51-138
Chloromethane	624	15.5	20.0	78	10-273
Dibromochloromethane	624	21.1	20.0	105	53-149
Methylene Chloride	624	19.5	20.0	97	10-221
Ethylbenzene	624	19.8	20.0	99	37-162
Tetrachloroethene (PCE)	624	20.3	20.0	101	64-148
Toluene	624	19.3	20.0	96	47-150
Trichloroethene (TCE)	624	21.5	20.0	107	71-157
Trichlorofluoromethane (CFC 11)	624	21.4	20.0	107	17-181
Vinyl Chloride	624	21.0	20.0	105	10-251
cis-1,2-Dichloroethene	624	19.2	20.0	96	72-125
cis-1,3-Dichloropropene	624	19.5	20.0	98	10-227
m,p-Xylenes	624	38.0	40.0	95	76-131
o-Xylene	624	19.0	20.0	95	78-127

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/20/15

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1512822-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	624	19.6	20.0	98	54-156
trans-1,3-Dichloropropene	624	20.6	20.0	103	17-183

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/22/15

Duplicate Lab Control Sample Summary
NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1512505-02			RQ1512505-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Fuel Oil No. 2	NY 310-13 Modified	2360	5000	47	2610	5000	52	34-138	10	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/23/15

Duplicate Lab Control Sample Summary
NY Hydrocarbon Scan, Modified to Combine Methods 310-13, -14, and -15, and for Matrix

Units:ug/L
Basis:NA

		Lab Control Sample RQ1512726-02			Duplicate Lab Control Sample RQ1512726-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Fuel Oil No. 2	NY 310-13 Modified	3150	5000	63	2820	5000	56	34-138	11	30

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/20/15

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1512504-02			RQ1512504-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	625	57.6	100	58	58.3	100	58	29-85	1	30
1,2-Diphenylhydrazine	625	108	100	108	109	100	109	57-117	<1	30
2,4,6-Trichlorophenol	625	86.8	100	87	88.3	100	88	37-144	2	30
2,4-Dichlorophenol	625	86.1	100	86	81.9	100	82	39-135	5	30
2,4-Dimethylphenol	625	81.6	100	82	80.6	100	81	32-119	1	30
2,4-Dinitrophenol	625	87.9	100	88	92.8	100	93	10-191	5	30
2,4-Dinitrotoluene	625	90.6	100	91	89.0	100	89	39-139	2	30
2,6-Dinitrotoluene	625	88.3	100	88	89.4	100	89	50-158	1	30
2-Chloronaphthalene	625	73.9	100	74	75.7	100	76	60-118	2	30
2-Chlorophenol	625	79.9	100	80	76.1	100	76	23-134	5	30
2-Nitrophenol	625	82.9	100	83	82.2	100	82	29-182	<1	30
3,3'-Dichlorobenzidine	625	64.1	100	64	63.4	100	63	10-262	1	30
4,6-Dinitro-o-cresol	625	88.6	100	89	89.3	100	89	10-181	<1	30
4-Bromophenyl Phenyl Ether	625	87.1	100	87	88.7	100	89	53-127	2	30
4-Chloro-m-cresol	625	82.4	100	82	82.9	100	83	22-147	<1	30
4-Chlorophenyl Phenyl Ether	625	80.6	100	81	79.1	100	79	25-158	2	30
4-Nitrophenol	625	52.8	100	53	47.9	100	48	10-132	10	30
Acenaphthene	625	83.7	100	84	84.1	100	84	47-145	<1	30
Acenaphthylene	625	82.4	100	82	82.8	100	83	33-145	<1	30
Anthracene	625	88.8	100	89	90.7	100	91	27-133	2	30
Benz(a)anthracene	625	87.1	100	87	88.2	100	88	33-143	1	30
Benzidine	625	100	100	0 *	90	100	0 *	10-169	NC	30
Benzo(a)pyrene	625	89.2	100	89	88.9	100	89	17-163	<1	30
3,4-Benzofluoranthene	625	85.3	100	85	86.3	100	86	24-159	1	30
Benzo(g,h,i)perylene	625	85.2	100	85	85.8	100	86	10-219	<1	30
Benzo(k)fluoranthene	625	87.3	100	87	86.0	100	86	11-162	2	30
Bis(1-chloroisopropyl) Ether	625	126	100	126	122	100	122	36-166	3	30
Bis(2-chloroethoxy)methane	625	96.2	100	96	94.8	100	95	33-184	2	30
Bis(2-chloroethyl) Ether	625	90.1	100	90	86.3	100	86	12-158	4	30
Bis(2-ethylhexyl) Phthalate	625	97.0	100	97	98.7	100	99	10-158	2	30
Butyl Benzyl Phthalate	625	89.3	100	89	90.7	100	91	10-152	2	30
Chrysene	625	89.5	100	89	91.1	100	91	17-168	2	30
Di-n-butyl Phthalate	625	92.3	100	92	94.4	100	94	10-118	2	30

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/20/15

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1512504-02			RQ1512504-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Di-n-octyl Phthalate	625	100	100	100	101	100	101	10-146	<1	30
Dibenz(a,h)anthracene	625	87.6	100	88	88.8	100	89	10-227	1	30
Diethyl Phthalate	625	87.2	100	87	88.8	100	89	10-114	2	30
Dimethyl Phthalate	625	83.1	100	83	80.9	100	81	10-112	3	30
Fluoranthene	625	88.8	100	89	88.0	100	88	26-137	<1	30
Fluorene	625	86.1	100	86	86.2	100	86	59-121	<1	30
Hexachlorobenzene	625	86.9	100	87	89.1	100	89	10-152	2	30
Hexachlorobutadiene	625	49.6	100	50	51.8	100	52	24-116	4	30
Hexachlorocyclopentadiene	625	56.1	100	56	58.7	100	59	28-98	4	30
Hexachloroethane	625	56.1	100	56	58.5	100	59	40-113	4	30
Indeno(1,2,3-cd)pyrene	625	83.2	100	83	84.6	100	85	10-171	2	30
Isophorone	625	94.7	100	95	93.9	100	94	21-196	<1	30
N-Nitrosodi-n-propylamine	625	93.7	100	94	92.1	100	92	10-230	2	30
N-Nitrosodimethylamine	625	66.1	100	66	61.1	100	61	33-70	8	30
N-Nitrosodiphenylamine	625	97.3	100	97	100	100	100	50-117	3	30
Naphthalene	625	70.3	100	70	72.1	100	72	21-133	3	30
Nitrobenzene	625	86.2	100	86	86.9	100	87	35-180	<1	30
Pentachlorophenol (PCP)	625	74.2	100	74	78.4	100	78	14-176	5	30
Phenanthrene	625	92.4	100	92	95.0	100	95	54-120	3	30
Phenol	625	43.8	100	44	39.9	100	40	10-112	9	30
Pyrene	625	96.3	100	96	99.1	100	99	52-115	3	30

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/21/15

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1512700-02			RQ1512700-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	625	54.2	100	54	52.7	100	53	29-85	3	30
1,2-Diphenylhydrazine	625	117	100	117	120	100	120 *	57-117	2	30
2,4,6-Trichlorophenol	625	96.3	100	96	95.0	100	95	37-144	1	30
2,4-Dichlorophenol	625	84.4	100	84	86.4	100	86	39-135	2	30
2,4-Dimethylphenol	625	80.7	100	81	84.1	100	84	32-119	4	30
2,4-Dinitrophenol	625	83.5	100	84	69.4	100	69	10-191	18	30
2,4-Dinitrotoluene	625	99.6	100	100	98.5	100	99	39-139	1	30
2,6-Dinitrotoluene	625	93.2	100	93	95.7	100	96	50-158	3	30
2-Chloronaphthalene	625	78.6	100	79	82.8	100	83	60-118	5	30
2-Chlorophenol	625	79.6	100	80	79.1	100	79	23-134	<1	30
2-Nitrophenol	625	88.4	100	88	89.9	100	90	29-182	2	30
3,3'-Dichlorobenzidine	625	78.9	100	79	84.1	100	84	10-262	6	30
4,6-Dinitro-o-cresol	625	94.7	100	95	95.9	100	96	10-181	1	30
4-Bromophenyl Phenyl Ether	625	91.1	100	91	95.0	100	95	53-127	4	30
4-Chloro-m-cresol	625	81.0	100	81	82.6	100	83	22-147	2	30
4-Chlorophenyl Phenyl Ether	625	84.8	100	85	84.0	100	84	25-158	<1	30
4-Nitrophenol	625	48.2	100	48	45.5	100	45	10-132	6	30
Acenaphthene	625	90.1	100	90	91.7	100	92	47-145	2	30
Acenaphthylene	625	88.3	100	88	89.2	100	89	33-145	<1	30
Anthracene	625	96.1	100	96	97.5	100	98	27-133	1	30
Benz(a)anthracene	625	92.6	100	93	94.4	100	94	33-143	2	30
Benzidine	625	100	100	0 *	90	100	0 *	10-169	NC	30
Benzo(a)pyrene	625	95.7	100	96	96.7	100	97	17-163	1	30
3,4-Benzofluoranthene	625	92.2	100	92	93.9	100	94	24-159	2	30
Benzo(g,h,i)perylene	625	92.8	100	93	93.1	100	93	10-219	<1	30
Benzo(k)fluoranthene	625	92.5	100	92	93.1	100	93	11-162	<1	30
Bis(1-chloroisopropyl) Ether	625	105	100	105	104	100	104	36-166	1	30
Bis(2-chloroethoxy)methane	625	98.6	100	99	100	100	100	33-184	2	30
Bis(2-chloroethyl) Ether	625	94.0	100	94	89.7	100	90	12-158	5	30
Bis(2-ethylhexyl) Phthalate	625	107	100	107	108	100	108	10-158	<1	30
Butyl Benzyl Phthalate	625	95.2	100	95	97.5	100	97	10-152	2	30
Chrysene	625	96.7	100	97	99.5	100	100	17-168	3	30
Di-n-butyl Phthalate	625	104	100	104	104	100	104	10-118	<1	30

Client: Ecology And Environment, Incorporated
Project: Davis Howland Oil Company Site - SW 10/2015/1703074.0012
Sample Matrix: Water

Service Request: R1508866
Date Analyzed: 10/21/15

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1512700-02			RQ1512700-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Di-n-octyl Phthalate	625	112	100	112	110	100	110	10-146	1	30
Dibenz(a,h)anthracene	625	93.7	100	94	93.5	100	93	10-227	<1	30
Diethyl Phthalate	625	96.1	100	96	94.2	100	94	10-114	2	30
Dimethyl Phthalate	625	88.0	100	88	88.7	100	89	10-112	<1	30
Fluoranthene	625	96.1	100	96	94.4	100	94	26-137	2	30
Fluorene	625	93.7	100	94	92.0	100	92	59-121	2	30
Hexachlorobenzene	625	93.7	100	94	97.0	100	97	10-152	3	30
Hexachlorobutadiene	625	44.9	100	45	46.3	100	46	24-116	3	30
Hexachlorocyclopentadiene	625	53.5	100	54	58.3	100	58	28-98	8	30
Hexachloroethane	625	54.5	100	55	52.4	100	52	40-113	4	30
Indeno(1,2,3-cd)pyrene	625	89.6	100	90	90.1	100	90	10-171	<1	30
Isophorone	625	96.3	100	96	96.3	100	96	21-196	<1	30
N-Nitrosodi-n-propylamine	625	96.0	100	96	94.9	100	95	10-230	1	30
N-Nitrosodimethylamine	625	55.8	100	56	53.5	100	53	33-70	4	30
N-Nitrosodiphenylamine	625	104	100	104	108	100	108	50-117	3	30
Naphthalene	625	69.1	100	69	69.2	100	69	21-133	<1	30
Nitrobenzene	625	87.9	100	88	90.1	100	90	35-180	2	30
Pentachlorophenol (PCP)	625	82.2	100	82	81.1	100	81	14-176	1	30
Phenanthrene	625	101	100	101	100	100	100	54-120	<1	30
Phenol	625	38.2	100	38	37.6	100	38	10-112	2	30
Pyrene	625	102	100	102	104	100	104	52-115	2	30

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

31677

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: Davis Howland Oil Co.	Project Number: 1703074.0012
Project Manager: Ashlee Patnode	Report CC:
Company/Address: Ecology and Environment, 368 Pleasant View Dr., Lancaster, NY 14086	
Phone #: (716) 684-8060	Email: apatnode@ene.com
Sampler's Signature: Ashlee Patnode	Sampler's Printed Name: Ashlee Patnode

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

Preservative Key: 0. NONE 1. HCL 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other Ice

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs o 8260 o 624 o CLP	GC/MS SVOAs o 8270 o 625	GC VOAs o 8021 o 601/602	PESTICIDES o 8081 o 608	PCBs o 8082 o 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TPH 1664 310-13							REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE						1	8						8							
PW-1-OCT15	001	10/15/15	10:05	W	7	X	X						X							
PW-2-01	002	10/15/15	12:16	W	3	X														
PW-2-02	003	10/15/15	12:16	W	2		X													
PW-2-03	004	10/15/15	12:16	W	2								X							
P-2-01	005	10/15/15	12:27	W	3	X														
P-2-02	006	10/15/15	12:27	W	2		X													
P-2-03	007	10/15/15	12:27	W	2								X							
P-3-01	008	10/15/15	12:42	W	3	X														
P-3-02	009	10/15/15	12:42	W	2		X													
P-3-03	010	10/15/15	12:42	W	2								X							

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
REQUESTED REPORT DATE: Standard

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

R1508866 5
Ecology And Environment, Incorporated
Davis Howland Oil Company Site - Semiannual Wa

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Michael Crawford	Printed Name: Daniel Ward	Printed Name	Printed Name	Printed Name	Printed Name
Firm: EEEPC	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 10/15/15 / 15:48	Date/Time: 10/15/15 / 1548	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preserv

R1508866 5
Ecology And Environment, Incorporated
Davis Howland Oil Company Site - Semiannual Wa

Project/Client E+E Folder Numb _____.

Cooler received on 10/15/15 by: DH

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: **Wet Ice** **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y	(N)	NA
6	Where did the bottles originate?	ALS/ROC	CLIENT	
7	Soil VOA received as:	Bulk	Encore	5035set (NA)

8. Temperature Readings Date: 10/15/15 Time: 1621 ID: (IR#3) IR#5 From: (Temp Blank) Sample Bottle

Observed Temp (°C)	13.1	13.8					
Correction Factor (°C)	+0.5	+0.5					
Corrected Temp (°C)	13.6	14.3					
Within 0-6°C?	Y (N)	Y (N)	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (Same Day Rule)

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by DHW on 10/15/15 at 1621
5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: KB 10/16/15

Cooler Breakdown: Date: 10/15/15 Time: 1962 by: MDS

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_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 07[illegible] HCL, 5-11-001
Other Comments:

PC Secondary Review: KB 10/16/15

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

31513

ALS Environmental

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: Davis Howland	Project Number: 170374.0012.03
Project Manager: Ashlee Patnode	Report CC:
Company/Address: Ecology & Environment Inc 368 Pleasantview Dr Lancaster NY 14086	
Phone #: 716 684-8060	Email: APatnode@EENE.com
Sampler's Signature: Lawrence T Roedl	Sampler's Printed Name: Lawrence Roedl

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 0 0 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TPH							REMARKS/ ALTERNATE DESCRIPTION
TB 101515	-011	10/15/15	10:00	GW	3	X														
MW15R-oct15	-012	10/15/15	12:05	GW	7	X	X						X							
MW3R-oct15	-013	10/15/15	12:35	GW	7	X	X						X							
~~MW35-oct15~~		10/15/15		GW	7	X	X						X							Lawrence Roedl 10/15/15
MW16R-oct15	-014	10/15/15	1400	GW	7	X	X						X							
MW3S-oct15	-015	10/15/15	13:30	GW	7	X	X						X							
MW10R-oct15	-016	10/16/15	12:10	GW	7	X	X						X							
PZ1-oct15	-017	10/16/15	11:40	GW	7	X	X						X							
PZ2-oct15	-018	10/16/15	12:10	GW	7	X	X						X							
PZ3-oct15	-019	10/16/15	12:05	GW	7	X	X						X							
PZ4-oct15	-020	10/16/15	12:45	GW	7	X	X						X							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
REQUESTED REPORT DATE
As per Contract

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
X III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw
Edata X Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

R1508866 5
Ecology And Environment, Incorporated
Davis Howland Oil Company Site - Semiannual Wa

STATE WHERE SAMPLES WERE COLLECTED: NY

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	
Signature: Lawrence T Roedl	Signature: Daniel Mirc	Signature	Signature	Signature	Signature
Printed Name: Lawrence Roedl	Printed Name: ALS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Ecology & Environment	Firm: 10/16/15 1414	Firm	Firm	Firm	Firm
Date/Time: 10/16/15 2:14	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preserv

R1508866 5
Ecology And Environment, Incorporated
Davis Howland Oil Company Site - Semiannual Wa

Project/Client E+E Folder Numl

Cooler received on 10/16/15 by: DM

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N) NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 10/16/15 Time: 1426 ID: (IR#3) IR#5 From: (Temp Blank) Sample Bottle

Observed Temp (°C)	1.7°	2.9°	1.5°	1.4°	1.5°		
Correction Factor (°C)	+0.5	-0.6	+0.5	+0.5	+0.5		
Corrected Temp (°C)	2.2°	2.3°	2.0°	1.9°	2.0°		
Within 0-6°C?	(Y) N	(Y) N	(Y) N	(Y) N	(Y) N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by DM on 10/16/15 at 1426
5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: KB 10/19/15

Cooler Breakdown: Date: 10/16/15 Time: 15:02 by: MAR

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_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	4114070	09/16				

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 072715-1BLT; 5-211-001
Other Comments:

PC Secondary Review: KB 10/19/15

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Data Usability Summary Report	Project: Davis Howland Oil Company
Date Completed: December 30, 2015	Completed by: Joanna Christopher

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidance:

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010);
- EPA Region 2 Data Validation Standard Operating Procedures.

Specific criteria for QC limits were obtained from EEEPC's Master QAPP for NYSDEC projects. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Project ID	Lab Work Order	Laboratory
10C3074.0012.04	R1508650 R1508792 R1508866	ALS, Rochester, NY

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
R1508650	WG	E624	Volatile Organic Compound by GC/MS	3	N
R1508650	WQ	E624	Volatile Organic Compound by GC/MS	1	TB
R1508792	WG	E624	Volatile Organic Compound by GC/MS	9	N/FD
R1508792	WQ	E624	Volatile Organic Compound by GC/MS	1	TB
R1508866	WG	E624	Volatile Organic Compound by GC/MS	13	N
R1508866	WQ	E624	Volatile Organic Compound by GC/MS	1	TB
R1508650	WG	E625	Semi-volatile Organic Compounds by GC/MS	3	N
R1508792	WG	E625	Semi-volatile Organic Compounds by GC/MS	9	N/FD
R1508866	WG	E625	Semi-volatile Organic Compounds by GC/MS	13	N
R1508650	WG	NY 310-13	Petroleum Products in Water (Hydrocarbon Scan)	3	N
R1508792	WG	NY 310-13	Petroleum Products in Water (Hydrocarbon Scan)	9	N/FD
R1508866	WG	NY 310-13	Petroleum Products in Water (Hydrocarbon Scan)	13	N

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
R1508650	WG	MW-12S-OCT15	R1508650-001	10/09/15			
R1508650	WG	MW-12R-OCT15	R1508650-002	10/09/15	MS/MSD	MS/MSD	
R1508650	WG	MW-13S-OCT15	R1508650-003	10/09/15			
R1508650	WQ	TRIP BLANK 20151009	R1508650-004	10/09/15			TB1009-01
R1508792	WQ	TB-101315	R1508792-001	10/13/15			TB1013-02
R1508792	WG	MW9S-OCT15	R1508792-002	10/13/15			MW-9S-OCT15
R1508792	WG	MW14R-OCT15	R1508792-003	10/13/15			MW-14R-OCT15
R1508792	WG	MW9S-OCT15-FD	R1508792-004	10/13/15			MW-9S-OCT15Q
R1508792	WG	MW14S-OCT15	R1508792-005	10/13/15			MW-14S-OCT15
R1508792	WG	MW8-OCT15	R1508792-006	10/13/15			MW-8R-OCT15

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Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
R1508792	WG	MW2R-OCT15	R1508792-007	10/13/15			MW-2R-OCT15
R1508792	WG	MW5R-OCT15	R1508792-008	10/13/15			MW-5R-OCT15
R1508792	WG	MW2S-OCT15	R1508792-009	10/13/15			MW-2S-OCT15
R1508792	WG	MW1S-OCT15	R1508792-010	10/13/15	MS/MSD	MS/MSD	MW-1S-OCT15
R1508866	WG	PW-1-OCT 15	R1508866-001	10/15/15			
R1508866	WG	PW-2-01	R1508866-002	10/15/15			PW-2-OCT15
R1508866	WG	PW-2-02	R1508866-003	10/15/15			PW-2-OCT15
R1508866	WG	PW-2-03	R1508866-004	10/15/15			PW-2-OCT15
R1508866	WG	P-2-01	R1508866-005	10/15/15			P-2-OCT15
R1508866	WG	P-2-02	R1508866-006	10/15/15			P-2-OCT15
R1508866	WG	P-2-03	R1508866-007	10/15/15			P-2-OCT15
R1508866	WG	P-3-01	R1508866-008	10/15/15			P-3-OCT15
R1508866	WG	P-3-02	R1508866-009	10/15/15			P-3-OCT15
R1508866	WG	P-3-03	R1508866-010	10/15/15			P-3-OCT15
R1508866	WQ	TB101515	R1508866-011	10/15/15			TB1015-03
R1508866	WG	MW15R-OCT15	R1508866-012	10/15/15			MW-15R-OCT15
R1508866	WG	MW3R-OCT15	R1508866-013	10/15/15			MW-3R-OCT15
R1508866	WG	MW16R-OCT15	R1508866-014	10/15/15			MW-16R-OCT15
R1508866	WG	MW-3S-OCT15	R1508866-015	10/15/15			
R1508866	WG	MW10R-OCT15	R1508866-016	10/16/15			MW-10R-OCT15
R1508866	WG	PZ1-OCT15	R1508866-017	10/16/15			PZ-1-OCT15
R1508866	WG	PZ2-OCT15	R1508866-018	10/16/15			PZ-2-OCT15
R1508866	WG	PZ-3-OCT15	R1508866-019	10/16/15			
R1508866	WG	PZ4-OCT15	R1508866-020	10/16/15			PZ-4-OCT15

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes. Many of the sample names were corrected as noted in the ID Correction column to maintain consistency in nomenclature between sampling events.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	No. Two of the coolers associated with SDG R1508650 were received at a temperature of 6.8°C and 10.7°C; two of the coolers associated with SDG R1508866 were received at a temperature of 13.6°C and 14.3°C as recorded from the temperature blanks. The samples were received on ice by the laboratory at the end of the field day. There are no usability issues with the data. Custody seals were not present on the coolers; however, the coolers were directly transferred from the field technician to the laboratory. There are no custody issues with the samples.
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?	No Field Duplicate collected 1/24. MS/MSD collected 2/24 for VOCs; 1/24 for SVOCs and 1/24 for Petroleum Products. Trip Blanks – 1 per each cooler with VOCs. Equipment blank not collected
Case narrative present and complete?	Yes.
Any holding time violations?	No.

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

Volatile Organics and Semi-volatile Organics by GC/MS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip, and field blanks (see Table 2)?	Yes. E624: Bromomethane was detected in trip blank TB1015-03 below the PQL. Bromomethane was detected in one method blanks below the PQL.
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.	Sample results less than 5X the blank detection for bromomethane were U qualified as non-detect (trip blank only). The method detection limit was elevated to the sample result. Bromomethane was not detected in any of the samples.
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.	No. Two surrogates were outside of acceptance criteria (recovered high) for MW-9S-OCT15 and one surrogate was outside of acceptance criteria (recovered high) for MW-14S-OCT15. No qualification of the data was made.
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)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No. E625: Benzidine was recovered at 0% in the MS and MSD of sample MW-12R-OCT15. The LCS for the analyte was non-compliant; therefore, the results were qualified UR as rejected non-detect.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No. E625: Benzidine was recovered at 0% in all of the LCS/LCSDs. Benzidine is a poor performing analyte in a multi-parameter spike. The associated sample results were UR qualified as rejected non-detects. E625: 1,2-Diphenylhydrazine was recovered above the acceptance criteria in LCS RQ1512700-03 and LCS RQ1413876-04. 1,2-Diphenylhydrazine was not detected in any of the associated samples; therefore, no qualification of the data was made.

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Volatile Organics and Semi-volatile Organics by GC/MS	
Description	**Notes and Qualifiers**
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Unable to assess. Category A reporting. No exceptions noted in narrative.
Is initial calibration for target compounds <10 %RSD or curve fit?	Unable to assess. Category A reporting. No exceptions noted in narrative.
Is continuing calibration for target compounds < 20.5%D.	Unable to assess. Category A reporting. No exceptions noted in narrative.
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. The EDD and laboratory report stated that sample P-3-OCT15 (R1508866-010) for Method NY310-13 was diluted 1.1 X and elevated reporting limits were provided; however, the laboratory made typographic error and the sample dilution was really only 1X; therefore, the validator corrected the EDD and the laboratory issued a revised report. Samples were diluted to bring target analytes within calibration range. Only one result is reported.
For TICs are there any system related compounds that should not be reported?	N/A
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes.

General Analytical Methods (Total Petroleum Hydrocarbons)	
Description	**Notes and Qualifiers**
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.	Not required.
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.	No. NY310-13: Fuel Oil #2 was recovered below criteria in the MS and MSD of sample MW-12R-OCT15. The LCS for the analyte was compliant; therefore, the results were qualified UJ as estimated non-detect.
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.

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Summary of Findings
• Low level result for bromomethane in TB was qualified as non-detect due to detection of the analyte in the method blank. • A rinsate blank was not collected during the sampling event. The sampling protocol specifies for a rinsate blank to be collected to determine if contamination is present from non-dedicated equipment. Therefore, the presence of potential carry over could not be evaluated. • Benzidine results were rejected due to the analyte being recovered in the LCS/LCSD and MS/MSD at 0%. The analyte was not detected in the samples and is not a contaminant of concern. • Fuel Oil #2 was recovered below criteria in the MS and MSD of sample MW-12R-OCT15. The sample results were qualified UJ as estimated non-detect.

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Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Sample Type	Analyte	Result	Qualifier	Units	MDL	PQL
E624	TB1015-03	TB	Bromomethane	0.53	BJ	ug/l	0.44	1
E624	RQ1512822-04	MB	Bromomethane	0.49	J	ug/l	0.44	1

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Method Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qualifier	PQL	Affected Samples	Sample Flag
E624	RQ1512822-04	WQ	Bromomethane	0.49	0.53	BJ	1	TB1015-03	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination

None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec. %	Low Limit	High Limit	Dilution Factor	Sample Qualifier
E625	MW-9S-OCT15	SAMP	2,4,6-Tribromophenol	163	28	157	1	None
E625	MW-9S-OCT15	SAMP	Nitrobenzene-D5	149	37	117	1	None
E625	MW-14S-OCT15	SAMP	Nitrobenzene-D5	149	37	117	1	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 Qualifier
E625	MW-12R-OCT15MS	MS	Benzidine	ND	94.3	0	1	10	169	UR Flag
E625	MW-12R-OCT15DMS	MSD	Benzidine	ND	94.3	0	1	10	169	UR Flag
NY310-13	MW-12R-OCT15MS	MS	Fuel Oil #2	ND	4720	62	1	70	136	UJ Flag
NY310-13	MW-12R-OCT15DMS	MSD	Fuel Oil #2	ND	4720	60	1	70	136	UJ Flag

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Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	Sample Qualifier
E625	RQ1512700-02	1,2-Diphenylhydrazine	117	57	117	None: High and ND
E625	RQ1512700-03	1,2-Diphenylhydrazine	120	57	117	None: High and ND
E625	RQ1512339-02	Benzidine	0	10	169	UR Flag
E625	RQ1512449-02	Benzidine	0	10	169	UR Flag
E625	RQ1512504-02	Benzidine	0	10	169	UR Flag
E625	RQ1512504-02	Benzidine	0	10	169	UR Flag
E625	RQ1512700-02	Benzidine	0	10	169	UR Flag
E625	RQ1512700-03	Benzidine	0	10	169	UR Flag

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
MW-10R-OCT15	R1508866-016	E624	SAMP	10X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
MW-2R-OCT15	R1508792-007	E624	SAMP	2X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
MW-2R-OCT15DL	R1508792-007	E624	SAMP	10X: Dilute to bring target analytes within calibration curve. Only cis-1,2-dichloroethene reported at 10X.
MW-3R-OCT15	R1508866-013	E624	SAMP	10X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
PW-1-OCT 15	R1508866-001	E624	SAMP	2X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
PZ-4-OCT15	R1508866-020	E624	SAMP	2X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
MW-5R-OCT15	R1508792-008	E624	SAMP	2.5X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
PW-2-OCT15	R1508866-002	E624	SAMP	2.5X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
P-3-OCT15	R1508866-008	E624	SAMP	20X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
MW-8R-OCT15	R1508792-006	E624	SAMP	25X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.
P-2-OCT15	R1508866-005	E624	SAMP	5X: Dilute to bring target analytes within calibration curve. Elevated detection limits provided.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	MW-9S-OCT15	MW-9S-OCT15Q	RPD	RPD Rating	Samp Qual
E624	1,1,1-Trichloroethane	ug/l	WG	1.0	1.1	1.1	0.0%	Good	None
E624	1,1-Dichloroethane	ug/l	WG	1.0	8.3	8.5	2.4%	Good	None
E624	1,1-Dichloroethene	ug/l	WG	1.0	0.23	0.28	19.6%	Good	None
E624	1,2-Dichlorobenzene	ug/l	WG	1.0	8.5	9.5	11.1%	Good	None
E624	1,3-Dichlorobenzene	ug/l	WG	1.0	ND	0.26	NC	--	--
E624	1,4-Dichlorobenzene	ug/l	WG	1.0	0.76	0.81	6.4%	Good	None
E624	Chloroform	ug/l	WG	1.0	0.42	0.43	2.4%	Good	None
E624	Cis-1,2-Dichloroethylene	ug/l	WG	1.0	30	30	0.0%	Good	None
E624	Tetrachloroethylene (PCE)	ug/l	WG	1.0	50	49	2.0%	Good	None
E624	Trans-1,2-Dichloroethene	ug/l	WG	1.0	2.3	2.3	0.0%	Good	None
E624	Trichloroethylene (TCE)	ug/l	WG	1.0	42	41	2.4%	Good	None
E624	Vinyl Chloride	ug/l	WG	1.0	1.7	1.9	11.1%	Good	None
E625	Bis(2-Ethylhexyl) Phthalate	ug/l	WG	4.7	ND	5.2	NC	--	--

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate sample
GC/MS = gas chromatography / mass spectrometry
LCS = laboratory control sample
LCSD = laboratory control sample duplicate
MBLK = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal field sample
NC = not calculated
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PQL = practical quantitation limit

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Acronym List and Table Key:

QA	=	quality assurance
QAPP	=	quality assurance project plan
QC	=	quality control
RB	=	Rinsate blank sample
RPD	=	relative percent difference
SDG	=	sample delivery group
TB	=	Trip blank sample
VOC	=	volatile organic 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, 12th 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.

N ⇑

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.