Commercial Property Card

Print Date: 2/19/2026

Card 1 of 1

Parcel ID	Location	Zoning	Deed Book/Page	Acres
168914228906	53 THAMES ST	GC	411/366	0.57

District	Use Code
CITY OF GROTON	MARINAS

Current Owner

SANTACROCE JOHN R (DECD)
80 BAKER AVE
GROTON CT 06340

Building Information

Building No:	1
Year Built:	1900
No of Units:	1
Structure Type:	SERVICE STATION
Building Total Area:	1595 sqft.
Grade:	C-
Identical Units:	1

Valuation

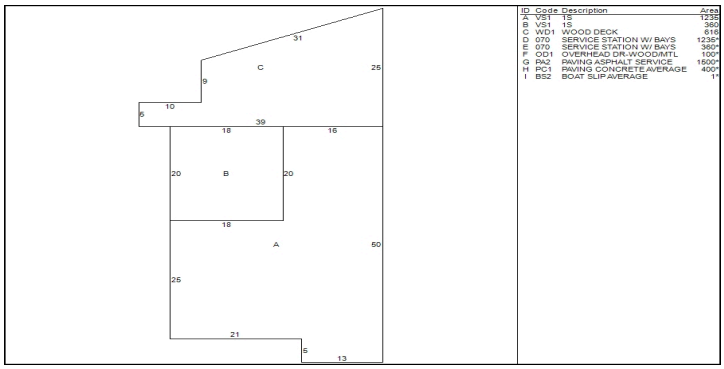
Land:	$400,800
Building:	$104,700
Total:	$505,500
Total Assessed Value:	$353,850

Recent Sales

Book/Page	Date	Price

Property Picture

Building Sketch



Sketch Legend

----	Main Living Area	1SMA	Masonry	GRHS	Attached Greenhouse
1FR	Frame	OMP	Open Masonry Porch	CAT	Cathedral Ceiling
OFP	Open Frame Porch	EMP	Enclosed Msry Porch	SOP	Screen Open Frame Prch
EFP	Enclosed Frame Porch	MUB	Masonry Utility	SMP	Screen Open Msnry Prch
FUB	Frame Utility Building	MB	Masonry Bay	CPAT	Concrete Patio
FB	Frame Bay	MOH	Masonry Overhang	B	Basement
FG	Frame Garage	.5MA	1/2 Story Masonry		
FOH	Frame Overhang	MP	Masonry Patio		
.5FR	1/2 Story Frame	WD	Wood Deck		
A(U)	Attic (Unfinished)	CPY	Canopy		
A(F)	Attic (Finished)				

Exterior/Interior Information

Levels	Use Type	Ext. Walls	Const. Type	Heating	A/C	Condition
01 - 01	SERVICE STATION W/ BAYS	CONCRETE BLOCK	WOOD JOIST	HOT AIR	NONE	FAIR
01 - 01	SERVICE STATION W/ BAYS	CONCRETE BLOCK	WOOD JOIST	HOT AIR	NONE	FAIR

PROBATE CERTIFICATE OF MUTUAL AGREEMENT

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STATE OF CONNECTICUT PROBATE COURT

DISTRICT OF GROTON October 1, 1985

I, Lillian E. Erb, Judge of the Court of Probate for said District, hereby certify that the last place of residence of RUDOLPH J. SANTACROCE, deceased, was in the Town of Groton, in said District; that the said deceased died intestate on March 24, 1982 owning real estate; that the estate of said deceased has been settled in said Probate Court; that the said heirs-at-law of said estate have entered into a mutual agreement which is on file in said Probate Court, to divide and distribute real property among themselves in the following manner:

TO: DAVID R. SANTACROCE Son

Real Estate at Old Farm Road, Town of Groton, County of New London, State of Connecticut as described as follows:

All that certain tract of land known as and designated as Lot #1 in Block #1 on a plat entitled "Plan of Property of Twin-Hills of Groton, Inc., Groton, Connecticut, Scale 1" = 40' Chandler & Palmer Engr's. April 1956; additions June 1, 1956, June 19, 1956, Sheet 1 filed for record in the Town Clerk's Office in the Town of Groton on June 20, 1956, together with a right-of-way for all purposes over the streets set out on said Plan, which Lot is more particularly bounded and described as follows:

FIRST TRACT: Beginning at a merestone in the easterly line of Twin Hills Drive, at the southwest corner of the within described tract adjoining Lot #3 on said plan, run North 55° 44' East 58.67 feet to a point; thence easterly in the arc of a curve having a radius of 28.34 feet at the intersection of said Twin Hills Drive and Old Farm Road run 36.45 feet to a point on the southerly line of said Old Farm Road, as shown on said plan; thence run South 50° 33' east by and along the southerly line of Old Farm Road 68 feet to a point; thence easterly in the arc of a curve having a radius of 158.82 feet, run 30.49 feet to a merestone adjoining Lot No. 2 on said plan; thence run south 50° 27' west 100 feet to a merestone; thence run north 39° 10' west by and along Lot No.3 as shown on said plan 125.6 feet to point of beginning.

SECOND TRACT: Beginning at a merestone on the east side of Twin Hills Drive, which point is the front boundary of lots one (1) and three (3) in Block One (1), thence south five (5) feet by and along the easterly boundary of Twin Hills Drive to a point, thence east one hundred twenty-six (126') feet, plus or minus, to a merestone at the southeast corner of Lot one (1) Block one (1), thence north thirty-nine (39) degrees ten (10) minutes west, one hundred twenty-five and six tenths (125.6') feet to the point of beginning.

Subject to covenants as recorded in Groton Land Records, Volume 150, Page 605 and as amended in Volume 166, page 397.

TO: JOHN R. SANTACROCE SON

Real Estate at 67 Baker Avenue in the Town of Groton, County of New London, State of Connecticut, with the buildings thereon standing, and bounded and described as follows:

Northerly by Baker Avenue seventy-five (75') feet; easterly by land now or formerly of Walter W. Miner one hundred fifty-five (155') feet, more or less; southerly by land now or formerly of Antone Leverone seventy-five (75') feet; westerly by land now or formerly of Rosazita San Dora one hundred fifty-five (155') feet, more or less.

Real Estate at 53 Thames Street in the City of Groton and County of New London, State of Connecticut and more particularly described as follows:

Two certain tracts (2) or parcels of land with the buildings thereon standing, situated in the Town of Groton, and more particularly bounded and described as follows:

FIRST TRACT: Beginning at the northeasterly corner of the premises at the junction of Thames Street and land now or formerly of Harry and George Elion; thence running westerly by and with said Elion land to the Thames River; thence running southerly by and with the said River to other land now or formerly of The Callahan Oil Company and hereinafter referred to as Second Tract; thence running easterly by and along the northerly line of said Second Tract parallel with the northerly boundary line to the westerly line of Thames Street; and thence running northerly by and with Thames Street, one hundred five (105') feet to the point of beginning.

SECOND TRACT: Beginning at the northeast corner of the tract herein conveyed, being also the southeast corner of Tract above described, thence run southerly by and with Thames Street line forty (40') feet to land now or formerly of Edward E. Spicer Estate; thence deflecting eighty-six (86°) degrees and thirty-one (31') minutes to the right, run westerly by and along said Estate land about sixty (60') feet to the waters of the New London Harbor; thence run northerly with the shore forty (40') feet, more or less, to the southwest corner of the First Tract above mentioned; and thence easterly about sixty (60') feet to the point of beginning.

THIRD TRACT: Beginning at the northeasterly corner of the herein described tract of land at the southeasterly corner of land now or formerly of Rudolph J. and Rita M. Santacroce, said point of beginning being more precisely located in the westerly street line of Thames Street, so-called; thence running southerly, by and with said westerly street line, a distance of sixty-five and twenty-five hundredths (65.25') feet to the southeasterly corner of the herein described tract; thence turning an interior angle of 90° 00' 00" and running westerly, bounded southerly by other land now or formerly of Courtland E. Colver, Jr., a distance of seventy (70') feet, more or less, to the southwesterly corner of the

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Estate of RUDOLPH J. SANTACROCE

herein described parcel; thence turning and running northerly by and along the easterly shore of the Thames River, a distance of sixty-five (65') feet, more or less, to the northwesterly corner of the herein described tract and the southwesterly corner of land now or formerly of Rudolph J. and Rita M. Santacroce; thence turning and running easterly, bounded northerly by said Santacroce land a distance of sixty (60') feet, more or less, to the point and place of beginning; said last mentioned course forming an interior angle of 86°31' 00" with said first mentioned course. Said tract of land containing an area of 4150 square feet, more or less. Together with all riparian rights thereto.

In testimony thereof, I have hereunto set my hand, and affixed the seal of said Court on this 1st day of October, A.D. 1985.

Attest: _____
Lillian E. Erb, Judge of Probate

RECEIVED FOR RECORD AT GROTON, CONN
ON 10-17-85 AT 9:57 A.M.
ATTEST JACQUIVA DUBOIS, TOWN CLERK

Incident Report for 3/13/2024 Petroleum Incident (Incident ID: 202400697)

☐ Initial ☐ Update ☑ Close Out

Incident Details

Description:	Leaking sunken boat in the Thames River.		
Incident Status:	Inactive	Incident Date and Time:	3/13/2024
Incident Type:	Petroleum Incident	Incident Subtype :	Leaking Motor Vehicle
Source Type:	Transportation	Source Subtype:	Water Transport Vehicle
Released Into Medium:	Surface Water		
Water Bodies Affected Details:	River: Thames River		

Site Details

Is Spill Continuous:	No	Is Spill Contained:	No
Discovered/Start Date and Time:		End Date and Time:	
Reported to NRC:	Yes	Estimated Duration:	
Name of Person Who Notified NRC:	Thomas E Welch	Date Notified:	3/13/2024 12:00:00 AM
Extent of Spill/Release:	Released Beyond Property of Origin		
Extent Details:			

Reporting Party Details

Reporting Party Name:	Susan	Reporting Party Company:	Public Complaint
Reporting Party Phone:		Reporting Party Email:	
Reported Date and Time:	3/13/2024 02:55 PM		

Incident Location

Address:	53 Thames Street, Groton, CT	Town/Tribe:	Groton
Latitude:	41.3612	Longitude:	-72.0846
County:	New London County	DEMHS Region:	
LEPC:		Aquifer Protection Area Name:	
Wellhead Protection Area:			
Public Drinking Water Supply Watershed Area:			
Location Description:			

Incident Contacts

Responsible Party		Second Responsible Party		Property Owner Contact
Name:	Cody Thomas	Name:	Cody Thomas	
Title:	vessel owner	Title:	vessel owner	
Company Name:		Company Name:		
Company Address:	, Vernon, Connecticut	Company Address:	, Vernon, Connecticut	
Phone: 860-861-9425	24 Hr.Phone:	Phone: 860-861-9425	24 Hr.Phone:	
Email:	Mobile/Pager:	Email:	Mobile/Pager:	

Incident Report for 3/13/2024 Petroleum Incident (ID: 202400697)

Incident and Risks

Expected Cause of Transportation Leaking Motor Vehicle :		Nature of Locale where Incident Occurred :	Waterway
Weather :	Clear	Wind Direction :	Wind Speed :
Distance from Nearest Occupied Building :		Number of Confirmed Injuries :	0
Distance from Nearest Water Well :		Number of Confirmed Fatalities :	0
Known Health Risks :			

Immediate Potential Threats (first 24 Hr) :

Threat to Navigable Waterway:

Delayed Potential Threats (after first 24 hr) :

Threat to Navigable Waterway:

Incident Report for 3/13/2024 Petroleum Incident (ID: 202400697)

Response Details

No Response Reason:	☐	Incident Not Substantiated:	☐
Initial Actions taken:	Emergency Response Coordinator Welch (ERC 967) responded to listed location for report of a sunken vessel that had a sheen coming off of it.	Key Observations:	ERC 967 spoke to complainant who stated the vessel sunk over a month ago and she hasn't seen a sheen since 2 weeks prior to 3/13/24. The complainant said she saw a small sheen in front of her house on 2 occasions and assumed it came from upstream vessel. This coordinator observed a 31' Silverton moored to a dock and resting on the rivers bottom. There was no sheen observed. USCG was advised of the release.
ERC On-Scene:	Welch, Thomas	Referrals:	
Agencies On-Scene:	Other, Other, US Coast Guard Sector LIS		
Significant Hazard Notification Notes:	n/a	Were violations, negligence, or intentional acts potentially contributing to this incident?	n/a
Was the released substance cleaned up to applicable standards?	No	Have tanks been repaired?	No
Was soil removed?	No	Has the tank or container been pumped out?	No
Was substance dispersed in air or water?	Yes	Have the containers been removed?	No
Has the substance dissipated into the air or water?	No	Were test wells installed?	No
Has the substance evaporated into the air or water?	No	Was foam applied?	No (Foam Type:)
Has the substance been neutralized into the air or water?	No	Was the leaking line repaired?	No
Has the release been investigated?	Yes	Has the spill area been sanded?	No
Have other corrective actions been taken?	Yes	Was the incident referred to UST/Enforcement?	No
Is this a release to land and waters of the state that is reportable per the Release Reporting Regulations?		Have tanks been removed?	No

Incident Chemicals/Released Substances

Pesticides/Herbicides are not involved

Polychlorinated Biphenyls (PCBs), transformer/capacitor, or utility pole are not involved

PFAS and/or Firefighting Foam are not involved

Halogenated Solvent are not involved

CAS Number	Chemical Name	Trade Name	Is EHS	Is Radioactive	Is CT Material of Special Concern	Estimated Amount	Estimated Amount in Pounds	Recovered Amount
N/A	Motor Oil		No	No	No			
N/A	Gasoline as transportation fuel		No	No	No			

Incident Report for 3/13/2024 Petroleum Incident (ID: 202400697)

Incident Cleanup

Clean Up Actions Already Taken: To date no responding agency has been able to contact the vessel owner. The marina owner stated the vessel owner never launched the vessel during the 2023 season and doesn't believe there was a large amount of gasoline on board. The marina owner is onsite daily and hasn't observed a release. The marina owner was advised to contact this coordinator and USCG if the vessel releases any petroleum.

Estimated Clean Up Response Completion Date: 03/13/2024

Waste Disposal Facilities:

Spill Clean Up Contractors

Environmental Consultants

Incident Cost Recovery

Cost Recovery Case: No

Financially Responsible Party

Insurance Contacts

Cost Recovery Work Completed Documents

Item	Quantity	Rate	Total

Report for Tank Removal Services
Groton Oil Co., Inc.
53 Thames Street
Groton, CT 06340
KEC PROJECT NO. 18(R)147

April 9, 2019

Prepared for:

Mr. John Santacroce
53 Thames Street
Groton, CT 06340

KROPP
ENVIRONMENTAL CONTRACTORS, INC.

P.O. Box 258
32 Exeter Road
Lebanon, Connecticut, 06249
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www.kroppenvironmental.com

April 9, 2019

Mr. John Santacroce
Groton Oil Company, Inc.
53 Thames Street
Groton, CT 06070

Re: **Report for Tank Removal Services**
Groton Oil Company, Inc.
53 Thames Street
Groton, CT 06070
KEC Project Nos. 18(R)147 and 19(S)104

Dear Mr. Santacroce,

Kropp Environmental Contractors, Inc. (KEC) is pleased to present this letter report documenting the removal and disposal of one (1) 4,000-gallon gasoline underground storage tank (UST), one (1) 3,000-gallon diesel UST, and one (1) 2,000-gallon diesel UST at the referenced property in Groton, Connecticut (the Site) (***Figure 1***).

KEC's responsibilities included: 1) removal and disposal of the fuel in the USTs; 2) removal and disposal of the USTs; 3) field screening of soils in the tank graves for total organic vapors (TOVs) using a handheld photoionization detector (PID); 4) collection and analysis of closure soil samples; and 5) report preparation. Site photographs are presented in ***Attachment I***.

Summary of Removal Actions

On November 7, 2018, KEC used a vacuum truck to remove approximately 200 gallons of fuel from the USTs and transport it to Tradebe in Meriden, Connecticut for disposal. Waste fuel disposal documentation is included in ***Attachment II***. Once the tanks were empty, KEC broke up the concrete pad above the USTs and transported the concrete rubble offsite for proper disposal. KEC also exposed sections of the fuel lines in preparation for disconnecting and draining them.

On November 19, 2018, KEC disconnected the lines from the three (3) fuel dispensers (two [2] on the upper portion of the Site and one [1] on the lower) and drained the lines using the vacuum truck. The lines were flushed using Simple Green, an environmentally friendly cleaner. KEC removed the overburden material covering the 4,000-gallon gasoline UST and stockpiled it next to the tank grave. Once the residual product had been evacuated from the tank using the vacuum truck, it was inerted using 50 pounds of dry ice and removed. KEC then emptied and removed the 3,000-gallon diesel UST and the 2,000-gallon diesel tank. The City of Groton Fire Marshal made several site visits to observe the tank removal activities. The tanks were secured onto

trailers and transported to Shire Environmental Corporation (Shire) in North Franklin, Connecticut where they were rendered unfit for further use. A tank disposal letter and UST closure certification are presented in ***Attachment III*** and ***Attachment IV***, respectively.

KEC collected twelve (12) soil samples from the sidewalls and bottoms of the tank graves and screened them for TOVs using a MiniRAE Model 300 PID. The PID was fitted with a 10.6 electron volt (eV) lamp and calibrated to a benzene surrogate (isobutylene) with a known concentration of 100 parts per million (ppm). The 10.6 eV lamp detects TOVs in the range consistent with gasoline and diesel as measured in parts per million volume isobutylene (ppm). TOV concentrations in the soil samples from the gasoline tank grave ranged from 3.9 parts per million (ppm) to 42 ppm. Concentrations in the soil samples from the diesel tank graves ranged from 3.1 ppm to 254.7 ppm. In general, PID readings above 5 ppm indicate that petroleum constituents may be present at concentrations above Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulations (RSRs) cleanup criteria (discussed below). Soil sample locations are shown on ***Figure 2***. PID readings are summarized in ***Table 1***.

KEC submitted the soil samples to Phoenix Environmental Laboratories, Inc. in Manchester, Connecticut for laboratory analysis. The samples from the gasoline tank grave (G-1 through G-4) were analyzed for volatile organic compounds (VOCs) via U. S. Environmental Protection Agency (EPA) Method 8260. The samples collected from the two diesel tank graves (D-1-1 through D-1-4 and D-2-1 through D-2-4) were analyzed for extractable total petroleum hydrocarbons (ETPH) via the Connecticut ETPH Method. Sample D-2-2 was also analyzed for VOCs via EPA Method 8260 and semi-volatile organic compounds (SVOCs) (polycyclic aromatic hydrocarbons [PAHs] only) via EPA Method 8270.

VOCs were detected in only one (1) soil sample (G-1) collected from the gasoline tank grave at concentrations below CTDEEP RSRs cleanup criteria. ETPH was detected in seven (7) of the eight (8) soil samples collected from the diesel tank graves at concentrations ranging between 97 milligrams per kilogram (mg/kg) and 9,000 mg/kg. The ETPH concentrations of all four (4) of the soil samples collected from the tank grave for the 2,000-gallon diesel UST tank (D-1-1 through D-1-4) were above applicable CTDEEP cleanup criteria. Only one VOC was detected in Sample D-2-2 (collected from the 3,000-gallon diesel tank grave) at a concentration below cleanup criteria. PAHs were not detected at concentrations above laboratory method reporting limits (MRLs) in this sample. The analytical results are summarized in ***Table 2*** and the laboratory report is presented in ***Attachment V***.

On February 25, 2019, KEC collected two (2) closure soil samples from below the fuel lines on the lower portion of the Site, next to the marina. The first sample (LS-1) was collected at the point that the lines exit a retaining wall and enter the ground. The second sample (LS-2) was collected closer to the river where the lines exit the ground next to an electrical post. The samples were screened with the PID. TOVs were not detected in either of the samples at concentrations above the instrument's detection limit. The samples were submitted for laboratory analysis for ETPH. LS-1 was also analyzed for PAHs. ETPH was not detected in either sample at

concentrations above laboratory MRLs. Several PAHs were detected in LS-1, some at concentrations just above CTDEEP RSRs criteria. Based on the fact that ETPH was not present in this sample, the PAHs were attributed to polluted fill material that is present across much of the property.

On March 1, 2019, KEC collected two (2) closure soil samples (L-3 and L-4) from below the fuel lines on the upper portion of the Site and two (2) closure samples next to the diesel and gasoline dispenser islands (DS-D and DS-G). The samples, which were collected from around 3 feet bgs, did not exhibit elevated PID readings. The samples were submitted for laboratory analysis for ETPH. L-3, DS-D and DS-G were also analyzed for PAHs and/or VOCs. ETPH and VOCs were not detected in any of the soil samples at concentrations above laboratory MRLs. Several PAHs were detected in DS-D at concentrations below CTDEEP RSRs criteria. These PAH detections were attributed to fill material.

Summary of Remediation Actions

Applicable Remediation Criteria

The Site is located in an area with a CTDEEP GB groundwater classification. Groundwater with a GB classification may have been degraded by historical releases or urban development and is not considered suitable for drinking without treatment. The Thames River, which abuts the Site to the west, is classified as SB. An SB classification indicates coastal or marine surface waters that have been degraded. The direction of groundwater flow at the Site is assumed to be primarily to the west towards the river but also to fluctuate close to the river bank due to tidal influences.

The applicable soil cleanup criteria for GB areas are the Residential Direct Exposure Criteria (RDEC) and the GB Pollutant Mobility Criteria (GB PMC). The RDEC protect the health of individuals who come into contact with impacted soils and the GB PMC prevent the mobilization of contaminants from soil to groundwater.

Remediation Actions

On January 2, 2019, KEC began excavating the soils containing ETPH at concentrations above CTDEEP cleanup criteria from the tank grave for the 2,000-gallon diesel UST using a backhoe. The soil was transported to Clean Earth in Plainville, Connecticut for proposer disposal. Soil disposal documentation is included in ***Attachment VI***. As the soils were excavated, KEC collected nineteen (19) soil samples (P-1 through P-19) and screened them with the PID. TOVs were detected in five (5) of the soil samples at concentrations between 3 ppm and 41.8 ppm. The soils containing elevated concentrations of TOVs were excavated and six (6) soil samples collected from the final excavation (P-1 and P-8 through P-12) were submitted for laboratory analysis for ETPH. The one (1) soil sample with a detectable TOV concentration (P-10 with a PID reading of 4.3ppm) was also analyzed for VOCs and PAHs. Diesel constituents were only

detected in sample P-10. Several PAHs were detected in this sample at concentrations above CTDEEP RSRs criteria and ETPH was detected at a concentration below criteria.

On February 25, 2019, KEC returned to the Site and excavated additional diesel impacted soil in the area of P-10. KEC collected four (4) soil samples (P-10-1 through P-10-4) from the final excavation and screened them with the PID. TOVs were not detected in any of the samples at concentrations above the instrument's detection limit. One (1) of the soil samples (P-10-3) was submitted for laboratory analysis for ETPH, VOCs and PAHs. ETPH and VOCs were not detected in the sample at concentrations above the laboratory MRLs. Two PAHs, benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene, were detected at concentrations below CTDEEP cleanup criteria. These detections were attributed to the site-wide fill material.

On March 11, 2019, KEC partially backfilled the UST excavation with 127.33 tons of clean bedding sand from Lombardi Gravel & Excavation, LLC (Lombardi) in Oakdale, Connecticut. The sand was compacted as it was added. On March 12, 2019, KEC backfilled the excavation to grade with 28.81 tons of ¾-inch gravel from Lombardi. KEC also removed the three (3) fuel dispensers and backfilled the disturbed areas. The dispensers were transported offsite for proper disposal.

Conclusion and Recommendations

KEC removed and disposed of one (1) 4,000-gallon gasoline UST, one (1) 3,000-gallon diesel UST, and one (1) 2,000-gallon diesel UST. Petroleum constituents at concentrations above CTDEEP RSRs cleanup criteria were identified in the tank grave for the 2,000-gallon diesel UST tank.

KEC excavated approximately 52.27 tons of diesel impacted soil and transported it offsite for proper disposal. The laboratory results for confirmation soil samples indicated that all soils containing diesel constituents at concentrations above CTDEEP RSRs criteria were removed.

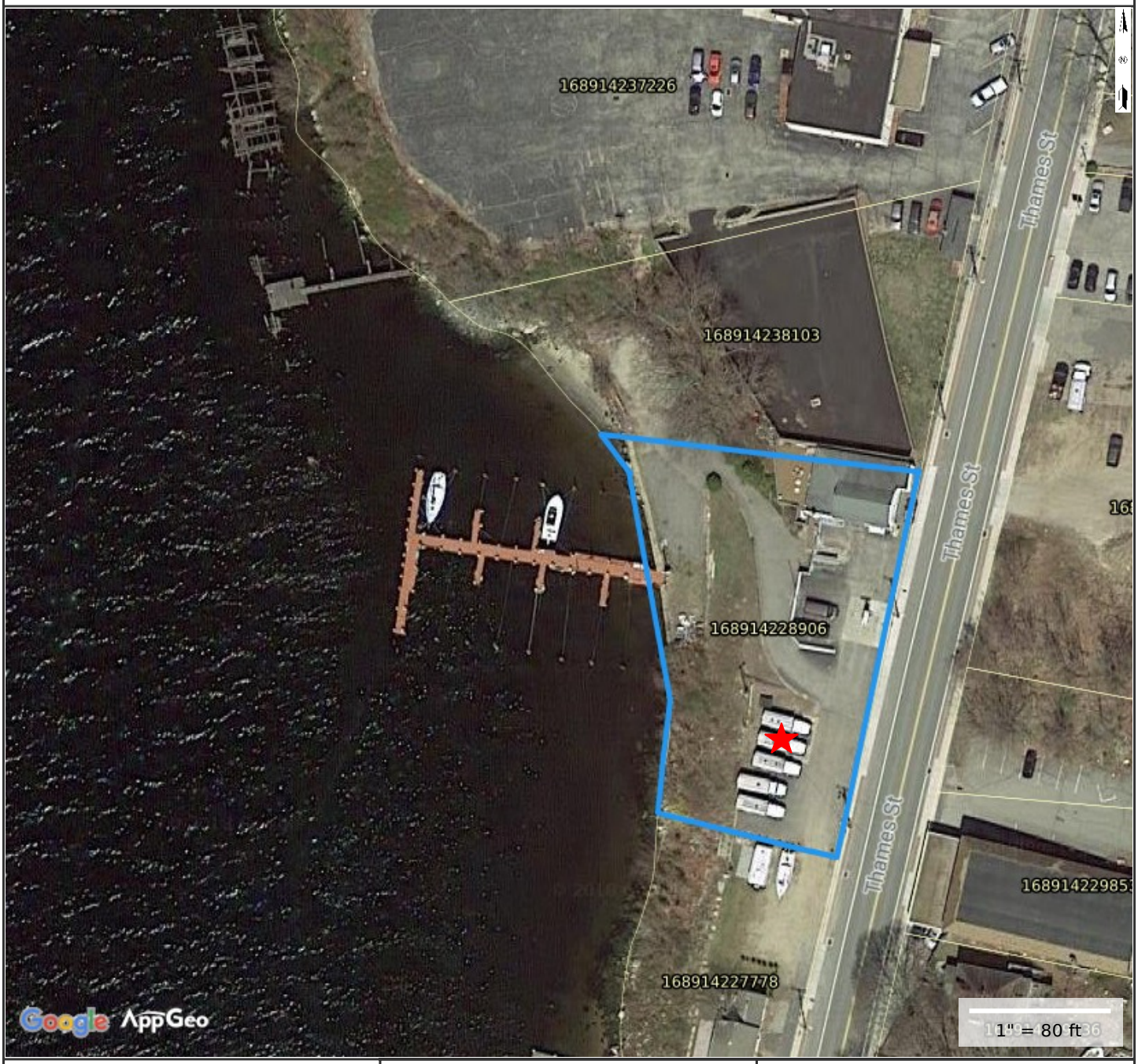
Please feel free to contact me at 860-642-9952 should you have any questions regarding this correspondence.

Respectfully submitted,

Sally W. Kropp
President

Attachments:
Figure 1: Site Location
Figure 2: Soil Sample Locations
Table1: Summary of PID Soil Screening Results
Table 2: Summary of Soil Sample Analytical Results
Attachment I: Site Photographs
Attachment II: Waste Fuel Disposal Documentation
Attachment III: Tank Disposal Letter
Attachment IV: Underground Storage Tank Closure Certification
Attachment V: Laboratory Analytical Report
Attachment VI: Soil Disposal Documentation

Figures



Property Boundary

Approximate Location of Three (3) Underground Storage Tanks [Removed]

SCCOG

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

SCCOG makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 05/31/2017
Data updated 10/1/2013

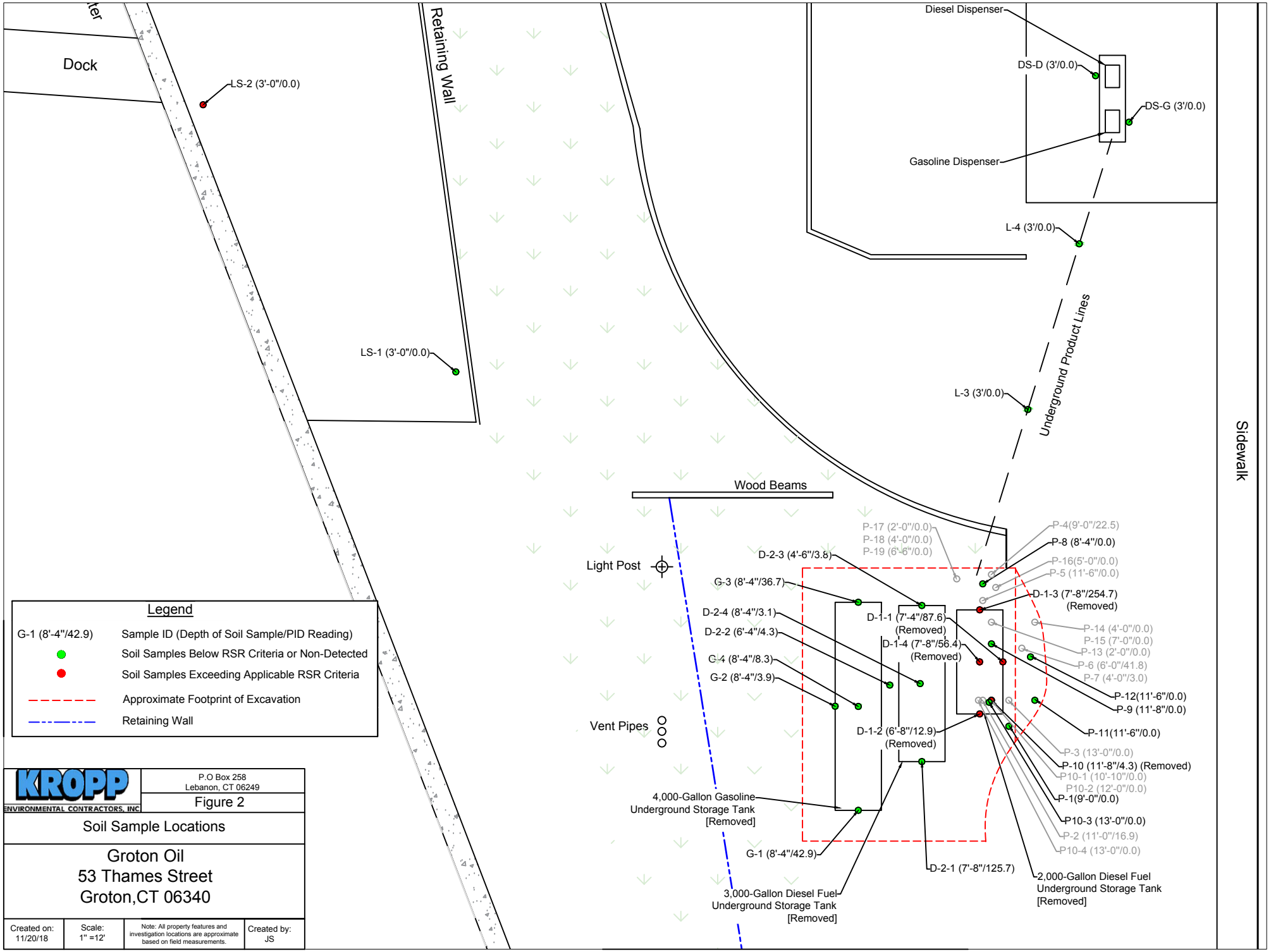
KROPP ENVIRONMENTAL CONTRACTORS, INC
P.O Box 258
Lebanon, CT 06249

Figure 1

Site Location

Groton Oil
53 Thames Street
Groton,CT 06340

Created on: 11/20/18	Not to Scale	Note: All property features and investigation locations are approximate based on field measurements.	Created by: JS



KROPP ENVIRONMENTAL CONTRACTORS, INC

P.O Box 258
Lebanon, CT 06249

Figure 2

Soil Sample Locations

Groton Oil
53 Thames Street
Groton,CT 06340

Created on:	Scale:	Note: All property features and investigation locations are approximate based on field measurements.	Created by:
11/20/18	1" =12'		JS

Tables

Table 1
Summary of PID Soil Screening Results
53 Thames Street
Groton, CT 06340

Date	Sample	Depth	TOVs (ppm_v)
11/19/2018	G-1	8'-4"	42.9
	G-2	8'-4"	3.9
	G-3	8'-4"	36.7
	G-4	8'-4"	8.3
	D-2-1	7'-8"	125.7
	D-2-2	6'-4"	4.3
	D-2-3	4'-6"	3.8
	D-2-4	8'-4"	3.1
	D-1-1	7'-4"	87.6
	D-1-2	6'-8"	12.9
	D-1-3	7'-8"	254.7
	D-1-4	7'-8"	56.4
1/2/2019	P-1	9'-0"	0.0
	P-2	11'-0"	16.9
	P-3	13'-0"	0.0
	P-4	9'-0"	22.5
	P-5	11'-6"	0.0
	P-6	6'-0"	41.8
	P-7	4'-0"	3.0
	P-8	8'-4"	0.0
	P-9	11'-8"	0.0
	P-10	11'-8"	4.3
	P-11	11'-6"	0.0
	P-12	11'-6"	0.0
	P-13	2'-0"	0.0
	P-14	4'-0"	0.0
	P-15	7'-0"	0.0
	P-16	5'-0"	0.0
	P-17	2'-0"	0.0
	P-18	4'-0"	0.0
	P-19	6'-6"	0.0
2/25/2019	P10-1	10'-10"	0.0
	P10-2	12'	0.0
	P10-3	13'	0.0
	P10-4	13'	0.0
	LS-1	3'	0.0
	LS-2	3'	0.0
3/6/2019	L-3	3'	0.0
	L-4	3'	0.0
	DS-D	3'	0.0
	DS-G	3'	0.0

Notes:
1. TOVs: Total organic vapors
2. ppm_v: Parts per million by volume isobutylene
3. Refer to Figure 2 for soil sample locations

Table 2
Summary of Soil Sample Analytical Results
53 Thames Street
Groton, CT 06340

Sample Date:			**11/19/2018**												**1/2/2019**							**2/25/2019**			**3/1/2019**			
Sample ID:			G-1	G-2	G-3	G-4	D-2-1	D-2-2	D-2-3	D-2-4	D-1-1	D-1-2	D-1-3	D-1-4	P-1	P-8	P-9	P-10	P-11	P-12	P10-3	LS-1	LS-2	L-3	L-4	DS-D	DS-G
Depth :			8'-4"	8'-4"	8'-4"	8'-4"	7'-8"	6'-4"	4'-6"	8'-4"	7'-4"	6'-8"	7'-8"	7'-8"	9'-0"	8'-4"	11'-8"	11'-8"	11'-6"	11'-6"	13'	3'	3'	3'	3'	3'	3'
PID (ppm_v):			42.9	3.9	36.7	8.3	125.7	4.3	3.8	3.1	87.6	12.9	254.7	56.4	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	RDEC (mg/kg)	**GB PMC (mg/kg)**	**Concentrations (mg/kg)**																								
Extractable Total Petroleum Hydrocarbons (ETPH)																											
ETPH	500	2,500	NA	NA	NA	NA	**320**	**97**	ND<52	**150**	2,400	530	9,000	4,000	ND<52	ND<57	ND<61	**170**	ND<54	ND<58	ND<56	ND<57	ND<56	ND<55	ND<54	ND<55	NA
Volatile Organic Compounds (VOCs)																											
1,2,4-Trimethylbenzene	500*	28*	**0.01**	ND<0.004	ND<0.0032	ND<0.0068	NA	**0.0078**	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.0082	NA	NA	ND<0.0061	NA	NA	ND<0.0047	NA	ND<0.0042	ND<0.0054
1,3,5-Trimethylbenzene	500*	28*	**0.01**	ND<0.004	ND<0.0032	ND<0.0068	NA	ND<0.0054	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.0082	NA	NA	ND<0.0061	NA	NA	ND<0.0047	NA	ND<0.0042	ND<0.0054
Naphthalene	1,000*	56*	**0.004**	ND<0.004	ND<0.0032	ND<0.0068	NA	ND<0.0054	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.0082	NA	NA	ND<0.0061	NA	NA	ND<0.0047	NA	ND<0.0042	ND<0.0054
Total Xylenes	500	20	**0.0104**	ND<0.004	ND<0.0032	ND<0.0068	NA	ND<0.0054	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.0082	NA	NA	ND<0.0061	NA	NA	ND<0.0047	NA	ND<0.0042	ND<0.0054
Semi-Volatile Organic Compounds (PAHs)																											
Acenaphthylene	1,000	84	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.38**	NA	NA	ND<0.26	**0.7**	NA	ND<0.26	NA	ND<0.25	NA
Anthracene	1,000	400	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.93**	NA	NA	ND<0.26	**1.7**	NA	ND<0.26	NA	ND<0.25	NA
Benz(a)anthracene	1	1	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	NA	NA	ND<0.26	5.4	NA	ND<0.26	NA	**0.31**	NA
Benzo(a)pyrene	1	1	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.5	NA	NA	ND<0.26	5.5	NA	ND<0.26	NA	**0.3**	NA
Benzo(b)fluoranthene	1	1	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1	NA	NA	ND<0.26	4.3	NA	ND<0.26	NA	**0.26**	NA
Benzo(ghi)perylene	8.4*	1*	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	NA	NA	**0.42**	2.4	NA	ND<0.26	NA	ND<0.25	NA
Benzo(k)fluoranthene	8.4	1	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	NA	NA	ND<0.26	4	NA	ND<0.26	NA	**0.28**	NA
Chrysene	84*	1*	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	NA	NA	ND<0.26	5	NA	ND<0.26	NA	**0.31**	NA
Dibenz(a,h)anthracene	1*	1*	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.34**	NA	NA	ND<0.26	**0.59**	NA	ND<0.26	NA	ND<0.25	NA
Fluoranthene	1,000	56	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.2**	NA	NA	ND<0.26	**14**	NA	ND<0.26	NA	**0.56**	NA
Fluorene	1,000	56	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.37**	NA	NA	ND<0.26	**0.58**	NA	ND<0.26	NA	ND<0.25	NA
Indeno(1,2,3-cd)pyrene	1*	1*	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	NA	NA	**0.48**	3.1	NA	ND<0.26	NA	ND<0.25	NA
Phenanthrene	1,000	40	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.7**	NA	NA	ND<0.26	**6.9**	NA	ND<0.26	NA	ND<0.25	NA
Pyrene	1,000	40	NA	NA	NA	NA	NA	ND<0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.4**	NA	NA	ND<0.26	**13**	NA	ND<0.26	NA	**0.56**	NA

Notes:
1. RDEC: Residential Direct Exposure Criteria;
2. GB PMC: GB Pollutant Mobility Criteria;
3. NA: Not Analyzed for this parameter;
4. ND: Not Detected above laboratory method reporting limit (MRL);
5. mg/kg: Milligrams per kilogram;
6. Bold text indicates substance detected above the laboratory MRLs, but below applicable Remediation Standard Regulations (RSRs) criteria;
7. Highlighted text indicates constituent exceeds applicable RSRs criteria;
8. Constituents that were not detected in the above samples are not listed under their corresponding groups;
9. Criteria listed in the table were compiled from various sources, including: RSRs (June, 2013), the comprehensive list of approved additional polluting substances (APS) criteria, and alternative criteria (March, 2016). APS and alternative criteria are designated with an *;
10. * APS and alternative criteria must be approved by the Commissioner of CTDEEP;
11. ppm_v: parts per million by volume isobutylene.

Attachment I: Site Photographs

Photograph 1: UST Tank Pad

Photograph 2: Fuel Dispensers on Upper Portion of Site

Photograph 3: Fuel Dispenser on Lower Portion of Site

Photograph 4: Breaking up Concrete UST Pad

Photograph 5: Removing Concrete Debris

Photograph 6: Exposed UST Area

Photograph 7: Exposed Fuel Piping

Photograph 8: Removing Residual Product from 4K Gasoline UST

Photograph 9: Removing Soil Surrounding Gasoline UST

Photograph 10: Inerting Gasoline UST with Dry Ice

Photograph 11: Disconnected Fuel Lines

Photograph 12: Gasoline UST upon Removal

Photograph 13: Exposing 3K Diesel UST

Photograph 14: 3K Diesel UST upon Removal

Photograph 15: Exposing 2K Diesel UST

Photograph 16: Removing Residual Product from 2K Diesel Tank

Photograph 17: 2K Diesel Tank upon Removal

Photograph 18: Fire Marshal Observing Tank Removal Activities

Photograph 19: Tank Graves

Photograph 20: Gasoline Tank being Transported Offsite for Disposal

Photograph 21: Diesel Tank being Transported Offsite for Disposal

Photograph 22: Excavating Contaminated Soil

Photograph 23: Stockpiled Contaminated Soil

Photograph 24: UST Area after Backfilling

Photograph 25: UST Area after Backfilling

Photograph 26: Fuel Dispenser Area on Upper Portion of Site after Removal of Dispensers

Photograph 27: Dispensers Loaded on Trailer for Offsite Disposal

Photograph 28: Dispenser Line Area on Lower Portion of Site after Backfilling

Attachment II: Waste Fuel Disposal Documentation

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

KR4

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of

3. Generator's Name and Mailing Address GROTON OIL
53 THAMES STREET GROTON CT.

SAME

4. Generator's Phone (960) 625-5976

5. Transporter 1 Company Name
KROPP ENVIRONMENTAL

6. US EPA ID Number
CTR000500389

A. State Transporter's ID

B. Transporter 1 Phone 860 647 9952

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address TRADEBE
136 GRACEY AVE MERIDEN CT

10. US EPA ID Number
CTD021816889

E. State Facility's ID

F. Facility's Phone 203 235 6751

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. OFF SPEC COMMERCIAL PRODUCT NONE, NONE, NONE	001	TT	200	G
b.				
c.				
d.				

G. Additonal Descriptions for Materials Listed Above
3510H05FG

H. Handling Codes for Wastes Listed Above
H061

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: JOHN SANTACROCE
Signature: John Santacroce
Date: Month 11 Day 7 Year 16

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: AUSTIN DESCHAMPS
Signature:
Date: Month 11 Day 7 Year 16

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in item 19.
Printed/Typed Name: Malcolm Eatermoth
Signature:
Date: Month 12 Day 26 Year 16

NON-HAZARDOUS WASTE

Rev. 3/95

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. NHM1871331B

2. Page 1 of

3. Generator's Name and Mailing Address GROTON OIL
53 THAMES STREET GROTON CT

SAME

4. Generator's Phone (860) 625-5976

5. Transporter 1 Company Name: KROPP ENVIRONMENTAL

6. US EPA ID Number: CTR000500389

A. State Transporter's ID

B. Transporter 1 Phone 860 647-9952

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address TRADEBE
136 GRACEY AVE MERIDEN CT

10. US EPA ID Number: CTD021816889

E. State Facility's ID

F. Facility's Phone 203 238 6751

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. OFF SPEC COMMERCIAL PRODUCT NONE, NONE, NONE	001	TT	270	G
b.				
c.				
d.				

G. Additonal Descriptions for Materials Listed Above: 3510H05FG

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

1871331

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: JOHN SCHIAVONE — Signature — Date: Month 11 Day 19 Year 18

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: AUSTIN DESCHAMPS — Signature — Date: Month 11 Day 19 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in item 19.

Printed/Typed Name: Melanie Laberman — Signature — Date: Month 11 Day 21 Year 18

NON-HAZARDOUS WASTE — GENERATOR — TRANSPORTER — FACILITY

Attachment III: Tank Disposal Letter

Shire Environmental Corporation
795 Route 32, P.O. Box 6
North Franklin, CT 06254-0006

November 19, 2018

Mr. John Santacroce
Groton Oil Company, Inc.
53 Thames Street
Groton, CT 06070

Shire Tank Log #: 18-267 through 18-269

Subject: Disposal of Underground Storage Tanks

On November 19, 2018, three (3) underground storage tanks (USTs) from 53 Thames Street in Groton, Connecticut, listed below with corresponding log numbers, were transported to Shire Environmental property (Shire) for disposal.

UST	Log#
2,000-Gallon Diesel	18-267
3,000-Gallon Diesel	18-268
4,000-Gallon Gasoline	18-269

The tanks were disposed of according to federal, state and local regulations and rendered unfit for further use.

Please feel free to contact me at 860-642-9952 should you have any questions regarding this correspondence.

Yours truly,

Sally W. Kropp
President

Attachment IV: Underground Storage Tank Closure Certification

UNDERGROUND TANK CLOSURE CERTIFICATION

OWNER'S NAME **Mr. John Santacroce**
Groton Oil Company, Inc.

SITE ADDRESS **53 Thames Street,**
Groton, CT 06070

KEC JOB # **18(R)147**

SHIRE TANK LOG # **18-267, 18-268, 18-269**

These procedures shall be followed when closing underground tanks in place permanently or removing them. All applicable safety procedures associated with working in proximity to flammable and combustible materials shall be strictly adhered to.

The following steps shall be completed and initialed by the responsible person who has completed the step:

X a) All applicable authorities having jurisdiction shall be notified.
X b) A safe workplace shall be maintained throughout the prescribed activities.
X c) All flammable and combustible liquids shall be removed from the tank, appurtenances and piping and shall be properly disposed of.
___ d) The tank shall be made safe by either purging it of flammable vapors or inerting the potential explosive atmosphere in the tank. Confirmation that the atmosphere in the tank is safe shall be by periodic testing of the atmosphere using a combustible gas indicator, if purging, or an oxygen meter, if inerting.
X e) Access to the tank shall be made by careful excavation to the top of the tank.
X f) Tank capacity 2,000/3,000/4,000 , number of tanks 3 product contents diesel/diesel/gasoline .
X g) Underwriters Laboratory Identification Number Unavailable.

For Permanent Closure of Tanks in Place. Tanks shall be closed in accordance with the following requirements.

___ a) All flammable and combustible liquids and residues shall be removed from the tank and shall be properly disposed of.
___ b) All exposed piping, gauge and tank fixtures and other appurtenances, except the vent, shall be disconnected and removed.
___ c) The tank shall be completely filled with an inert solid material.
___ d) The tank vent and remaining underground piping shall be capped or removed.

For Removal of Underground Tanks. Tanks shall be removed in accordance with the following requirements.

X a) All exposed piping, gauge and tank fixtures and other appurtenances, except the vent, shall be disconnected and removed.
X b) All openings shall be plugged, leaving a 1/4 inch opening to avoid buildup of pressure in the tank.
X c) The tank shall be removed from the excavation and shall be secured against movement.
X d) Any corrosion holes shall be plugged.
X e) The tank shall be labeled with its former contents, present vapor state, vapor-freeing method and a warning against reuse.
X f) The tank shall be removed from the site promptly, preferable the same day.

Storage of Removed Tanks. If it is necessary to temporarily store a tank that has been removed, it shall be placed in a secure area where public access is restricted. The following requirements shall be met:

X a) During temporary storage, the atmosphere in the tank shall be periodically tested to ensure that it remains safe.
X b) A ¼-inch opening shall be maintained to avoid buildup of pressure in the tank.

Disposal of Tanks. Disposal of tanks shall meet the following requirements.

X a) The tank, piping, tank fixtures and other appurtenances have been disposed at 795 Rt. 32 Shire, North Franklin, CT 06254 on the following date November 19, 2018

Documentation. All necessary documentation shall be prepared and maintained in accordance with all federal, state and local rules and regulations.

I have personally examined and am familiar with the information contained in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

11/19/2018	**Sally Kropp**	Sally W. Kropp Pres.
Date	Printed Name	Signature

Attachment V: Laboratory Analytical Report

PHOENIX
Environmental Laboratories, Inc.

Monday, November 26, 2018

Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Project ID: GROTON OIL
Sample ID#s: CC00772 - CC00779

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	15:24
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00772

Project ID: GROTON OIL
Client ID: G-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		11/20/18	AK	SW846-%Solid
Volatiles							
1,1,1,2-Tetrachloroethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,1-Trichloroethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.3	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2-Trichloroethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloropropene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichloropropane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trimethylbenzene	10	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromoethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichlorobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloroethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloropropane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,3,5-Trimethylbenzene	5.3	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichlorobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichloropropane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,4-Dichlorobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
2,2-Dichloropropane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
2-Chlorotoluene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
2-Hexanone	ND	19	ug/Kg	1	11/21/18	JLI	SW8260C
2-Isopropyltoluene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
4-Chlorotoluene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C

Project ID: GROTON OIL
Client ID: G-1

Phoenix I.D.: CC00772

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	19	ug/Kg	1	11/21/18	JLI	SW8260C
Acetone	ND	190	ug/Kg	1	11/21/18	JLI	SW8260C
Acrylonitrile	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Benzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromochloromethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromodichloromethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromoform	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromomethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon Disulfide	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon tetrachloride	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chlorobenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroform	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chloromethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,2-Dichloroethene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,3-Dichloropropene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromochloromethane	ND	2.3	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromomethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Dichlorodifluoromethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Ethylbenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Hexachlorobutadiene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Isopropylbenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
m&p-Xylene	4.1	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl Ethyl Ketone	ND	23	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	7.6	ug/Kg	1	11/21/18	JLI	SW8260C
Methylene chloride	ND	7.6	ug/Kg	1	11/21/18	JLI	SW8260C
Naphthalene	4.4	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
n-Butylbenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
n-Propylbenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
o-Xylene	6.3	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
p-Isopropyltoluene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
sec-Butylbenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Styrene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
tert-Butylbenzene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrachloroethene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrahydrofuran (THF)	ND	7.6	ug/Kg	1	11/21/18	JLI	SW8260C
Toluene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Total Xylenes	10.4	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,2-Dichloroethene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,3-Dichloropropene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	7.6	ug/Kg	1	11/21/18	JLI	SW8260C
Trichloroethene	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorofluoromethane	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorotrifluoroethane	ND	7.6	ug/Kg	1	11/21/18	JLI	SW8260C
Vinyl chloride	ND	3.8	ug/Kg	1	11/21/18	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	91		%	1	11/21/18	JLI	70 - 130 %
% Bromofluorobenzene	101		%	1	11/21/18	JLI	70 - 130 %

Project ID: GROTON OIL
Client ID: G-1

Phoenix I.D.: CC00772

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	105		%	1	11/21/18	JLI	70 - 130 %
% Toluene-d8	88		%	1	11/21/18	JLI	70 - 130 %
Field Extraction	Completed				11/19/18		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	15:22
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00773

Project ID: GROTON OIL
Client ID: G-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	96		%		11/20/18	AK	SW846-%Solid
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloropropene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromoethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloroethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloropropane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichloropropane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
2,2-Dichloropropane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
2-Chlorotoluene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
2-Hexanone	ND	20	ug/Kg	1	11/21/18	JLI	SW8260C
2-Isopropyltoluene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
4-Chlorotoluene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C

Project ID: GROTON OIL
Client ID: G-2

Phoenix I.D.: CC00773

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	20	ug/Kg	1	11/21/18	JLI	SW8260C
Acetone	ND	200	ug/Kg	1	11/21/18	JLI	SW8260C
Acrylonitrile	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Benzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Bromobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Bromochloromethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Bromodichloromethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Bromoform	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Bromomethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon Disulfide	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon tetrachloride	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Chlorobenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroform	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Chloromethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromochloromethane	ND	2.4	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromomethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Dichlorodifluoromethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Ethylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Hexachlorobutadiene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Isopropylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
m&p-Xylene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl Ethyl Ketone	ND	24	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	8.0	ug/Kg	1	11/21/18	JLI	SW8260C
Methylene chloride	ND	8.0	ug/Kg	1	11/21/18	JLI	SW8260C
Naphthalene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
n-Butylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
n-Propylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
o-Xylene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
p-Isopropyltoluene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
sec-Butylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Styrene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
tert-Butylbenzene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrachloroethene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrahydrofuran (THF)	ND	8.0	ug/Kg	1	11/21/18	JLI	SW8260C
Toluene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Total Xylenes	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	8.0	ug/Kg	1	11/21/18	JLI	SW8260C
Trichloroethene	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorofluoromethane	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorotrifluoroethane	ND	8.0	ug/Kg	1	11/21/18	JLI	SW8260C
Vinyl chloride	ND	4.0	ug/Kg	1	11/21/18	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	92		%	1	11/21/18	JLI	70 - 130 %
% Bromofluorobenzene	101		%	1	11/21/18	JLI	70 - 130 %

Ver 1

Project ID: GROTON OIL
Client ID: G-2

Phoenix I.D.: CC00773

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	107		%	1	11/21/18	JLI	70 - 130 %
% Toluene-d8	88		%	1	11/21/18	JLI	70 - 130 %
Field Extraction	Completed				11/19/18		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.
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Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:08
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00774

Project ID: GROTON OIL
Client ID: D-2-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		11/20/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/20/18	AB/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	320	52	mg/Kg	1	11/21/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/21/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	70		%	1	11/21/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:06
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00775

Project ID: GROTON OIL
Client ID: D-2-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	95		%		11/20/18	AK	SW846-%Solid
Soil Extraction SVOA PAH	Completed				11/20/18	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/20/18	AB/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	97	53	mg/Kg	1	11/21/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/21/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	81		%	1	11/21/18	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.2	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloropropene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trimethylbenzene	7.8	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromoethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloroethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloropropane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C

Project ID: GROTON OIL
Client ID: D-2-2

Phoenix I.D.: CC00775

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichlorobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichloropropane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
2,2-Dichloropropane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
2-Chlorotoluene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
2-Hexanone	ND	27	ug/Kg	1	11/21/18	JLI	SW8260C
2-Isopropyltoluene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
4-Chlorotoluene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
4-Methyl-2-pentanone	ND	27	ug/Kg	1	11/21/18	JLI	SW8260C
Acetone	ND	270	ug/Kg	1	11/21/18	JLI	SW8260C
Acrylonitrile	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Benzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Bromobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Bromochloromethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Bromodichloromethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Bromoform	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Bromomethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon Disulfide	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon tetrachloride	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Chlorobenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroform	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Chloromethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromochloromethane	ND	3.2	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromomethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Dichlorodifluoromethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Ethylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Hexachlorobutadiene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Isopropylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
m&p-Xylene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl Ethyl Ketone	ND	32	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	11/21/18	JLI	SW8260C
Methylene chloride	ND	11	ug/Kg	1	11/21/18	JLI	SW8260C
Naphthalene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
n-Butylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
n-Propylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
o-Xylene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
p-Isopropyltoluene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
sec-Butylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Styrene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
tert-Butylbenzene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrachloroethene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	11/21/18	JLI	SW8260C
Toluene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Total Xylenes	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	11/21/18	JLI	SW8260C
Trichloroethene	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorofluoromethane	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorotrifluoroethane	ND	11	ug/Kg	1	11/21/18	JLI	SW8260C
Vinyl chloride	ND	5.4	ug/Kg	1	11/21/18	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	92		%	1	11/21/18	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	11/21/18	JLI	70 - 130 %
% Dibromofluoromethane	105		%	1	11/21/18	JLI	70 - 130 %
% Toluene-d8	87		%	1	11/21/18	JLI	70 - 130 %
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Acenaphthene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Acenaphthylene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Anthracene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Benz(a)anthracene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Benzo(a)pyrene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Benzo(b)fluoranthene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Benzo(ghi)perylene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Benzo(k)fluoranthene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Chrysene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Dibenz(a,h)anthracene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Fluoranthene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Fluorene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Naphthalene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Phenanthrene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
Pyrene	ND	240	ug/Kg	1	11/21/18	WB	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	68		%	1	11/21/18	WB	30 - 130 %
% Nitrobenzene-d5	68		%	1	11/21/18	WB	30 - 130 %
% Terphenyl-d14	60		%	1	11/21/18	WB	30 - 130 %
Field Extraction	Completed				11/19/18		SW5035A

Project ID: GROTON OIL
Client ID: D-2-2

Phoenix I.D.: CC00775

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

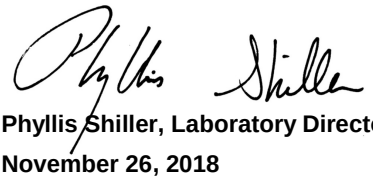
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.



Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:04
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00776

Project ID: GROTON OIL
Client ID: D-2-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		11/20/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/20/18	AB/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	52	mg/Kg	1	11/21/18	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	11/21/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	69		%	1	11/21/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:02
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00777

Project ID: GROTON OIL
Client ID: D-2-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	95		%		11/20/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/20/18	AB/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	150	53	mg/Kg	1	11/21/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/21/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	64		%	1	11/21/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:40
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00778

Project ID: GROTON OIL
Client ID: D-1-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		11/20/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/20/18	AB/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	530	52	mg/Kg	1	11/21/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/21/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	76		%	1	11/21/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C10 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 26, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:38
Location Code:	KROPP	Received by:	CP	11/20/18	14:44
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC00772
Phoenix ID: CC00779

Project ID: GROTON OIL
Client ID: D-1-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	89		%		11/20/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/20/18	AB/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	9000	1100	mg/Kg	20	11/21/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	20	11/21/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	Diluted Out		%	20	11/21/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 26, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 26, 2018

QA/QC Data

SDG I.D.: GCC00772

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 457022 (mg/Kg), QC Sample No: CC00844 (CC00774, CC00775, CC00776, CC00777, CC00778, CC00779)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum H.C. (C9-C36)	ND	50	107	96	10.8	125			60 - 120	30
% n-Pentacosane	63	%	66	62	6.3	72			50 - 150	30
Comment:										
There is no MSD to report for this batch.										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 457018 (ug/kg), QC Sample No: CC00950 (CC00775)										
Polynuclear Aromatic HC - Soil										
2-Methylnaphthalene	ND	230	68	67	1.5	65	64	1.6	30 - 130	30
Acenaphthene	ND	230	75	75	0.0	70	72	2.8	30 - 130	30
Acenaphthylene	ND	230	70	70	0.0	65	66	1.5	30 - 130	30
Anthracene	ND	230	74	73	1.4	69	68	1.5	30 - 130	30
Benz(a)anthracene	ND	230	80	80	0.0	76	77	1.3	30 - 130	30
Benzo(a)pyrene	ND	230	81	81	0.0	76	76	0.0	30 - 130	30
Benzo(b)fluoranthene	ND	230	83	84	1.2	82	81	1.2	30 - 130	30
Benzo(ghi)perylene	ND	230	77	77	0.0	70	69	1.4	30 - 130	30
Benzo(k)fluoranthene	ND	230	82	83	1.2	70	70	0.0	30 - 130	30
Chrysene	ND	230	81	80	1.2	77	76	1.3	30 - 130	30
Dibenz(a,h)anthracene	ND	230	86	86	0.0	79	79	0.0	30 - 130	30
Fluoranthene	ND	230	75	74	1.3	65	65	0.0	30 - 130	30
Fluorene	ND	230	73	72	1.4	68	70	2.9	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	84	84	0.0	77	78	1.3	30 - 130	30
Naphthalene	ND	230	61	62	1.6	59	59	0.0	30 - 130	30
Phenanthrene	ND	230	74	73	1.4	71	70	1.4	30 - 130	30
Pyrene	ND	230	76	75	1.3	67	65	3.0	30 - 130	30
% 2-Fluorobiphenyl	65	%	66	65	1.5	61	62	1.6	30 - 130	30
% Nitrobenzene-d5	67	%	67	69	2.9	68	66	3.0	30 - 130	30
% Terphenyl-d14	62	%	59	59	0.0	51	49	4.0	30 - 130	30
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 457207 (ug/kg), QC Sample No: CC00510 (CC00772, CC00773, CC00775)										
Volatiles - Soil										
1,1,1,2-Tetrachloroethane	ND	5.0	104	102	1.9	106	108	1.9	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	108	107	0.9	116	121	4.2	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	101	103	2.0	105	110	4.7	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	102	99	3.0	105	105	0.0	70 - 130	30
1,1-Dichloroethane	ND	5.0	107	105	1.9	114	118	3.4	70 - 130	30
1,1-Dichloroethene	ND	5.0	110	109	0.9	108	114	5.4	70 - 130	30
1,1-Dichloropropene	ND	5.0	112	109	2.7	116	122	5.0	70 - 130	30

QA/QC Data

SDG I.D.: GCC00772

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,3-Trichlorobenzene	ND	5.0	99	99	0.0	105	110	4.7	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	92	90	2.2	94	97	3.1	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	95	93	2.1	98	104	5.9	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	101	100	1.0	106	110	3.7	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	108	102	5.7	106	108	1.9	70 - 130	30
1,2-Dibromoethane	ND	5.0	96	94	2.1	101	103	2.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	106	103	2.9	110	115	4.4	70 - 130	30
1,2-Dichloroethane	ND	5.0	106	104	1.9	109	111	1.8	70 - 130	30
1,2-Dichloropropane	ND	5.0	106	103	2.9	110	112	1.8	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	103	100	3.0	108	112	3.6	70 - 130	30
1,3-Dichlorobenzene	ND	5.0	102	99	3.0	105	110	4.7	70 - 130	30
1,3-Dichloropropane	ND	5.0	94	93	1.1	99	100	1.0	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	119	115	3.4	123	128	4.0	70 - 130	30
2,2-Dichloropropane	ND	5.0	110	110	0.0	113	119	5.2	70 - 130	30
2-Chlorotoluene	ND	5.0	105	103	1.9	111	115	3.5	70 - 130	30
2-Hexanone	ND	25	88	87	1.1	87	95	8.8	70 - 130	30
2-Isopropyltoluene	ND	5.0	108	105	2.8	113	117	3.5	70 - 130	30
4-Chlorotoluene	ND	5.0	102	100	2.0	107	111	3.7	70 - 130	30
4-Methyl-2-pentanone	ND	25	98	94	4.2	95	100	5.1	70 - 130	30
Acetone	ND	10	68	69	1.5	74	92	21.7	70 - 130	30
Acrylonitrile	ND	5.0	94	95	1.1	104	110	5.6	70 - 130	30
Benzene	ND	1.0	105	103	1.9	110	115	4.4	70 - 130	30
Bromobenzene	ND	5.0	107	106	0.9	112	116	3.5	70 - 130	30
Bromochloromethane	ND	5.0	99	101	2.0	106	110	3.7	70 - 130	30
Bromodichloromethane	ND	5.0	107	106	0.9	109	112	2.7	70 - 130	30
Bromoform	ND	5.0	100	100	0.0	96	101	5.1	70 - 130	30
Bromomethane	ND	5.0	110	109	0.9	85	89	4.6	70 - 130	30
Carbon Disulfide	ND	5.0	108	108	0.0	104	109	4.7	70 - 130	30
Carbon tetrachloride	ND	5.0	111	110	0.9	115	120	4.3	70 - 130	30
Chlorobenzene	ND	5.0	104	102	1.9	110	113	2.7	70 - 130	30
Chloroethane	ND	5.0	119	121	1.7	104	103	1.0	70 - 130	30
Chloroform	ND	5.0	100	99	1.0	108	111	2.7	70 - 130	30
Chloromethane	ND	5.0	105	104	1.0	107	112	4.6	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	106	107	0.9	115	119	3.4	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	111	107	3.7	111	114	2.7	70 - 130	30
Dibromochloromethane	ND	3.0	111	110	0.9	111	109	1.8	70 - 130	30
Dibromomethane	ND	5.0	104	100	3.9	106	111	4.6	70 - 130	30
Dichlorodifluoromethane	ND	5.0	117	111	5.3	116	126	8.3	70 - 130	30
Ethylbenzene	ND	1.0	103	101	2.0	108	113	4.5	70 - 130	30
Hexachlorobutadiene	ND	5.0	110	106	3.7	119	123	3.3	70 - 130	30
Isopropylbenzene	ND	1.0	108	107	0.9	116	119	2.6	70 - 130	30
m&p-Xylene	ND	2.0	100	98	2.0	105	109	3.7	70 - 130	30
Methyl ethyl ketone	ND	5.0	85	84	1.2	88	95	7.7	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	98	99	1.0	103	104	1.0	70 - 130	30
Methylene chloride	ND	5.0	94	93	1.1	98	101	3.0	70 - 130	30
Naphthalene	ND	5.0	103	102	1.0	109	115	5.4	70 - 130	30
n-Butylbenzene	ND	1.0	108	105	2.8	113	122	7.7	70 - 130	30
n-Propylbenzene	ND	1.0	108	106	1.9	114	121	6.0	70 - 130	30
o-Xylene	ND	2.0	103	101	2.0	108	112	3.6	70 - 130	30
p-Isopropyltoluene	ND	1.0	107	105	1.9	113	119	5.2	70 - 130	30
sec-Butylbenzene	ND	1.0	110	108	1.8	118	122	3.3	70 - 130	30
Styrene	ND	5.0	99	96	3.1	104	107	2.8	70 - 130	30
tert-Butylbenzene	ND	1.0	107	105	1.9	114	118	3.4	70 - 130	30

QA/QC Data

SDG I.D.: GCC00772

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Tetrachloroethene	ND	5.0	113	109	3.6	116	126	8.3	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	91	92	1.1	97	103	6.0	70 - 130	30
Toluene	ND	1.0	111	108	2.7	116	122	5.0	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	112	108	3.6	114	118	3.4	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	101	98	3.0	101	103	2.0	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	102	102	0.0	99	104	4.9	70 - 130	30
Trichloroethene	ND	5.0	108	107	0.9	112	118	5.2	70 - 130	30
Trichlorofluoromethane	ND	5.0	113	111	1.8	99	97	2.0	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	108	106	1.9	109	116	6.2	70 - 130	30
Vinyl chloride	ND	5.0	111	109	1.8	111	119	7.0	70 - 130	30
% 1,2-dichlorobenzene-d4	93	%	101	103	2.0	102	99	3.0	70 - 130	30
% Bromofluorobenzene	101	%	101	101	0.0	98	98	0.0	70 - 130	30
% Dibromofluoromethane	107	%	100	105	4.9	104	103	1.0	70 - 130	30
% Toluene-d8	88	%	106	105	0.9	106	105	0.9	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

I = This parameter is outside laboratory LCS/LCSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 26, 2018

Monday, November 26, 2018

Criteria: CT: GBM, RC

State: CT

Sample Criteria Exceedances Report

GCC00772 - KROPP

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CC00778	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	530	52	500	500	mg/Kg
CC00779	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	9000	1100	500	500	mg/Kg
CC00779	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR GB (mg/kg) / Pesticides/TPH	9000	1100	2500	2500	mg/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Kropp Env. Contractors

Project Location: GROTON OIL ***Project Number:***

Laboratory Sample ID(s): CC00772-CC00779 ***Sampling Date(s):*** 11/19/2018

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8260, 8270, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: VOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?**	☑ Yes ☐ No
	b) Were these reporting limits met?	☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Helen Geoghegan **Position:** Project Manager

Printed Name: Helen Geoghegan **Date:** Monday, November 26, 2018

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

November 26, 2018

SDG I.D.: GCC00772

SDG Comments

8270 Semi-volatile Organics CC00775:
The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-FID11 11/21/18-1 Jeff Bucko, Chemist 11/21/18

CC00779

The initial calibration (ETPHN14I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID22 11/20/18-1 Jeff Bucko, Chemist 11/20/18

CC00774, CC00776, CC00777

The initial calibration (ETPHO25I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-XL1 11/20/18-1 Jeff Bucko, Chemist 11/20/18

CC00775, CC00778

The initial calibration (ETPHN06I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 457022 (CC00844)

CC00774, CC00775, CC00776, CC00777, CC00778, CC00779

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
There is no MSD to report for this batch.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM04 11/20/18-1 Wes Bryon, Chemist 11/20/18

CC00775

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Verification (CHEM04/4_BN_1118):
93% of target compounds met criteria.
The following compounds had %RSDs >20%: Naphthalene 24% (20%)

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RCP Certification Report

November 26, 2018

SDG I.D.: GCC00772

SVOA Narration

The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM04/1120_10-4_BN_1118):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 457018 (CC00950)

CC00775

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 457207 (Samples: CC00772, CC00773, CC00775): -----

One or more analytes is below the method criteria. A low bias for these analytes is possible. (Acetone)

Instrument:

CHEM18 11/20/18-2 Jane Li, Chemist 11/20/18

CC00772, CC00773, CC00775

Initial Calibration Verification (CHEM18/VT-M1119):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 31% (20%)
The following compounds did not meet recommended response factors: Bromoform 0.090 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/1120M19-VT-M1119):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: Bromoform 0.085 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 457207 (CC00510)

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

November 26, 2018

SDG I.D.: GCC00772

VOA Narration

CC00772, CC00773, CC00775

All LCS recoveries were within 70 - 130 with the following exceptions: Acetone(68%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Acetone(69%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 1.6C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.0° C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[ ] Email:

Customer: Kropp Environmental Contractors, Inc
Address: P.O. Box 258
Lebanon, CT 06249

Project: Groton Oil
Report to: Sally Kropp
Invoice to: Sally Kropp
QUOTE #

Project P.O: 18021147

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 11/8/18

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPH	8260	8270 PAH
00772	G-1	S	11/8/18	3:24		X	
00773	G-2	S	11/8/18	3:22		X	
00774	D-2-1	S	11/8/18	4:08	X		
00775	D-2-2	S	11/8/18	4:06	X	X	X
00776	D-2-3	S	11/8/18	4:04	X		
00777	D-2-4	S	11/8/18	4:02	X		
00778	D-1-2	S	11/8/18	4:40	X		
00779	D-1-3	S	11/8/18	4:38	X		

GL Amber 8 oz. w/H3PO4	Soil VOA Vials [✓] methanol [ ] H2O	GL Soil container (2) oz	GL Soil container (8) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
	3	1									
	3	1									
			2								
	3		2								
			2								
			2								
			2								
			2								
			2								

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	11/20/18	8:55
[signature]	[signature]	11.2018	1444

Comments, Special Requirements or Regulations:
High Concentration G-1
D-2-1
D-1-3

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[X] GB Mobility
[X] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] MWRA eSMART [ ] Other

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phcenix Std Report
[ ] Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Wednesday, November 28, 2018

Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Project ID: GROTON OIL
Sample ID#s: CC01681 - CC01684

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 28, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	15:20
Location Code:	KROPP	Received by:	CP	11/21/18	13:27
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC01681
Phoenix ID: CC01681

Project ID: GROTON OIL
Client ID: G-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		11/21/18	AK	SW846-%Solid
Volatiles							
1,1,1,2-Tetrachloroethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,1,1-Trichloroethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.9	ug/Kg	1	11/25/18	JLI	SW8260C
1,1,2-Trichloroethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,1-Dichloroethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,1-Dichloroethene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,1-Dichloropropene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2,3-Trichloropropane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2-Dibromoethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2-Dichlorobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2-Dichloroethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,2-Dichloropropane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,3-Dichlorobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,3-Dichloropropane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
1,4-Dichlorobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
2,2-Dichloropropane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
2-Chlorotoluene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
2-Hexanone	ND	16	ug/Kg	1	11/25/18	JLI	SW8260C
2-Isopropyltoluene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
4-Chlorotoluene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C

Project ID: GROTON OIL
Client ID: G-3

Phoenix I.D.: CC01681

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	16	ug/Kg	1	11/25/18	JLI	SW8260C
Acetone	ND	160	ug/Kg	1	11/25/18	JLI	SW8260C
Acrylonitrile	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Benzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Bromobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Bromochloromethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Bromodichloromethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Bromoform	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Bromomethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Carbon Disulfide	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Carbon tetrachloride	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Chlorobenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Chloroethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Chloroform	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Chloromethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
cis-1,2-Dichloroethene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
cis-1,3-Dichloropropene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Dibromochloromethane	ND	1.9	ug/Kg	1	11/25/18	JLI	SW8260C
Dibromomethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Dichlorodifluoromethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Ethylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Hexachlorobutadiene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Isopropylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
m&p-Xylene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Methyl Ethyl Ketone	ND	19	ug/Kg	1	11/25/18	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.4	ug/Kg	1	11/25/18	JLI	SW8260C
Methylene chloride	ND	6.4	ug/Kg	1	11/25/18	JLI	SW8260C
Naphthalene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
n-Butylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
n-Propylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
o-Xylene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
p-Isopropyltoluene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
sec-Butylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Styrene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
tert-Butylbenzene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Tetrachloroethene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Tetrahydrofuran (THF)	ND	6.4	ug/Kg	1	11/25/18	JLI	SW8260C
Toluene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Total Xylenes	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
trans-1,2-Dichloroethene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
trans-1,3-Dichloropropene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	6.4	ug/Kg	1	11/25/18	JLI	SW8260C
Trichloroethene	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Trichlorofluoromethane	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.4	ug/Kg	1	11/25/18	JLI	SW8260C
Vinyl chloride	ND	3.2	ug/Kg	1	11/25/18	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	112		%	1	11/25/18	JLI	70 - 130 %
% Bromofluorobenzene	92		%	1	11/25/18	JLI	70 - 130 %

Project ID: GROTON OIL
Client ID: G-3

Phoenix I.D.: CC01681

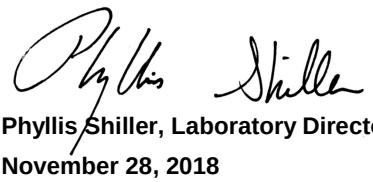
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	110		%	1	11/25/18	JLI	70 - 130 %
% Toluene-d8	99		%	1	11/25/18	JLI	70 - 130 %
Field Extraction	Completed				11/19/18		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
November 28, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 28, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	15:18
Location Code:	KROPP	Received by:	CP	11/21/18	13:27
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC01681
Phoenix ID: CC01682

Project ID: GROTON OIL
Client ID: G-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		11/21/18	AK	SW846-%Solid
Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.1	ug/Kg	1	11/21/18	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloroethene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,1-Dichloropropene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,3-Trichloropropane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dibromoethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloroethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,2-Dichloropropane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,3-Dichloropropane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
2,2-Dichloropropane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
2-Chlorotoluene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
2-Hexanone	ND	34	ug/Kg	1	11/21/18	JLI	SW8260C
2-Isopropyltoluene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
4-Chlorotoluene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C

Project ID: GROTON OIL
Client ID: G-4

Phoenix I.D.: CC01682

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	34	ug/Kg	1	11/21/18	JLI	SW8260C
Acetone	ND	340	ug/Kg	1	11/21/18	JLI	SW8260C
Acrylonitrile	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Benzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromochloromethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromodichloromethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromoform	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Bromomethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon Disulfide	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Carbon tetrachloride	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chlorobenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chloroform	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Chloromethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromochloromethane	ND	4.1	ug/Kg	1	11/21/18	JLI	SW8260C
Dibromomethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Dichlorodifluoromethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Ethylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Hexachlorobutadiene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Isopropylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
m&p-Xylene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl Ethyl Ketone	ND	41	ug/Kg	1	11/21/18	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	14	ug/Kg	1	11/21/18	JLI	SW8260C
Methylene chloride	ND	14	ug/Kg	1	11/21/18	JLI	SW8260C
Naphthalene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
n-Butylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
n-Propylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
o-Xylene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
p-Isopropyltoluene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
sec-Butylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Styrene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
tert-Butylbenzene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrachloroethene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Tetrahydrofuran (THF)	ND	14	ug/Kg	1	11/21/18	JLI	SW8260C
Toluene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Total Xylenes	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	14	ug/Kg	1	11/21/18	JLI	SW8260C
Trichloroethene	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorofluoromethane	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
Trichlorotrifluoroethane	ND	14	ug/Kg	1	11/21/18	JLI	SW8260C
Vinyl chloride	ND	6.8	ug/Kg	1	11/21/18	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	11/21/18	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	11/21/18	JLI	70 - 130 %

Project ID: GROTON OIL
Client ID: G-4

Phoenix I.D.: CC01682

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	100		%	1	11/21/18	JLI	70 - 130 %
% Toluene-d8	96		%	1	11/21/18	JLI	70 - 130 %
Field Extraction	Completed				11/19/18		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.
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Phyllis Shiller, Laboratory Director
November 28, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 28, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:44
Location Code:	KROPP	Received by:	CP	11/21/18	13:27
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC01681
Phoenix ID: CC01683

Project ID: GROTON OIL
Client ID: D-1-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		11/21/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/24/18	IG/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	2400	270	mg/Kg	5	11/27/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	5	11/27/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	76		%	5	11/27/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 28, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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Analysis Report

November 28, 2018

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/19/18	16:36
Location Code:	KROPP	Received by:	CP	11/21/18	13:27
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC01681
Phoenix ID: CC01684

Project ID: GROTON OIL
Client ID: D-1-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		11/21/18	AK	SW846-%Solid
Extraction of CT ETPH	Completed				11/24/18	IG/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	4000	550	mg/Kg	10	11/27/18	JRB	CTETPH 8015D
Identification	**		mg/Kg	10	11/27/18	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	Diluted Out		%	10	11/27/18	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
November 28, 2018
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
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QA/QC Report

November 28, 2018

QA/QC Data

SDG I.D.: GCC01681

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 457316 (mg/Kg), QC Sample No: CC01479 (CC01683, CC01684)											
TPH by GC (Extractable Products) - Soil											
Ext. Petroleum H.C. (C9-C36)	ND	50	102	103	1.0				60 - 120	30	
% n-Pentacosane	76	%	75	74	1.3				50 - 150	30	
Comment:											
*The MS/MSD could not be analyzed because of matrix interference. The LCS was within QA/QC criteria.											
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.											
QA/QC Batch 457360 (ug/kg), QC Sample No: CC01467 (CC01682)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0	107	105	1.9	100	89	11.6	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	102	102	0.0	102	93	9.2	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	106	103	2.9	102	102	0.0	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	101	99	2.0	94	85	10.1	70 - 130	30	
1,1-Dichloroethane	ND	5.0	84	109	25.9	82	77	6.3	70 - 130	30	
1,1-Dichloroethene	ND	5.0	103	100	3.0	105	98	6.9	70 - 130	30	
1,1-Dichloropropene	ND	5.0	108	106	1.9	103	93	10.2	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	109	105	3.7	95	103	8.1	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	103	101	2.0	101	104	2.9	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	112	108	3.6	100	104	3.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	108	106	1.9	102	103	1.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	108	106	1.9	99	101	2.0	70 - 130	30	
1,2-Dibromoethane	ND	5.0	105	102	2.9	98	86	13.0	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	104	101	2.9	100	101	1.0	70 - 130	30	
1,2-Dichloroethane	ND	5.0	101	98	3.0	98	89	9.6	70 - 130	30	
1,2-Dichloropropane	ND	5.0	99	97	2.0	95	87	8.8	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	107	106	0.9	102	103	1.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	106	104	1.9	100	101	1.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	102	100	2.0	97	86	12.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	104	102	1.9	99	99	0.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	107	106	0.9	104	94	10.1	70 - 130	30	
2-Chlorotoluene	ND	5.0	105	104	1.0	99	101	2.0	70 - 130	30	
2-Hexanone	ND	25	97	95	2.1	73	65	11.6	70 - 130	30	m
2-Isopropyltoluene	ND	5.0	107	106	0.9	102	104	1.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	106	104	1.9	99	101	2.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	99	97	2.0	85	76	11.2	70 - 130	30	
Acetone	ND	10	74	66	11.4	67	64	4.6	70 - 130	30	l,m
Acrylonitrile	ND	5.0	83	99	17.6	59	54	8.8	70 - 130	30	m
Benzene	ND	1.0	101	99	2.0	97	89	8.6	70 - 130	30	
Bromobenzene	ND	5.0	104	101	2.9	99	100	1.0	70 - 130	30	
Bromochloromethane	ND	5.0	101	100	1.0	98	89	9.6	70 - 130	30	
Bromodichloromethane	ND	5.0	105	103	1.9	98	89	9.6	70 - 130	30	

QA/QC Data

SDG I.D.: GCC01681

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bromoform	ND	5.0	110	109	0.9	98	86	13.0	70 - 130	30	
Bromomethane	ND	5.0	100	99	1.0	88	86	2.3	70 - 130	30	
Carbon Disulfide	ND	5.0	103	100	3.0	104	98	5.9	70 - 130	30	
Carbon tetrachloride	ND	5.0	99	97	2.0	110	87	23.4	70 - 130	30	
Chlorobenzene	ND	5.0	104	102	1.9	92	80	14.0	70 - 130	30	
Chloroethane	ND	5.0	101	101	0.0	99	91	8.4	70 - 130	30	
Chloroform	ND	5.0	100	99	1.0	97	89	8.6	70 - 130	30	
Chloromethane	ND	5.0	85	83	2.4	74	70	5.6	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	103	102	1.0	100	92	8.3	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	107	103	3.8	96	87	9.8	70 - 130	30	
Dibromochloromethane	ND	3.0	113	109	3.6	103	91	12.4	70 - 130	30	
Dibromomethane	ND	5.0	100	98	2.0	95	86	9.9	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	87	86	1.2	79	72	9.3	70 - 130	30	
Ethylbenzene	ND	1.0	106	104	1.9	93	81	13.8	70 - 130	30	
Hexachlorobutadiene	ND	5.0	113	112	0.9	111	112	0.9	70 - 130	30	
Isopropylbenzene	ND	1.0	108	106	1.9	101	103	2.0	70 - 130	30	
m&p-Xylene	ND	2.0	105	103	1.9	90	79	13.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	84	84	0.0	74	66	11.4	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	1.0	102	96	6.1	96	88	8.7	70 - 130	30	
Methylene chloride	ND	5.0	91	86	5.6	95	86	9.9	70 - 130	30	
Naphthalene	ND	5.0	114	109	4.5	99	107	7.8	70 - 130	30	
n-Butylbenzene	ND	1.0	113	111	1.8	105	105	0.0	70 - 130	30	
n-Propylbenzene	ND	1.0	109	107	1.9	101	103	2.0	70 - 130	30	
o-Xylene	ND	2.0	108	106	1.9	93	81	13.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	111	110	0.9	106	106	0.0	70 - 130	30	
sec-Butylbenzene	ND	1.0	113	111	1.8	108	111	2.7	70 - 130	30	
Styrene	ND	5.0	108	107	0.9	88	77	13.3	70 - 130	30	
tert-Butylbenzene	ND	1.0	108	107	0.9	104	106	1.9	70 - 130	30	
Tetrachloroethene	ND	5.0	108	106	1.9	95	84	12.3	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	94	91	3.2	91	82	10.4	70 - 130	30	
Toluene	ND	1.0	102	101	1.0	93	84	10.2	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	108	103	4.7	106	98	7.8	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	104	102	1.9	92	84	9.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	112	107	4.6	101	101	0.0	70 - 130	30	
Trichloroethene	ND	5.0	106	105	0.9	100	90	10.5	70 - 130	30	
Trichlorofluoromethane	ND	5.0	101	100	1.0	96	87	9.8	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0	107	104	2.8	101	91	10.4	70 - 130	30	
Vinyl chloride	ND	5.0	95	94	1.1	89	82	8.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	99	99	0.0	101	100	1.0	70 - 130	30	
% Bromofluorobenzene	97	%	99	100	1.0	100	100	0.0	70 - 130	30	
% Dibromofluoromethane	98	%	100	102	2.0	101	102	1.0	70 - 130	30	
% Toluene-d8	96	%	100	100	0.0	98	99	1.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 457359 (ug/kg), QC Sample No: CC01917 (CC01681)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	5.0	110	110	0.0	110	111	0.9	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	111	111	0.0	109	109	0.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	105	104	1.0	99	104	4.9	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	103	102	1.0	103	106	2.9	70 - 130	30	
1,1-Dichloroethane	ND	5.0	105	102	2.9	109	106	2.8	70 - 130	30	
1,1-Dichloroethene	ND	5.0	113	111	1.8	102	102	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GCC01681

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1-Dichloropropene	ND	5.0	115	113	1.8	114	116	1.7	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	106	107	0.9	104	113	8.3	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	102	103	1.0	103	107	3.8	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	110	111	0.9	108	116	7.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	108	108	0.0	106	109	2.8	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	112	108	3.6	99	108	8.7	70 - 130	30	
1,2-Dibromoethane	ND	5.0	107	105	1.9	104	107	2.8	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	103	103	0.0	103	106	2.9	70 - 130	30	
1,2-Dichloroethane	ND	5.0	109	108	0.9	112	114	1.8	70 - 130	30	
1,2-Dichloropropane	ND	5.0	103	103	0.0	103	104	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	108	108	0.0	105	107	1.9	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	105	106	0.9	103	107	3.8	70 - 130	30	
1,3-Dichloropropane	ND	5.0	104	104	0.0	102	105	2.9	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	104	104	0.0	102	106	3.8	70 - 130	30	
2,2-Dichloropropane	ND	5.0	116	115	0.9	111	112	0.9	70 - 130	30	
2-Chlorotoluene	ND	5.0	105	105	0.0	101	103	2.0	70 - 130	30	
2-Hexanone	ND	25	99	95	4.1	96	101	5.1	70 - 130	30	
2-Isopropyltoluene	ND	5.0	107	107	0.0	106	108	1.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	105	104	1.0	102	104	1.9	70 - 130	30	
4-Methyl-2-pentanone	ND	25	103	98	5.0	101	106	4.8	70 - 130	30	
Acetone	ND	10	79	74	6.5	44	47	6.6	70 - 130	30	m
Acrylonitrile	ND	5.0	101	97	4.0	104	106	1.9	70 - 130	30	
Benzene	ND	1.0	105	105	0.0	104	106	1.9	70 - 130	30	
Bromobenzene	ND	5.0	103	104	1.0	100	103	3.0	70 - 130	30	
Bromochloromethane	ND	5.0	107	107	0.0	103	106	2.9	70 - 130	30	
Bromodichloromethane	ND	5.0	110	110	0.0	108	109	0.9	70 - 130	30	
Bromoform	ND	5.0	120	118	1.7	108	111	2.7	70 - 130	30	
Bromomethane	ND	5.0	96	97	1.0	95	92	3.2	70 - 130	30	
Carbon Disulfide	ND	5.0	117	116	0.9	98	100	2.0	70 - 130	30	
Carbon tetrachloride	ND	5.0	107	106	0.9	102	102	0.0	70 - 130	30	
Chlorobenzene	ND	5.0	105	105	0.0	106	107	0.9	70 - 130	30	
Chloroethane	ND	5.0	101	99	2.0	92	91	1.1	70 - 130	30	
Chloroform	ND	5.0	107	107	0.0	105	105	0.0	70 - 130	30	
Chloromethane	ND	5.0	84	84	0.0	83	82	1.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	108	109	0.9	105	103	1.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	110	110	0.0	108	111	2.7	70 - 130	30	
Dibromochloromethane	ND	3.0	117	116	0.9	111	112	0.9	70 - 130	30	
Dibromomethane	ND	5.0	103	104	1.0	102	106	3.8	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	86	84	2.4	85	85	0.0	70 - 130	30	
Ethylbenzene	ND	1.0	107	107	0.0	108	109	0.9	70 - 130	30	
Hexachlorobutadiene	ND	5.0	112	114	1.8	119	124	4.1	70 - 130	30	
Isopropylbenzene	ND	1.0	107	108	0.9	103	106	2.9	70 - 130	30	
m&p-Xylene	ND	2.0	107	106	0.9	108	109	0.9	70 - 130	30	
Methyl ethyl ketone	ND	5.0	91	85	6.8	89	92	3.3	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	103	101	2.0	94	96	2.1	70 - 130	30	
Methylene chloride	ND	5.0	96	95	1.0	89	90	1.1	70 - 130	30	
Naphthalene	ND	5.0	109	112	2.7	103	117	12.7	70 - 130	30	
n-Butylbenzene	ND	1.0	111	112	0.9	112	115	2.6	70 - 130	30	
n-Propylbenzene	ND	1.0	107	107	0.0	105	107	1.9	70 - 130	30	
o-Xylene	ND	2.0	110	109	0.9	110	112	1.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	111	112	0.9	111	113	1.8	70 - 130	30	
sec-Butylbenzene	ND	1.0	113	114	0.9	112	113	0.9	70 - 130	30	
Styrene	ND	5.0	109	110	0.9	111	112	0.9	70 - 130	30	

QA/QC Data

SDG I.D.: GCC01681

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
tert-Butylbenzene	ND	1.0	109	109	0.0	106	108	1.9	70 - 130	30
Tetrachloroethene	ND	5.0	112	110	1.8	113	115	1.8	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	103	97	6.0	105	109	3.7	70 - 130	30
Toluene	ND	1.0	105	105	0.0	105	107	1.9	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	115	114	0.9	104	104	0.0	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	108	107	0.9	107	111	3.7	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	110	108	1.8	99	104	4.9	70 - 130	30
Trichloroethene	ND	5.0	110	110	0.0	110	111	0.9	70 - 130	30
Trichlorofluoromethane	ND	5.0	103	101	2.0	100	99	1.0	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	110	108	1.8	101	101	0.0	70 - 130	30
Vinyl chloride	ND	5.0	95	92	3.2	94	96	2.1	70 - 130	30
% 1,2-dichlorobenzene-d4	102	%	101	99	2.0	100	100	0.0	70 - 130	30
% Bromofluorobenzene	98	%	101	100	1.0	103	103	0.0	70 - 130	30
% Dibromofluoromethane	104	%	102	103	1.0	99	98	1.0	70 - 130	30
% Toluene-d8	100	%	100	100	0.0	102	102	0.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 28, 2018

Wednesday, November 28, 2018

Criteria: CT: GBM, RC

State: CT

Sample Criteria Exceedances Report

GCC01681 - KROPP

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CC01683	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	2400	270	500	500	mg/Kg
CC01684	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	4000	550	500	500	mg/Kg
CC01684	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR GB (mg/kg) / Pesticides/TPH	4000	550	2500	2500	mg/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Kropp Env. Contractors

Project Location: GROTON OIL ***Project Number:***

Laboratory Sample ID(s): CC01681-CC01684 ***Sampling Date(s):*** 11/19/2018

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8260, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: VOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?**	☑ Yes ☐ No
	b) Were these reporting limits met?	☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Helen Geoghegan **Position:** Project Manager

Printed Name: Helen Geoghegan **Date:** Wednesday, November 28, 2018

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

November 28, 2018

SDG I.D.: GCC01681

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-FID21 11/27/18-1 Jeff Bucko, Chemist 11/27/18

CC01683, CC01684

The initial calibration (ETPHO29I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 457316 (CC01479)

CC01683, CC01684

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
*The MS/MSD could not be analyzed because of matrix interference. The LCS was within QA/QC criteria.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 457360 (Samples: CC01682): -----

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (Acetone)

Instrument:

CHEM03 11/21/18-1 Jane Li, Chemist 11/21/18

CC01682

Initial Calibration Verification (CHEM03/VT-L1119):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 26% (20%)
The following compounds did not meet recommended response factors: Acetone 0.084 (0.1), Tetrachloroethene 0.194 (0.2)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM03/1121L01-VT-L1119):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM03 11/25/18-1 Jane Li, Chemist 11/25/18

CC01681

Initial Calibration Verification (CHEM03/VT-L1119):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 26% (20%)

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

November 28, 2018

SDG I.D.: GCC01681

VOA Narration

The following compounds did not meet recommended response factors: Acetone 0.084 (0.1), Tetrachloroethene 0.194 (0.2)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM03/1125L02-VT-L1119):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 457359 (CC01917)

CC01681

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Batch 457360 (CC01467)

CC01682

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: Acetone(66%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 5.2C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [ ] ICE [X] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 5.2 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[ ] Email:

Customer: Krapp Environmental Contractors, Inc.
Address: P. O. Box 258
Lebanon, CT 06249

Project: Groton Oil
Report to: Sally Krapp
Invoice to: Sally Krapp
QUOTE #

Project P.O: 18(R)147

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Jongzi Su Date: 11/18/18

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPH	8260	8270 PAH	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [X] methanol [X] H2O	GL Soil container (2) oz	GL Soil container (X) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ]250ml [ ]500ml [ ]1000ml	PL H2SO4 [ ]250ml [ ]500ml [ ]1500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
01681	G-3	S	11/18/18	3:20		X			3	1									
01682	G-4			3:18		X			3	1									
01683	D-1-1			4:44	X						2								
01684	D-1-4	↓	↓	4:36	X						2								

Relinquished by:	Accepted by:	Date:	Time:
Jongzi Su	Peter Houle	11/21/18	11:35A
Peter Houle	Krumpotal Bruce	11.21.18	13:27

Comments, Special Requirements or Regulations:
Rush G-3 24 HR Turnaround.
The Rest with Standard Turnaround

Turnaround Time:
[X] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[X] GB Mobility
[X] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] MWRA eSMART [ ] Other

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, January 07, 2019

Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Project ID: GROTON OIL
Sample ID#s: CC22818 - CC22823

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 07, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TR	01/02/19	10:25
Location Code:	KROPP	Received by:	CP	01/03/19	15:02
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC22818
Phoenix ID: CC22818

Project ID: GROTON OIL
Client ID: P1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		01/03/19	AK	SW846-%Solid
Extraction of CT ETPH	Completed				01/03/19	/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	52	mg/Kg	1	01/04/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	01/04/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	84		%	1	01/04/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
January 07, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 07, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TR	01/02/19	13:35
Location Code:	KROPP	Received by:	CP	01/03/19	15:02
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC22818
Phoenix ID: CC22819

Project ID: GROTON OIL
Client ID: P8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	86		%		01/03/19	AK	SW846-%Solid
Extraction of CT ETPH	Completed				01/03/19	/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	57	mg/Kg	1	01/04/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	01/04/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	94		%	1	01/04/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
January 07, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 07, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TR	01/02/19	13:40
Location Code:	KROPP	Received by:	CP	01/03/19	15:02
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC22818
Phoenix ID: CC22820

Project ID: GROTON OIL
Client ID: P9

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	81		%		01/03/19	AK	SW846-%Solid
Extraction of CT ETPH	Completed				01/03/19	/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	61	mg/Kg	1	01/04/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	01/04/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	83		%	1	01/04/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
January 07, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 07, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TR	01/02/19	13:50
Location Code:	KROPP	Received by:	CP	01/03/19	15:02
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC22818
Phoenix ID: CC22821

Project ID: GROTON OIL
Client ID: P10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		01/03/19	AK	SW846-%Solid
Soil Extraction SVOA PAH	Completed				01/03/19	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				01/03/19	/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	170	56	mg/Kg	1	01/04/19	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	01/04/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	69		%	1	01/04/19	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,1,1-Trichloroethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.9	ug/Kg	1	01/04/19	RM	SW8260C
1,1,2-Trichloroethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,1-Dichloroethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,1-Dichloroethene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,1-Dichloropropene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2,3-Trichlorobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2,3-Trichloropropane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2,4-Trichlorobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2,4-Trimethylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2-Dibromo-3-chloropropane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	01/04/19	RM	SW8260C
1,2-Dichlorobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2-Dichloroethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,2-Dichloropropane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,3,5-Trimethylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C

Project ID: GROTON OIL
Client ID: P10

Phoenix I.D.: CC22821

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichlorobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,3-Dichloropropane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
1,4-Dichlorobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
2,2-Dichloropropane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
2-Chlorotoluene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
2-Hexanone	ND	41	ug/Kg	1	01/04/19	RM	SW8260C
2-Isopropyltoluene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
4-Chlorotoluene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
4-Methyl-2-pentanone	ND	41	ug/Kg	1	01/04/19	RM	SW8260C
Acetone	ND	410	ug/Kg	1	01/04/19	RM	SW8260C
Acrylonitrile	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Benzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Bromobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Bromochloromethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Bromodichloromethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Bromoform	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Bromomethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Carbon Disulfide	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Carbon tetrachloride	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Chlorobenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Chloroethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Chloroform	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Chloromethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
cis-1,2-Dichloroethene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
cis-1,3-Dichloropropene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Dibromochloromethane	ND	4.9	ug/Kg	1	01/04/19	RM	SW8260C
Dibromomethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Dichlorodifluoromethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Ethylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Hexachlorobutadiene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Isopropylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
m&p-Xylene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Methyl Ethyl Ketone	ND	49	ug/Kg	1	01/04/19	RM	SW8260C
Methyl t-butyl ether (MTBE)	ND	16	ug/Kg	1	01/04/19	RM	SW8260C
Methylene chloride	ND	16	ug/Kg	1	01/04/19	RM	SW8260C
Naphthalene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
n-Butylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
n-Propylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
o-Xylene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
p-Isopropyltoluene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
sec-Butylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Styrene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
tert-Butylbenzene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Tetrachloroethene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Tetrahydrofuran (THF)	ND	16	ug/Kg	1	01/04/19	RM	SW8260C
Toluene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Total Xylenes	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
trans-1,2-Dichloroethene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
trans-1,3-Dichloropropene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,4-dichloro-2-butene	ND	16	ug/Kg	1	01/04/19	RM	SW8260C
Trichloroethene	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Trichlorofluoromethane	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
Trichlorotrifluoroethane	ND	16	ug/Kg	1	01/04/19	RM	SW8260C
Vinyl chloride	ND	8.2	ug/Kg	1	01/04/19	RM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	01/04/19	RM	70 - 130 %
% Bromofluorobenzene	101		%	1	01/04/19	RM	70 - 130 %
% Dibromofluoromethane	89		%	1	01/04/19	RM	70 - 130 %
% Toluene-d8	98		%	1	01/04/19	RM	70 - 130 %
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	270	ug/Kg	1	01/04/19	AW	SW8270D
Acenaphthene	ND	270	ug/Kg	1	01/04/19	AW	SW8270D
Acenaphthylene	380	270	ug/Kg	1	01/04/19	AW	SW8270D
Anthracene	930	270	ug/Kg	1	01/04/19	AW	SW8270D
Benz(a)anthracene	2700	270	ug/Kg	1	01/04/19	AW	SW8270D
Benzo(a)pyrene	2500	270	ug/Kg	1	01/04/19	AW	SW8270D
Benzo(b)fluoranthene	2100	270	ug/Kg	1	01/04/19	AW	SW8270D
Benzo(ghi)perylene	1300	270	ug/Kg	1	01/04/19	AW	SW8270D
Benzo(k)fluoranthene	2300	270	ug/Kg	1	01/04/19	AW	SW8270D
Chrysene	2700	270	ug/Kg	1	01/04/19	AW	SW8270D
Dibenz(a,h)anthracene	340	270	ug/Kg	1	01/04/19	AW	SW8270D
Fluoranthene	6200	270	ug/Kg	1	01/04/19	AW	SW8270D
Fluorene	370	270	ug/Kg	1	01/04/19	AW	SW8270D
Indeno(1,2,3-cd)pyrene	1500	270	ug/Kg	1	01/04/19	AW	SW8270D
Naphthalene	ND	270	ug/Kg	1	01/04/19	AW	SW8270D
Phenanthrene	3700	270	ug/Kg	1	01/04/19	AW	SW8270D
Pyrene	5400	270	ug/Kg	1	01/04/19	AW	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	77		%	1	01/04/19	AW	30 - 130 %
% Nitrobenzene-d5	79		%	1	01/04/19	AW	30 - 130 %
% Terphenyl-d14	64		%	1	01/04/19	AW	30 - 130 %
Field Extraction	Completed				01/02/19		SW5035A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
January 07, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 07, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TR	01/02/19	14:00
Location Code:	KROPP	Received by:	CP	01/03/19	15:02
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC22818
Phoenix ID: CC22822

Project ID: GROTON OIL
Client ID: P11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		01/03/19	AK	SW846-%Solid
Extraction of CT ETPH	Completed				01/03/19	/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	54	mg/Kg	1	01/04/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	01/04/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	84		%	1	01/04/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
January 07, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 07, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TR	01/02/19	14:10
Location Code:	KROPP	Received by:	CP	01/03/19	15:02
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC22818
Phoenix ID: CC22823

Project ID: GROTON OIL
Client ID: P12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	86		%		01/03/19	AK	SW846-%Solid
Extraction of CT ETPH	Completed				01/03/19	/VCK	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	58	mg/Kg	1	01/04/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	01/04/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	86		%	1	01/04/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
January 07, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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QA/QC Report

January 07, 2019

QA/QC Data

SDG I.D.: GCC22818

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 462006 (mg/Kg), QC Sample No: CC22985 (CC22818, CC22819, CC22820, CC22821, CC22822, CC22823)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum H.C. (C9-C36)	ND	50	80	76	5.1	79	78	1.3	60 - 120	30
% n-Pentacosane	66	%	61	61	0.0	58	55	5.3	50 - 150	30
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 461983 (ug/kg), QC Sample No: CC22773 (CC22821)										
Polynuclear Aromatic HC - Soil										
2-Methylnaphthalene	ND	230	75	68	9.8	65	68	4.5	30 - 130	30
Acenaphthene	ND	230	75	69	8.3	72	76	5.4	30 - 130	30
Acenaphthylene	ND	230	73	68	7.1	70	75	6.9	30 - 130	30
Anthracene	ND	230	77	72	6.7	75	77	2.6	30 - 130	30
Benz(a)anthracene	ND	230	77	70	9.5	72	75	4.1	30 - 130	30
Benzo(a)pyrene	ND	230	78	71	9.4	72	77	6.7	30 - 130	30
Benzo(b)fluoranthene	ND	230	79	76	3.9	75	78	3.9	30 - 130	30
Benzo(ghi)perylene	ND	230	74	66	11.4	72	72	0.0	30 - 130	30
Benzo(k)fluoranthene	ND	230	72	71	1.4	72	80	10.5	30 - 130	30
Chrysene	ND	230	75	71	5.5	73	76	4.0	30 - 130	30
Dibenz(a,h)anthracene	ND	230	84	74	12.7	79	81	2.5	30 - 130	30
Fluoranthene	ND	230	77	70	9.5	72	76	5.4	30 - 130	30
Fluorene	ND	230	78	72	8.0	73	78	6.6	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	78	67	15.2	73	77	5.3	30 - 130	30
Naphthalene	ND	230	67	64	4.6	67	68	1.5	30 - 130	30
Phenanthrene	ND	230	76	70	8.2	73	75	2.7	30 - 130	30
Pyrene	ND	230	76	70	8.2	71	76	6.8	30 - 130	30
% 2-Fluorobiphenyl	67	%	69	65	6.0	66	72	8.7	30 - 130	30
% Nitrobenzene-d5	68	%	75	67	11.3	56	63	11.8	30 - 130	30
% Terphenyl-d14	68	%	68	61	10.9	61	67	9.4	30 - 130	30
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 462093 (ug/kg), QC Sample No: CC22985 (CC22821)										
Volatiles - Soil										
1,1,1,2-Tetrachloroethane	ND	5.0	106	103	2.9	74	91	20.6	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	110	111	0.9	92	97	5.3	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	111	108	2.7	99	95	4.1	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	106	105	0.9	79	91	14.1	70 - 130	30
1,1-Dichloroethane	ND	5.0	110	110	0.0	93	99	6.3	70 - 130	30
1,1-Dichloroethene	ND	5.0	109	109	0.0	96	100	4.1	70 - 130	30
1,1-Dichloropropene	ND	5.0	109	112	2.7	91	96	5.3	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	97	101	4.0	92	92	0.0	70 - 130	30

QA/QC Data

SDG I.D.: GCC22818

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2,3-Trichloropropane	ND	5.0	104	101	2.9	95	92	3.2	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	94	105	11.1	92	91	1.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	101	104	2.9	102	98	4.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	101	98	3.0	84	82	2.4	70 - 130	30	
1,2-Dibromoethane	ND	5.0	105	104	1.0	72	85	16.6	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	100	103	3.0	99	96	3.1	70 - 130	30	
1,2-Dichloroethane	ND	5.0	106	106	0.0	83	92	10.3	70 - 130	30	
1,2-Dichloropropane	ND	5.0	105	104	1.0	86	95	9.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	101	104	2.9	103	99	4.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	101	107	5.8	102	98	4.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	105	102	2.9	77	91	16.7	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	98	105	6.9	98	95	3.1	70 - 130	30	
2,2-Dichloropropane	ND	5.0	110	111	0.9	90	94	4.3	70 - 130	30	
2-Chlorotoluene	ND	5.0	101	104	2.9	102	100	2.0	70 - 130	30	
2-Hexanone	ND	25	99	94	5.2	57	70	20.5	70 - 130	30	m
2-Isopropyltoluene	ND	5.0	99	100	1.0	104	102	1.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	100	106	5.8	101	98	3.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	102	99	3.0	73	82	11.6	70 - 130	30	
Acetone	ND	10	94	91	3.2	53	61	14.0	70 - 130	30	m
Acrylonitrile	ND	5.0	107	107	0.0	71	77	8.1	70 - 130	30	
Benzene	ND	1.0	104	106	1.9	88	96	8.7	70 - 130	30	
Bromobenzene	ND	5.0	100	100	0.0	99	96	3.1	70 - 130	30	
Bromochloromethane	ND	5.0	110	109	0.9	85	95	11.1	70 - 130	30	
Bromodichloromethane	ND	5.0	102	102	0.0	77	88	13.3	70 - 130	30	
Bromoform	ND	5.0	100	99	1.0	55	70	24.0	70 - 130	30	m
Bromomethane	ND	5.0	97	101	4.0	82	86	4.8	70 - 130	30	
Carbon Disulfide	ND	5.0	101	100	1.0	86	90	4.5	70 - 130	30	
Carbon tetrachloride	ND	5.0	109	108	0.9	86	92	6.7	70 - 130	30	
Chlorobenzene	ND	5.0	103	104	1.0	68	84	21.1	70 - 130	30	m
Chloroethane	ND	5.0	106	109	2.8	97	101	4.0	70 - 130	30	
Chloroform	ND	5.0	107	108	0.9	87	96	9.8	70 - 130	30	
Chloromethane	ND	5.0	98	100	2.0	91	95	4.3	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	110	110	0.0	85	91	6.8	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	103	105	1.9	70	78	10.8	70 - 130	30	
Dibromochloromethane	ND	3.0	107	104	2.8	71	86	19.1	70 - 130	30	
Dibromomethane	ND	5.0	101	103	2.0	75	85	12.5	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	114	116	1.7	106	107	0.9	70 - 130	30	
Ethylbenzene	ND	1.0	105	107	1.9	73	90	20.9	70 - 130	30	
Hexachlorobutadiene	ND	5.0	100	104	3.9	103	100	3.0	70 - 130	30	
Isopropylbenzene	ND	1.0	102	104	1.9	105	102	2.9	70 - 130	30	
m&p-Xylene	ND	2.0	103	106	2.9	70	85	19.4	70 - 130	30	
Methyl ethyl ketone	ND	5.0	110	107	2.8	75	85	12.5	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	104	102	1.9	87	94	7.7	70 - 130	30	
Methylene chloride	ND	5.0	105	101	3.9	85	93	9.0	70 - 130	30	
Naphthalene	ND	5.0	103	100	3.0	94	96	2.1	70 - 130	30	
n-Butylbenzene	ND	1.0	102	109	6.6	106	102	3.8	70 - 130	30	
n-Propylbenzene	ND	1.0	103	107	3.8	105	102	2.9	70 - 130	30	
o-Xylene	ND	2.0	104	106	1.9	70	87	21.7	70 - 130	30	
p-Isopropyltoluene	ND	1.0	102	106	3.8	104	101	2.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	108	110	1.8	110	107	2.8	70 - 130	30	
Styrene	ND	5.0	103	105	1.9	57	71	21.9	70 - 130	30	m
tert-Butylbenzene	ND	1.0	102	104	1.9	104	102	1.9	70 - 130	30	
Tetrachloroethene	ND	5.0	104	109	4.7	78	86	9.8	70 - 130	30	

QA/QC Data

SDG I.D.: GCC22818

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Tetrahydrofuran (THF)	ND	5.0	108	105	2.8	83	92	10.3	70 - 130	30	
Toluene	ND	1.0	105	107	1.9	81	91	11.6	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	124	126	1.6	90	93	3.3	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	102	101	1.0	62	70	12.1	70 - 130	30	m
trans-1,4-dichloro-2-butene	ND	5.0	109	108	0.9	93	90	3.3	70 - 130	30	
Trichloroethene	ND	5.0	109	111	1.8	86	93	7.8	70 - 130	30	
Trichlorofluoromethane	ND	5.0	107	108	0.9	97	100	3.0	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0	108	109	0.9	95	102	7.1	70 - 130	30	
Vinyl chloride	ND	5.0	107	108	0.9	96	99	3.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	101	100	1.0	100	99	1.0	70 - 130	30	
% Bromofluorobenzene	100	%	100	101	1.0	99	100	1.0	70 - 130	30	
% Dibromofluoromethane	95	%	102	101	1.0	97	98	1.0	70 - 130	30	
% Toluene-d8	101	%	99	100	1.0	100	98	2.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
January 07, 2019

Monday, January 07, 2019

Criteria: CT: GBM, RC

State: CT

Sample Criteria Exceedances Report

GCC22818 - KROPP

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CC22821	$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR DEC RES (mg/kg) / APS Organics	1500	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benzo(b)fluoranthene	CT / RSR DEC RES (mg/kg) / Semivolatiles	2100	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benzo(a)pyrene	CT / RSR DEC RES (mg/kg) / Semivolatiles	2500	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benz(a)anthracene	CT / RSR DEC RES (mg/kg) / Semivolatiles	2700	270	1000	1000	ug/Kg
CC22821	$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR GB (mg/kg) / APS Organics	1500	270	1000	1000	ug/Kg
CC22821	$8100SMR	Chrysene	CT / RSR GB (mg/kg) / APS Organics	2700	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benzo(ghi)perylene	CT / RSR GB (mg/kg) / APS Organics	1300	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benzo(k)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	2300	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benzo(b)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	2100	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benzo(a)pyrene	CT / RSR GB (mg/kg) / Semivolatiles	2500	270	1000	1000	ug/Kg
CC22821	$8100SMR	Benz(a)anthracene	CT / RSR GB (mg/kg) / Semivolatiles	2700	270	1000	1000	ug/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Kropp Env. Contractors

Project Location: GROTON OIL ***Project Number:***

Laboratory Sample ID(s): CC22818-CC22823 ***Sampling Date(s):*** 1/2/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8260, 8270, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?**	☑ Yes ☐ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☑ Yes ☐ No ☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Helen Geoghegan **Position:** Project Manager

Printed Name: Helen Geoghegan **Date:** Monday, January 07, 2019

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

January 07, 2019

SDG I.D.: GCC22818

SDG Comments

8270 Semi-volatile Organics CC22821:
The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-XL1 01/03/19-1 Jeff Bucko, Chemist 01/03/19

CC22818, CC22819, CC22820, CC22822, CC22823

The initial calibration (ETPHD26I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-XL2 01/03/19-1 Jeff Bucko, Chemist 01/03/19

CC22821

The initial calibration (ETPHD26I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 462006 (CC22985)

CC22818, CC22819, CC22820, CC22821, CC22822, CC22823

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM05 01/03/19-1 Adam Werner, Chemist 01/03/19

CC22821

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM05/5_BN_1231):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/0103_06-5_BN_1231):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.

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NY # 11301

RCP Certification Report

January 07, 2019

SDG I.D.: GCC22818

SVOA Narration

The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 461983 (CC22773)

CC22821

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM18 01/03/19-2 Raman Makol, Chemist 01/03/19

CC22821

Initial Calibration Evaluation (CHEM18/VT-M1226P):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 26% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/0103M35-VT-M1226P):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 462093 (CC22985)

CC22821

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 2.3C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

January 07, 2019

SDG I.D.: GCC22818

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp 2.2 Pg of

CHAIN OF CUSTODY RECORD

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[ ] Email:

Customer: KROPP ENVIRONMENTAL
Address: PO Box 258
LEBANON CT, 06249

Project: GROTON OIL
Report to: SALLY KROPP
Invoice to: CARRI THURLOW
QUOTE # 18(R) 147

Project P.O: 18(R) 147

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: TAYLOR REYNOLDS Date: 1/2/19

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPH	8260	8270 PAH	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [X] H2O	GL Soil container (4) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
22818	P1	S	1/2/19	10:25	X				3	1									
22819	P8	S		1:35	X				3	1									
22820	P9	S		1:40	X				3	1									
22821	P10	S		1:50	X	X	X		3	1									
22822	P11	S		2:00	X				3	1									
22823	P12	S		2:10	X				3	1									

Relinquished by:	Accepted by:	Date:	Time:
		1/2/19	17:00
		1/3/19	8:45
		1/3/19	1502

Comments, Special Requirements or Regulations:

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[X] GB Mobility
[X] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] MWRA eSMART [ ] Other

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

State where samples were collected: CT

PHOENIX
Environmental Laboratories, Inc.

Wednesday, February 27, 2019

Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Project ID: **GROTON OIL**
SDG ID: **GCC58124**
Sample ID#s: **CC58124**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

February 27, 2019

SDG I.D.: GCC58124

Project ID: GROTON OIL

Client Id	Lab Id	Matrix
P10-3	CC58124	SOIL

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

February 27, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	02/25/19	10:45
Location Code:	KROPP	Received by:	CP	02/26/19	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	19(S)104				

Laboratory Data

SDG ID: GCC58124
Phoenix ID: CC58124

Project ID: GROTON OIL
Client ID: P10-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	89		%		02/26/19	ML	SW846-%Solid
Soil Extraction SVOA PAH	Completed				02/26/19	JJ/LV	SW3545A
Extraction of CT ETPH	Completed				02/26/19	GG/LV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	56	mg/Kg	1	02/27/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	02/27/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	83		%	1	02/27/19	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.6	ug/Kg	1	02/26/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,1-Dichloroethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,1-Dichloroethene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,1-Dichloropropene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2-Dibromoethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2-Dichloroethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,2-Dichloropropane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: P10-3

Phoenix I.D.: CC58124

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichlorobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,3-Dichloropropane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
2,2-Dichloropropane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
2-Chlorotoluene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
2-Hexanone	ND	30	ug/Kg	1	02/26/19	JLI	SW8260C
2-Isopropyltoluene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
4-Chlorotoluene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	30	ug/Kg	1	02/26/19	JLI	SW8260C
Acetone	ND	300	ug/Kg	1	02/26/19	JLI	SW8260C
Acrylonitrile	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Benzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Bromobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Bromochloromethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Bromodichloromethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Bromoform	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Bromomethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Carbon Disulfide	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Carbon tetrachloride	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Chlorobenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Chloroethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Chloroform	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Chloromethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Dibromochloromethane	ND	3.6	ug/Kg	1	02/26/19	JLI	SW8260C
Dibromomethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Dichlorodifluoromethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Ethylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Hexachlorobutadiene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Isopropylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
m&p-Xylene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	36	ug/Kg	1	02/26/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	12	ug/Kg	1	02/26/19	JLI	SW8260C
Methylene chloride	ND	12	ug/Kg	1	02/26/19	JLI	SW8260C
Naphthalene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
n-Butylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
n-Propylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
o-Xylene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
sec-Butylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Styrene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
tert-Butylbenzene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Tetrachloroethene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	12	ug/Kg	1	02/26/19	JLI	SW8260C
Toluene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Total Xylenes	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: P10-3

Phoenix I.D.: CC58124

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	02/26/19	JLI	SW8260C
Trichloroethene	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Trichlorofluoromethane	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	12	ug/Kg	1	02/26/19	JLI	SW8260C
Vinyl chloride	ND	6.1	ug/Kg	1	02/26/19	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	02/26/19	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	02/26/19	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	02/26/19	JLI	70 - 130 %
% Toluene-d8	97		%	1	02/26/19	JLI	70 - 130 %
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Acenaphthene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Anthracene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(a)pyrene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(b)fluoranthene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(ghi)perylene	420	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Chrysene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Fluoranthene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Fluorene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Indeno(1,2,3-cd)pyrene	480	260	ug/Kg	1	02/27/19	AW	SW8270D
Naphthalene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Phenanthrene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Pyrene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	65		%	1	02/27/19	AW	30 - 130 %
% Nitrobenzene-d5	70		%	1	02/27/19	AW	30 - 130 %
% Terphenyl-d14	65		%	1	02/27/19	AW	30 - 130 %
Field Extraction	Completed				02/25/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
February 27, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

February 27, 2019

QA/QC Data

SDG I.D.: GCC58124

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 468292 (mg/Kg), QC Sample No: CC58124 (CC58124)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum H.C. (C9-C36)	ND	50	88	82	7.1	101	87	14.9	60 - 120	30
% n-Pentacosane	77	%	81	78	3.8	89	78	13.2	50 - 150	30
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 468289 (ug/kg), QC Sample No: CC57453 (CC58124)										
Polynuclear Aromatic HC - Soil										
2-Methylnaphthalene	ND	230	55	67	19.7	62	61	1.6	30 - 130	30
Acenaphthene	ND	230	59	72	19.8	66	64	3.1	30 - 130	30
Acenaphthylene	ND	230	59	73	21.2	67	66	1.5	30 - 130	30
Anthracene	ND	230	63	77	20.0	70	73	4.2	30 - 130	30
Benz(a)anthracene	ND	230	64	79	21.0	72	76	5.4	30 - 130	30
Benzo(a)pyrene	ND	230	68	83	19.9	76	81	6.4	30 - 130	30
Benzo(b)fluoranthene	ND	230	67	83	21.3	75	79	5.2	30 - 130	30
Benzo(ghi)perylene	ND	230	59	73	21.2	65	69	6.0	30 - 130	30
Benzo(k)fluoranthene	ND	230	65	78	18.2	73	77	5.3	30 - 130	30
Chrysene	ND	230	62	76	20.3	69	72	4.3	30 - 130	30
Dibenz(a,h)anthracene	ND	230	67	81	18.9	74	78	5.3	30 - 130	30
Fluoranthene	ND	230	64	79	21.0	71	77	8.1	30 - 130	30
Fluorene	ND	230	62	77	21.6	69	71	2.9	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	68	84	21.1	75	79	5.2	30 - 130	30
Naphthalene	ND	230	51	64	22.6	59	58	1.7	30 - 130	30
Phenanthrene	ND	230	60	74	20.9	67	70	4.4	30 - 130	30
Pyrene	ND	230	65	81	21.9	73	77	5.3	30 - 130	30
% 2-Fluorobiphenyl	69	%	52	68	26.7	62	60	3.3	30 - 130	30
% Nitrobenzene-d5	67	%	56	71	23.6	68	64	6.1	30 - 130	30
% Terphenyl-d14	69	%	52	70	29.5	62	67	7.8	30 - 130	30
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 468386 (ug/kg), QC Sample No: CC57414 (CC58124)										
Volatiles - Soil										
1,1,1,2-Tetrachloroethane	ND	5.0	90	88	2.2	103	103	0.0	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	87	84	3.5	101	99	2.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	95	95	0.0	113	112	0.9	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	89	87	2.3	102	101	1.0	70 - 130	30
1,1-Dichloroethane	ND	5.0	85	83	2.4	98	95	3.1	70 - 130	30
1,1-Dichloroethene	ND	5.0	89	87	2.3	91	90	1.1	70 - 130	30
1,1-Dichloropropene	ND	5.0	91	89	2.2	105	103	1.9	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	93	95	2.1	109	111	1.8	70 - 130	30

QA/QC Data

SDG I.D.: GCC58124

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2,3-Trichloropropane	ND	5.0	91	92	1.1	109	110	0.9	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	95	98	3.1	117	118	0.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	93	92	1.1	113	111	1.8	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	92	88	4.4	104	103	1.0	70 - 130	30	
1,2-Dibromoethane	ND	5.0	92	91	1.1	106	105	0.9	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	93	92	1.1	112	110	1.8	70 - 130	30	
1,2-Dichloroethane	ND	5.0	89	87	2.3	102	101	1.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	88	86	2.3	101	101	0.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	90	2.2	112	110	1.8	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	95	96	1.0	115	113	1.8	70 - 130	30	
1,3-Dichloropropane	ND	5.0	92	90	2.2	107	104	2.8	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	93	94	1.1	114	111	2.7	70 - 130	30	
2,2-Dichloropropane	ND	5.0	94	89	5.5	107	104	2.8	70 - 130	30	
2-Chlorotoluene	ND	5.0	92	90	2.2	110	107	2.8	70 - 130	30	
2-Hexanone	ND	25	88	89	1.1	102	102	0.0	70 - 130	30	
2-Isopropyltoluene	ND	5.0	98	96	2.1	122	120	1.7	70 - 130	30	
4-Chlorotoluene	ND	5.0	93	93	0.0	110	109	0.9	70 - 130	30	
4-Methyl-2-pentanone	ND	25	87	87	0.0	100	100	0.0	70 - 130	30	
Acetone	ND	10	76	75	1.3	68	70	2.9	70 - 130	30	m
Acrylonitrile	ND	5.0	88	89	1.1	103	105	1.9	70 - 130	30	
Benzene	ND	1.0	90	89	1.1	105	103	1.9	70 - 130	30	
Bromobenzene	ND	5.0	93	93	0.0	110	109	0.9	70 - 130	30	
Bromochloromethane	ND	5.0	86	86	0.0	100	98	2.0	70 - 130	30	
Bromodichloromethane	ND	5.0	90	88	2.2	102	102	0.0	70 - 130	30	
Bromoform	ND	5.0	86	85	1.2	96	97	1.0	70 - 130	30	
Bromomethane	ND	5.0	97	96	1.0	103	103	0.0	70 - 130	30	
Carbon Disulfide	ND	5.0	103	101	2.0	108	106	1.9	70 - 130	30	
Carbon tetrachloride	ND	5.0	76	73	4.0	86	86	0.0	70 - 130	30	
Chlorobenzene	ND	5.0	91	89	2.2	108	105	2.8	70 - 130	30	
Chloroethane	ND	5.0	96	95	1.0	101	100	1.0	70 - 130	30	
Chloroform	ND	5.0	87	85	2.3	101	99	2.0	70 - 130	30	
Chloromethane	ND	5.0	72	71	1.4	85	82	3.6	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	90	88	2.2	104	102	1.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	90	89	1.1	104	102	1.9	70 - 130	30	
Dibromochloromethane	ND	3.0	92	92	0.0	104	104	0.0	70 - 130	30	
Dibromomethane	ND	5.0	87	87	0.0	101	99	2.0	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	64	67	4.6	83	81	2.4	70 - 130	30	l
Ethylbenzene	ND	1.0	92	90	2.2	109	106	2.8	70 - 130	30	
Hexachlorobutadiene	ND	5.0	86	85	1.2	118	116	1.7	70 - 130	30	
Isopropylbenzene	ND	1.0	92	90	2.2	110	108	1.8	70 - 130	30	
m&p-Xylene	ND	2.0	93	91	2.2	109	107	1.9	70 - 130	30	
Methyl ethyl ketone	ND	5.0	80	79	1.3	92	95	3.2	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	92	92	0.0	104	102	1.9	70 - 130	30	
Methylene chloride	ND	5.0	80	78	2.5	93	91	2.2	70 - 130	30	
Naphthalene	ND	5.0	100	100	0.0	112	117	4.4	70 - 130	30	
n-Butylbenzene	ND	1.0	92	92	0.0	118	117	0.9	70 - 130	30	
n-Propylbenzene	ND	1.0	93	90	3.3	113	110	2.7	70 - 130	30	
o-Xylene	ND	2.0	95	92	3.2	111	109	1.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	92	89	3.3	115	114	0.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	95	91	4.3	120	118	1.7	70 - 130	30	
Styrene	ND	5.0	95	93	2.1	111	108	2.7	70 - 130	30	
tert-Butylbenzene	ND	1.0	90	87	3.4	112	110	1.8	70 - 130	30	
Tetrachloroethene	ND	5.0	91	88	3.4	107	104	2.8	70 - 130	30	

QA/QC Data

SDG I.D.: GCC58124

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Tetrahydrofuran (THF)	ND	5.0	85	85	0.0	99	99	0.0	70 - 130	30
Toluene	ND	1.0	90	88	2.2	104	102	1.9	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	93	90	3.3	106	104	1.9	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	87	87	0.0	99	99	0.0	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	101	102	1.0	116	114	1.7	70 - 130	30
Trichloroethene	ND	5.0	91	88	3.4	104	103	1.0	70 - 130	30
Trichlorofluoromethane	ND	5.0	80	78	2.5	88	86	2.3	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	84	87	3.5	103	99	4.0	70 - 130	30
Vinyl chloride	ND	5.0	79	78	1.3	92	90	2.2	70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	99	0.0	99	98	1.0	70 - 130	30
% Bromofluorobenzene	98	%	99	98	1.0	99	98	1.0	70 - 130	30
% Dibromofluoromethane	94	%	94	96	2.1	93	94	1.1	70 - 130	30
% Toluene-d8	97	%	98	98	0.0	97	98	1.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
February 27, 2019

Wednesday, February 27, 2019

Criteria: CT: GBM, RC

State: CT

Sample Criteria Exceedances Report

GCC58124 - KROPP

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Kropp Env. Contractors

Project Location: GROTON OIL ***Project Number:***

Laboratory Sample ID(s): CC58124 ***Sampling Date(s):*** 2/25/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8260, 8270, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: VOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☑ Yes ☐ No ☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Helen Geoghegan **Position:** Project Manager

Printed Name: Helen Geoghegan **Date:** Wednesday, February 27, 2019

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

February 27, 2019

SDG I.D.: GCC58124

SDG Comments

CC58124 - The client requested a short list for 8270 RCP Semivolatile.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-FID22 02/26/19-1 Jeff Bucko, Chemist 02/26/19

CC58124

The initial calibration (ETPH108I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (226A003) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Site Specific):

Batch 468292 (CC58124)

CC58124

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 50 - 150 with the following exceptions: None.
All MSD recoveries were within 50 - 150 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM05 02/26/19-1 Lauren Muirhead, Chemist 02/26/19

CC58124

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM05/5_BN_0221):
90% of target compounds met criteria.
The following compounds had %RSDs >20%: Benzo(a)pyrene 22% (20%), Indeno(1,2,3-cd)pyrene 23% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/0226_06-5_BN_0221):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

February 27, 2019

SDG I.D.: GCC58124

SVOA Narration

The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 468289 (CC57453)

CC58124

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 468386 (Samples: CC58124): -----

One or more analytes is below the method criteria. A low bias for these analytes is possible. (Dichlorodifluoromethane)

Instrument:

CHEM03 02/26/19-1 Jane Li, Chemist 02/26/19

CC58124

Initial Calibration Evaluation (CHEM03/VT-L022419):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 25% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM03/0226L02-VT-L022419):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 468386 (CC57414)

CC58124

All LCS recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(64%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(67%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

February 27, 2019

SDG I.D.: GCC58124

The samples were received at 1.0C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 1 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☐ Email:

Customer: Kropp Environmental Contractors Inc
Address: P.O Box 258
Lebanon, CT 06249

Project: Groton Oil
Report to: Sally Kropp
Invoice to: Sally Kropp
QUOTE #

Project P.O: ~~18~~ 19(S)109

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Tony Perrano Date: 2/25/19

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETH	8260	8270 PAH only	GL Amber 8 oz. w/H3PO4	Soil VOA Vials ✓ methanol ✓ H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
58124	B10-3	S	10:45	2/25/19	X	X	X		3	1									

Relinquished by:	Accepted by:	Date:	Time:
Tony Perrano		2/25/19	15:24
		2/26/19	8:52
		2/26/19	1536

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☒ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☒ GB Mobility
☒ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ MWRA eSMART ☐ Other

State where samples were collected: CT

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, March 01, 2019

Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Project ID: **GROTON OIL**
SDG ID: **GCC58122**
Sample ID#s: CC58122 - CC58123

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 01, 2019

SDG I.D.: GCC58122

Project ID: GROTON OIL

Client Id	Lab Id	Matrix
LS-1	CC58122	SOIL
LS-2	CC58123	SOIL

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 01, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	02/25/19	12:54
Location Code:	KROPP	Received by:	CP	02/26/19	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC58122
Phoenix ID: CC58122

Project ID: GROTON OIL
Client ID: LS-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	86		%		02/26/19	ML	SW846-%Solid
Soil Extraction SVOA PAH	Completed				02/26/19	JJ/LV	SW3545A
Extraction of CT ETPH	Completed				02/26/19	GG/LV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	57	mg/Kg	1	02/27/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	02/27/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	89		%	1	02/27/19	JRB	50 - 150 %
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Acenaphthene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Acenaphthylene	710	260	ug/Kg	1	02/27/19	AW	SW8270D
Anthracene	1700	260	ug/Kg	1	02/27/19	AW	SW8270D
Benz(a)anthracene	5400	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(a)pyrene	5500	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(b)fluoranthene	4300	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(ghi)perylene	2400	260	ug/Kg	1	02/27/19	AW	SW8270D
Benzo(k)fluoranthene	4000	260	ug/Kg	1	02/27/19	AW	SW8270D
Chrysene	5000	260	ug/Kg	1	02/27/19	AW	SW8270D
Dibenz(a,h)anthracene	590	260	ug/Kg	1	02/27/19	AW	SW8270D
Fluoranthene	14000	1300	ug/Kg	5	02/27/19	AW	SW8270D
Fluorene	580	260	ug/Kg	1	02/27/19	AW	SW8270D
Indeno(1,2,3-cd)pyrene	3100	260	ug/Kg	1	02/27/19	AW	SW8270D
Naphthalene	ND	260	ug/Kg	1	02/27/19	AW	SW8270D
Phenanthrene	6900	260	ug/Kg	1	02/27/19	AW	SW8270D
Pyrene	13000	1300	ug/Kg	5	02/27/19	AW	SW8270D

Ver 1

Project ID: GROTON OIL
Client ID: LS-1

Phoenix I.D.: CC58122

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 2-Fluorobiphenyl	40		%	1	02/27/19	AW	30 - 130 %
% Nitrobenzene-d5	44		%	1	02/27/19	AW	30 - 130 %
% Terphenyl-d14	34		%	1	02/27/19	AW	30 - 130 %
% 2-Fluorobiphenyl (5x)	42		%	5	02/27/19	AW	30 - 130 %
% Nitrobenzene-d5 (5x)	43		%	5	02/27/19	AW	30 - 130 %
% Terphenyl-d14 (5x)	37		%	5	02/27/19	AW	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 01, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 01, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	02/25/19	13:37
Location Code:	KROPP	Received by:	CP	02/26/19	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	18(R)147				

Laboratory Data

SDG ID: GCC58122
Phoenix ID: CC58123

Project ID: GROTON OIL
Client ID: LS-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		02/26/19	ML	SW846-%Solid
Extraction of CT ETPH	Completed				02/26/19	GG/LV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	56	mg/Kg	1	02/27/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	02/27/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	81		%	1	02/27/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 01, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 01, 2019

QA/QC Data

SDG I.D.: GCC58122

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 468292 (mg/Kg), QC Sample No: CC58124 (CC58122, CC58123)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum H.C. (C9-C36)	ND	50	88	82	7.1	101	87	14.9	60 - 120	30
% n-Pentacosane	77	%	81	78	3.8	89	78	13.2	50 - 150	30
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 468289 (ug/kg), QC Sample No: CC57453 (CC58122)										
Polynuclear Aromatic HC - Soil										
2-Methylnaphthalene	ND	230	55	67	19.7	62	61	1.6	30 - 130	30
Acenaphthene	ND	230	59	72	19.8	66	64	3.1	30 - 130	30
Acenaphthylene	ND	230	59	73	21.2	67	66	1.5	30 - 130	30
Anthracene	ND	230	63	77	20.0	70	73	4.2	30 - 130	30
Benz(a)anthracene	ND	230	64	79	21.0	72	76	5.4	30 - 130	30
Benzo(a)pyrene	ND	230	68	83	19.9	76	81	6.4	30 - 130	30
Benzo(b)fluoranthene	ND	230	67	83	21.3	75	79	5.2	30 - 130	30
Benzo(ghi)perylene	ND	230	59	73	21.2	65	69	6.0	30 - 130	30
Benzo(k)fluoranthene	ND	230	65	78	18.2	73	77	5.3	30 - 130	30
Chrysene	ND	230	62	76	20.3	69	72	4.3	30 - 130	30
Dibenz(a,h)anthracene	ND	230	67	81	18.9	74	78	5.3	30 - 130	30
Fluoranthene	ND	230	64	79	21.0	71	77	8.1	30 - 130	30
Fluorene	ND	230	62	77	21.6	69	71	2.9	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	68	84	21.1	75	79	5.2	30 - 130	30
Naphthalene	ND	230	51	64	22.6	59	58	1.7	30 - 130	30
Phenanthrene	ND	230	60	74	20.9	67	70	4.4	30 - 130	30
Pyrene	ND	230	65	81	21.9	73	77	5.3	30 - 130	30
% 2-Fluorobiphenyl	69	%	52	68	26.7	62	60	3.3	30 - 130	30
% Nitrobenzene-d5	67	%	56	71	23.6	68	64	6.1	30 - 130	30
% Terphenyl-d14	69	%	52	70	29.5	62	67	7.8	30 - 130	30
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 01, 2019

Friday, March 01, 2019

Criteria: CT: GBM, RC

State: CT

Sample Criteria Exceedances Report

GCC58122 - KROPP

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CC58122	$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR DEC RES (mg/kg) / APS Organics	3100	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benzo(b)fluoranthene	CT / RSR DEC RES (mg/kg) / Semivolatiles	4300	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benzo(a)pyrene	CT / RSR DEC RES (mg/kg) / Semivolatiles	5500	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benz(a)anthracene	CT / RSR DEC RES (mg/kg) / Semivolatiles	5400	260	1000	1000	ug/Kg
CC58122	$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR GB (mg/kg) / APS Organics	3100	260	1000	1000	ug/Kg
CC58122	$8100SMR	Chrysene	CT / RSR GB (mg/kg) / APS Organics	5000	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benzo(ghi)perylene	CT / RSR GB (mg/kg) / APS Organics	2400	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benzo(k)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	4000	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benzo(b)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	4300	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benzo(a)pyrene	CT / RSR GB (mg/kg) / Semivolatiles	5500	260	1000	1000	ug/Kg
CC58122	$8100SMR	Benz(a)anthracene	CT / RSR GB (mg/kg) / Semivolatiles	5400	260	1000	1000	ug/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Kropp Env. Contractors

Project Location: GROTON OIL ***Project Number:***

Laboratory Sample ID(s): CC58122, CC58123 ***Sampling Date(s):*** 2/25/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8270, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?**	☑ Yes ☐ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☑ Yes ☐ No ☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Helen Geoghegan **Position:** Project Manager

Printed Name: Helen Geoghegan **Date:** Friday, March 01, 2019

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 01, 2019

SDG I.D.: GCC58122

SDG Comments

CC58122 - The client requested a short list for 8270 RCP Semivolatile.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-XL1 02/26/19-1 Jeff Bucko, Chemist 02/26/19

CC58122, CC58123

The initial calibration (ETPH219I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (226A003A_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 468292 (CC58124)

CC58122, CC58123

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM05 02/26/19-1 Lauren Muirhead, Chemist 02/26/19

CC58122

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM05/5_BN_0221):
90% of target compounds met criteria.
The following compounds had %RSDs >20%: Benzo(a)pyrene 22% (20%), Indeno(1,2,3-cd)pyrene 23% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/0226_06-5_BN_0221):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM05 02/27/19-1 Adam Werner, Chemist 02/27/19

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

March 01, 2019

SDG I.D.: GCC58122

SVOA Narration

CC58122

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM05/5_BN_0221):
90% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/0227_03-5_BN_0221):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 468289 (CC57453)

CC58122

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

Temperature Narration

The samples were received at 1.0C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IP [X] ICE [ ] No [ ]
Temp °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[ ] Email:

Customer: Kropp Environmental Contractors, Inc.
Address: P.O. Box 258, Lebanon, CT 06249

Project: Groton Oil
Report to: Sally Kropp
Invoice to: Sally Kropp
QUOTE #

Project P.O: 18(R)147

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Tony Perrone Date: 2/25/19

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPH	8260 PAH	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container (4) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
58122	LS-1	S	2/25/19	12:54	X	X			1									
58123	LS-2	S	2/25/19	13:37	X	X			1									

Relinquished by:	Accepted by:	Date:	Time:
Tony Perrone	Jonger Sy	2/25/19	15:29
	E Welch	2/26/19	8:32
E Welch	E Welch	2/26/19	1536

Comments, Special Requirements or Regulations:

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[X] GB Mobility
[X] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] MWRA eSMART [ ] Other

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, March 11, 2019

Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Project ID: GROTON OIL
SDG ID: GCC63746
Sample ID#s: CC63746 - CC63749

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 11, 2019

SDG I.D.: GCC63746

Project ID: GROTON OIL

Client Id	Lab Id	Matrix
L-3	CC63746	SOIL
L-4	CC63747	SOIL
DS-D	CC63748	SOIL
DS-G	CC63749	SOIL

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	03/06/19	11:30
Location Code:	KROPP	Received by:	LB	03/07/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCC63746
Phoenix ID: CC63746

Project ID: GROTON OIL
Client ID: L-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		03/07/19	ML	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/07/19	Q/J/LV	SW3545A
Extraction of CT ETPH	Completed				03/08/19	GG/VL	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	55	mg/Kg	1	03/09/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	03/09/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	72		%	1	03/09/19	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.8	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloroethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloroethene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloropropene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dibromoethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichloroethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichloropropane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: L-3

Phoenix I.D.: CC63746

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichlorobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,3-Dichloropropane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
2,2-Dichloropropane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
2-Chlorotoluene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
2-Hexanone	ND	24	ug/Kg	1	03/08/19	JLI	SW8260C
2-Isopropyltoluene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
4-Chlorotoluene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	24	ug/Kg	1	03/08/19	JLI	SW8260C
Acetone	ND	240	ug/Kg	1	03/08/19	JLI	SW8260C
Acrylonitrile	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Benzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Bromobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Bromochloromethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Bromodichloromethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Bromoform	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Bromomethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Carbon Disulfide	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Carbon tetrachloride	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Chlorobenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Chloroethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Chloroform	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Chloromethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Dibromochloromethane	ND	2.8	ug/Kg	1	03/08/19	JLI	SW8260C
Dibromomethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Dichlorodifluoromethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Ethylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Hexachlorobutadiene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Isopropylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
m&p-Xylene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	28	ug/Kg	1	03/08/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.4	ug/Kg	1	03/08/19	JLI	SW8260C
Methylene chloride	ND	9.4	ug/Kg	1	03/08/19	JLI	SW8260C
Naphthalene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
n-Butylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
n-Propylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
o-Xylene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
p-Isopropyltoluene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
sec-Butylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Styrene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
tert-Butylbenzene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Tetrachloroethene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	9.4	ug/Kg	1	03/08/19	JLI	SW8260C
Toluene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Total Xylenes	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: L-3

Phoenix I.D.: CC63746

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,4-dichloro-2-butene	ND	9.4	ug/Kg	1	03/08/19	JLI	SW8260C
Trichloroethene	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Trichlorofluoromethane	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	9.4	ug/Kg	1	03/08/19	JLI	SW8260C
Vinyl chloride	ND	4.7	ug/Kg	1	03/08/19	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	03/08/19	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	03/08/19	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	03/08/19	JLI	70 - 130 %
% Toluene-d8	101		%	1	03/08/19	JLI	70 - 130 %
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Acenaphthene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Anthracene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(a)pyrene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(b)fluoranthene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(ghi)perylene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Chrysene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Fluoranthene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Fluorene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Naphthalene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Phenanthrene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
Pyrene	ND	260	ug/Kg	1	03/08/19	WB	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	68		%	1	03/08/19	WB	30 - 130 %
% Nitrobenzene-d5	70		%	1	03/08/19	WB	30 - 130 %
% Terphenyl-d14	75		%	1	03/08/19	WB	30 - 130 %
Field Extraction	Completed				03/06/19		SW5035A

Project ID: GROTON OIL
Client ID: L-3

Phoenix I.D.: CC63746

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

March 11, 2019

Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	03/06/19	12:25
Location Code:	KROPP	Received by:	LB	03/07/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCC63746
Phoenix ID: CC63747

Project ID: GROTON OIL
Client ID: L-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		03/07/19	ML	SW846-%Solid
Extraction of CT ETPH	Completed				03/08/19	GG/VL	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	54	mg/Kg	1	03/09/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	03/09/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	60		%	1	03/09/19	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 11, 2019
Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	03/06/19	11:03
Location Code:	KROPP	Received by:	LB	03/07/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCC63746
Phoenix ID: CC63748

Project ID: GROTON OIL
Client ID: DS-D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	89		%		03/07/19	ML	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/07/19	Q/J/LV	SW3545A
Extraction of CT ETPH	Completed				03/08/19	GG/VL	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	55	mg/Kg	1	03/09/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	03/09/19	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	53		%	1	03/09/19	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloroethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloroethene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloropropene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dibromoethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichloroethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichloropropane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: DS-D

Phoenix I.D.: CC63748

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichlorobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,3-Dichloropropane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
2,2-Dichloropropane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
2-Chlorotoluene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
2-Hexanone	ND	21	ug/Kg	1	03/08/19	JLI	SW8260C
2-Isopropyltoluene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
4-Chlorotoluene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	21	ug/Kg	1	03/08/19	JLI	SW8260C
Acetone	ND	210	ug/Kg	1	03/08/19	JLI	SW8260C
Acrylonitrile	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Benzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Bromobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Bromochloromethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Bromodichloromethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Bromoform	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Bromomethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Carbon Disulfide	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Carbon tetrachloride	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Chlorobenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Chloroethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Chloroform	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Chloromethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Dibromochloromethane	ND	2.5	ug/Kg	1	03/08/19	JLI	SW8260C
Dibromomethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Dichlorodifluoromethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Ethylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Hexachlorobutadiene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Isopropylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
m&p-Xylene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	25	ug/Kg	1	03/08/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	8.4	ug/Kg	1	03/08/19	JLI	SW8260C
Methylene chloride	ND	8.4	ug/Kg	1	03/08/19	JLI	SW8260C
Naphthalene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
n-Butylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
n-Propylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
o-Xylene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
p-Isopropyltoluene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
sec-Butylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Styrene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
tert-Butylbenzene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Tetrachloroethene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	8.4	ug/Kg	1	03/08/19	JLI	SW8260C
Toluene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Total Xylenes	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: DS-D

Phoenix I.D.: CC63748

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,4-dichloro-2-butene	ND	8.4	ug/Kg	1	03/08/19	JLI	SW8260C
Trichloroethene	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Trichlorofluoromethane	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	8.4	ug/Kg	1	03/08/19	JLI	SW8260C
Vinyl chloride	ND	4.2	ug/Kg	1	03/08/19	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	03/08/19	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	03/08/19	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	03/08/19	JLI	70 - 130 %
% Toluene-d8	100		%	1	03/08/19	JLI	70 - 130 %
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Acenaphthene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Anthracene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Benz(a)anthracene	310	250	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(a)pyrene	300	250	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(b)fluoranthene	260	250	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Benzo(k)fluoranthene	280	250	ug/Kg	1	03/08/19	WB	SW8270D
Chrysene	310	250	ug/Kg	1	03/08/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Fluoranthene	560	250	ug/Kg	1	03/08/19	WB	SW8270D
Fluorene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Naphthalene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Phenanthrene	ND	250	ug/Kg	1	03/08/19	WB	SW8270D
Pyrene	560	250	ug/Kg	1	03/08/19	WB	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	62		%	1	03/08/19	WB	30 - 130 %
% Nitrobenzene-d5	61		%	1	03/08/19	WB	30 - 130 %
% Terphenyl-d14	64		%	1	03/08/19	WB	30 - 130 %
Field Extraction	Completed				03/06/19		SW5035A

Project ID: GROTON OIL
Client ID: DS-D

Phoenix I.D.: CC63748

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

March 11, 2019

Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2019

FOR: Attn: Ms. Sally Wiese-Kropp
Kropp Env. Contractors
P.O. Box 258
Lebanon, CT 06249

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	TP	03/06/19	10:40
Location Code:	KROPP	Received by:	LB	03/07/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCC63746
Phoenix ID: CC63749

Project ID: GROTON OIL
Client ID: DS-G

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		03/07/19	ML	SW846-%Solid
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.2	ug/Kg	1	03/08/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloroethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloroethene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,1-Dichloropropene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dibromoethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichloroethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,2-Dichloropropane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,3-Dichloropropane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
2,2-Dichloropropane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
2-Chlorotoluene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
2-Hexanone	ND	27	ug/Kg	1	03/08/19	JLI	SW8260C
2-Isopropyltoluene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
4-Chlorotoluene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C

Project ID: GROTON OIL
Client ID: DS-G

Phoenix I.D.: CC63749

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	27	ug/Kg	1	03/08/19	JLI	SW8260C
Acetone	ND	270	ug/Kg	1	03/08/19	JLI	SW8260C
Acrylonitrile	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Benzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Bromobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Bromochloromethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Bromodichloromethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Bromoform	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Bromomethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Carbon Disulfide	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Carbon tetrachloride	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Chlorobenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Chloroethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Chloroform	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Chloromethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Dibromochloromethane	ND	3.2	ug/Kg	1	03/08/19	JLI	SW8260C
Dibromomethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Dichlorodifluoromethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Ethylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Hexachlorobutadiene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Isopropylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
m&p-Xylene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	32	ug/Kg	1	03/08/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	03/08/19	JLI	SW8260C
Methylene chloride	ND	11	ug/Kg	1	03/08/19	JLI	SW8260C
Naphthalene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
n-Butylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
n-Propylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
o-Xylene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
p-Isopropyltoluene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
sec-Butylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Styrene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
tert-Butylbenzene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Tetrachloroethene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	03/08/19	JLI	SW8260C
Toluene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Total Xylenes	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	03/08/19	JLI	SW8260C
Trichloroethene	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Trichlorofluoromethane	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	11	ug/Kg	1	03/08/19	JLI	SW8260C
Vinyl chloride	ND	5.4	ug/Kg	1	03/08/19	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	03/08/19	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	03/08/19	JLI	70 - 130 %

Project ID: GROTON OIL
Client ID: DS-G

Phoenix I.D.: CC63749

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	98		%	1	03/08/19	JLI	70 - 130 %
% Toluene-d8	100		%	1	03/08/19	JLI	70 - 130 %
Field Extraction	Completed				03/06/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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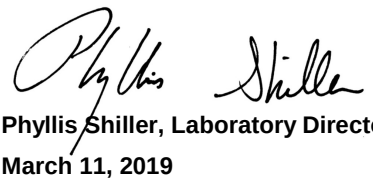

Phyllis Shiller, Laboratory Director

March 11, 2019

Reviewed and Released by: Helen Geoghegan, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 11, 2019

QA/QC Data

SDG I.D.: GCC63746

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 469608 (mg/Kg), QC Sample No: CC63748 (CC63746, CC63747, CC63748)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum H.C. (C9-C36)	ND	50	95	88	7.7	110	96	13.6	60 - 120	30
% n-Pentacosane	89	%	80	76	5.1	99	87	12.9	50 - 150	30
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 469408 (ug/kg), QC Sample No: CC63513 (CC63746, CC63748)										
Semivolatiles - Soil										
2-Methylnaphthalene	ND	230	65	67	3.0	68	58	15.9	30 - 130	30
Acenaphthene	ND	230	71	72	1.4	74	64	14.5	30 - 130	30
Acenaphthylene	ND	130	68	71	4.3	73	63	14.7	30 - 130	30
Anthracene	ND	230	73	74	1.4	78	72	8.0	30 - 130	30
Benz(a)anthracene	ND	230	71	73	2.8	76	70	8.2	30 - 130	30
Benzo(a)pyrene	ND	130	72	74	2.7	77	70	9.5	30 - 130	30
Benzo(b)fluoranthene	ND	160	75	77	2.6	79	73	7.9	30 - 130	30
Benzo(ghi)perylene	ND	230	69	70	1.4	74	67	9.9	30 - 130	30
Benzo(k)fluoranthene	ND	230	74	75	1.3	79	71	10.7	30 - 130	30
Chrysene	ND	230	71	72	1.4	76	70	8.2	30 - 130	30
Dibenz(a,h)anthracene	ND	130	77	78	1.3	82	75	8.9	30 - 130	30
Fluoranthene	ND	230	72	76	5.4	78	72	8.0	30 - 130	30
Fluorene	ND	230	73	76	4.0	79	70	12.1	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	76	77	1.3	81	72	11.8	30 - 130	30
Naphthalene	ND	230	61	64	4.8	64	54	16.9	30 - 130	30
Phenanthrene	ND	130	72	73	1.4	76	70	8.2	30 - 130	30
Pyrene	ND	230	73	77	5.3	79	72	9.3	30 - 130	30
% 2-Fluorobiphenyl	72	%	66	67	1.5	69	58	17.3	30 - 130	30
% Nitrobenzene-d5	70	%	66	71	7.3	72	62	14.9	30 - 130	30
% Terphenyl-d14	71	%	64	68	6.1	69	63	9.1	30 - 130	30
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 469600 (ug/kg), QC Sample No: CC64102 (CC63746, CC63748, CC63749)										
Volatiles - Soil										
1,1,1,2-Tetrachloroethane	ND	5.0	99	101	2.0	92	94	2.2	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	97	97	0.0	88	89	1.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	97	103	6.0	95	94	1.1	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	94	94	0.0	88	88	0.0	70 - 130	30
1,1-Dichloroethane	ND	5.0	99	99	0.0	91	90	1.1	70 - 130	30
1,1-Dichloroethene	ND	5.0	101	104	2.9	93	93	0.0	70 - 130	30
1,1-Dichloropropene	ND	5.0	97	99	2.0	89	91	2.2	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	92	96	4.3	107	109	1.9	70 - 130	30

QA/QC Data

SDG I.D.: GCC63746

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2,3-Trichloropropane	ND	5.0	95	93	2.1	84	85	1.2	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	89	93	4.4	106	109	2.8	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	92	96	4.3	83	80	3.7	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	93	96	3.2	83	81	2.4	70 - 130	30	
1,2-Dibromoethane	ND	5.0	96	97	1.0	93	88	5.5	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	90	96	6.5	79	72	9.3	70 - 130	30	
1,2-Dichloroethane	ND	5.0	92	94	2.2	88	85	3.5	70 - 130	30	
1,2-Dichloropropane	ND	5.0	94	93	1.1	88	87	1.1	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	96	4.3	85	81	4.8	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	91	96	5.3	77	73	5.3	70 - 130	30	
1,3-Dichloropropane	ND	5.0	93	97	4.2	91	89	2.2	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	89	93	4.4	74	71	4.1	70 - 130	30	
2,2-Dichloropropane	ND	5.0	100	100	0.0	87	88	1.1	70 - 130	30	
2-Chlorotoluene	ND	5.0	93	99	6.3	82	83	1.2	70 - 130	30	
2-Hexanone	ND	25	100	101	1.0	91	90	1.1	70 - 130	30	
2-Isopropyltoluene	ND	5.0	101	106	4.8	92	89	3.3	70 - 130	30	
4-Chlorotoluene	ND	5.0	97	100	3.0	82	80	2.5	70 - 130	30	
4-Methyl-2-pentanone	ND	25	98	106	7.8	95	93	2.1	70 - 130	30	
Acetone	ND	10	82	81	1.2	73	67	8.6	70 - 130	30	m
Acrylonitrile	ND	5.0	102	104	1.9	75	67	11.3	70 - 130	30	m
Benzene	ND	1.0	97	99	2.0	88	89	1.1	70 - 130	30	
Bromobenzene	ND	5.0	93	92	1.1	85	82	3.6	70 - 130	30	
Bromochloromethane	ND	5.0	101	100	1.0	89	94	5.5	70 - 130	30	
Bromodichloromethane	ND	5.0	96	99	3.1	91	91	0.0	70 - 130	30	
Bromoform	ND	5.0	102	105	2.9	92	89	3.3	70 - 130	30	
Bromomethane	ND	5.0	91	102	11.4	87	85	2.3	70 - 130	30	
Carbon Disulfide	ND	5.0	112	113	0.9	96	97	1.0	70 - 130	30	
Carbon tetrachloride	ND	5.0	99	101	2.0	90	90	0.0	70 - 130	30	
Chlorobenzene	ND	5.0	96	97	1.0	90	86	4.5	70 - 130	30	
Chloroethane	ND	5.0	111	110	0.9	100	97	3.0	70 - 130	30	
Chloroform	ND	5.0	94	97	3.1	89	88	1.1	70 - 130	30	
Chloromethane	ND	5.0	104	101	2.9	87	86	1.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	98	99	1.0	96	90	6.5	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	95	100	5.1	87	86	1.2	70 - 130	30	
Dibromochloromethane	ND	3.0	106	108	1.9	100	97	3.0	70 - 130	30	
Dibromomethane	ND	5.0	89	92	3.3	86	85	1.2	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	102	106	3.8	91	91	0.0	70 - 130	30	
Ethylbenzene	ND	1.0	95	98	3.1	89	86	3.4	70 - 130	30	
Hexachlorobutadiene	ND	5.0	98	100	2.0	114	119	4.3	70 - 130	30	
Isopropylbenzene	ND	1.0	97	99	2.0	91	89	2.2	70 - 130	30	
m&p-Xylene	ND	2.0	94	95	1.1	86	82	4.8	70 - 130	30	
Methyl ethyl ketone	ND	5.0	101	94	7.2	80	87	8.4	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	96	99	3.1	93	89	4.4	70 - 130	30	
Methylene chloride	ND	5.0	89	89	0.0	83	81	2.4	70 - 130	30	
Naphthalene	ND	5.0	94	101	7.2	109	112	2.7	70 - 130	30	
n-Butylbenzene	ND	1.0	94	97	3.1	76	75	1.3	70 - 130	30	
n-Propylbenzene	ND	1.0	92	96	4.3	86	82	4.8	70 - 130	30	
o-Xylene	ND	2.0	97	99	2.0	89	86	3.4	70 - 130	30	
p-Isopropyltoluene	ND	1.0	95	98	3.1	83	81	2.4	70 - 130	30	
sec-Butylbenzene	ND	1.0	100	102	2.0	89	87	2.3	70 - 130	30	
Styrene	ND	5.0	96	98	2.1	83	81	2.4	70 - 130	30	
tert-Butylbenzene	ND	1.0	96	98	2.1	91	88	3.4	70 - 130	30	
Tetrachloroethene	ND	5.0	99	99	0.0	86	88	2.3	70 - 130	30	

QA/QC Data

SDG I.D.: GCC63746

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Tetrahydrofuran (THF)	ND	5.0	98	99	1.0	91	93	2.2	70 - 130	30
Toluene	ND	1.0	93	98	5.2	86	87	1.2	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	101	97	4.0	92	86	6.7	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	91	93	2.2	83	81	2.4	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	108	112	3.6	97	94	3.1	70 - 130	30
Trichloroethene	ND	5.0	100	99	1.0	91	94	3.2	70 - 130	30
Trichlorofluoromethane	ND	5.0	95	93	2.1	84	86	2.4	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	104	108	3.8	98	99	1.0	70 - 130	30
Vinyl chloride	ND	5.0	97	104	7.0	92	88	4.4	70 - 130	30
% 1,2-dichlorobenzene-d4	102	%	98	104	5.9	101	102	1.0	70 - 130	30
% Bromofluorobenzene	95	%	100	100	0.0	100	99	1.0	70 - 130	30
% Dibromofluoromethane	98	%	98	106	7.8	101	104	2.9	70 - 130	30
% Toluene-d8	100	%	100	101	1.0	101	99	2.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 11, 2019

Monday, March 11, 2019

Criteria: CT: GAM, GBM, RC

State: CT

Sample Criteria Exceedances Report

GCC63746 - KROPP

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Kropp Env. Contractors

Project Location: GROTON OIL ***Project Number:***

Laboratory Sample ID(s): CC63746-CC63749 ***Sampling Date(s):*** 3/6/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8260, 8270, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?**	☑ Yes ☐ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☑ Yes ☐ No ☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Helen Geoghegan **Position:** Project Manager

Printed Name: Helen Geoghegan **Date:** Monday, March 11, 2019

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 11, 2019

SDG I.D.: GCC63746

SDG Comments

CC63746, CC63748 - The client requested a short list for 8270 RCP Semivolatile.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-XL2 03/08/19-1 Jeff Bucko, Chemist 03/08/19

CC63746, CC63747, CC63748

The initial calibration (ETPH218I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (308A003_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Site Specific):

Batch 469608 (CC63748)

CC63746, CC63747, CC63748

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 50 - 150 with the following exceptions: None.
All MSD recoveries were within 50 - 150 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM06 03/07/19-1 Matt Richard, Chemist 03/07/19

CC63746, CC63748

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_SPLIT_0306):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/0307_06-6_SPLIT_0306):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

March 11, 2019

SDG I.D.: GCC63746

SVOA Narration

The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 469408 (CC63513)

CC63746, CC63748

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM31 03/07/19-2 Jane Li, Chemist 03/07/19

CC63746, CC63748, CC63749

Initial Calibration Evaluation (CHEM31/VT-L030719):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 26% (20%)
The following compounds did not meet recommended response factors: Acetone 0.094 (0.1), Methyl Ethyl Ketone 0.098 (0.1), Tetrachloroethene 0.175 (0.2), Trichloroethene 0.198 (0.2)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM31/0307_27-VT-L030719):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: Tetrahydrofuran (THF) 0.049 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 469600 (CC64102)

CC63746, CC63748, CC63749

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 2.1C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [X] No [ ]

CHAIN OF CUSTODY RECORD

Temp 2.1 °C Fg of

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax: _____
[ ] Phone: _____
[ ] Email: _____

Customer: Kropp Environmental Contractors
Address: P.O. Box 258, Lebanon, CT 06249

Project: Groton Oil
Report to: Sally Kropp
Invoice to: Sally Kropp
QUOTE #

Project P.O: 18(R)147

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Tony Reirado Date: 3/6/19

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPH	VOC	8270 PAH	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
63746	L-3	S	3/6/19	11:30	X	X	X							3	1				
63747	L-4			12:45	X										1				
63748	DS-1			11:05	X	X	X							3	1				
63749	PS-6			10:40		X								3	1				

Relinquished by:	Accepted by:	Date:	Time:
Tony Reirado		3/6/19	14:30
	Edwalsh	3/7/19	9:13
Edwalsh		3/7/19	1552

Comments, Special Requirements or Regulations:

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[X] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[ ] GW Protection
[ ] SW Protection
[X] GA Mobility
[X] GB Mobility
[X] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] MWRA eSMART [ ] Other

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

Attachment VI: Soil Disposal Documentation

CLEANEARTH

NON-RCRA HAZARDOUS WASTE MANIFEST

141837

1. GENERATOR'S NAME AND MAILING ADDRESS: Groton Oil, 53 Thames St, Groton, CT		GENERATOR'S SITE ADDRESS: same	
2. GENERATOR'S PHONE			
3. TRANSPORTER 1 COMPANY NAME: Kropp Environmental	4. US EPA ID NUMBER: NOT APPLICABLE	A. TRANSPORTER 1'S PHONE: (860) 642-9952	TRANSPORTER'S PLATE NUMBER: 60805 A
5. TRANSPORTER 2 COMPANY NAME	6. US EPA ID NUMBER: NOT APPLICABLE	B. TRANSPORTER 2'S PHONE: ( )	TRANSPORTER'S PLATE NUMBER
7. DESIGNATED FACILITY NAME AND SITE ADDRESS: CLEAN EARTH OF CONNECTICUT, 58 NORTH WASHINGTON STREET, PLAINVILLE, CT 06062	8. MAILING ADDRESS: CLEAN EARTH OF CONNECTICUT, 58 NORTH WASHINGTON STREET, PLAINVILLE, CT 06062	C. FACILITY'S PHONE: (860) 747-8888	

9. US DOT DESCRIPTION *(INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID NUMBER)*	10. CONTAINERS NO.	10. CONTAINERS TYPE	11. TOTAL QUANTITY	12. UNIT WT/VOL
a. CONNECTICUT REGULATED WASTE SOLID, NONE, NONE	001	DT	00020	T
b.				
c.				

D. ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE	E. HANDLING CODES FOR WASTES LISTED ABOVE: INTERIM	FINAL
SOIL CONTAMINATED WITH PETROLEUM HYDROCARBONS	SO2	T57

13. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

Global Approval 152296 184071139

14. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable national government regulations, and all applicable State of Conneticut laws and regulations. I certify that at this material neither contains polychlorinated biphenyls (PCB's) in concentrations greater than 25 ppm, nor has been mixed in anyway with PCB's in concentrations greater than or equal to 50 ppm. I certify that the material listed above contained no free liquids at the time of loading.

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Sally Kropp	Sally Kropp	3	14	19

15. TRANSPORTER 1 ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
AUSTIN DESCHAIN		3	14	19

16. TRANSPORTER 2 ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR

17. DISCREPANCY INDICATION SPACE

11(a) CORRECTED WEIGHT AS SCALED 22.36 TON'S

18. FACILITY OWNER OR OPERATOR: CERTIFICATION OF RECEIPT OF WASTE MATERIALS COVERED BY THIS MANIFEST EXCEPT AS NOTED IN ITEM 13.

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Nora		3	14	19

FACILITY

CLEANEARTH

NON-RCRA HAZARDOUS WASTE MANIFEST

141839

1. GENERATOR'S NAME AND MAILING ADDRESS Groton Oil 53 Thames St Groton, CT		GENERATOR'S SITE ADDRESS Same	
2. GENERATOR'S PHONE			
3. TRANSPORTER 1 COMPANY NAME Kropp Environmental	4. US EPA ID NUMBER NOT APPLICABLE	A. TRANSPORTER 1'S PHONE (860) 642-9952	TRANSPORTER'S PLATE NUMBER 58889 D
5. TRANSPORTER 2 COMPANY NAME	6. US EPA ID NUMBER NOT APPLICABLE	B. TRANSPORTER 2'S PHONE ( )	TRANSPORTER'S PLATE NUMBER
7. DESIGNATED FACILITY NAME AND SITE ADDRESS CLEAN EARTH OF CONNECTICUT 58 NORTH WASHINGTON STREET PLAINVILLE, CT 06062	8. MAILING ADDRESS CLEAN EARTH OF CONNECTICUT 58 NORTH WASHINGTON STREET PLAINVILLE, CT 06062	C. FACILITY'S PHONE (860) 747-8888	

9. US DOT DESCRIPTION *(INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID NUMBER)*	10. CONTAINERS NO.	10. CONTAINERS TYPE	11. TOTAL QUANTITY	12. UNIT WT/VOL
a. CONNECTICUT REGULATED WASTE SOLID, NONE, NONE	001	DT	00020	T
b.				
c.				

D. ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE	E. HANDLING CODES FOR WASTES LISTED ABOVE	
	INTERIM	FINAL
SOIL CONTAMINATED WITH PETROLEUM HYDROCARBONS	SO2	T57

13. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

Global 152296
Approval 184071139

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PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Sally Kropp				

15. TRANSPORTER 1 ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Gary Kropp		3	14	19

16. TRANSPORTER 2 ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR

17. DISCREPANCY INDICATION SPACE

11(a) CORRECTED WEIGHT AS SCALED 21.43 TON'S

18. FACILITY OWNER OR OPERATOR: CERTIFICATION OF RECEIPT OF WASTE MATERIALS COVERED BY THIS MANIFEST EXCEPT AS NOTED IN ITEM 17.

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
		3	14	19

FACILITY

CLEANEARTH

NON-RCRA HAZARDOUS WASTE MANIFEST

141838

1. GENERATOR'S NAME AND MAILING ADDRESS: Groton Oil, 53 Thames St, Groton, CT		GENERATOR'S SITE ADDRESS: same	
2. GENERATOR'S PHONE			
3. TRANSPORTER 1 COMPANY NAME: Kropp Environmental	4. US EPA ID NUMBER: NOT APPLICABLE	A. TRANSPORTER 1'S PHONE: (860) 642-9952	TRANSPORTER'S PLATE NUMBER: 60805A
5. TRANSPORTER 2 COMPANY NAME	6. US EPA ID NUMBER: NOT APPLICABLE	B. TRANSPORTER 2'S PHONE: ( )	TRANSPORTER'S PLATE NUMBER
7. DESIGNATED FACILITY NAME AND SITE ADDRESS: CLEAN EARTH OF CONNECTICUT, 58 NORTH WASHINGTON STREET, PLAINVILLE, CT 06062	8. MAILING ADDRESS: CLEAN EARTH OF CONNECTICUT, 58 NORTH WASHINGTON STREET, PLAINVILLE, CT 06062	C. FACILITY'S PHONE: (860) 747-8888	

9. US DOT DESCRIPTION *(INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID NUMBER)*	10. CONTAINERS NO.	10. CONTAINERS TYPE	11. TOTAL QUANTITY	12. UNIT WT/VOL
a. CONNECTICUT REGULATED WASTE SOLID, NONE, NONE	001	DT	00020	T
b.				
c.				

D. ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE	E. HANDLING CODES FOR WASTES LISTED ABOVE: INTERIM	FINAL
SOIL CONTAMINATED WITH PETROLEUM HYDROCARBONS	SO2	T57

13. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

Global Approval 184071139 152296

14. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable national government regulations, and all applicable State of Conneticut laws and regulations. I certify that at this material neither contains polychlorinated biphenyls (PCB's) in concentrations greater than 25 ppm, nor has been mixed in any way with PCB's in concentrations greater than or equal to 50 ppm. I certify that the material listed above contained no free liquids at the time of loading.

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Sally Kropp		3	14	19

15. TRANSPORTER 1 ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Austin Deschamps		3	14	19

16. TRANSPORTER 2 ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR

17. DISCREPANCY INDICATION SPACE

11(a) CORRECTED WEIGHT AS SCALED 8.48 TON'S

18. FACILITY OWNER OR OPERATOR: CERTIFICATION OF RECEIPT OF WASTE MATERIALS COVERED BY THIS MANIFEST EXCEPT AS NOTED IN ITEM 13.

PRINTED/TYPED NAME	SIGNATURE	MONTH	DAY	YEAR
Vera		3	14	19

FACILITY

Connecticut Department Of Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Emergency Response and Spill Prevention Division – Emergency Response Unit
79 Elm Street
Hartford, CT 06106

EMERGENCY INCIDENT FIELD REPORT

INCIDENT INFORMATION							
Case #:	**18-03824**	Date Reported:	**7/19/18**	Time Reported:	**0726 hrs**	Assigned By:	**937**
Reported by:	**Kropp Env.**	Representing:	**Groton Oil Co.**	Phone #(s)	**860-617-2179**		
Assigned to:	**ERC II # 938**	Additional ERC's On-scene:	**ERC II # 925 Liano SERC # 937 Chandler**				
Release Substance:	**Diesel Fuel**	Quantity:	**400-500 Gallons**				

Location of Reported Release:
If more than one property is impacted, list addresses and owners in the narrative.

Address:	**53 Thames St**	Town, ST Zip	**Groton 06340**

Property Owner:
This is the location of where the release originated. If more than one property is impacted, list addresses and owners in the narrative.

Name:	**Groton Oil Co. & Marina**		
Address:	**SAA**	Town, ST Zip	
Phone #(s):	**860-445-5336**		

Responsible Party Information

☐ **N/A**

RP:	**SAA**		
Address:		Town, ST Zip	
Phone #(s):	**860-445-5336**	Contact Name:	**John Santacroce**

Financial Responsibility Accepted?	**Yes**	Date accepted:	**7/19/18**	Time Accepted:	**0726 hrs**
Responsibility Accepted or Denied by Whom:	**Groton Oil Co. & Marina John Santacroce**				

Vehicle Information for the vehicle that released the contaminant(s)

☒ **N/A**

Type:		State	Registration		State	Registration
	Tractor			Trailer #1		
	Passenger Vehicle			Trailer #2 (Tandem)		
	Straight Truck			Vessel		
	Const. Equipment			Other		

VIN:		USDOT#:	
Vehicle Owner:	**N/A**		
Address:		Town, ST Zip	
Phone #(s):		Contact Name:	
Vehicle Operator:	**N/A**	DOB:	

Address:		Town, ST Zip	
Driver/Boating License Number:		Phone #(s):	

FOSC Coordination

☐ **N/A**

Is the Release Threatening or Impacting a Navigable Waterway?							**Yes**
Describe Nexus:	**Delivery from an oil truck into U.S.T that overflowed and ran down driveway into Thames River**						
NRC Dispatcher	**N/A**		NRC #	**1218817**	Date:	**7/19/18**	Time: **Unknown**
FOSC:	USEPA	**N/A**	Date:		Time:		
	USCG	**Melanie Hughes**	Date:	**7/19/18**	Time:	**0900 hrs**	

Environmental Clean-Up Contractor Information

☐ **N/A**

Name of Contractor Retained:	**Kropp**	Lead Contact	**Sally Kropp**
Hired by Whom:	**Groton Oil Co. & Marina**		

Environmental Consultant Information

☒ **N/A**

Name of Consulting Firm:		Lead Contact	
Hired by Whom:			

Agencies Involved

	Involvement	Contact Name	Report #	Phone #
Local FD	☒ On Scene ☐ Notified ☐ N/A	**Chief Sargeant**		**860-287-5761**
Local FMO	☐ On Scene ☐ Notified ☒ N/A			
Local PD	☐ On Scene ☐ Notified ☒ N/A			
Local DPW	☐ On Scene ☐ Notified ☒ N/A			
Local Health	☐ On Scene ☐ Notified ☒ N/A			
State FMO	☐ On Scene ☐ Notified ☒ N/A			
State Police	☐ On Scene ☐ Notified ☒ N/A			
State DOT	☐ On Scene ☐ Notified ☒ N/A			
State Health	☐ On Scene ☐ Notified ☒ N/A			
EPA	☐ On Scene ☐ Notified ☒ N/A			
USCG	☒ On Scene ☐ Notified ☐ N/A	**Melanie Hughes**	**1218817**	
FBI	☐ On Scene ☐ Notified ☒ N/A			
Other DEEP	☒ On Scene ☐ Notified ☐ N/A	**George Purple UST**		
	☐ On Scene ☐ Notified ☐ N/A			
	☐ On Scene ☐ Notified ☐ N/A			

Cost Recovery Information

Spill Fund Authorized ☐ Yes ☒ No

Authorized by:	**N/A**	Date & Time:	
Name of Person who received the RP Handout	**John Santacroce**		

Explain any statements made by RP as to the assumption of responsibility: ☒ N/A

Explain efforts by DEEP to have RP perform clean up (include dates, times, DEEP staff, party contacted, witness(s) if any): ☒ N/A

Violations, negligence, or intentional acts that may have contributed to this incident: ☐ N/A

Narrative

Initial Response

The Connecticut Department of Energy and Environmental Protection (CT DEEP ERU) was requested to respond to a diesel fuel spill from an over fill of an underground storage tank (UST) at the above referenced facility.
The spill originally occurred on 7/18/18 @ app. 0930-1030 hrs but was not reported to this agency until 7/19/18 @ 0726 hrs.
There was some attempt to clean the spilled diesel fuel.

Observations

Upon arrival ERC II # 938 observed a gas station that also stores oil delivery trucks on site and a marina facility on the Thames River.
There was a stain on the driveway leading down to the marina that originated at the edge of the UST's at the top of the property.
There was some speedy dry on the stain and there was a large sheen present within the entire marina being held to the shore by the current of the river and the wind pushing on shore.
Kropp was already onsite at the time of this inspector's arrival. The owner of the company Mr. John Santacroce stated that one of his employees was supposed to deliver 1000 gallons of oil into the off road fuel tank on the site. Instead the employee attempted to deliver the oil to the regular diesel tank. During the delivery the driver was on the wrong side of the truck and could not observe the oil delivery.
The tank that the delivery was being made to did not have the capacity to receive the 1000 gallons and thus the spill occurred.

Corrective Actions

Kropp hired Kennedy Marina to deploy containment boom around the marina and the local fire department and CT DEEP ERU supplied sorbent boom to line the inside of the containment boom. Excavation equipment was brought to the site to begin removal of impacted soils.
Prior to excavation there were monitoring wells observed in the area of the impacted soil. It was determined that an adjacent property had installed the wells after remediation work was completed of an old oil terminal. The consultants from the former oil terminal site were on scene during the day observing the work.
The remaining speedy dry that was put down yesterday was swept up and placed into drums for later disposal. All the soil excavated remained on site staged on plastic to be sampled prior to disposal. Work continued through the day and a schedule was developed to continue with soil removal on 7/20/18. The stock pile of soil was covered with plastic for the night.
On Friday 7/20/18 Kropp returned to the site to continue with soil removal and also to begin sampling the excavated area.
The consultants from the adjacent property were on site again overseeing the work and coordinating with Kropp and this agency on how to sample the excavation and what was historic and what was from the new release on site. The containment boom and sorbents will remain in place until it is determined that there is no further separate phase entering the Thames River at the release site.
This case will be considered closed with the CT DEEP ERU at the time this report is filed.

Date DEEP ERU on-scene work was completed:	**918/18**

Case Status of Incident

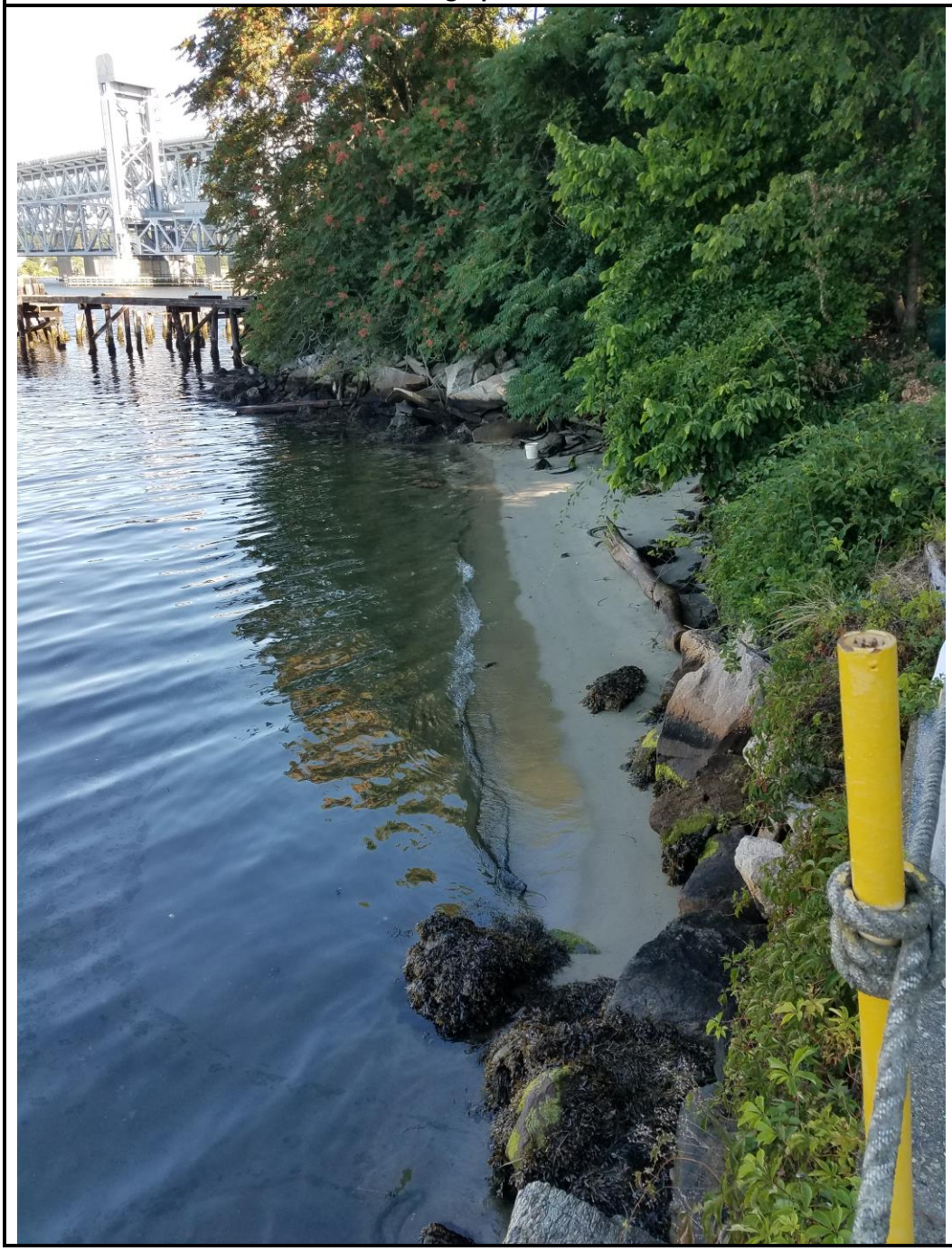
☐ **Open, Interim Report** ☒ **Closed**

Report Author:	**Richard J. Scalora**	Date:	**9/27/18**

Signature of Case Emergency Response Coordinator: *ERC II # 938 Richard J. Scalora*

Signature of Supervising Emergency Response Coordinator for Cost Recovery Cases:

Photographs of the Incident – Case # 18-03824



Picture # 1 of 6

Taken by ERC #938

Date: 7/19/18

Description: View of impact to Thames River from the property in question.

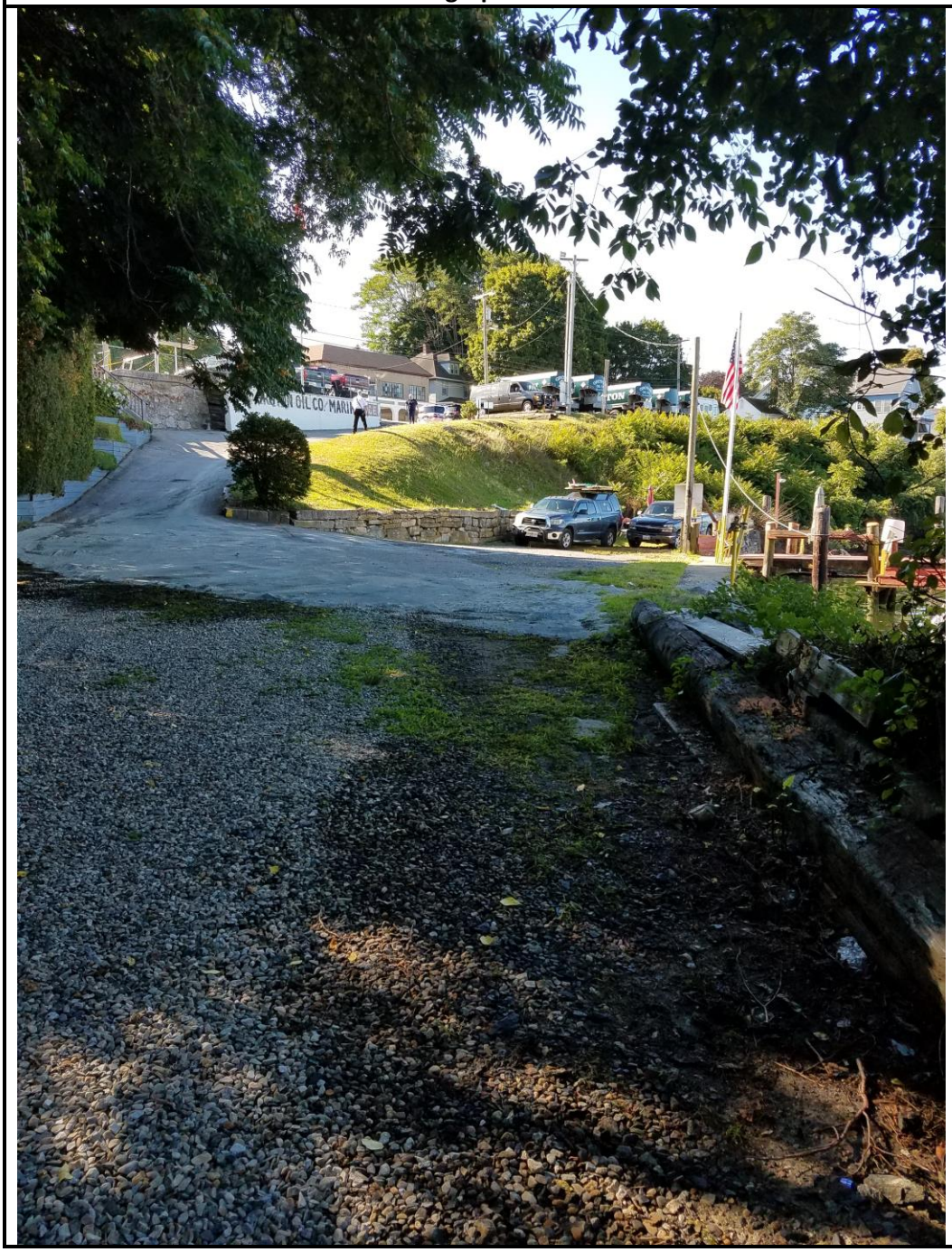
Picture # 2 of 6

Taken by ERC #938

Date: 7/19/18

Description: Affected area of driveway covered with speedy dry. Fuel also ran onto soil and gravel at the end of the paved road.

Photographs of the Incident – Case # 18-03824



Picture # 3 of 6

Taken by ERC #938

Date: 7/19/18

Description: Looking up driveway towards area the release occurred at.

Picture # 4 of 6

Taken by ERC #938

Date: 7/19/18

Description: Tank pad where delivery and overfill occurred.

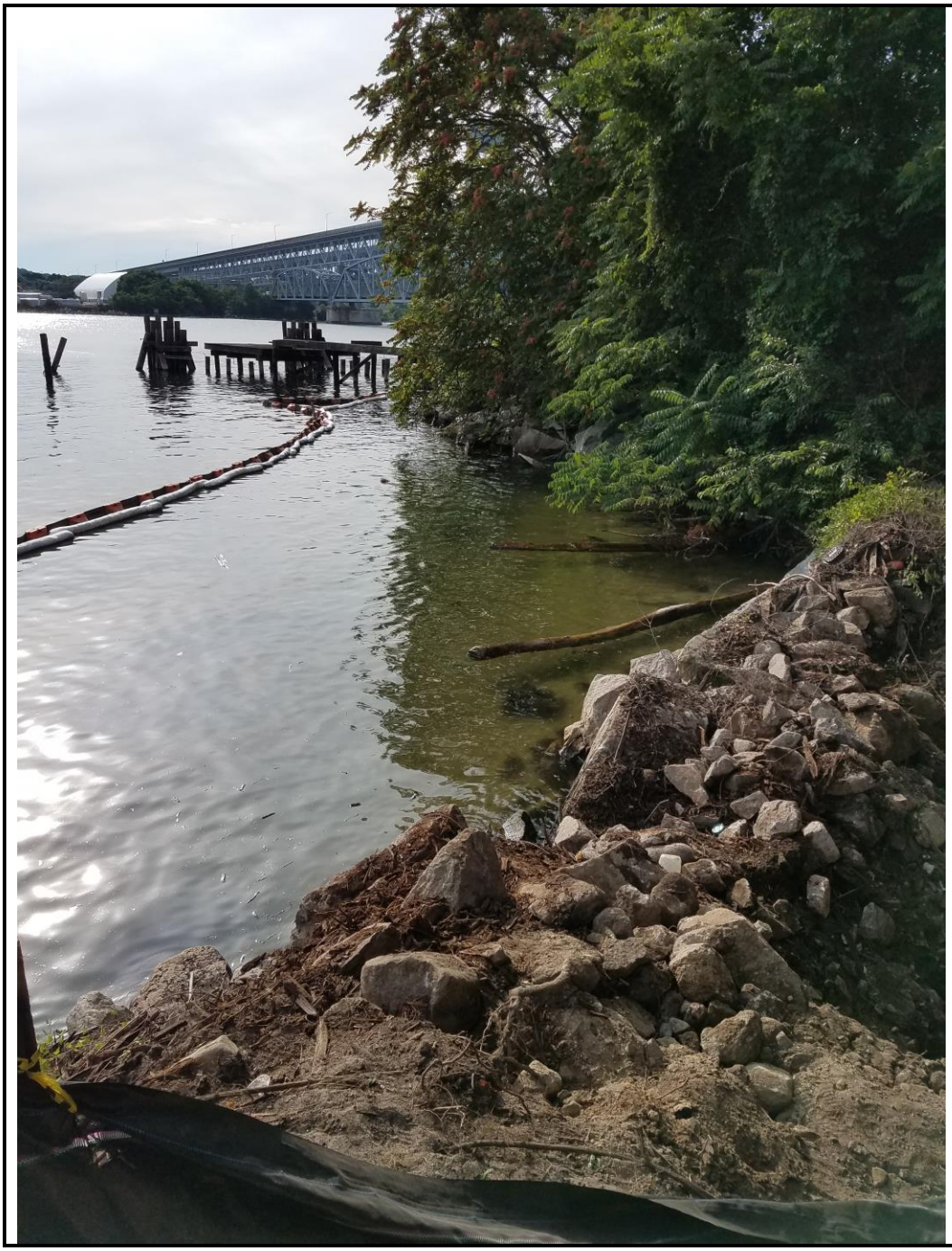
Photographs of the Incident – Case # 18-03824

Picture # 5 of 6

Taken by ERC #938

Date: 7/20/18

Description: Excavated area at end of driveway with petroleum impact to the water in the excavation.



Picture # 6 of 6

Taken by ERC #938

Date: 7/20/18

Description: Containment boom deployed in Thames River to capture any further residual petroleum in the interface at the water line.

Connecticut Department of Environmental Protection
165 Capitol Avenue
Hartford, CT 06106

(NR)

Bureau of Waste Management
Oil and Chemical Spill Response Division

EMERGENCY INCIDENT REPORT

CASE NO. 95-5670 ASSIGNED TO: 924 (932)

DATE: 10/7/95 TIME: 1224 TOWN OF DISCHARGE: Groton

REPORTED BY Dispatch TELEPHONE: BUSINESS ( ) - 448 - 1562 HOME ( ) - -

REPRESENTING: Groton Fire

STREET _____ TOWN _____ STATE _____ ZIP _____

INCIDENT LOCATION: 53 Thames St, Groton Oil Co
STREET TOWN POLE NO.

TYPE OF INCIDENT: ☒ PETROLEUM ☐ CHEMICAL ☐ DIELECT ☐ GASEOUS ☐ HAZARDOUS WASTE ☐ SEWAGE RELATED ☐ BIOMEDICAL ☐ ALGAE ☐ OTHER _____

DISCHARGE SUBSTANCE: Gas

QUANTITY: Unknown
GALLONS | CUBIC YARDS | CUBIC FEET | LB(S) | CONCENTRATION | DRUMS

IF THIS IS A CHEMICAL RELEASE AND DOES THIS INCIDENT CONSTITUTE A SARA 304 RELEASE? ☐ YES ☐ NO IF YES, THEN YOU MUST OBTAIN THE FOLLOWING ADDITIONAL INFORMATION:

☐ SARA 304 RELEASE - EXTREMELY HAZARDOUS SUBSTANCE ☐ CERCLA HAZARDOUS SUBSTANCE FEDERAL EXCEEDING R.Q.
☐ CROSS PROPERTY LINE ☐ PROTECTIVE ACTIONS TAKEN

R.Q. #'S: _____ TOTAL LB(S) _____ LB(S)

SARA TITLE III: DESCRIBE PROTECTIVE ACTIONS AND PROVIDE MEDICAL INFORMATION:

DATE OF SPILL: 10/7/95 MONTH/DAY/YEAR IS THE SPILL ONGOING? ☒ YES ☐ NO TIME OF SPILL: 1219

HAS THE RELEASE BEEN TERMINATED ☐ YES ☒ NO HAS THE RELEASE BEEN CONTAINED? ☐ YES ☒ NO

MISCELLANEOUS INFORMATION: from outboard of sinking boat
F.D. is installing boom

WATER BODY: Thames River ☒ RIVER ☐ L.I.S. ☐ TRIBUTARY ☐ CATCH BASIN/STORM DRAIN ☐ POND

MEDIA: ☐ AIR ☒ SURFACE WATER ☐ GROUND WATER ☐ GROUND SURFACE ☐ INSIDE BUILDING ☐ OTHER _____

TOTAL IN WATER (APPROXIMATE GALLONS): _____ TOTAL RECOVERED FROM WATER: _____

QUANTITY RECOVERED: _____ POLLUTER NAME: _____

POLLUTER MAILING ADDRESS: _____ TELEPHONE: _____

POLLUTER ACCEPTS FINANCIAL RESPONSIBILITY? ☒ YES ☐ NO

CLEAN-UP ACTIONS BEING TAKEN: VS CG notified

DATE OF NOTIFICATION: _____ TIME OF NOTIFICATION: _____

AGENCIES NOTIFIED: ☐ EPA-LEXINGTON ☒ U.S. COAST GUARD ☐ LOCAL FIRE MARSHAL ☒ LOCAL FIRE ☐ LOCAL POLICE ☐ OTHER _____ ☐ DEP _____

DISCHARGE CLASS	CAUSE OF INCIDENT		
2 ☐ MARINE TERMINAL	2 ☐ HOSE FAILURE	12 ☐ VALVE FAILURE	21 ☐ PUMPING BILGE
3 ☐ INLAND TERMINAL	3 ☐ TRANSFER LINE FAILURE	13 ☐ FIRE	22 ☐ OPEN HATCH
4 ☐ INDUSTRIAL	4 ☐ INGROUND TANK FAILURE	14 ☐ POWER FAILURE	23 ☐ VANDALISM
5 ☐ TRANSPORTATION	5 ☐ ABOVE GROUND TANK FAILURE	15 ☐ PUMP FAILURE	24 ☐ BLOW BACK
6 ☐ GOVERNMENTAL	6 ☐ SADDLE TANK FAILURE	16 ☐ PUMPING	25 ☐ ROAD OILING/REPAIR
7 ☐ PRIVATE	7 ☐ CARGO TANK FAILURE	17 ☐ DUMPING	26 ☐ M.V. ACCIDENT
8 ☒ VESSEL	8 ☐ FUEL TANK FAILURE	18 ☐ ILLEGAL DISCHARGE	27 ☐ TRANS./CAPACITOR
9 ☐ COMMERCIAL	9 ☐ HULL FRACTURE	19 ☐ SINKING	28 ☐ NATURAL
10 ☐ UTILITY	10 ☐ OVERFILL	20 ☐ SEEPAGE	29 ☐ LEAKING UST REPORT
11 ☐ NATURAL	11 ☐ CONTAINER FAILURE		30 ☐ OTHER _____
12 ☐ OTHER _____			

CORRECTIVE ACTIONS TAKEN:

2 ☐ NONE REQUIRED	9 ☐ EVAPORATED	15 ☐ PUMPED OUT	21 ☐ REMOVED TANK
4 ☐ REMOVED	10 ☐ SANDED	16 ☐ NEUTRALIZED	22 ☐ SOIL REMOVED
5 ☐ CONTAINED/REMOVE	11 ☐ FOAMED	17 ☐ RECOVERY SYSTEM	23 ☐ UST ENFORCEMENT
6 ☐ CONTRACTED	12 ☐ REFERRED	18 ☐ REPAIRED LINE	24 ☒ OTHER Sorbent boom
7 ☐ TEST WELLS	13 ☐ CLEANED	19 ☐ REPAIRED TANK	
8 ☐ DISSIPATED	14 ☐ WASHED DOWN	20 ☒ DISPERSED	

CLEAN-UP CONTRACTOR(S): _____

DID DEP HIRE CLEAN-UP CONTRACTOR(S): ☐ YES ☒ NO DATE: _____

REQUESTED: _____ ARRIVED: _____

RECEIVED BY: 204 ERH INSPECTOR ASSIGNED: 4 4 - (VR)

DATE ASSIGNED: 10/7/93 TIME ASSIGNED: _____

ESTIMATED TIME OF ARRIVAL: _____

STATUS: ☐ OPEN ☒ CLOSED ☐ MONITORED

1. IS THIS A CHEMICAL RELEASE AND WAS NOT REPORTED BY 911 EMERGENCY RESPONSE SYSTEM, DOES THIS RELEASE REQUIRE A NOTIFICATION BE SENT PER PUBLIC ACT 90-276? ☐ YES ☐ NO 2. STATUS OF NOTIFICATION ☐ SENT
3. IS THIS AN 1136 CASE? ☐ YES 4. 1136 CASE NO. _____
5. IS THIS A FEDERAL 311K CASE? ☐ YES ☐ NO 6. PIN _____
7. HAS THE COST RECOVERY EXPENDITURE SUMMARY BEEN INITIATED? ☐ YES ☐ NO 8. INCIDENT CODE _____

PROPERTY OWNER: ☐ STATE ☐ MUNICIPAL ☐ CORPORATION ☐ PRIVATE ☐ FEDERAL

_____

_____

_____

PROPERTY OWNER: ☐ STATE ☐ MUNICIPAL ☐ CORPORATION ☐ PRIVATE ☐ FEDERAL

_____

_____

_____

PHONE NUMBER: _____

POLLUTER: ☐ TRUCK ☐ TRAILER ☐ VESSEL ☐ OPERATOR _____

OWNER NAME AND ADDRESS: _____

_____

CONTACT: _____ TELEPHONE _____

VEHICLE/VESSEL IDENTIFICATION: MAKE: _____

REGISTRATION # _____ MODEL: _____

ADDITIONAL INFORMATION: _____

_____

_____

HAS THIS REPORT BEEN UPDATED WITH THE INSPECTOR'S REPORT ☐ YES ☐ NO DATE: _____

UST Site ID Number	Site Name	Site Address	Site City	Site Zip	Tank No.	Status of Tank
59-926	Groton Oil Co. Inc.	53 THAMES ST	GROTON	06340	A1	Permanently Closed
59-926	Groton Oil Co. Inc.	53 THAMES ST	GROTON	06340	C1R1	Permanently Closed
59-926	Groton Oil Co. Inc.	53 THAMES ST	GROTON	06340	C1	Permanently Closed
59-926	Groton Oil Co. Inc.	53 THAMES ST	GROTON	06340	B1R1	Permanently Closed
59-926	Groton Oil Co. Inc.	53 THAMES ST	GROTON	06340	A1R1	Permanently Closed
59-926	Groton Oil Co. Inc.	53 THAMES ST	GROTON	06340	B1	Permanently Closed

Construction Type - Piping	Piping Details	Installation Date
Other (Specify)		09/01/1963
Epoxy Coated Steel	Cathodically Protected,Containment S	07/01/1989
Other (Specify)		09/01/1963
Epoxy Coated Steel	Cathodically Protected,Containment S	07/01/1989
Epoxy Coated Steel	Cathodically Protected,Containment S	07/01/1989
Other (Specify)		09/01/1963

Spill Protection	Overfill Protection	Tank Latitude
		41.360903
Spill Bucket	Ball Float Device	41.360903
		41.360903
Spill Bucket	Ball Float Device	41.360903
Spill Bucket	Ball Float Device	41.360903
		41.360903

Tank Longitude	Tank Collection Method	Tank Reference Point Type
-72.08398	Address Matching	Approximate Location
-72.08398	Address Matching	Approximate Location
-72.08398	Address Matching	Approximate Location
-72.08398	Address Matching	Approximate Location
-72.08398	Address Matching	Approximate Location
-72.08398	Address Matching	Approximate Location

UST Site Latitude	UST Site Longitude	Site Collection Method
41.360903	-72.08398	Address Matching
41.360903	-72.08398	Address Matching
41.360903	-72.08398	Address Matching
41.360903	-72.08398	Address Matching
41.360903	-72.08398	Address Matching
41.360903	-72.08398	Address Matching

Site Reference Point Type
Approximate Location
Approximate Location
Approximate Location
Approximate Location
Approximate Location
Approximate Location