Proactive by Design

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

530 Broadway
Providence, RI 02909
401.421.4140
www.gza.com

August 24, 2015
GZA File No. 04.00029607.00-C

Mr. Joseph Martella
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908

Mr. James Ball
Rhode Island Department of Environmental Management
Office of Emergency Response
235 Promenade Street
Providence, RI 02908-5767

Re: Release Notification
Former Tidewater Manufactured Gas Plant (MGP)
Case Number 95-002
200 Taft Street
Pawtucket, Rhode Island

Dear Messer's Martella and Ball:

On behalf of our Client, The Narragansett Electric Company d/b/a National Grid (National Grid), GZA GeoEnvironmental, Inc. (GZA), is providing this written notice of a release that occurred at the former Tidewater Facility in Pawtucket, Rhode Island (Site) in accordance with the Rhode Island Department of Environmental Management (RIDEM) *Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (Remediation Regulations)*, Section 5. The RIDEM Hazardous Material Release Notification Form has been completed and is attached to this letter. The Site was the location of the former Tidewater Manufactured Gas Plant (MGP) and the Pawtucket No. 1 Power Station. The Site is being investigated and remediated in accordance with RIDEM's Remediation Regulations and is listed as RIDEM Case No 95-022. The majority of the Site is currently vacant with the exception of an active natural gas regulating station, and active switching and electrical substations, both owned and operated by National Grid. A site plan is attached to this letter. Demolition activities were recently completed at the Site and consisted of the demolition and decommissioning of three buildings formerly associated with the MGP: the former machine shop; the former purifier house; and the former meter room building. TFord Company, Inc. (TFCI) is performed the demolition activities at the Site on behalf of National Grid.

On August 12, 2015 at approximately 1:00 PM, a 50 cubic yard trailer truck, owned and operated by Case Snow Management, Inc. of Attleboro Falls, Massachusetts was on-Site delivering clean processed gravel for use as backfill during the demolition project. A hydraulic line on the truck suddenly failed and approximately 45 gallons of hydraulic fluid was released to recently-placed process gravel surface soils and a stockpile of processed gravel. The processed gravel was tested prior to delivery to the Site and classified as clean imported fill. Laboratory certificates are attached to this letter (1507089).

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TFCI responded to this release by containerizing as much hydraulic fluid as possible, utilizing absorbent pads to contain residual hydraulic fluid. The extent of impacted materials was based on visual observations was determined to be approximately 1,650 square feet. TFCI removed approximately 3 inches of TPH-impacted soil over the release area on August 12th, 2015. TFCI stockpiled the hydraulic fluid-impacted soils on polyethylene sheeting and securely covered the stockpile with polyethylene sheeting.

On August 13th 2015, GZA collected twelve (12) confirmatory soil samples (CS-1 to CS-12), resulting in a frequency of one sample every 138 square feet, at the locations presented on the attached field sketch to confirm the extents of excavation performed by TFCI. In accordance with the 2012 RIDEM Guidelines for Expedited Excavation and Disposal Response Actions, eight (8) sidewall samples and four (4) bottom samples were collected. Each soil sample was collected from the recently placed imported processed gravel. The surface soil samples were collected using a shovel from the upper two inches of soil (0-2 inches). The shovel was decontaminated between each sampling location using a mixture of deionized (DI) water and Alconox, followed by a rinsing with clean deionized water. Samples were submitted to ESS Laboratory in Cranston, Rhode Island for analysis of total petroleum hydrocarbons (TPH) via EPA Method 8100M. TPH was detected below the RIDEM R-DEC concentration of 500 mg/kg in 9 of the 12 samples. However, TPH was detected at concentrations ranging from 697 to 3,220 mg/kg in samples CS-4, CS-9, and CS-10 which exceed the RIDEM R-DEC of 500 mg/kg.

Based on these initial testing results, TFCI removed an additional 4 inches of TPH-impacted materials in the vicinity of CS-4, CS-9 and CS-10 (estimated to be a total of 300 square feet) on August 17, 2015. GZA collected an additional three confirmatory samples in this area on August 17, 2015. Samples were submitted to ESS Laboratory for analysis of TPH via EPA Method 8100M. TPH was not detected in any of the samples. The laboratory data report (1508451) with these results is attached to this letter.

TFCI backfilled the excavation on August 20th, 2015 with analytically tested clean processed gravel from Lorusso Corporation in Plainville, Massachusetts.

The stockpile of excavated material was sampled on August 18th, 2015 for waste characterization purposes. The sample was submitted to Rhode Island Analytical Laboratory of Warwick, Rhode Island for analysis of TPH via EPA Method 8100M, volatile organic compounds (VOCs) via EPA method 8260B and RCRA-8 metals via EPA Methods 6010C and 7471B. The laboratory data report (17480) with these results is attached to this letter.

On August 24th, 2015, 27.26 tons of excavated soil was transported to ESMI Companies in Louden, New Hampshire for recycling via thermal treatment. A Bill of Lading documenting transportation to ESMI is attached to this letter.

Based upon the removal and disposal of impacted soils and the receipt of confirmatory analytical laboratory results from the excavation area, we consider this response action to be closed.

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Should you have any questions or require additional information, please do not hesitate to contact Stephen Raymond at (603) 232-8749 or Michele Leone at (401) 784-7337. Thank you for your attention to this matter.

Very truly yours,

GZA GeoEnvironmental, Inc.

Stephen Raymond
Associate Principal

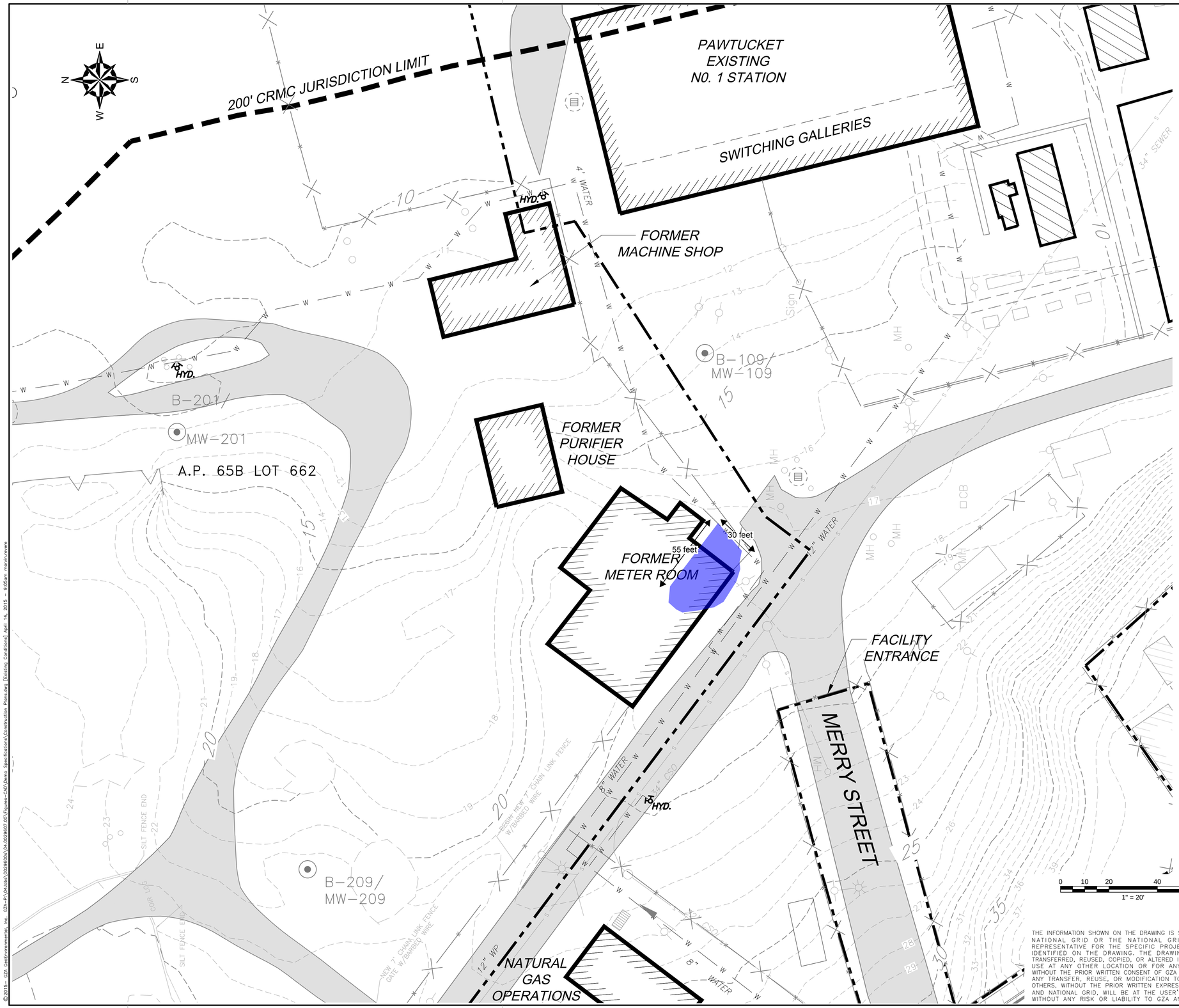
James J. Clark, P.E.
Senior Principal

Attachments: Site Plan
Confirmatory Sampling Field Sketch
Photos
Hazardous Material Release Notification Form
Imported Clean Fill Analytical Data - 1507089
8-13-15 Confirmatory Sampling Laboratory Report – 1508330
8-17-15 Confirmatory Sampling Laboratory Report – 1508451
8-18-15 Disposal Sampling Laboratory Report – 17480
Bill of Lading

cc: Michele Leone, National Grid
William Howard, National Grid

\\GZAMAN1\Jobs\04Jobs\0029600s\04.0029607.00\Work\Hydraulic Fluid Release Notification\29607 Release Notification Cover Letter 8-24-15 Final.docx

SITE PLAN



LEGEND:

- EXISTING BUILDINGS ON-SITE
- EXISTING FOUNDATION/PAD ON-SITE
- EXISTING BUILDINGS/STRUCTURES OFF-SITE
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- PROPERTY LINE
- APPROX. 200-FT. CRMC JURISDICTION LIMIT
- EXISTING NBC INTERCEPTOR SANITARY SEWER
- EXISTING CITY OF PAWTUCKET STORM DRAIN
- EXISTING WATER LINE
- EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
- EXISTING UNDERGROUND ELECTRIC CABLE IN CONDUIT
- EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
- EXISTING ACCESS ROAD
- EXISTING RETAINING WALLS
- EXISTING FENCE
- EXISTING HYDRANT
- EXISTING CATCH BASIN LOCATION
- B-109/ MW-109 MONITORING WELL LOCATION
- MW-3 MONITORING WELL LOCATION
- M&E MW-1 MONITORING WELL LOCATION
- MW-320 S/D MONITORING WELL LOCATION

Area of 8/12/15 Hydraulic Fluid Spill (Approximately 1,650 SF)

GENERAL NOTES:

1. EXISTING CONDITIONS BASE MAP DEVELOPED FROM THE FOLLOWING:
   - ELECTRONIC FILES FROM GEI CONSULTANTS, INC. (FORMERLY AES) ENTITLED "HISTORIC STRUCTURES AND SAMPLE LOCATIONS", ORIGINAL SCALE 1"=80', DATED JULY 1999
   - ELECTRONIC FILES FROM VANASSE HANGEN BRUSTLIN, INC. ENTITLED "SOIL BORING, TEST PIT AND MONITOR WELL LOCATIONS", SCALE: 1"=60', UNDATED
   - ELECTRONIC FILES FROM WELSH ASSOCIATES LAND SURVEYORS, INC. ENTITLED "TOPOGRAPHIC SURVEY (AS-BUILT), FORMER TIDEWATER FACILITY, DEMOLITION OF GAS HOLDERS NOS. 7 & 8", DATED DECEMBER 17, 2010
   - ON-SITE INVESTIGATIONS AND SURVEYS BY GZA PERSONNEL DURING VARIOUS SITE VISITS DURING 2009, 2010, 2011 AND 2012.
2. PROPERTY LINES AND LOT INFORMATION ESTABLISHED FROM INFORMATION PROVIDED ON A DRAWING ENTITLED "PERIMETER SURVEY OF LAND AT THE TIDEWATER FORMER MGP SITE IN PAWTUCKET, RHODE ISLAND FOR ATLANTIC ENVIRONMENTAL SERVICES INC." DEVELOPED BY LOUIS FEDERICI AND ASSOCIATES AND AN AUTO CAD FILE ENTITLED "MAX READ FIELD TRACK EXPANSION 2007" PROVIDED BY THE CITY OF PAWTUCKET.
3. HORIZONTAL DATUM IS BASED ON NAD 1983 FROM BASE MAPPING PROVIDED BY GEI CONSULTANTS, INC.
4. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL) FROM BASE MAPPING PROVIDED BY GEI CONSULTANTS, INC.
5. REFERENCE SEWER DATA FROM SCANNED IMAGE PROVIDED BY THE CITY OF PAWTUCKET, RHODE ISLAND, ENTITLED "STUDY OF SEWERAGE FACILITIES" BY WATERMAN ENGINEERING CO. & ANDERSON NICHOLS CO. DATED NOV. 1975, ORIGINAL SCALE 1"=400' & SCANNED IMAGES OF HISTORIC PLAN & PROFILE DRAWINGS PROVIDED BY THE CITY OF PAWTUCKET, RHODE ISLAND.
6. SITE UTILITIES TAKEN FROM 1984 SANBORN MAP AND HISTORIC FIGURES PROVIDED BY NATIONAL GRID. ALL UTILITY LOCATIONS ARE APPROXIMATE AND SHOWN FOR REFERENCE ONLY.

NO.	ISSUE/DESCRIPTION	BY	DATE

FORMER TIDEWATER MGP FACILITY

200 TAFT STREET
PAWTUCKET, RHODE ISLAND

EXISTING CONDITIONS PLAN
FORMER GAS OPERATIONS BUILDINGS

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
5 COMMERCE PARK NORTH, SUITE 201
BEDFORD, NEW HAMPSHIRE 03110
(603) 232-8752

PREPARED FOR:
NATIONAL GRID

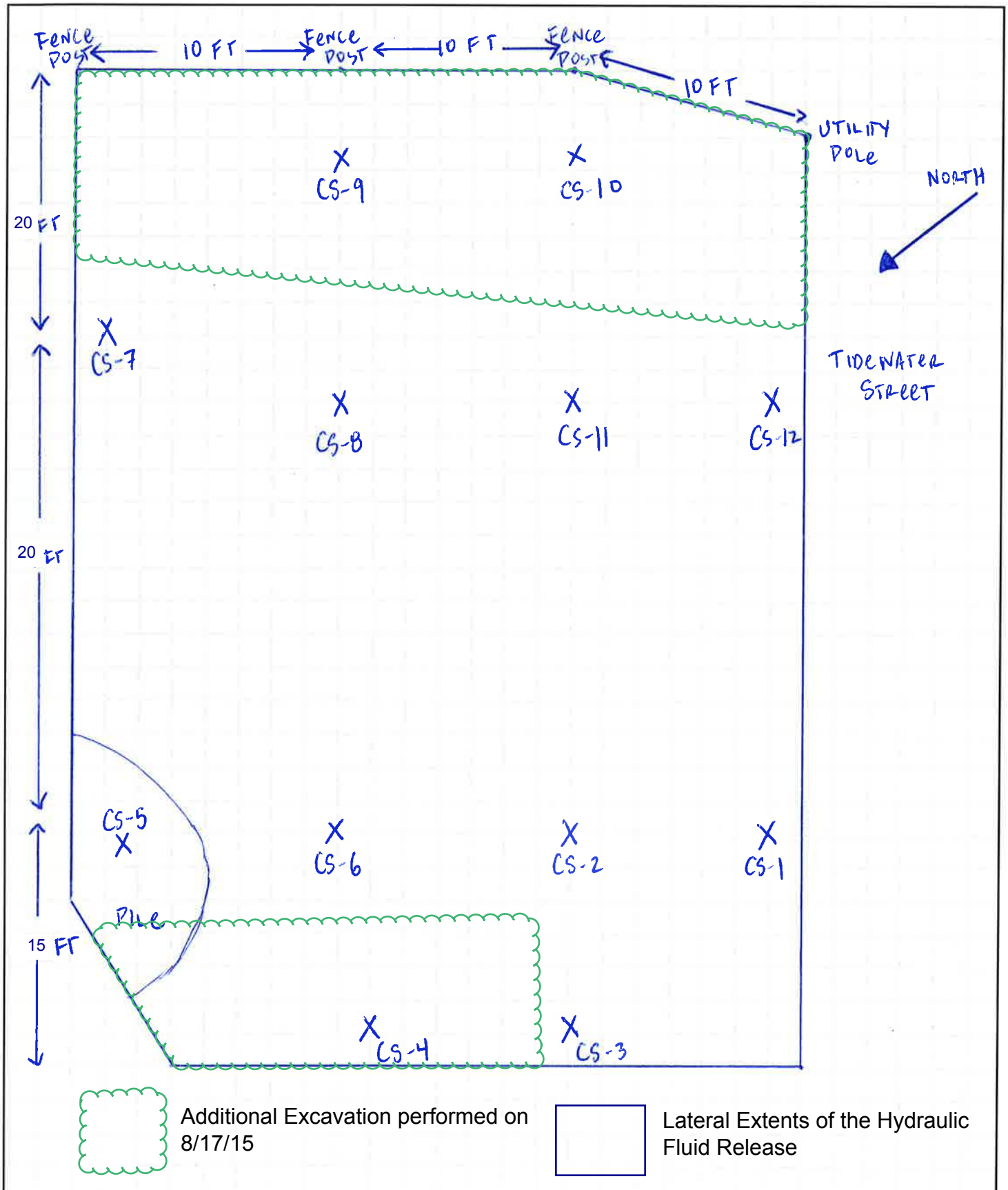
PROJ MGR: SMR	REVIEWED BY: SMR	CHECKED BY: JJC	FIGURE 1
DESIGNED BY: SDN	DRAWN BY: MR	SCALE: 1" = 20"	
DATE: APRIL 2015	PROJECT NO. 04.0029607.00	REVISION NO.	SHEET NO. 1 OF 5

CONFIRMATORY SAMPLING FIELD SKETCH

GZA
GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909
(401) 421-4140
Fax (401) 751-8613
http://www.gza.com

Engineers and Scientists

JOB 04.0002960 7.00
SHEET NO. 2 OF 2
CALCULATED BY SDN DATE 8/13/15
CHECKED BY - DATE -
SCALE NOT TO SCALE



PHOTOS

PHOTOGRAPHS – HYDRAULIC FLUID RELEASE NOTIFICATION

National Grid
Former Tidewater Facility
Pawtucket, Rhode Island

PHOTOGRAPH 1 – Pre-Demolition Activities.

PHOTOGRAPH 2 – Looking east, position of truck directly after hydraulic fluid spill

PHOTOGRAPH 3 – Looking east, hydraulic fluid on pavement

PHOTOGRAPH 4 – Looking southeast, area of hydraulic fluid release

PHOTOGRAPHS – HYDRAULIC FLUID RELEASE NOTIFICATION

National Grid
Former Tidewater Facility
Providence, Rhode Island

PHOTOGRAPH 5 – Looking southeast, Beginning hydraulic fluid impacted soil excavation activities

PHOTOGRAPH 6 – Looking southwest, after hydraulic fluid excavation clean-up

PHOTOGRAPH 7 – Final grading looking east

PHOTOGRAPH 8 – Final grading looking west

HAZARDOUS MATERIAL RELEASE NOTIFICATION FORM

OFFICE OF WASTE MANAGEMENT
SITE REMEDIATION SECTION
HAZARDOUS MATERIAL RELEASE NOTIFICATION FORM
THIS FORM IS NOT TO BE USED TO REPORT AN IMMINENT HAZARD

1. Notifier Information

Name: The Narragansett Electric Company d/b/a National Grid (National Grid)

Contact: Michele Leone, National Grid, Director

Rhode Island Strategy and Performance Management

Address: 280 Melrose Street, Providence, RI 02907

Phone: 401-784-7337

Status: Owner

2. Property Information

Name of Site: Former Tidewater Facility

Site Address: 200 Taft Street, Pawtucket, Rhode Island

Plat/Lot Numbers: Assessors Plat (A.P.) 54B Lot 826, A.P. 65B Lots 662, 645, 647, 649 and portions of 648 and portions of A.P. 67B Lot 11

Approximate Site Acreage: 23 acres

Latitude/Longitude: 41.868067, -71.382128

Site Remediation File Number: Case No 95-002

Site Contact Person: Michele Leone

Site Contact Phone: 401-784-7337

Site Land Usage Type: Industrial/Commercial (property is secure with a perimeter fence and locking gates)

Location of Release: See Attached Plan

3. Release Information

Date of Discovery: August 12, 2015

Source: Hydraulic fluid from a 50 cubic yard trailer truck

Release Media: Analytically tested, clean imported soil stockpile (see attached laboratory certificate)

Hazardous Materials and Concentrations: Hydraulic fluid (total petroleum hydrocarbons (TPH))

Extent of Contamination: Hydraulic fluid was released onto analytically tested clean imported soils that were recently placed and stockpiled on-site for subsequent reuse as backfill for a building demolition project

Approximate acreage of Contaminated Site: 1,650 SF (<1/16 acre) (Approximate extents are shown on the attached plan)

4. Resource Information

Site Land Usage: Industrial/Commercial

Adjacent Land Usage: Industrial/Commercial, Public Park and Residential

Site Groundwater Class: GB Adjacent Groundwater Class: GB

Nearest Surface Water or Wetland: Seekonk River is located approximately 360 feet from the release area

Potential for Adverse Impact: No

5. Potentially Responsible Parties:

Name: Case Snow Management, Inc.

Address: R John L Dietsch Square, Attleboro Falls, MA 02763

Status: Transporter

6. Measures Taken or Proposed to be Taken in Response to Release:

A demolition project (razing of three structures) was completed at the Site. TFord Company, Inc. (TFCI) was the demolition contractor working for National Grid. A 50 cubic yard trailer truck, owned and operated by Case Snow Management, Inc., was on Site delivering analytically tested clean processed gravel for use as backfill during the project. One of the trailer truck's hydraulic lines suddenly failed and approximately 45 gallons of hydraulic fluid was released to the recently placed surface soil (approximately 12 inches of processed gravel) and stockpiled soil for subsequent reuse as backfill. TFCI responded to this release by containerizing as much hydraulic fluid as possible, utilizing absorbent pads to contain residual hydraulic fluid. The extent of impacted materials based on visual observations was determined to be approximately 1,650 square feet. TFCI removed approximately 3 inches of TPH-impacted soil over the release area on August 12th, 2015. TFCI stockpiled the hydraulic fluid-impacted soils on polyethylene sheeting and securely covered the stockpile with polyethylene sheeting. On August 13th, 2015, GZA collected twelve soil samples (approximately one sample for every 138 square feet of release area) to confirm that all hydraulic fluid impacted materials were removed. TPH was detected below the RIDEM R-DEC concentration of 500 mg/kg in 9 of the 12 samples. However, TPH was detected at concentrations ranging from 697 to 3,220 mg/kg in samples CS-4, CS-9, and CS-10 which exceed the RIDEM R-DEC of 500 mg/kg. Based on these initial testing results, TFCI removed an additional 4 inches of TPH-impacted materials in the vicinity of CS-4, CS-9 and CS-10 (estimated to be a total of 300 square feet) on August 17, 2015. GZA collected an additional three confirmatory samples in this area on August 17, 2015. TPH was not detected in any of the samples. TFCI subsequently backfilled the excavation area on August 20th, 2015 with analytically tested clean processed gravel from Lorusso Corporation in Plainville, MA. On August

24th, 2015, approximately 20 tons of material impacted by the hydraulic fluid were transported to ESMI Companies in Louden, New Hampshire for recycling via thermal treatment.

7. Other Significant Remarks About Release (Will a background determination be made?)

The Site is being investigated and remediated in accordance with RIDEM's Remediation Regulations and is listed as RIDEM Case No 95-022.

Signature: Michele D. Keane Date: 08/24/2015

Title: National Grid, Director,

Rhode Island Strategy and Performance Management

IMPORTED CLEAN FILL ANALYTICAL DATA – 1507089

CERTIFICATE OF ANALYSIS

Dan Galante
T Ford Company, Inc.
118 Tenney Street
Georgetown, MA 01833

RE: Tidewater Hid 7 and 8 Demo (1532)
ESS Laboratory Work Order Number: 1507089

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 12:44 pm, Jul 10, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

SAMPLE RECEIPT

The following samples were received on July 07, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on July 7, 2015 at 13:57.

The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.

Lab Number	Sample Name	Matrix	Analysis
1507089-01	Lorasso	Soil	6010C, 7010, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo ESS Laboratory Work Order: 1507089

PROJECT NARRATIVE

8100M Total Petroleum Hydrocarbons

CYG0077-CCV6 **Continuing Calibration recovery is below lower control limit (C-).**
Triacontane (C30) (75% @ 80-120%)

8270D Semi-Volatile Organic Compounds

CYG0060-CCV1 **Calibration required quadratic regression (Q).**
N-Nitrosodimethylamine (81% @ 80-120%)

CYG0060-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2,4-Dinitrotoluene (123% @ 80-120%), 2-Nitrophenol (121% @ 80-120%), Hexachlorobutadiene (122% @ 80-120%)

CYG0060-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
Benzoic Acid (56% @ 80-120%)

CYG0060-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
2-Nitroaniline , 3,3´-Dichlorobenzidine , 4-Chloroaniline , Hexachlorocyclopentadiene , N-Nitrosodimethylamine , Pyridine

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.26)		7010		5	KJK	07/09/15 20:43	2.24	100	CG50807
Arsenic	**6.42** (2.52)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Beryllium	**1.02** (0.11)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Cadmium	ND (0.50)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Chromium	**16.6** (1.01)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Copper	**17.1** (2.52)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Lead	**12.3** (5.04)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Mercury	ND (0.025)		7471B		1	RLA	07/08/15 18:28	0.89	40	CG50808
Nickel	**18.1** (2.52)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Selenium	ND (5.04)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Silver	ND (0.50)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807
Thallium	ND (1.26)		7010		5	KJK	07/08/15 21:15	2.24	100	CG50807
Zinc	**44.8** (2.52)		6010C		1	KJK	07/08/15 18:19	2.24	100	CG50807

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 7.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1,4-Dioxane	ND (0.0762)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
1-Chlorohexane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
2-Butanone	ND (0.0381)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
2-Chlorotoluene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
2-Hexanone	ND (0.0381)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
4-Chlorotoluene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
4-Methyl-2-Pentanone	ND (0.0381)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Acetone	ND (0.0381)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Benzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Bromobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 7.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Bromodichloromethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Bromoform	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Bromomethane	ND (0.0076)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Carbon Disulfide	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Chlorobenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Chloroethane	ND (0.0076)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Chloroform	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Chloromethane	ND (0.0076)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Dibromochloromethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Dibromomethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Dichlorodifluoromethane	ND (0.0076)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Diethyl Ether	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Di-isopropyl ether	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Ethylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Isopropylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Methylene Chloride	ND (0.0191)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Naphthalene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
n-Butylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
n-Propylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
sec-Butylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Styrene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
tert-Butylbenzene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Tetrachloroethene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Tetrahydrofuran	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 7.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Trichloroethene	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Vinyl Acetate	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Vinyl Chloride	ND (0.0076)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Xylene O	ND (0.0038)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Xylene P,M	ND (0.0076)		8260B Low		1	07/07/15 19:27	CYG0053	CG50729
Xylenes (Total)	ND (0.0076)		8260B Low		1	07/07/15 19:27		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*128 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*112 %*		*70-130*
Surrogate: Toluene-d8	*96 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 7/7/15 16:45

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
4,4´-DDE	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
4,4´-DDT	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Aldrin	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
alpha-BHC	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
alpha-Chlordane	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
beta-BHC	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Chlordane (Total)	ND (0.0351)		8081B		1	07/07/15 23:48	CYG0063	CG50738
delta-BHC	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Dieldrin	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Endosulfan I	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Endosulfan II	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Endosulfan Sulfate	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Endrin	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Endrin Aldehyde	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Endrin Ketone	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
gamma-BHC (Lindane)	ND (0.0018)		8081B		1	07/07/15 23:48	CYG0063	CG50738
gamma-Chlordane	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Heptachlor	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Heptachlor Epoxide	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Hexachlorobenzene	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Methoxychlor	ND (0.0029)		8081B		1	07/07/15 23:48	CYG0063	CG50738
Toxaphene	ND (0.146)		8081B		1	07/07/15 23:48	CYG0063	CG50738

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 7/7/15 18:23

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1221	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1232	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1242	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1248	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1254	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1260	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1262	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708
Aroclor 1268	ND (0.0588)		8082A		1	07/08/15 13:13		CG50708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 20.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 7/7/15 15:05

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (40.9)		8100M		1	07/08/15 2:42	CYG0077	CG50712

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/7/15 15:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
1,2,4-Trichlorobenzene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
1,2-Dichlorobenzene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
1,3-Dichlorobenzene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
1,4-Dichlorobenzene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,3,4,6-Tetrachlorophenol	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,4,5-Trichlorophenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,4,6-Trichlorophenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,4-Dichlorophenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,4-Dimethylphenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,4-Dinitrophenol	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,4-Dinitrotoluene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2,6-Dinitrotoluene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2-Chloronaphthalene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2-Chlorophenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2-Methylnaphthalene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2-Methylphenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2-Nitroaniline	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
2-Nitrophenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
3,3´-Dichlorobenzidine	ND (0.773)		8270D		1	07/07/15 19:06	CYG0060	CG50713
3+4-Methylphenol	ND (0.773)		8270D		1	07/07/15 19:06	CYG0060	CG50713
3-Nitroaniline	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4,6-Dinitro-2-Methylphenol	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4-Bromophenyl-phenylether	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4-Chloro-3-Methylphenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4-Chloroaniline	ND (0.773)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4-Chloro-phenyl-phenyl ether	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4-Nitroaniline	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
4-Nitrophenol	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Acenaphthene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Acenaphthylene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Acetophenone	ND (0.773)		8270D		1	07/07/15 19:06	CYG0060	CG50713

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/7/15 15:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aniline	ND (0.773)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Anthracene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Azobenzene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzo(a)anthracene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzo(a)pyrene	ND (0.194)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzo(b)fluoranthene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzo(g,h,i)perylene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzo(k)fluoranthene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzoic Acid	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Benzyl Alcohol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
bis(2-Chloroethoxy)methane	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
bis(2-Chloroethyl)ether	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
bis(2-chloroisopropyl)Ether	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
bis(2-Ethylhexyl)phthalate	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Butylbenzylphthalate	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Carbazole	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Chrysene	ND (0.194)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Dibenzo(a,h)Anthracene	ND (0.194)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Dibenzofuran	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Diethylphthalate	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Dimethylphthalate	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Di-n-butylphthalate	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Di-n-octylphthalate	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Fluoranthene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Fluorene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Hexachlorobenzene	ND (0.194)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Hexachlorobutadiene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Hexachlorocyclopentadiene	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Hexachloroethane	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Indeno(1,2,3-cd)Pyrene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Isophorone	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Naphthalene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo
Client Sample ID: Lorasso
Date Sampled: 07/07/15 10:00
Percent Solids: 89
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1507089
ESS Laboratory Sample ID: 1507089-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/7/15 15:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Nitrobenzene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
N-Nitrosodimethylamine	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
N-Nitroso-Di-n-Propylamine	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
N-nitrosodiphenylamine	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Pentachlorophenol	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Phenanthrene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Phenol	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Pyrene	ND (0.386)		8270D		1	07/07/15 19:06	CYG0060	CG50713
Pyridine	ND (1.94)		8270D		1	07/07/15 19:06	CYG0060	CG50713

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*67 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*79 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*65 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: 2-Fluorophenol	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*65 %*		*30-130*
Surrogate: Phenol-d6	*62 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CG50807 - 3050B										
Blank										
Antimony	ND	0.25	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Copper	ND	2.50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.25	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	72.4	18.9	mg/kg wet	49.70		146	24-282			
Arsenic	129	9.43	mg/kg wet	133.0		97	80-120			
Beryllium	89.2	0.42	mg/kg wet	95.80		93	80-120			
Cadmium	107	1.89	mg/kg wet	123.0		87	80-120			
Chromium	58.2	3.77	mg/kg wet	63.20		92	80-120			
Copper	204	9.43	mg/kg wet	211.0		96	80-120			
Lead	106	18.9	mg/kg wet	108.0		98	80-120			
Nickel	271	9.43	mg/kg wet	285.0		95	80-120			
Selenium	73.6	18.9	mg/kg wet	81.40		90	80-120			
Silver	72.1	1.89	mg/kg wet	74.80		96	80-120			
Thallium	47.1	18.9	mg/kg wet	50.10		94	80-120			
Zinc	197	9.43	mg/kg wet	203.0		97	80-120			
LCS Dup										
Antimony	77.3	20.0	mg/kg wet	49.70		156	24-282	6	20	
Arsenic	129	10.0	mg/kg wet	133.0		97	80-120	0.03	20	
Beryllium	90.0	0.44	mg/kg wet	95.80		94	80-120	0.9	20	
Cadmium	108	2.00	mg/kg wet	123.0		88	80-120	2	20	
Chromium	58.9	4.00	mg/kg wet	63.20		93	80-120	1	20	
Copper	196	10.0	mg/kg wet	211.0		93	80-120	4	20	
Lead	102	20.0	mg/kg wet	108.0		95	80-120	3	20	
Nickel	276	10.0	mg/kg wet	285.0		97	80-120	2	20	
Selenium	71.8	20.0	mg/kg wet	81.40		88	80-120	2	20	
Silver	73.3	2.00	mg/kg wet	74.80		98	80-120	2	20	
Thallium	47.9	20.0	mg/kg wet	50.10		96	80-120	2	20	
Zinc	184	10.0	mg/kg wet	203.0		91	80-120	6	20	
Batch CG50808 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	26.0	3.60	mg/kg wet	24.90		105	80-120			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CG50808 - 7471A										
LCS Dup										
Mercury	25.4	3.81	mg/kg wet	24.90		102	80-120	2	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch CG50729 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CG50729 - 5035										
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0551*		mg/kg wet	*0.05000*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0452*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0530*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
1,1,1-Trichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,2,2-Tetrachloroethane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,1,2-Trichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			

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Client Name: T Ford Company, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CG50729 - 5035										
1,1-Dichloroethene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloropropene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,2,3-Trichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,3-Trichloropropane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,4-Trichlorobenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,4-Trimethylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dibromoethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,2-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloroethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloropropane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,3,5-Trimethylbenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,3-Dichlorobenzene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
1,3-Dichloropropane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,4-Dichlorobenzene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
1,4-Dioxane	0.847	0.100	mg/kg wet	1.000		85	70-130			
1-Chlorohexane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
2,2-Dichloropropane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
2-Butanone	0.241	0.0500	mg/kg wet	0.2500		96	70-130			
2-Chlorotoluene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
2-Hexanone	0.203	0.0500	mg/kg wet	0.2500		81	70-130			
4-Chlorotoluene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
4-Isopropyltoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
4-Methyl-2-Pentanone	0.206	0.0500	mg/kg wet	0.2500		82	70-130			
Acetone	0.278	0.0500	mg/kg wet	0.2500		111	70-130			
Benzene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
Bromobenzene	0.0555	0.0050	mg/kg wet	0.05000		111	70-130			
Bromochloromethane	0.0558	0.0050	mg/kg wet	0.05000		112	70-130			
Bromodichloromethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
Bromoform	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Bromomethane	0.0519	0.0100	mg/kg wet	0.05000		104	70-130			
Carbon Disulfide	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Carbon Tetrachloride	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Chlorobenzene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
Chloroethane	0.0434	0.0100	mg/kg wet	0.05000		87	70-130			
Chloroform	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
Chloromethane	0.0465	0.0100	mg/kg wet	0.05000		93	70-130			
cis-1,2-Dichloroethene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
cis-1,3-Dichloropropene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Dibromochloromethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Dibromomethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Dichlorodifluoromethane	0.0451	0.0100	mg/kg wet	0.05000		90	70-130			
Diethyl Ether	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Di-isopropyl ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Ethyl tertiary-butyl ether	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CG50729 - 5035										
Ethylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Hexachlorobutadiene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Isopropylbenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Methyl tert-Butyl Ether	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Methylene Chloride	0.0510	0.0250	mg/kg wet	0.05000		102	70-130			
Naphthalene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
n-Propylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
sec-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
Styrene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
tert-Butylbenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Tertiary-amyl methyl ether	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Tetrachloroethene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Tetrahydrofuran	0.0354	0.0050	mg/kg wet	0.05000		71	70-130			
Toluene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
trans-1,2-Dichloroethene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
trans-1,3-Dichloropropene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Trichloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Trichlorofluoromethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Vinyl Acetate	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
Vinyl Chloride	0.0496	0.0100	mg/kg wet	0.05000		99	70-130			
Xylene O	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Xylene P,M	0.0995	0.0100	mg/kg wet	0.1000		100	70-130			
Xylenes (Total)	0.147	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0537*		mg/kg wet	*0.05000*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0509*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0568*		mg/kg wet	*0.05000*		*114*	*70-130*			
Surrogate: Toluene-d8	*0.0511*		mg/kg wet	*0.05000*		*102*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	3	25	
1,1,1-Trichloroethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	5	25	
1,1,2,2-Tetrachloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
1,1,2-Trichloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
1,1-Dichloroethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	6	25	
1,1-Dichloroethene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
1,1-Dichloropropene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	4	25	
1,2,3-Trichlorobenzene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	5	25	
1,2,3-Trichloropropane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	4	25	
1,2,4-Trichlorobenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	5	25	
1,2,4-Trimethylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	2	25	
1,2-Dibromo-3-Chloropropane	0.0561	0.0050	mg/kg wet	0.05000		112	70-130	22	25	
1,2-Dibromoethane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	3	25	
1,2-Dichlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	3	25	
1,2-Dichloroethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	5	25	
1,2-Dichloropropane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	7	25	

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CG50729 - 5035										
1,3,5-Trimethylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	0.5	25	
1,3-Dichlorobenzene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	2	25	
1,3-Dichloropropane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
1,4-Dichlorobenzene	0.0565	0.0050	mg/kg wet	0.05000		113	70-130	2	25	
1,4-Dioxane	0.876	0.100	mg/kg wet	1.000		88	70-130	3	20	
1-Chlorohexane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	1	25	
2,2-Dichloropropane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
2-Butanone	0.226	0.0500	mg/kg wet	0.2500		90	70-130	7	25	
2-Chlorotoluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	0.8	25	
2-Hexanone	0.209	0.0500	mg/kg wet	0.2500		83	70-130	3	25	
4-Chlorotoluene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
4-Isopropyltoluene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
4-Methyl-2-Pentanone	0.212	0.0500	mg/kg wet	0.2500		85	70-130	3	25	
Acetone	0.234	0.0500	mg/kg wet	0.2500		93	70-130	17	25	
Benzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
Bromobenzene	0.0572	0.0050	mg/kg wet	0.05000		114	70-130	3	25	
Bromochloromethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	4	25	
Bromodichloromethane	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	4	25	
Bromoform	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	4	25	
Bromomethane	0.0491	0.0100	mg/kg wet	0.05000		98	70-130	6	25	
Carbon Disulfide	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	6	25	
Carbon Tetrachloride	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
Chlorobenzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130	2	25	
Chloroethane	0.0409	0.0100	mg/kg wet	0.05000		82	70-130	6	25	
Chloroform	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
Chloromethane	0.0450	0.0100	mg/kg wet	0.05000		90	70-130	3	25	
cis-1,2-Dichloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	5	25	
cis-1,3-Dichloropropene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	4	25	
Dibromochloromethane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
Dibromomethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	2	25	
Dichlorodifluoromethane	0.0431	0.0100	mg/kg wet	0.05000		86	70-130	5	25	
Diethyl Ether	0.0423	0.0050	mg/kg wet	0.05000		85	70-130	5	25	
Di-isopropyl ether	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	7	25	
Ethyl tertiary-butyl ether	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	5	25	
Ethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	0.8	25	
Hexachlorobutadiene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	4	25	
Isopropylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	0.6	25	
Methyl tert-Butyl Ether	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	0.9	25	
Methylene Chloride	0.0473	0.0250	mg/kg wet	0.05000		95	70-130	8	25	
Naphthalene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	8	25	
n-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.7	25	
n-Propylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.9	25	
sec-Butylbenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Styrene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
tert-Butylbenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CG50729 - 5035										
Tertiary-amyl methyl ether	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	3	25	
Tetrachloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
Tetrahydrofuran	0.0359	0.0050	mg/kg wet	0.05000		72	70-130	1	25	
Toluene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	5	25	
trans-1,2-Dichloroethene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	4	25	
trans-1,3-Dichloropropene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	3	25	
Trichloroethene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	3	25	
Trichlorofluoromethane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	6	25	
Vinyl Acetate	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	1	25	
Vinyl Chloride	0.0462	0.0100	mg/kg wet	0.05000		92	70-130	7	25	
Xylene O	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130	1	25	
Xylenes (Total)	0.150	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0506*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0511*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0545*		mg/kg wet	*0.05000*		*109*	*70-130*			
Surrogate: Toluene-d8	*0.0515*		mg/kg wet	*0.05000*		*103*	*70-130*			
8081B Organochlorine Pesticides										
Batch CG50738 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

8081B Organochlorine Pesticides

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CG50738 - 3546										
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0118*		mg/kg wet	*0.01250*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0123*		mg/kg wet	*0.01250*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0102*		mg/kg wet	*0.01250*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0102*		mg/kg wet	*0.01250*		*82*	*30-150*			
LCS										
4,4´-DDD	0.0112	0.0025	mg/kg wet	0.01250		89	40-140			
4,4´-DDD [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
4,4´-DDE	0.0107	0.0025	mg/kg wet	0.01250		86	40-140			
4,4´-DDE [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
4,4´-DDT	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
4,4´-DDT [2C]	0.0138	0.0025	mg/kg wet	0.01250		110	40-140			
Aldrin	0.0110	0.0025	mg/kg wet	0.01250		88	40-140			
Aldrin [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
alpha-BHC	0.0112	0.0025	mg/kg wet	0.01250		89	40-140			
alpha-BHC [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
alpha-Chlordane	0.0112	0.0025	mg/kg wet	0.01250		90	40-140			
alpha-Chlordane [2C]	0.0114	0.0025	mg/kg wet	0.01250		92	40-140			
beta-BHC	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
beta-BHC [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
delta-BHC	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
delta-BHC [2C]	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
Dieldrin	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

8081B Organochlorine Pesticides

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CG50738 - 3546										
Dieldrin [2C]	0.0115	0.0025	mg/kg wet	0.01250		92	40-140			
Endosulfan I	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
Endosulfan I [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
Endosulfan II	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
Endosulfan II [2C]	0.0118	0.0025	mg/kg wet	0.01250		95	40-140			
Endosulfan Sulfate	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Endosulfan Sulfate [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
Endrin	0.0117	0.0025	mg/kg wet	0.01250		93	40-140			
Endrin [2C]	0.0118	0.0025	mg/kg wet	0.01250		95	40-140			
Endrin Aldehyde	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
Endrin Aldehyde [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140			
Endrin Ketone	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endrin Ketone [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140			
gamma-BHC (Lindane)	0.0114	0.0015	mg/kg wet	0.01250		91	40-140			
gamma-BHC (Lindane) [2C]	0.0116	0.0015	mg/kg wet	0.01250		93	40-140			
gamma-Chlordane	0.0112	0.0025	mg/kg wet	0.01250		90	40-140			
gamma-Chlordane [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			
Heptachlor	0.0115	0.0025	mg/kg wet	0.01250		92	40-140			
Heptachlor [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Heptachlor Epoxide	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
Heptachlor Epoxide [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
Hexachlorobenzene	0.0100	0.0025	mg/kg wet	0.01250		80	40-140			
Hexachlorobenzene [2C]	0.0102	0.0025	mg/kg wet	0.01250		82	40-140			
Methoxychlor	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
Methoxychlor [2C]	0.0133	0.0025	mg/kg wet	0.01250		107	40-140			
Surrogate: Decachlorobiphenyl	*0.0120*		mg/kg wet	*0.01250*		*96*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0102*		mg/kg wet	*0.01250*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
LCS Dup										
4,4´-DDD	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	3	30	
4,4´-DDD [2C]	0.0109	0.0025	mg/kg wet	0.01250		88	40-140	3	30	
4,4´-DDE	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	5	30	
4,4´-DDE [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	5	30	
4,4´-DDT	0.0130	0.0025	mg/kg wet	0.01250		104	40-140	5	30	
4,4´-DDT [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	4	30	
Aldrin	0.0101	0.0025	mg/kg wet	0.01250		81	40-140	8	30	
Aldrin [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	8	30	
alpha-BHC	0.0102	0.0025	mg/kg wet	0.01250		81	40-140	9	30	
alpha-BHC [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	9	30	
alpha-Chlordane	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	6	30	
alpha-Chlordane [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	6	30	
beta-BHC	0.0103	0.0025	mg/kg wet	0.01250		82	40-140	8	30	
beta-BHC [2C]	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	7	30	

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch CG50738 - 3546										
delta-BHC	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	8	30	
delta-BHC [2C]	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	8	30	
Dieldrin	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	5	30	
Dieldrin [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	5	30	
Endosulfan I	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	6	30	
Endosulfan I [2C]	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	6	30	
Endosulfan II	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	2	30	
Endosulfan II [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	2	30	
Endosulfan Sulfate	0.0125	0.0025	mg/kg wet	0.01250		100	40-140	2	30	
Endosulfan Sulfate [2C]	0.0131	0.0025	mg/kg wet	0.01250		104	40-140	1	30	
Endrin	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	4	30	
Endrin [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	5	30	
Endrin Aldehyde	0.0107	0.0025	mg/kg wet	0.01250		85	40-140	4	30	
Endrin Aldehyde [2C]	0.0107	0.0025	mg/kg wet	0.01250		85	40-140	3	30	
Endrin Ketone	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	2	30	
Endrin Ketone [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	1	30	
gamma-BHC (Lindane)	0.0103	0.0015	mg/kg wet	0.01250		82	40-140	10	30	
gamma-BHC (Lindane) [2C]	0.0105	0.0015	mg/kg wet	0.01250		84	40-140	10	30	
gamma-Chlordane	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	6	30	
gamma-Chlordane [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	6	30	
Heptachlor	0.0103	0.0025	mg/kg wet	0.01250		83	40-140	11	30	
Heptachlor [2C]	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	11	30	
Heptachlor Epoxide	0.0101	0.0025	mg/kg wet	0.01250		81	40-140	7	30	
Heptachlor Epoxide [2C]	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	7	30	
Hexachlorobenzene	0.0093	0.0025	mg/kg wet	0.01250		75	40-140	7	30	
Hexachlorobenzene [2C]	0.0095	0.0025	mg/kg wet	0.01250		76	40-140	7	30	
Methoxychlor	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	3	30	
Methoxychlor [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0116*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0118*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00928*		mg/kg wet	*0.01250*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00952*		mg/kg wet	*0.01250*		*76*	*30-150*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CG50708 - 3540C										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CG50708 - 3540C										
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
LCS										
Aroclor 1016	0.423	0.0500	mg/kg wet	0.5000		85	40-140			
Aroclor 1260	0.436	0.0500	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0216*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
LCS Dup										
Aroclor 1016	0.451	0.0500	mg/kg wet	0.5000		90	40-140	6	30	
Aroclor 1260	0.430	0.0500	mg/kg wet	0.5000		86	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch CG50712 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.16*		mg/kg wet	*5.000*		*83*	*40-140*			
LCS										
Decane (C10)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Docosane (C22)	2.4	0.2	mg/kg wet	2.500		95	40-140			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CG50712 - 3546										
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		85	40-140			
Eicosane (C20)	2.4	0.2	mg/kg wet	2.500		94	40-140			
Hexacosane (C26)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Hexadecane (C16)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Nonadecane (C19)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		68	30-140			
Octacosane (C28)	2.4	0.2	mg/kg wet	2.500		94	40-140			
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Total Petroleum Hydrocarbons	31.9	37.5	mg/kg wet	35.00		91	40-140			
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Surrogate: O-Terphenyl	*4.38*		mg/kg wet	*5.000*		*88*	*40-140*			
LCS Dup										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		77	40-140	4	25	
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		90	40-140	5	25	
Dodecane (C12)	2.0	0.2	mg/kg wet	2.500		81	40-140	5	25	
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		90	40-140	5	25	
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		92	40-140	5	25	
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		88	40-140	5	25	
Nonadecane (C19)	2.2	0.2	mg/kg wet	2.500		89	40-140	5	25	
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		66	30-140	3	25	
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		90	40-140	5	25	
Octadecane (C18)	2.2	0.2	mg/kg wet	2.500		89	40-140	5	25	
Tetracosane (C24)	2.1	0.2	mg/kg wet	2.500		85	40-140	5	25	
Tetradecane (C14)	2.1	0.2	mg/kg wet	2.500		84	40-140	5	25	
Total Petroleum Hydrocarbons	30.4	37.5	mg/kg wet	35.00		87	40-140	5	25	
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		91	40-140	5	25	
Surrogate: O-Terphenyl	*4.19*		mg/kg wet	*5.000*		*84*	*40-140*			
8270D Semi-Volatile Organic Compounds										
Batch CG50713 - 3546										
Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CG50713 - 3546										
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
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Quality Control Data

8270D Semi-Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CG50713 - 3546										
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.41*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.14*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.41*		mg/kg wet	*5.000*		*68*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.52*		mg/kg wet	*3.333*		*76*	*30-130*			
Surrogate: 2-Fluorophenol	*3.42*		mg/kg wet	*5.000*		*68*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.22*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: Phenol-d6	*3.33*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.65*		mg/kg wet	*3.333*		*79*	*30-130*			
LCS										
1,1-Biphenyl	2.41	0.333	mg/kg wet	3.333		72	40-140			
1,2,4-Trichlorobenzene	2.32	0.333	mg/kg wet	3.333		69	40-140			
1,2-Dichlorobenzene	2.09	0.333	mg/kg wet	3.333		63	40-140			
1,3-Dichlorobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140			
1,4-Dichlorobenzene	2.08	0.333	mg/kg wet	3.333		63	40-140			
2,3,4,6-Tetrachlorophenol	3.05	1.67	mg/kg wet	3.333		91	30-130			
2,4,5-Trichlorophenol	2.86	0.333	mg/kg wet	3.333		86	30-130			
2,4,6-Trichlorophenol	2.60	0.333	mg/kg wet	3.333		78	30-130			
2,4-Dichlorophenol	2.40	0.333	mg/kg wet	3.333		72	30-130			
2,4-Dimethylphenol	2.44	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dinitrophenol	2.36	1.67	mg/kg wet	3.333		71	30-130			
2,4-Dinitrotoluene	3.16	0.333	mg/kg wet	3.333		95	40-140			
2,6-Dinitrotoluene	2.86	0.333	mg/kg wet	3.333		86	40-140			
2-Chloronaphthalene	2.18	0.333	mg/kg wet	3.333		65	40-140			
2-Chlorophenol	2.21	0.333	mg/kg wet	3.333		66	30-130			
2-Methylnaphthalene	2.11	0.333	mg/kg wet	3.333		63	40-140			
2-Methylphenol	2.10	0.333	mg/kg wet	3.333		63	30-130			
2-Nitroaniline	2.14	0.333	mg/kg wet	3.333		64	40-140			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CG50713 - 3546										
2-Nitrophenol	2.50	0.333	mg/kg wet	3.333		75	30-130			
3,3´-Dichlorobenzidine	2.91	0.667	mg/kg wet	3.333		87	40-140			
3+4-Methylphenol	5.51	0.667	mg/kg wet	6.667		83	30-130			
3-Nitroaniline	2.87	0.333	mg/kg wet	3.333		86	40-140			
4,6-Dinitro-2-Methylphenol	2.94	1.67	mg/kg wet	3.333		88	30-130			
4-Bromophenyl-phenylether	2.63	0.333	mg/kg wet	3.333		79	40-140			
4-Chloro-3-Methylphenol	2.45	0.333	mg/kg wet	3.333		74	30-130			
4-Chloroaniline	2.04	0.667	mg/kg wet	3.333		61	40-140			
4-Chloro-phenyl-phenyl ether	2.59	0.333	mg/kg wet	3.333		78	40-140			
4-Nitroaniline	2.78	0.333	mg/kg wet	3.333		83	40-140			
4-Nitrophenol	2.95	1.67	mg/kg wet	3.333		88	30-130			
Acenaphthene	2.31	0.333	mg/kg wet	3.333		69	40-140			
Acenaphthylene	2.42	0.333	mg/kg wet	3.333		73	40-140			
Acetophenone	2.08	0.667	mg/kg wet	3.333		62	40-140			
Aniline	1.68	0.667	mg/kg wet	3.333		50	40-140			
Anthracene	2.71	0.333	mg/kg wet	3.333		81	40-140			
Azobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140			
Benzo(a)anthracene	2.91	0.333	mg/kg wet	3.333		87	40-140			
Benzo(a)pyrene	2.92	0.167	mg/kg wet	3.333		88	40-140			
Benzo(b)fluoranthene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Benzo(g,h,i)perylene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Benzo(k)fluoranthene	2.90	0.333	mg/kg wet	3.333		87	40-140			
Benzoic Acid	1.48	1.67	mg/kg wet	3.333		44	40-140			
Benzyl Alcohol	2.06	0.333	mg/kg wet	3.333		62	40-140			
bis(2-Chloroethoxy)methane	2.04	0.333	mg/kg wet	3.333		61	40-140			
bis(2-Chloroethyl)ether	1.92	0.333	mg/kg wet	3.333		58	40-140			
bis(2-chloroisopropyl)Ether	2.10	0.333	mg/kg wet	3.333		63	40-140			
bis(2-Ethylhexyl)phthalate	2.55	0.333	mg/kg wet	3.333		77	40-140			
Butylbenzylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140			
Carbazole	2.88	0.333	mg/kg wet	3.333		86	40-140			
Chrysene	2.95	0.167	mg/kg wet	3.333		89	40-140			
Dibenzo(a,h)Anthracene	3.02	0.167	mg/kg wet	3.333		91	40-140			
Dibenzofuran	2.50	0.333	mg/kg wet	3.333		75	40-140			
Diethylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Dimethylphthalate	2.69	0.333	mg/kg wet	3.333		81	40-140			
Di-n-butylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140			
Di-n-octylphthalate	2.57	0.333	mg/kg wet	3.333		77	40-140			
Fluoranthene	3.14	0.333	mg/kg wet	3.333		94	40-140			
Fluorene	2.52	0.333	mg/kg wet	3.333		76	40-140			
Hexachlorobenzene	2.66	0.167	mg/kg wet	3.333		80	40-140			
Hexachlorobutadiene	2.34	0.333	mg/kg wet	3.333		70	40-140			
Hexachlorocyclopentadiene	2.58	1.67	mg/kg wet	3.333		77	40-140			
Hexachloroethane	2.10	0.333	mg/kg wet	3.333		63	40-140			
Indeno(1,2,3-cd)Pyrene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Isophorone	2.10	0.333	mg/kg wet	3.333		63	40-140			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
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ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CG50713 - 3546										
Naphthalene	2.17	0.333	mg/kg wet	3.333		65	40-140			
Nitrobenzene	2.12	0.333	mg/kg wet	3.333		64	40-140			
N-Nitrosodimethylamine	1.98	0.333	mg/kg wet	3.333		59	40-140			
N-Nitroso-Di-n-Propylamine	1.92	0.333	mg/kg wet	3.333		58	40-140			
N-nitrosodiphenylamine	2.54	0.333	mg/kg wet	3.333		76	40-140			
Pentachlorophenol	2.67	1.67	mg/kg wet	3.333		80	30-130			
Phenanthrene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Phenol	2.01	0.333	mg/kg wet	3.333		60	30-130			
Pyrene	2.31	0.333	mg/kg wet	3.333		69	40-140			
Pyridine	1.71	1.67	mg/kg wet	3.333		51	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.25*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.75*		mg/kg wet	*5.000*		*95*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.30*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.48*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2-Fluorophenol	*3.14*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.18*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: Phenol-d6	*3.14*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.71*		mg/kg wet	*3.333*		*81*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.33	0.333	mg/kg wet	3.333		70	40-140	3	30	
1,2,4-Trichlorobenzene	2.25	0.333	mg/kg wet	3.333		68	40-140	3	30	
1,2-Dichlorobenzene	2.09	0.333	mg/kg wet	3.333		63	40-140	0.1	30	
1,3-Dichlorobenzene	2.12	0.333	mg/kg wet	3.333		64	40-140	0.2	30	
1,4-Dichlorobenzene	2.11	0.333	mg/kg wet	3.333		63	40-140	1	30	
2,3,4,6-Tetrachlorophenol	2.94	1.67	mg/kg wet	3.333		88	30-130	4	30	
2,4,5-Trichlorophenol	2.73	0.333	mg/kg wet	3.333		82	30-130	5	30	
2,4,6-Trichlorophenol	2.62	0.333	mg/kg wet	3.333		79	30-130	0.7	30	
2,4-Dichlorophenol	2.33	0.333	mg/kg wet	3.333		70	30-130	3	30	
2,4-Dimethylphenol	2.41	0.333	mg/kg wet	3.333		72	30-130	1	30	
2,4-Dinitrophenol	2.53	1.67	mg/kg wet	3.333		76	30-130	7	30	
2,4-Dinitrotoluene	3.07	0.333	mg/kg wet	3.333		92	40-140	3	30	
2,6-Dinitrotoluene	2.75	0.333	mg/kg wet	3.333		82	40-140	4	30	
2-Chloronaphthalene	2.14	0.333	mg/kg wet	3.333		64	40-140	2	30	
2-Chlorophenol	2.23	0.333	mg/kg wet	3.333		67	30-130	0.9	30	
2-Methylnaphthalene	2.07	0.333	mg/kg wet	3.333		62	40-140	2	30	
2-Methylphenol	2.14	0.333	mg/kg wet	3.333		64	30-130	2	30	
2-Nitroaniline	2.09	0.333	mg/kg wet	3.333		63	40-140	3	30	
2-Nitrophenol	2.42	0.333	mg/kg wet	3.333		73	30-130	3	30	
3,3´-Dichlorobenzidine	2.78	0.667	mg/kg wet	3.333		83	40-140	5	30	
3+4-Methylphenol	5.58	0.667	mg/kg wet	6.667		84	30-130	1	30	
3-Nitroaniline	2.73	0.333	mg/kg wet	3.333		82	40-140	5	30	
4,6-Dinitro-2-Methylphenol	2.95	1.67	mg/kg wet	3.333		88	30-130	0.3	30	
4-Bromophenyl-phenylether	2.61	0.333	mg/kg wet	3.333		78	40-140	0.9	30	
4-Chloro-3-Methylphenol	2.40	0.333	mg/kg wet	3.333		72	30-130	2	30	
4-Chloroaniline	2.08	0.667	mg/kg wet	3.333		63	40-140	2	30	

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CG50713 - 3546										
4-Chloro-phenyl-phenyl ether	2.55	0.333	mg/kg wet	3.333		76	40-140	2	30	
4-Nitroaniline	2.71	0.333	mg/kg wet	3.333		81	40-140	2	30	
4-Nitrophenol	2.93	1.67	mg/kg wet	3.333		88	30-130	0.5	30	
Acenaphthene	2.27	0.333	mg/kg wet	3.333		68	40-140	2	30	
Acenaphthylene	2.38	0.333	mg/kg wet	3.333		71	40-140	2	30	
Acetophenone	2.11	0.667	mg/kg wet	3.333		63	40-140	2	30	
Aniline	1.71	0.667	mg/kg wet	3.333		51	40-140	2	30	
Anthracene	2.63	0.333	mg/kg wet	3.333		79	40-140	3	30	
Azobenzene	2.12	0.333	mg/kg wet	3.333		64	40-140	2	30	
Benzo(a)anthracene	2.80	0.333	mg/kg wet	3.333		84	40-140	4	30	
Benzo(a)pyrene	2.87	0.167	mg/kg wet	3.333		86	40-140	2	30	
Benzo(b)fluoranthene	2.88	0.333	mg/kg wet	3.333		87	40-140	3	30	
Benzo(g,h,i)perylene	2.85	0.333	mg/kg wet	3.333		85	40-140	5	30	
Benzo(k)fluoranthene	2.55	0.333	mg/kg wet	3.333		77	40-140	13	30	
Benzoic Acid	1.53	1.67	mg/kg wet	3.333		46	40-140	4	30	
Benzyl Alcohol	2.10	0.333	mg/kg wet	3.333		63	40-140	2	30	
bis(2-Chloroethoxy)methane	2.01	0.333	mg/kg wet	3.333		60	40-140	2	30	
bis(2-Chloroethyl)ether	1.97	0.333	mg/kg wet	3.333		59	40-140	3	30	
bis(2-chloroisopropyl)Ether	2.17	0.333	mg/kg wet	3.333		65	40-140	4	30	
bis(2-Ethylhexyl)phthalate	2.48	0.333	mg/kg wet	3.333		74	40-140	3	30	
Butylbenzylphthalate	2.49	0.333	mg/kg wet	3.333		75	40-140	3	30	
Carbazole	2.82	0.333	mg/kg wet	3.333		85	40-140	2	30	
Chrysene	2.86	0.167	mg/kg wet	3.333		86	40-140	3	30	
Dibenzo(a,h)Anthracene	2.86	0.167	mg/kg wet	3.333		86	40-140	5	30	
Dibenzofuran	2.45	0.333	mg/kg wet	3.333		74	40-140	2	30	
Diethylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140	4	30	
Dimethylphthalate	2.63	0.333	mg/kg wet	3.333		79	40-140	2	30	
Di-n-butylphthalate	2.74	0.333	mg/kg wet	3.333		82	40-140	2	30	
Di-n-octylphthalate	2.52	0.333	mg/kg wet	3.333		75	40-140	2	30	
Fluoranthene	3.06	0.333	mg/kg wet	3.333		92	40-140	3	30	
Fluorene	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
Hexachlorobenzene	2.65	0.167	mg/kg wet	3.333		79	40-140	0.6	30	
Hexachlorobutadiene	2.34	0.333	mg/kg wet	3.333		70	40-140	0.03	30	
Hexachlorocyclopentadiene	2.51	1.67	mg/kg wet	3.333		75	40-140	2	30	
Hexachloroethane	2.11	0.333	mg/kg wet	3.333		63	40-140	0.6	30	
Indeno(1,2,3-cd)Pyrene	2.89	0.333	mg/kg wet	3.333		87	40-140	5	30	
Isophorone	2.06	0.333	mg/kg wet	3.333		62	40-140	2	30	
Naphthalene	2.12	0.333	mg/kg wet	3.333		64	40-140	3	30	
Nitrobenzene	2.06	0.333	mg/kg wet	3.333		62	40-140	3	30	
N-Nitrosodimethylamine	1.84	0.333	mg/kg wet	3.333		55	40-140	8	30	
N-Nitroso-Di-n-Propylamine	1.83	0.333	mg/kg wet	3.333		55	40-140	5	30	
N-nitrosodiphenylamine	2.49	0.333	mg/kg wet	3.333		75	40-140	2	30	
Pentachlorophenol	2.69	1.67	mg/kg wet	3.333		81	30-130	0.6	30	
Phenanthrene	2.55	0.333	mg/kg wet	3.333		76	40-140	3	30	
Phenol	2.05	0.333	mg/kg wet	3.333		62	30-130	2	30	

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CG50713 - 3546										
Pyrene	2.25	0.333	mg/kg wet	3.333		67	40-140	3	30	
Pyridine	1.62	1.67	mg/kg wet	3.333		49	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.24*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.58*		mg/kg wet	*5.000*		*92*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.22*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.42*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: 2-Fluorophenol	*3.16*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.16*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: Phenol-d6	*3.09*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.53*		mg/kg wet	*3.333*		*76*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo ESS Laboratory Work Order: 1507089

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ICV-	Initial Calibration Verification recovery is below lower control limit (ICV-).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: T Ford Company, Inc.
Client Project ID: Tidewater Hid 7 and 8 Demo

ESS Laboratory Work Order: 1507089

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time ___ Standard Other 48 Hr
If faster than 5 days, prior approval by laboratory is required # ___
State where samples were collected from: (MA) RI CT NH NJ NY ME Other ___
Is this project for any of the following: MA-MCP* Navy USACE Other ___

Reporting Limits: RIDEM Method 1 Res
ESS LAB PROJECT ID: 1507089
Electronic Deliverable ✓ Yes ___ No Format ___

Co. Name	T Ford Company
Project #	1532
Project Name (20 Char. or less)	Tidewater Demo
Contact Person	Dan Galante
Address	124 Tenney St.
City	Georgetown
State	MA
Zip	01833
PO#	1532
Telephone #	978-352-5606
Fax #	978-352-7943
Email Address	dan@tford.com

Circle and/or Write Required Analysis: (8260) 624 524.2; 8021 MTBE/BTEX, 8015 GRO, VPH; (8100 TPH), 8015 DRO, EPH, No Targets; (8081 Pesticides), (8082 PCB), 608 Pesticides, 608 PCB; (8270), 625, PAH only; RCRA5, RCRA8, (PP13), TAL23; TCLP8, MCP, MCPw/Hg, NBC7

ESS LAB Sample#	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Number of Containers	Type of Containers	8260	VPH	8100	8081/8082	8270	PP13
1	7/7/15	10:00		X	S	Lorusso	5	G-2 V-3	X		X	X	X	X

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ✓ Yes ___ No
Seals Intact ___ Yes ___ No NA: ✓
Cooler Temp: 24.3 COLD PACK JL 7/7/15

Internal Use Only
[ ] Pickup
[ ] Technicians DD

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	7/7/15 1:30P	[signature]	7/7/15 13:30				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*MADEP requires that all additional calibrated analytes found during analysis be disclosed.

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

8-13-15 CONFIRMATORY SAMPLING LABORATORY REPORT – 1508330

CERTIFICATE OF ANALYSIS

Stephen Raymond
GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

RE: Tidewater Demo (03.0029607)
ESS Laboratory Work Order Number: 1508330

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:14 pm, Aug 14, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508330

SAMPLE RECEIPT

The following samples were received on August 13, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1508330-01	CS-1	Soil	8100M
1508330-02	CS-2	Soil	8100M
1508330-03	CS-3	Soil	8100M
1508330-04	CS-4	Soil	8100M
1508330-05	CS-5	Soil	8100M
1508330-06	CS-6	Soil	8100M
1508330-07	CS-7	Soil	8100M
1508330-08	CS-8	Soil	8100M
1508330-09	CS-9	Soil	8100M
1508330-10	CS-10	Soil	8100M
1508330-11	CS-11	Soil	8100M
1508330-12	CS-12	Soil	8100M

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508330

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508330

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-1
Date Sampled: 08/13/15 07:20
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**380** (40.7)		8100M		1	08/13/15 14:21	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*89 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-2
Date Sampled: 08/13/15 07:25
Percent Solids: 94
Initial Volume: 19.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**172** (40.3)		8100M		1	08/13/15 14:56	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*102 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-3
Date Sampled: 08/13/15 07:30
Percent Solids: 94
Initial Volume: 20.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (39.7)		8100M		1	08/13/15 15:35	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*101 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-4
Date Sampled: 08/13/15 07:35
Percent Solids: 94
Initial Volume: 19.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**974** (40.9)		8100M		1	08/13/15 16:13	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*61 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-5
Date Sampled: 08/13/15 07:40
Percent Solids: 95
Initial Volume: 19.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (41.0)		8100M		1	08/13/15 16:52	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*97 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-6
Date Sampled: 08/13/15 07:45
Percent Solids: 93
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**90.2** (41.7)		8100M		1	08/13/15 17:32	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*94 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-7
Date Sampled: 08/13/15 07:50
Percent Solids: 93
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**133** (41.5)		8100M		1	08/13/15 18:11	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*96 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-8
Date Sampled: 08/13/15 07:55
Percent Solids: 93
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**236** (40.7)		8100M		1	08/13/15 18:50	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*107 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-9
Date Sampled: 08/13/15 08:00
Percent Solids: 95
Initial Volume: 19.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**697** (40.6)		8100M		1	08/13/15 19:29	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-10
Date Sampled: 08/13/15 08:05
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**3220** (40.9)		8100M		1	08/13/15 20:08	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-11
Date Sampled: 08/13/15 08:10
Percent Solids: 93
Initial Volume: 20.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**45.0** (40.1)		8100M		1	08/13/15 20:47	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*84 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-12
Date Sampled: 08/13/15 08:15
Percent Solids: 95
Initial Volume: 19.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508330
ESS Laboratory Sample ID: 1508330-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/13/15 12:21

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (41.2)		8100M		1	08/13/15 21:26	CYH0129	CH51330

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*95 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508330

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CH51330 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.21*		mg/kg wet	*5.000*		*84*	*40-140*			
LCS										
Decane (C10)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		86	40-140			
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		98	40-140			
Hexadecane (C16)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		100	40-140			
Nonane (C9)	1.9	0.2	mg/kg wet	2.500		74	30-140			
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		94	40-140			
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		98	40-140			
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetradecane (C14)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Total Petroleum Hydrocarbons	33.7	37.5	mg/kg wet	35.00		96	40-140			
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Surrogate: O-Terphenyl	*4.68*		mg/kg wet	*5.000*		*94*	*40-140*			
LCS Dup										
Decane (C10)	2.2	0.2	mg/kg wet	2.500		87	40-140	4	25	
Docosane (C22)	2.6	0.2	mg/kg wet	2.500		102	40-140	3	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		89	40-140	3	25	
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		101	40-140	2	25	
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		102	40-140	4	25	
Hexadecane (C16)	2.5	0.2	mg/kg wet	2.500		99	40-140	2	25	
Nonadecane (C19)	2.6	0.2	mg/kg wet	2.500		103	40-140	3	25	
Nonane (C9)	2.0	0.2	mg/kg wet	2.500		78	30-140	5	25	
Octacosane (C28)	2.4	0.2	mg/kg wet	2.500		98	40-140	4	25	
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		101	40-140	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508330

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CH51330 - 3546										
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		96	40-140	4	25	
Tetradecane (C14)	2.4	0.2	mg/kg wet	2.500		94	40-140	3	25	
Total Petroleum Hydrocarbons	35.2	37.5	mg/kg wet	35.00		101	40-140	4	25	
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		97	40-140	5	25	
Surrogate: O-Terphenyl	*4.71*		mg/kg wet	*5.000*		*94*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo ESS Laboratory Work Order: 1508330

Notes and Definitions

U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508330

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: Client

ESS Project ID: 15080330
Date Project Due: 8/14/15
Days For Project: 1 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **2.8**		16. Are ESS labels on correct containers?	Yes No
Iced With: **Ice**		17. Were samples received intact?	Yes No
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	Yes	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/13/15 1120

Reviewed By: _____ Date/Time: 8/13/15 1130

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time ___ Standard Other BY FRIDAY COB
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: RIDEM R-DEC

ESS LAB PROJECT ID: 1808330

Electronic Deliverable Yes X No ___
Format: Excel X Access ___ PDF X Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	29607	TIDEWATER DEMO

Contact Person	Address
STEVE RAYMOND	530 BROADWAY

City	State	Zip	PO#
PROVIDENCE	RI	02909	

Telephone #	Fax #	Email Address
401-421-4140		SRAYMOND@GZA.COM

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TPH 8100M
1	8/13/15	7:20		X	S	CS-1	1	1	AG	X
2	↓	7:25		↓	↓	CS-2	↓	↓	↓	↓
3		7:30				CS-3				
4		7:35				CS-4				
5		7:40				CS-5				
6		7:45				CS-6				
7		7:50				GS-7				
8		7:55				CS-8				
9		8:00				CS-9				
10	↓	8:05		↓	↓	CS-10	↓	↓	↓	↓

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present X Yes ___ No Internal Use Only
Seals Intact ___ Yes ___ No NA: X [ ] Pickup
Cooler Temp: 2.8° ICE W 8/13/15 [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by: SOPHIA NAKIEWICZ CHRIS SOLDI

Comments: NGRID RATES APPLY EMAIL SOPHIA.NAKIEWICZ@GZA.COM

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/13/15 0:55	[signature]	8/13/15 0855				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time ___ Standard (Other) BY FRIDAY COB
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: RIDEM R-DEC

ESS LAB PROJECT ID: 1508330

Electronic Deliverable Yes X No ___
Format: Excel X Access ___ PDF X Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	29607	TIDEWATER DEMO

Contact Person	Address
STEVE RAYMOND	530 BROADWAY

City	State	Zip	PO#
PROVIDENCE	RI	02909	

Telephone #	Fax #	Email Address
421-4140		SRAYMOND@GZA.COM

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TPH 8100M
11	8/13/15	8:00		X	S	CS-11	1	1	A6	X
12	8/13/15	8:15		X	S	CS-12	1	1	A6	X

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present X Yes ___ No Internal Use Only
Seals Intact ___ Yes ___ No NA: X [ ] Pickup
Cooler Temp: 2.8° ICE [ ] Technicians _____

Preservation Code 1- NP, 2- HC1, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by: SOPHIA NALKIEWICZ CHRIS SOLDI

Comments: NORM RATES APPLY EMAIL SOPHIA.NALKIEWICZ@GZA.COM

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/13/15 0:55	[signature]	8/13/15 0855				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
		[signature]					

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

8-17-15 CONFIRMATORY SAMPLING LABORATORY REPORT – 1508451

CERTIFICATE OF ANALYSIS

Stephen Raymond
GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

RE: Tidewater Demo (03.0029607)
ESS Laboratory Work Order Number: 1508451

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:16 pm, Aug 19, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508451

SAMPLE RECEIPT

The following samples were received on August 17, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1508451-01	CS-4 2	Soil	8100M
1508451-02	CS-9 2	Soil	8100M
1508451-03	CS-10 2	Soil	8100M

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508451

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508451

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-4 2
Date Sampled: 08/17/15 08:15
Percent Solids: 94
Initial Volume: 19.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508451
ESS Laboratory Sample ID: 1508451-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/17/15 12:18

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (39.9)		8100M		1	08/18/15 22:19	CYH0220	CH51709

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*82 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-9 2
Date Sampled: 08/17/15 08:20
Percent Solids: 93
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508451
ESS Laboratory Sample ID: 1508451-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/17/15 12:18

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (41.9)		8100M		1	08/18/15 22:58	CYH0220	CH51709

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo
Client Sample ID: CS-10 2
Date Sampled: 08/17/15 08:25
Percent Solids: 93
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508451
ESS Laboratory Sample ID: 1508451-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/17/15 12:18

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (41.6)		8100M		1	08/18/15 23:37	CYH0220	CH51709

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*98 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508451

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CH51709 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*3.61*		mg/kg wet	*5.000*		*72*	*40-140*			
LCS										
Decane (C10)	1.5	0.2	mg/kg wet	2.500		60	40-140			
Docosane (C22)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Dodecane (C12)	1.7	0.2	mg/kg wet	2.500		68	40-140			
Eicosane (C20)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Hexacosane (C26)	1.8	0.2	mg/kg wet	2.500		72	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Nonadecane (C19)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Nonane (C9)	1.3	0.2	mg/kg wet	2.500		53	30-140			
Octacosane (C28)	1.7	0.2	mg/kg wet	2.500		69	40-140			
Octadecane (C18)	1.8	0.2	mg/kg wet	2.500		70	40-140			
Tetracosane (C24)	1.7	0.2	mg/kg wet	2.500		67	40-140			
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Total Petroleum Hydrocarbons	23.1	37.5	mg/kg wet	35.00		66	40-140			
Triacontane (C30)	1.7	0.2	mg/kg wet	2.500		67	40-140			
Surrogate: O-Terphenyl	*3.51*		mg/kg wet	*5.000*		*70*	*40-140*			
LCS Dup										
Decane (C10)	1.6	0.2	mg/kg wet	2.500		64	40-140	7	25	
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		75	40-140	6	25	
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		74	40-140	9	25	
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		75	40-140	5	25	
Hexacosane (C26)	1.9	0.2	mg/kg wet	2.500		76	40-140	5	25	
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		78	40-140	5	25	
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		75	40-140	5	25	
Nonane (C9)	1.4	0.2	mg/kg wet	2.500		56	30-140	6	25	
Octacosane (C28)	1.8	0.2	mg/kg wet	2.500		73	40-140	5	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		74	40-140	5	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508451

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CH51709 - 3546										
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		71	40-140	5	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		76	40-140	6	25	
Total Petroleum Hydrocarbons	24.3	37.5	mg/kg wet	35.00		69	40-140	5	25	
Triacontane (C30)	1.8	0.2	mg/kg wet	2.500		70	40-140	5	25	
Surrogate: O-Terphenyl	*3.60*		mg/kg wet	*5.000*		*72*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo ESS Laboratory Work Order: 1508451

Notes and Definitions

U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater Demo

ESS Laboratory Work Order: 1508451

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: Client

ESS Project ID: 15080451
Date Project Due: 8/19/15
Days For Project: 2 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **2.3**		16. Are ESS labels on correct containers?	**Yes** | No
Iced With: **Ice**		17. Were samples received intact?	**Yes** | No
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain. W 8/17/15
DATE on COC + Labels is 9/17/15 – need 8/17/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/17/15 0932
Reviewed By: _____ Date/Time: 8/17/15 1043

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time ___ Standard Other 48-hr
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: ROOM R-DEC

ESS LAB PROJECT ID: 1508451

Electronic Deliverable Yes X No ___
Format: Excel X Access __ PDF X Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	29607	TIDEWATER DEMO

Contact Person	Address
STEVE RAYMOND	530 BROADWAY

City	State	Zip	PO#
PROVIDENCE	RI	02909	

Telephone #	Fax #	Email Address
401-421-4140		Stephen.rraymond@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: 8100M TPH
01	* ~~9/17/15~~	8:15		X	S	CS-4 2	1	1	6	X
02	* ~~9/17/15~~	8:20		X	S	CS-9 2	1	1	6	X
03	* ~~9/17/15~~	8:25		X	S	CS-10 2	1	1	6	X
	/*sample and reciept date 8/17/15 confirmed by client e-mail (cmt 8/17/15)									

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present X Yes ___ No
Seals Intact ___ Yes ___ No NA: ___
Cooler Temp: 2.3

Internal Use Only
[ ] Pickup
[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by: SOPHIA NARKIEWICZ CHRIS SOLDI

Comments:
NORMAL RATES APPLY sophia.narkiewicz@gza.com

Relinquished by: (Signature)	* Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	~~9/17/15~~ 8:55	[signature]	8/17/15 08:55				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time ___ Standard Other 48-hr
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: ROOM R-DEC

ESS LAB PROJECT ID: 1508451

Electronic Deliverable Yes X No ___
Format: Excel X Access ___ PDF X Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	29607	TIDEWATER DEMO

Contact Person	Address
STEVE RAYMOND	530 BROADWAY

City	State	Zip	PO#
PROVIDENCE	RI	02909	

Telephone #	Fax #	Email Address
401-421-4140		Stephen.Raymond@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: 8100M TPH
01	9/17/15	8:15		X	S	CS-4 2	1	1	6	X
02	9/17/15	8:20		X	S	CS-9 2	1	1	6	X
03	9/17/15	8:25		X	S	CS-10 2	1	1	6	X

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present X Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: 2.3 [ ] Technicians ___

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by: SOPHIA NARKIEWICZ CHRIS SOLDI

Comments:
NORTH RATES APPLY sophia.narkiewicz@gza.com

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	9/17/15 8:55	[signature]	8/17/15 08:55				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

8-18-15 DISPOSAL SAMPLING LABORATORY REPORT – 17480

CERTIFICATE OF ANALYSIS

GZA / Geoenvironmental, Inc.
Attn: Sophia Narkiewicz
530 Broadway
Providence, RI 02909

Date Received: 8/18/15
Date Reported: 8/20/15
P.O. #:
Work Order #: 1508-17480

DESCRIPTION: PROJECT #29607 TIDEWATER DEMO

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies.
The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.
The Certificate of Analysis shall not be reproduced except in full, without written approval of R. I. Analytical.
Results relate only to samples submitted to the laboratory for analysis.
Test results are not blank corrected.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015
NH-253700 A & B, USDA S-41844

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

Sharon Baker
MIS / Data Reporting Manager

enc: Chain of Custody

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

GZA / Geoenvironmental, Inc.

Date Received: 8/18/15

Work Order #: 1508-17480

PROJECT #29607 TIDEWATER DEMO

Sample # 001
SAMPLE DESCRIPTION: STOCKPILE
SAMPLE TYPE: COMPOSITE **SAMPLE DATE/TIME:** 8/18/2015

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TPH						
TPH GC/FID	1500	21	mg/kg dry	SW-846 8100M	8/19/15	KD
Surrogate			RANGE	SW-846 8100M	8/19/15	KD
2-Fluorobiphenyl	70		40-140%	SW-846 8100M	8/19/15	KD
Volatile Organic Compounds						
Benzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Bromobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Bromochloromethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Bromodichloromethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Bromoform	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Bromomethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
n-Butylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Sec-butylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
tert-Butylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Carbon Tetrachloride	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Chlorobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Chloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Chloroform	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Chloromethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
2-Chlorotoluene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
4-Chlorotoluene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Dibromochloromethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2-Dibromo-3-Chloropropane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2-Dibromoethane(EDB)	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Dibromomethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2-Dichlorobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,3-Dichlorobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,4-Dichlorobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Dichlorodifluoromethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1-Dichloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2-Dichloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1-Dichloroethene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
cis-1,2-Dichloroethene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
trans-1,2-Dichloroethylene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2-Dichloropropane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

GZA / Geoenvironmental, Inc.

Date Received: 8/18/15
Work Order #: 1508-17480
PROJECT #29607 TIDEWATER DEMO

Sample # 001
SAMPLE DESCRIPTION: STOCKPILE
SAMPLE TYPE: COMPOSITE **SAMPLE DATE/TIME:** 8/18/2015

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,3-Dichloropropane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
2,2-Dichloropropane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1-Dichloropropene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Ethylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Hexachlorobutadiene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Isopropylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
p-Isopropyltoluene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Methylene Chloride	<0.16	0.16	mg/kg dry	SW-846 8260C	8/18/15	KAC
n-Propylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Naphthalene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Styrene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1,1,2-Tetrachloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1,2,2-Tetrachloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Tetrachloroethene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Toluene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2,3-Trichlorobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2,4-Trichlorobenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1,1-Trichloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,1,2-Trichloroethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Trichloroethene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Trichlorofluoromethane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2,3-Trichloropropane	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,2,4-Trimethylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
1,3,5-Trimethylbenzene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
Vinyl Chloride	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
o-Xylene	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
m,p-Xylene	<0.13	0.13	mg/kg dry	SW-846 8260C	8/18/15	KAC
MTBE	<0.07	0.07	mg/kg dry	SW-846 8260C	8/18/15	KAC
2-Butanone(MEK)	<0.65	0.65	mg/kg dry	SW-846 8260C	8/18/15	KAC
Surrogates			RANGE	SW-846 8260C	8/18/15	KAC
Dibromofluoromethane	95		70-130%	SW-846 8260C	8/18/15	KAC
Toluene-d8	93		70-130%	SW-846 8260C	8/18/15	KAC
4-Bromofluorobenzene	89		70-130%	SW-846 8260C	8/18/15	KAC
1,2 Dichloroethane-d4	98		70-130%	SW-846 8260C	8/18/15	KAC
Extraction Date	Extracted			SW-846 5035	8/18/15	KF

Total Metals

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

GZA / Geoenvironmental, Inc.

Date Received: 8/18/15

Work Order #: 1508-17480

PROJECT #29607 TIDEWATER DEMO

Sample # 001
SAMPLE DESCRIPTION: STOCKPILE
SAMPLE TYPE: COMPOSITE **SAMPLE DATE/TIME:** 8/18/2015

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Arsenic	8.7	2.6	mg/kg dry	SW-846 6010C	8/19/15	JRW
Barium	33	0.52	mg/kg dry	SW-846 6010C	8/19/15	JRW
Cadmium	<0.26	0.26	mg/kg dry	SW-846 6010C	8/19/15	JRW
Chromium	21	1.6	mg/kg dry	SW-846 6010C	8/19/15	JRW
Lead	28	2.1	mg/kg dry	SW-846 6010C	8/19/15	JRW
Mercury	See Attached		mg/kg dry	SW-846 7471B	8/19/15	*ET
Selenium	<5.2	5.2	mg/kg dry	SW-846 6010C	8/19/15	JRW
Silver	2.8	1.0	mg/kg dry	SW-846 6010C	8/19/15	JRW
ICP Digestion				SW-846 3050B	8/18/15	RBR
Mercury Digestion				SW-846 7471B	8/19/15	*ET

*ET Mercury analyzed by ESS Laboratory/Thielsch Engineering, Inc.

QA/QC Report

Client: GZA / Geoenvironmental, Inc.
WO #: 1508-17480
Date: 8/20/2015

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Total Petroleum Hydrocarbons by Method 8100 (Soil)			
TPH GC/FID	mg/kg dry	<10	8/19/2015
Surrogate	**RANGE**		8/19/2015
2-Fluorobiphenyl	40-140%	66	8/19/2015
Volatile Organics by Method 5035/8260B			
Benzene	mg/kg dry	<0.10	8/18/2015
Bromobenzene	mg/kg dry	<0.10	8/18/2015
Bromochloromethane	mg/kg dry	<0.10	8/18/2015
Bromodichloromethane	mg/kg dry	<0.10	8/18/2015
Bromoform	mg/kg dry	<0.10	8/18/2015
Bromomethane	mg/kg dry	<0.10	8/18/2015
Sec-butylbenzene	mg/kg dry	<0.10	8/18/2015
n-Butylbenzene	mg/kg dry	<0.10	8/18/2015
tert-Butylbenzene	mg/kg dry	<0.10	8/18/2015
Carbon Tetrachloride	mg/kg dry	<0.10	8/18/2015
Chlorobenzene	mg/kg dry	<0.10	8/18/2015
Dibromochloromethane	mg/kg dry	<0.10	8/18/2015
Chloroethane	mg/kg dry	<0.10	8/18/2015
Chloroform	mg/kg dry	<0.10	8/18/2015
Chloromethane	mg/kg dry	<0.10	8/18/2015
2-Chlorotoluene	mg/kg dry	<0.10	8/18/2015
4-Chlorotoluene	mg/kg dry	<0.10	8/18/2015
1,2-Dibromo-3-Chloropropane	mg/kg dry	<0.10	8/18/2015
1,2-Dibromoethane(EDB)	mg/kg dry	<0.10	8/18/2015
Dibromomethane	mg/kg dry	<0.10	8/18/2015
1,3-Dichlorobenzene	mg/kg dry	<0.10	8/18/2015
1,2-Dichlorobenzene	mg/kg dry	<0.10	8/18/2015
1,4-Dichlorobenzene	mg/kg dry	<0.10	8/18/2015
n-Propylbenzene	mg/kg dry	<0.10	8/18/2015
Naphthalene	mg/kg dry	<0.10	8/18/2015
Dichlorodifluoromethane	mg/kg dry	<0.10	8/18/2015
1,1-Dichloroethane	mg/kg dry	<0.10	8/18/2015
1,2-Dichloroethane	mg/kg dry	<0.10	8/18/2015
1,1-Dichloroethene	mg/kg dry	<0.10	8/18/2015
cis-1,2-Dichloroethene	mg/kg dry	<0.10	8/18/2015
trans-1,2-Dichloroethylene	mg/kg dry	<0.10	8/18/2015
1,2-Dichloropropane	mg/kg dry	<0.10	8/18/2015
1,3-Dichloropropane	mg/kg dry	<0.10	8/18/2015
2,2-Dichloropropane	mg/kg dry	<0.10	8/18/2015

QA/QC Report

Client: GZA / Geoenvironmental, Inc.
WO #: 1508-17480
Date: 8/20/2015

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Volatile Organics by Method 5035/8260B (cont'd)			
1,1-Dichloropropene	mg/kg dry	<0.10	8/18/2015
Ethylbenzene	mg/kg dry	<0.10	8/18/2015
Hexachlorobutadiene	mg/kg dry	<0.10	8/18/2015
Isopropylbenzene	mg/kg dry	<0.10	8/18/2015
p-Isopropyltoluene	mg/kg dry	<0.10	8/18/2015
2-Butanone(MEK)	mg/kg dry	<1.0	8/18/2015
MTBE	mg/kg dry	<0.10	8/18/2015
Methylene Chloride	mg/kg dry	<0.25	8/18/2015
1,1,2-Trichloroethane	mg/kg dry	<0.10	8/18/2015
Styrene	mg/kg dry	<0.10	8/18/2015
1,1,1,2-Tetrachloroethane	mg/kg dry	<0.10	8/18/2015
1,1,2,2-Tetrachloroethane	mg/kg dry	<0.10	8/18/2015
Tetrachloroethene	mg/kg dry	<0.10	8/18/2015
Toluene	mg/kg dry	<0.10	8/18/2015
1,2,4-Trichlorobenzene	mg/kg dry	<0.10	8/18/2015
1,2,3-Trichlorobenzene	mg/kg dry	<0.10	8/18/2015
1,1,1-Trichloroethane	mg/kg dry	<0.10	8/18/2015
Trichloroethene	mg/kg dry	<0.10	8/18/2015
Trichlorofluoromethane	mg/kg dry	<0.10	8/18/2015
1,2,3-Trichloropropane	mg/kg dry	<0.10	8/18/2015
1,2,4-Trimethylbenzene	mg/kg dry	<0.10	8/18/2015
1,3,5-Trimethylbenzene	mg/kg dry	<0.10	8/18/2015
Vinyl Chloride	mg/kg dry	<0.10	8/18/2015
o-Xylene	mg/kg dry	<0.10	8/18/2015
m,p-Xylene	mg/kg dry	<0.20	8/18/2015
Surrogates	**RANGE**		8/18/2015
Toluene-d8	70-130%	84	8/18/2015
Dibromofluoromethane	70-130%	84	8/18/2015
1,2 Dichloroethane-d4	70-130%	87	8/18/2015
4-Bromofluorobenzene	70-130%	79	8/18/2015
Total Metals (Soil)			
Arsenic	mg/kg dry	<2.5	8/19/2015
Barium	mg/kg dry	<0.50	8/19/2015
Cadmium	mg/kg dry	<0.25	8/19/2015
Chromium	mg/kg dry	<1.5	8/19/2015
Lead	mg/kg dry	<2.0	8/19/2015
Selenium	mg/kg dry	<5.0	8/19/2015
Silver	mg/kg dry	<0.99	8/19/2015

-LCS/LCS Duplicate Data Results-

Parameter	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Total Petroleum Hydrocarbons by Method 8100 (Soil)							
TPH GC/FID	66.7	55.3	83	44.8	67	21	8/19/2015
Surrogate							8/19/2015
2-Fluorobiphenyl		89		65			8/19/2015
Volatile Organics by Method 5035/8260B							
Benzene	2.5	2.6	104	2.5	100	4	8/18/2015
Bromobenzene	2.5	2.8	112	2.5	100	11	8/18/2015
Bromochloromethane	2.5	2.6	104	2.5	100	4	8/18/2015
Bromodichloromethane	2.5	2.6	104	2.6	104	0	8/18/2015
Bromoform	2.5	2.8	112	2.6	104	7	8/18/2015
Bromomethane	2.5	2.6	104	2.5	100	4	8/18/2015
Sec-butylbenzene	2.5	2.6	104	2.4	96	8	8/18/2015
n-Butylbenzene	2.5	2.5	100	2.4	96	4	8/18/2015
tert-Butylbenzene	2.5	2.6	104	2.4	96	8	8/18/2015
Carbon Tetrachloride	2.5	2.6	104	2.5	100	4	8/18/2015
Chlorobenzene	2.5	2.6	104	2.5	100	4	8/18/2015
Dibromochloromethane	2.5	2.6	104	2.6	104	0	8/18/2015
Chloroethane	2.5	2.6	104	2.5	100	4	8/18/2015
Chloroform	2.5	2.7	108	2.6	104	4	8/18/2015
Chloromethane	2.5	2.1	84	2.0	80	5	8/18/2015
2-Chlorotoluene	2.5	2.9	116	2.5	100	15	8/18/2015
4-Chlorotoluene	2.5	2.8	112	2.5	100	11	8/18/2015
1,2-Dibromo-3-Chloropropane	2.5	3.0	120	2.8	112	7	8/18/2015
1,2-Dibromoethane(EDB)	2.5	2.6	104	2.6	104	0	8/18/2015
Dibromomethane	2.5	2.5	100	2.5	100	0	8/18/2015
1,3-Dichlorobenzene	2.5	2.5	100	2.6	104	4	8/18/2015
1,2-Dichlorobenzene	2.5	2.5	100	2.6	104	4	8/18/2015
1,4-Dichlorobenzene	2.5	2.6	104	2.6	104	0	8/18/2015
n-Propylbenzene	2.5	2.8	112	2.5	100	11	8/18/2015
Naphthalene	2.5	2.9	116	2.8	112	4	8/18/2015
Dichlorodifluoromethane	2.5	1.5	60	1.5	60	0	8/18/2015
1,1-Dichloroethane	2.5	2.7	108	2.7	108	0	8/18/2015
1,2-Dichloroethane	2.5	2.6	104	2.5	100	4	8/18/2015
1,1-Dichloroethene	2.5	2.5	100	2.4	96	4	8/18/2015
cis-1,2-Dichloroethene	2.5	2.6	104	2.6	104	0	8/18/2015
trans-1,2-Dichloroethylene	2.5	2.4	96	2.4	96	0	8/18/2015
1,2-Dichloropropane	2.5	2.6	104	2.5	100	4	8/18/2015
1,3-Dichloropropane	2.5	2.6	104	2.6	104	0	8/18/2015
2,2-Dichloropropane	2.5	3.1	124	3.0	120	3	8/18/2015
1,1-Dichloropropene	2.5	2.6	104	2.5	100	4	8/18/2015
Ethylbenzene	2.5	2.6	104	2.5	100	4	8/18/2015
Hexachlorobutadiene	2.5	2.4	96	2.4	96	0	8/18/2015
Isopropylbenzene	2.5	2.8	112	2.5	100	11	8/18/2015
p-Isopropyltoluene	2.5	2.6	104	2.4	96	8	8/18/2015

QA/QC Report

Client: GZA / Geoenvironmental, Inc.
WO #: 1508-17480
Date: 8/20/2015

-LCS/LCS Duplicate Data Results-

Parameter	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Organics by Method 5035/8260B (cont'd)							
2-Butanone(MEK)	25	27	108	25	100	8	8/18/2015
MTBE	2.5	2.6	104	2.6	104	0	8/18/2015
Methylene Chloride	2.5	2.5	100	2.4	96	4	8/18/2015
1,1,2-Trichloroethane	2.5	2.6	104	2.5	100	4	8/18/2015
Styrene	2.5	3.0	120	2.5	100	18	8/18/2015
1,1,1,2-Tetrachloroethane	2.5	2.7	108	2.6	104	4	8/18/2015
1,1,2,2-Tetrachloroethane	2.5	2.7	108	2.5	100	8	8/18/2015
Tetrachloroethene	2.5	2.6	104	2.5	100	4	8/18/2015
Toluene	2.5	2.6	104	2.5	100	4	8/18/2015
1,2,4-Trichlorobenzene	2.5	2.7	108	2.6	104	4	8/18/2015
1,2,3-Trichlorobenzene	2.5	2.8	112	2.7	108	4	8/18/2015
1,1,1-Trichloroethane	2.5	2.6	104	2.5	100	4	8/18/2015
Trichloroethene	2.5	2.6	104	2.5	100	4	8/18/2015
Trichlorofluoromethane	2.5	2.4	96	2.2	88	9	8/18/2015
1,2,3-Trichloropropane	2.5	2.8	112	2.5	100	11	8/18/2015
1,2,4-Trimethylbenzene	2.5	2.7	108	2.5	100	8	8/18/2015
1,3,5-Trimethylbenzene	2.5	2.8	112	2.5	100	11	8/18/2015
Vinyl Chloride	2.5	2.2	88	2.1	84	5	8/18/2015
o-Xylene	2.5	2.9	116	2.5	100	15	8/18/2015
m,p-Xylene	5.0	5.2	104	5.0	100	4	8/18/2015
				102			
				101			
				104			
				97			
Total Metals (Soil)							
Arsenic	133	140	105	140	105	0	8/19/2015
Barium	229	240	105	300	131	22	8/19/2015
Cadmium	123	120	98	110	89	9	8/19/2015
Chromium	63.2	64	101	63	100	2	8/19/2015
Lead	108	110	102	100	93	10	8/19/2015
Selenium	81.4	100	123	84	103	17	8/19/2015
Silver	74.8	68	91	68	91	0	8/19/2015

Case Narrative

Date: 8/20/2015

GZA / Geoenvironmental, Inc.
Attn: Sophia Narkiewicz
530 Broadway
Providence, RI 02909

Project:

RIAL WO#: 1508-17480

R.I. Analytical Laboratories received One Soil Sample from the GZA GeoEnvironmental Labs on August 18, 2015. The sample was transported and delivered to the laboratory in a cooler on ice (at 1.8 degrees C). The sample was received in good condition. Upon arrival, the sample was logged into our LIMS system and assigned a work order number of 1508-17480.

Sharon Baker
Data Reporting / MIS Manager

CERTIFICATE OF ANALYSIS

Kristen Phelan
RI Analytical Laboratories, Inc.
41 Illinois Avenue
Warwick, RI 02888

RE: RIAL Sampling (1508-17480)
ESS Laboratory Work Order Number: 1508562

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:20 pm, Aug 20, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling

ESS Laboratory Work Order: 1508562

SAMPLE RECEIPT

The following samples were received on August 19, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.

Lab Number	Sample Name	Matrix	Analysis
1508562-01	1508-17480-001	Soil	7471B

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling

ESS Laboratory Work Order: 1508562

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling

ESS Laboratory Work Order: 1508562

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling

ESS Laboratory Work Order: 1508562

Total Metals

Client Sample ID: 1508-17480-001
Date Sampled: 08/18/15 00:00
Percent Solids: 95

ESS Laboratory Sample ID: 1508562-01
Sample Matrix: Soil

Analyte	Results	Units	MRL	Method	DF	Analyst	Analyzed	I/V	F/V
Mercury	ND	mg/kg dry	0.026	7471B	1	BJV	08/19/15 14:48	0.79	40

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling

ESS Laboratory Work Order: 1508562

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CH51829 - 245.1/7470A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	8.55	1.80	mg/kg wet	9.700		88	80-120			
LCS Dup										
Mercury	8.62	1.83	mg/kg wet	9.700		89	80-120	0.9	20	

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling ESS Laboratory Work Order: 1508562

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: RI Analytical Laboratories, Inc.
Client Project ID: RIAL Sampling

ESS Laboratory Work Order: 1508562

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHAIN OF CUSTODY RECORD

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue
Warwick, RI 02888-3007
Tel: 800-937-2580
Fax: 401-738-1970

131 Coolidge St, Suite 105
Hudson, MA 01749-1331
Tel: 800-937-2580
Fax: 978-568-0078

1508562

Date Collected	Time Collected	Lab ID	Sample Identification	Grab or Composite	# of Containers & Type [C]	Preservation Code [P]	Matrix Code [M]		Mercury (2 Day TAT)
8/18/2015		1508-17480-001	Stockpile	C	1P	NP	S		X

Send Report and Invoice to:		Subcontractor Information:	
Company Name:	R.I. Analytical Laboratories, Inc.	Company Name:	ESS Laboratory
Address:	41 Illinois Avenue	Address:	185 Frances Ave
City/State/Zip:	Warwick, RI 02888	City/State/Zip:	Cranston, RI 02910-221
Contact Person:	Kristen Phelan	Contact Person:	
Email:	kphelan@rianalytical.com, datareporting@rianalytical.com	Email:	
Telephone:	800-937-2580 ext 116	Telephone:	401-461-7181

Relinquished By	Date	Time	Received by	Date	Time
	8-19-15	8:45		8.19.15	0845
Martin Mora	8/19/15	0965			

Turn Around Time	
X	~~Normal~~ 1 day due 8/20
	Rush _____ (Days)

Project Comments

If MCL is exceeded, Please notify; Sharon Baker (800-937-2580 x104) or Eric Jensen (401-497-9593) also Alan Ford (401-562-1332/cell #617-893-0253)

PO # : 663

Temperature Upon Receipt 8.7 °C ice in

Date Shipped: 8/18/2015	
X	RI Courier
X	Ground
X	Shipped on Ice
WO #:	1508-17480

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH_4Cl, H=HCl, M=MeOH, N=HNO_3, NP=None, S=H_2SO_4, SB=$NaHSO_4$, SH=NaOH, T=$Na_2S_2O_3$, Z=ZnOAc

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, O=_____

R.I. ANALYTICAL
Specialists in Environmental Services

CHAIN OF CUSTODY RECORD

41 Illinois Avenue
Warwick, RI 02888-3007
800-937-2580 • Fax: 401-738-1970

131 Coolidge St., Suite 105
Hudson, MA 01749-1331
800-937-2580 • Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type [C]	Preservation Code [P]	Matrix Code [M]	TPH 8100M	RCRA-8 Metals	VOCs 8260B	TCLP (20x RL's)																
8/18/15	10:00	STOCKPILE	C	5	N/A	S	X	X	X																	
				5																						

Client Information

Company Name: GZA
Address: 530 BROADWAY
City / State / Zip: PROVIDENCE RI 02909
Telephone: 401-421-4140 Fax:
Contact Person: SOPHIA NARKIEWICZ

Project Information

Project Name: TIVERTON DEMO
P.O. Number: [illegible] NONE Project Number: 29607
Report To: SOPHIA NARKIEWICZ Phone: 401-421-4140 Fax
Sampled By: SOPHIA NARKIEWICZ
Quote No: CHRIS SOLDI
Email report to these addresses: sophia.narkiewicz@gza.com christopher.soldi@gza.com stephen.raymond@gza.com

Relinquished By Signatures	Date	Time	Received By Signatures	Date	Time
Sophia Narkiewicz	8/18/15	10:42	D. Hill	8-18-15	10:42

Turn Around Time

- Normal — EMAIL Report
- 5 Business days. Possible surcharge
- Rush – Date Due: ___/___/___

Project Comments

Circle if applicable: GW-1, GW-2, GW-3, S-1, S-2, S-3 MCP Data Enhancement QC Package? Yes No

A TCLP METALS (20 TIMES RULE APPLIES)

Temp. Upon Receipt 1.8 °C

Lab Use Only

OK per KM

- Sample Pick-Up Only
- RIAL sampled; attach field hours
- X Shipped on ice

Workorder No: 1508-17480

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH_4Cl, H=HCl, M=MeOH, N=HNO_3, NP=None, S=H_2SO_4, SB=$NaHSO_4$, SH=NaOH, T=$Na_2S_2O_3$, Z=ZnOAc
Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, WP=Wipe, O=_____

BILL OF LADING

Original – Not Negotiable

STRAIGHT BILL OF LADING

SHORT FORM

Carrier's Pro No. _____
Shipper's Bill of Lading No. _____
Consignee's Reference/PO No. _____
Carrier's Code (SCAC) _____

Case Snow Management, Inc
100 R John L Dietsch Square (Name of Carrier) Attleboro Falls, MA 02763

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request:
at Narragansett Electric Co. August 14, 2015 From 200 Taft St. Pawtucket, RI

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract), agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to Environmental Soil Mgmt

(Mail or street address of consignee – For purposes of notification only.)

Destination 67 International Dr. Loudon State NH Zip 03307 County _____ Delivery Address ★ _____

★ To be filled in only when shipper desires and governing tariffs provide for delivery thereof.

Route _____

Delivering Carrier _____ Car or Vehicle Initials _____ No. _____

No. Packages	Kind of Package, Description of Articles, Special Marks, and Exceptions	*WEIGHT (Subject to Correction)	Class or Rate	Check Column
	Non-Hazardous Contaminated Soil for Recycling			

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

Freight charges are PREPAID unless marked collect. CHECK BOX IF COLLECT ☐

Received $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____
(The signature here acknowledges only the amount prepaid.)

Charges Advanced:
$ _____

†Shipper's imprint in lieu of stamp; not a part of Bill of Lading approved by the Interstate Commerce Commission.

* If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading state whether it is carrier's or shipper's weight.
NOTE – Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding per
Liability Limitation for loss or damage on this shipment may be applicable. See 49 U.S.C. § 14706(c)(1)(A) and (B).

†The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of the Consolidated Freight Classification.

Attilio DiLoreto Shipper, Per _____ Agent, Per _____

Permanent post-office address of shipper _____

REDIFORM.

Carbonless Speediset® Forms
Rediform, Inc. Made in U.S.A.

44-301•Triplicate
44-302•Quadruplicate