



25 January 2023
Project No. 16-3773

Ms. Rebecca Digiustino
Department of Environmental Quality
Northwest Region Cleanup Program
700 NE Multnomah Street, Suite 600
Portland, OR 97232

**Subject: Dispenser Line Soil Sampling Report
ESTES WEST – PORTLAND TERMINAL
13704 NE Airport Way, Portland, Oregon
(DEQ USTC File No. 26-16-0983; Facility ID No. 10679)**

Dear Ms. Diguistino:

On behalf of Estes West, AdvancedGeo, Inc. (AGI) has prepared this *Dispenser Line Soil Sampling Report* for the property located at 13704 NE Airport Way, Portland, Oregon (site or subject property). The scope of work included removing four satellite fuel dispensers, abandoning the satellite fuel lines, and collecting soil samples beneath each satellite dispenser and along the fuel lines between the satellite and main dispensers. The work was completed under Oregon Department of Environmental Quality (DEQ) oversight in 2016. Results were originally provided to the DEQ Underground Storage Tank Compliance Group.

A site plan depicting the maintenance shop, fueling area, and dispenser soil sampling locations is presented in Figure 1.

1.0. INTRODUCTION/BACKGROUND

Estes West operates a freight transportation and distribution facility at 13704 NE Airport Way, Portland, Multnomah County, Oregon. A maintenance shop is located on the northeast portion of the facility where truck and trailer repairs are performed. Fueling is performed on-site under a covered canopy area adjacent to the maintenance shop.

In February 2016, DEQ performed a full compliance inspection at the Estes West – Portland Terminal. In February 2016, the fueling system was comprised of one diesel underground storage tank and two primary fuel dispensers (S-1 and S-2), each with two satellite dispensers to the north and south (Figure 1). The inspection revealed that the diesel satellite dispenser piping was made of iron and directly buried in cement after

exiting the main dispenser. There was no cathodic protection on the pipe and a violation was noted. The DEQ Pre-Enforcement Notice is provided in Appendix A.

2.0. SATELLITE FUEL DISPENSER REMOVAL AND PIPING ABANDONMENT

Removal of the satellite fuel dispensers and abandonment of the fuel lines was proposed to correct the February 2016 violation. The UST system work was performed by 4C's Environmental Inc. (4C's) on behalf of IWS Environmental. The four satellite fuel dispensers were removed, and the fuel lines emptied, rinsed and vacuumed clean.

The fuel lines were then cut and capped at the surface where concrete cut-outs were exposed to access the piping; the cut-outs were then covered. The metal piping exiting the primary dispensers was removed. The remaining satellite dispenser piping was then plugged and capped at the surface.

3.0. SOIL SAMPLE COLLECTION AND ANALYSIS

On 13 July 2016, a total of eight (8) soil samples were collected at 3.5 feet below surface grade (bsg) beneath each satellite fuel dispenser and along the fuel piping between the main and satellite dispensers. On 17 August 2016, a total of five (5) additional soil samples were collected at 6.0 feet bsg beneath each satellite dispenser and between Main Dispenser S-2 and the northern satellite dispenser (Figure 1). The deeper soil samples were collected in locations where diesel-range organics (DRO) were detected in the 3.5-foot samples. Soil samples were collected by coring through the concrete and using hand digging methods.

Soil samples were transported under chain-of-custody to Apex Laboratories, LLC (Apex), an Oregon Environmental Laboratory Accreditation Program (ELAP)-Certified laboratory. Soil samples were analyzed for one or more of the following:

- Hydrocarbon identification by Northwest Total Petroleum Hydrocarbon Method NWTPH-HCID.
- Diesel and oil range organics (DRO) by Northwest Total Petroleum Hydrocarbon Method NWTPH-Dx.
- Gasoline range organics (GRO) by Northwest Total Petroleum Hydrocarbon Method (NWTPH-Gx).

4.0. FINDINGS

The following is a summary of the analytical results of soil samples collected beneath the satellite dispensers and fuel lines:

- Diesel range organics (DRO) were detected at 3.5 feet bsg beneath each satellite dispenser at concentrations ranging from 228 milligrams per kilogram (mg/kg) to 6,340 mg/kg.
- DRO were detected at 6.0 feet bsg beneath the S-1 southern satellite dispenser and the S-2 northern satellite dispenser at concentrations of 68.6 mg/kg and 497 mg/kg, respectively. DRO were not detected above laboratory reporting limits in the samples collected at 6.0 feet bsg beneath the remaining two satellite dispensers.
- DRO were detected at 3.5 feet bsg in the sample collected between Main Dispenser S-2 and its satellite dispenser to the north at a concentration of 1,020 mg/kg (S-2#3). DRO were not detected in the sample collected at 6.0 feet bsg below sample S-2#3 or at 3.5 feet bsg in the other samples collected between the main and satellite dispensers.
- GRO were detected at 3.5 feet bsg in the samples analyzed at concentrations ranging from 7.71 mg/kg to 65.1 mg/kg.

Analytical results of soil samples are summarized in Table 1 and DRO concentrations are depicted in Figure 2. The laboratory reports (Apex Report IDs: A6G0447 and A6H0572), quality assurance and quality control (QA/QC) reports, and chain of custody forms are included in Appendix B. Additionally, 4Cs documentation, maps, and the DEQ *Initial Twenty Day Report Form* from the 2016 investigation are included in Appendix B.

Laboratory reports of soil samples and the completed 20-day Report form were transmitted to Mr. Mark Drouin of DEQ upon completion of sampling in August 2016; DEQ did not direct any additional work.

5.0. SUMMARY AND CONCLUSIONS

Based upon the environmental activities completed by 4Cs on behalf of IWS, AGI concludes the following:

- DRO were detected at a maximum concentration of 6,340 mg/kg in the soil samples collected (S-2#4). The maximum DRO concentration was below the DEQ Risk-Based Concentration (RBC) of 14,000 mg/kg for Soil Ingestion, Dermal Contact, and Inhalation for occupational receptors. The maximum DRO concentration is also below the Leaching to Groundwater RBC of 9,500 mg/kg.
- DRO concentrations decreased to 68.6 mg/kg at 6.0 feet bsg beneath the northern satellite dispenser S-2 and to 497 mg/kg at 6.0 feet bsg beneath the southern satellite dispenser S-1. DRO were not detected above laboratory reporting limits in the remaining samples collected at 6.0 feet bsg.

- GRO were detected at a maximum concentration of 65.1 mg/kg in the soil samples collected (S-2#3). The GRO concentration was below the DEQ RBC of 20,000 mg/kg for Soil Ingestion, Dermal Contact, and Inhalation for occupational receptors. The maximum GRO concentration is also below the Leaching to Groundwater RBC of 130 mg/kg for occupational receptors.
- No Occupational RBCs were exceeded during the investigation.

6.0. RECOMMENDATIONS

Based on the data collected from the 2016 investigation, AGI recommends site closure and issuance of a No Further Action (NFA) letter by the DEQ.

7.0. LIMITATIONS

Our professional services were performed using that degree of care and skill ordinarily exercised by environmental consultants practicing in this or similar localities. The findings were based upon field measurements and analytical results provided by an independent laboratory. Evaluations of the hydrogeologic conditions at the site for the purpose of this investigation are made from a limited number of available data points (i.e., soil samples) and subsurface conditions may vary away from these data points. No other warranty, expressed or implied, is made as to the professional interpretations, opinions and recommendations contained in this report.

Sincerely,

AdvancedGeo, Inc.



Brian W. Millman
Senior Geologist
Oregon State Registered Geologist No. G2663



Robert E. Marty
President

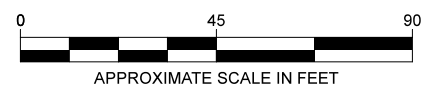
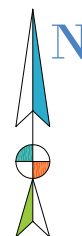
cc: Ms. Angela Maidment, Estes Express
Mr. Curtis Carr, Estes Express

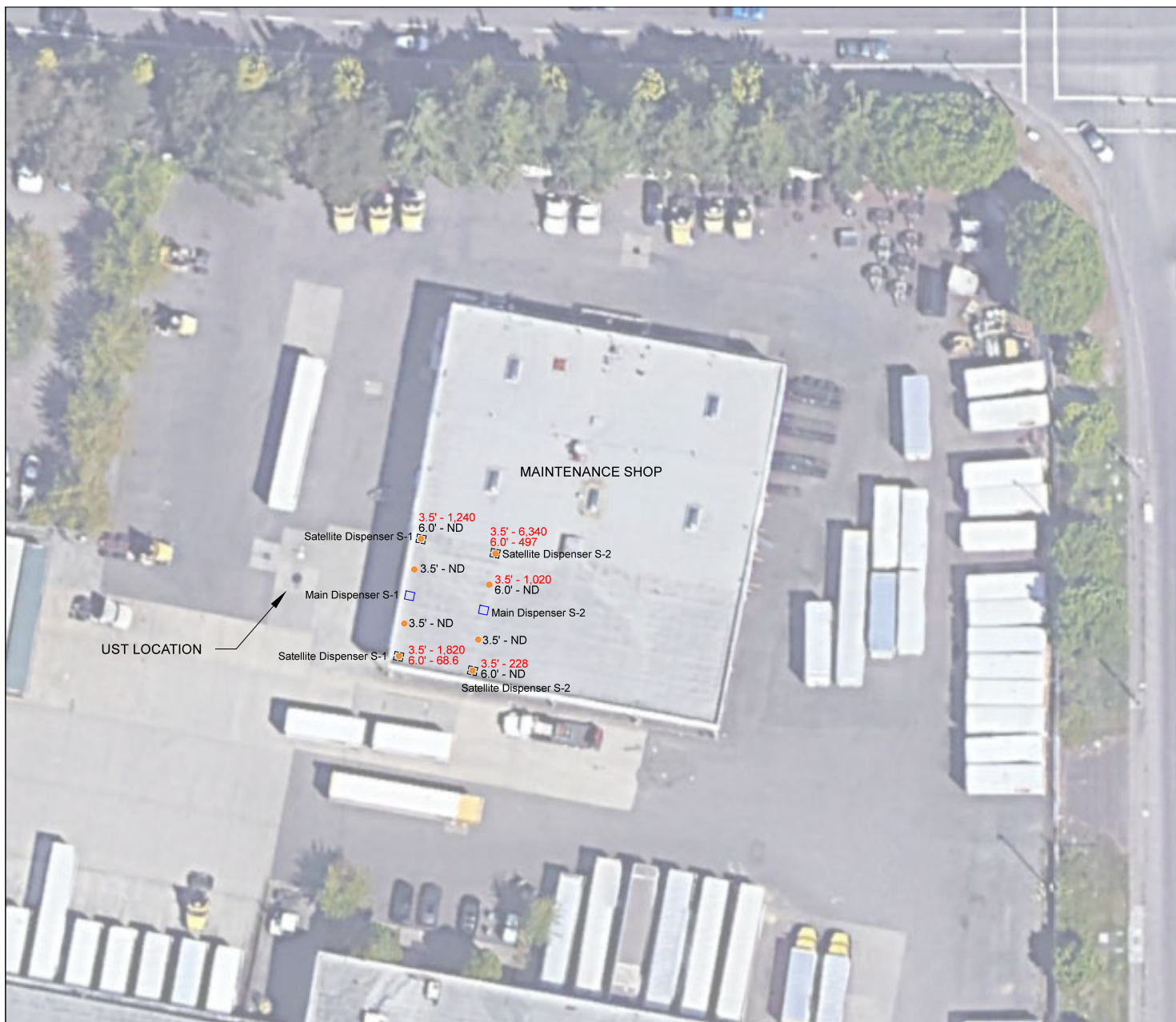
FIGURES



LEGEND

#1-3.5' ● SOIL SAMPLE LOCATION



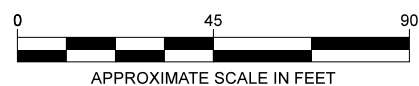
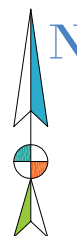


LEGEND

3.5': 228 ● SOIL SAMPLE LOCATION, DRO CONCENTRATION AND DEPTH (mg/kg)

NOTES:

DRO: Diesel Range Organics
mg/kg: milligrams per kilogram



AdvancedGeo
An Employee-Owned Company



www.advancedgeo.biz
(800) 511-9300

DRO CONCENTRATIONS ESTES WEST - PORTLAND TERMINAL 13704 NE AIRPORT WAY PORTLAND, OREGON

DATE: JANUARY 2023

FILE: SP

DRAWN BY: BWM

PROJECT NO. 16-3773

FIGURE: 2

TABLE

TABLE 1
ANALYTICAL RESULTS OF SOIL SAMPLES - SATELLITE DISPENSERS
ESTES WEST – PORTLAND TERMINAL
13704 NE Airport Way, Portland, Oregon

Sample ID	Depth bsg (Feet)	Date	NWTPH Methods: milligrams per kilogram (mg/kg)			
			NWTPH - HCID	NWTPH-Gx Gasoline	NWTPH-Dx	
					Diesel	Oil
S-1 #1	3.5	07/13/16	-	18.7	1,820	ND
S1-#5	6	08/17/16	-		68.6	ND
S-1 #2	3.5	07/13/16	ND	-	-	-
S-1 #3	3.5	07/13/16	ND	-	-	-
S-1 #4	3.5	07/13/16	-	17.8	1,240	ND
S1-#10	6	08/17/16	-		ND	ND
S-2 #1	3.5	07/13/16	Diesel - DET	-	228	ND
S2-#7	6	08/17/16	-		ND	ND
S-2 #2	3.5	07/13/16	ND	-	-	-
S-2 #3	3.5	07/13/16	-	65.1	1,020	ND
S2-#8	6	08/17/16	-	-	ND	ND
S-2 #4	3.5	07/13/16	-	7.71	6,340	ND
S2-#9	6	08/17/16	-	-	497	ND
RBCs	Soil Ingestion, Dermal Contact, and Inhalation	Res.	-	1,200	1,100	
		Urban Res.	-	2,500	2,200	
		Occ.	-	20,000	14,000	
		Co. Worker	-	9,700	4,600	
		Ex. Worker	-	>Max	>Max	
	Volatili-zation to Outdoor Air	Res.	-	5,900	>Max	
		Urban Res.	-	5,900	>Max	
		Occ.	-	69,000	>Max	
	Vapor Intrusion into Buildings	Res.	-	94	>Max	
		Urban Res.	-	94	>Max	
		Occ.	-	>Max	>Max	
	Leaching to Ground Water	Res.	-	31	9,500	
		Urban Res.	-	31	9,500	
		Occ.	-	130	>Max	

Notes:

mg/kg: milligrams per kilogram, or parts per million (ppm)
NWTPH-gx: Northwest Total Petroleum Hydrocarbons - Gasoline Range Hydrocarbons
NWTPH-dx: Northwest Total Petroleum Hydrocarbons - Diesel and Oil Range Hydrocarbons
RBCs: Risk Based Concentrations for Direct Contact (DC)
Res./Occ. Residential/Occupational

APPENDIX A

DEQ Pre-Enforcement Notice



Oregon

Kate Brown, Governor

Department of Environmental Quality
Northwest Region
700 NE Multnomah Street, Suite 600
Portland, OR 97232
(503) 229-5263
FAX (503) 229-6945
TTY 711

CERTIFIED MAIL NO. 70103090000021880858

March 18, 2016

Curtis Carr
3901 W. Broad Street
Richmond, VA 23230-3962

RE: Pre-Enforcement Notice
GI Trucking DBA Estes West
PEN - 2016 PEN 1406
FACILITY ID #10679
Multnomah County

Dear Mr. Carr:

On February 24, 2016 DEQ performed a Full Compliance Inspection at the GI Trucking, DBA Estes West facility located at 13704 NE Airport Way. During the inspection it was noted that the diesel satellite piping is iron pipe directly buried in cement after exiting the primary dispenser. There is no cathodic protection on this piping which routinely contains product.

The facility also failed to produce 2 of the last twelve months of tank tightness testing.

Based upon this inspection of your facility, the Department has concluded GI Trucking DBA Estes West is responsible for the following violations of Oregon environmental law:

VIOLATIONS:

- (1) [340-150-0320(3)]; (Class I). Failure to protect from corrosion any part of an UST system, including connected piping and fittings, that routinely contains a regulated substance.
- (2) [340-150-0450(5)]; (Class I). Failure to maintain adequate records of ATG monitoring and testing results.

Class I violations are the most serious violations; Class III violations are the least serious.

In order to correct the violation(s) or minimize the impacts of the violation(s) cited above, the Department is requesting you take the following actions by the date indicated:

Corrective Action(s) Requested

- 1) By April 22, 2016, submit UST system modification notice form and schedule of work to complete the removal and replacement of the iron pipe between the primary and satellite dispensers. The

modification notice should include a description of how you will perform site assessment sampling at the decommissioned piping according to OAR 340-150-0180.

- 2) Submit results of most recent month's tank testing record by the 10th of next month.

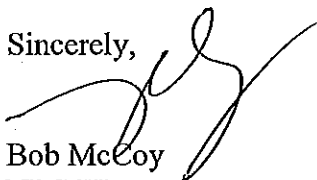
Your timely and responsive action on these items will be taken into consideration in any civil penalty assessment issued by the Department.

The violation(s) cited above posed the risk of significant environmental harm and the matter is being referred to the Department's Office of Compliance and Enforcement for formal enforcement action. Formal enforcement action may result in assessment of civil penalties and/or a Department order. A formal enforcement action may include a civil penalty assessment for each day of violation.

If you believe any of the facts in this Pre-Enforcement Notice are in error, you may provide written information to me at the address shown at the top of the letter. The Department will consider new information you submit and take appropriate action.

The Department endeavors to assist you in your compliance efforts. Should you have any questions about the content of this letter, or if you desire any follow-up technical assistance feel free contact me in writing or by phone at 503-229-52048.

Sincerely,



Bob McCoy
NRS III

Cc: Stephanie Holmes, Tanks, DEQ Headquarters
Office of Compliance and Enforcement, DEQ Headquarters

APPENDIX B

Laboratory Report
and
Historical Documents



OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
UNDERGROUND STORAGE TANK PROGRAM

Initial (Twenty Day) Report Form for UST Cleanup Projects

This report is due twenty (20) days from the date of the release.

DEQ USTC File No. 26-16-0983

DEQ Facility ID No. 10679

Site Name: GI Trucking dba Estes West

Site Address: 13704 NE Airport Way, Portland, OR 97230

INITIAL CLEANUP INFORMATION

(1) Type of contamination (check ☒ all that apply):

☐ Gasoline ☒ Diesel ☐ Waste Oil ☐ Heating Oil

☐ Other (specify) _____

(2) Estimate quantity of release (based on information known to date – • select only one):

☒ <100 gal. ☐ 100-499 gal. ☐ 500-999 gal. ☐ 1,000-5,000 gal. ☐ >5,000 gal.

SITE INFORMATION (check ☒ yes or ☒ no)

(3) ☐ Y ☒ N Did any water enter the excavation? If yes, please describe and identify the depth to groundwater in feet below ground surface: _____

(4) ☐ Y ☒ N Was a sheen or odor observed on any water in the excavation?

Note: If groundwater is encountered, soil samples from the soil/water interface must be collected and analyzed for BTEX and by the appropriate TPH method.

At sites where diesel or other non-gasoline products have been released, the water may also have to be screened or tested for polynuclear aromatic hydrocarbons (PAHs). *Please refer to OAR 340-122-0218.*

(5) ☐ Y ☒ N Was water pumped from the excavation?

☐ Y ☒ N If yes, did groundwater recharge within 24 hours after pumping?

Please describe the pumping procedure and disposal option selected for the purged excavation water:

(6) ☐ Y ☒ N Were any water samples collected from the excavation? If yes, please describe: _____

(7) ☒ Y ☐ N Have any soil and/or water sample results been received at this time?
If so, please attach any lab reports.

IF GROUNDWATER HAS BEEN ENCOUNTERED, PLEASE ANSWER QUESTIONS #8-13, BELOW.

IF NO WATER HAS BEEN ENCOUNTERED, PLEASE SKIP TO QUESTION #14

(8) What are the known uses of groundwater within a 500-foot radius of the release site (check ☒ all that apply)?

☐ non-use ☐ industrial ☐ agricultural ☐ drinking supply

(9) If groundwater in this area is being used as a drinking water supply, please check ☒ the type and size of population served by the supply:

☐ Community (community well used for drinking water year round – • select only one)

size: ☐ <1,000 people ☐ 1,000 - 5,000 people ☐ >5,000 people

☐ Intermittent use (public water used for drinking water only on a part-time basis – • select only one)

size: ☐ <50 people ☐ 50 - 300 people ☐ > 300 people

☐ Private wells (individual private well or wells used for drinking water – • select only one)

size: ☐ <10 people ☐ 10 - 25 people ☐ >25 people

(10) ☐ Y ☐ N Is there any evidence this water supply has been or is likely to be impacted from the petroleum product release? If yes, estimate how difficult it would be to replace the existing supply:

☐ bottled water is the only alternative

☐ on-site water treatment; bulk water delivery; new wells are available

☐ able to connect to existing water supply

☐ do not know what alternatives would be available

(11) ☐ Y ☐ N Are/were vapors present in on-site or nearby buildings? If yes:

A. Are you monitoring and/or mitigating any potential fire and safety hazards posed by vapors and free product? Explain: _____

B. Estimate the number of people potentially affected by vapors – • select only one:

☐ 1-2 people ☐ 3-10 people ☐ >10 people

(12) ☐ Y ☐ N Are vapors or is petroleum contamination present in the utility corridors?

If yes, please explain: _____

(13) ☐ Y ☐ N Are natural areas located within 1/4 mile of the site? If so, please describe types (parks, rivers, wetlands, sensitive habitats, etc.) and proximity: _____

(14) ☐ Y ☐ N If groundwater was not encountered in the excavation, do you believe that this cleanup project can be conducted under the requirements for an UST Cleanup Matrix site? If yes, then refer to OAR 340-122-0305 through 0360.

AREA/SITE CONDITIONS:

- (15) Mean annual rainfall: ☐ <20 inches ☐ 20-45 inches ☒ >45 inches
- (16) Soil type(s) of the naturally occurring soils, not the backfill around the tank – • select only one:
- ☐ clays, compact tills, shales, and unfractured metamorphic and igneous rocks
- ☐ sandy loams, loamy sands, silty clays, clay loams, moderately permeable limestone, dolomite, sandstones, moderately fractured igneous and metamorphic rock
- ☒ fine and silty sands, sands and gravels, highly fractured igneous and metamorphic rock, permeable basalts and lavas, karst limestones and dolomites

SOIL MANAGEMENT

- (17) If soil sample results have been received:
☐ Y ☒ N Will the level of contamination detected require removal of contaminated soil for treatment or disposal?
- (18) All contaminated soil temporarily stockpiled on-site prior to treatment or disposal must be contained within a bermed area, kept covered, and the entire area secured to prevent unauthorized access by the public. If you haven't done this, please explain why:

Note: It is a violation to stockpile petroleum contaminated soil (PCS) on-site for greater than 30 days without a DEQ Solid Waste Letter Authorization (SWLA) Permit.

- (19) If contaminated soil is currently stockpiled on-site, please indicate when disposal will occur or when treatment will begin: N/A

- (20) Estimated volume of contaminated soil (specify tons or cubic yards):

- (21) Intended disposition of soils (please • select only one):

- ☐ On-site/off-site treatment, Solid Waste Letter Authorization Permit Application attached.
- ☐ Thermal treatment off-site at an authorized facility.
 Facility name:
- ☒ Landfill disposal.
 Name of Landfill:

Note: Please attach additional information as necessary to explain any unusual circumstances associated with this project.

This initial report is intended to provide the Department with the basic initial information about activities associated with the release. Future reports should provide a more detailed and complete picture of the cleanup project.

Please be aware that a DEQ permit/authorization is required for the following activities:

- 1) Soil aeration, bioremediation (on-site or off-site), or on-site thermal treatment.
- 2) Water discharges to a stream/storm drain from the excavation or treatment tank.

If these activities will be included in your cleanup project, contact the regional DEQ office for the appropriate application forms, information on permit fees and guidance documents.

THIS REPORT WAS PREPARED BY:

Individual:	Casey Michaels	Date:	8/19/16
Company:	4C's Environmental Inc.	Phone:	503-606-3020
Address:	1590 SE Uglow Ave		
City:	Dallas	State	OR Zip 97338

**1. Please return this form to the regional office in which the site is located.
If you have questions, call the contact person in your regional office.**

2. For all tanks, except heating oil tanks, you must submit an *UST Decommissioning Checklist and Site Assessment Report* to the appropriate regional office within 30 days of the UST decommissioning.

Failure to do so can result in delays to your project and may result in continued billing for the annual tank permit fees.

**3. Addresses and phone numbers for the regional offices can be found in the *UST Cleanup Manual* or viewed and downloaded from this DEQ Webpage:
<http://www.deq.state.or.us/about/locations.htm>**

**4. Copies of the *UST Cleanup Manual* and other UST program forms and checklists can be viewed and downloaded from DEQ's Website:
<http://www.deq.state.or.us/lq/tanks/ust/index.htm>**

or in the Portland area by calling Steve Paiko at 503-229-6652

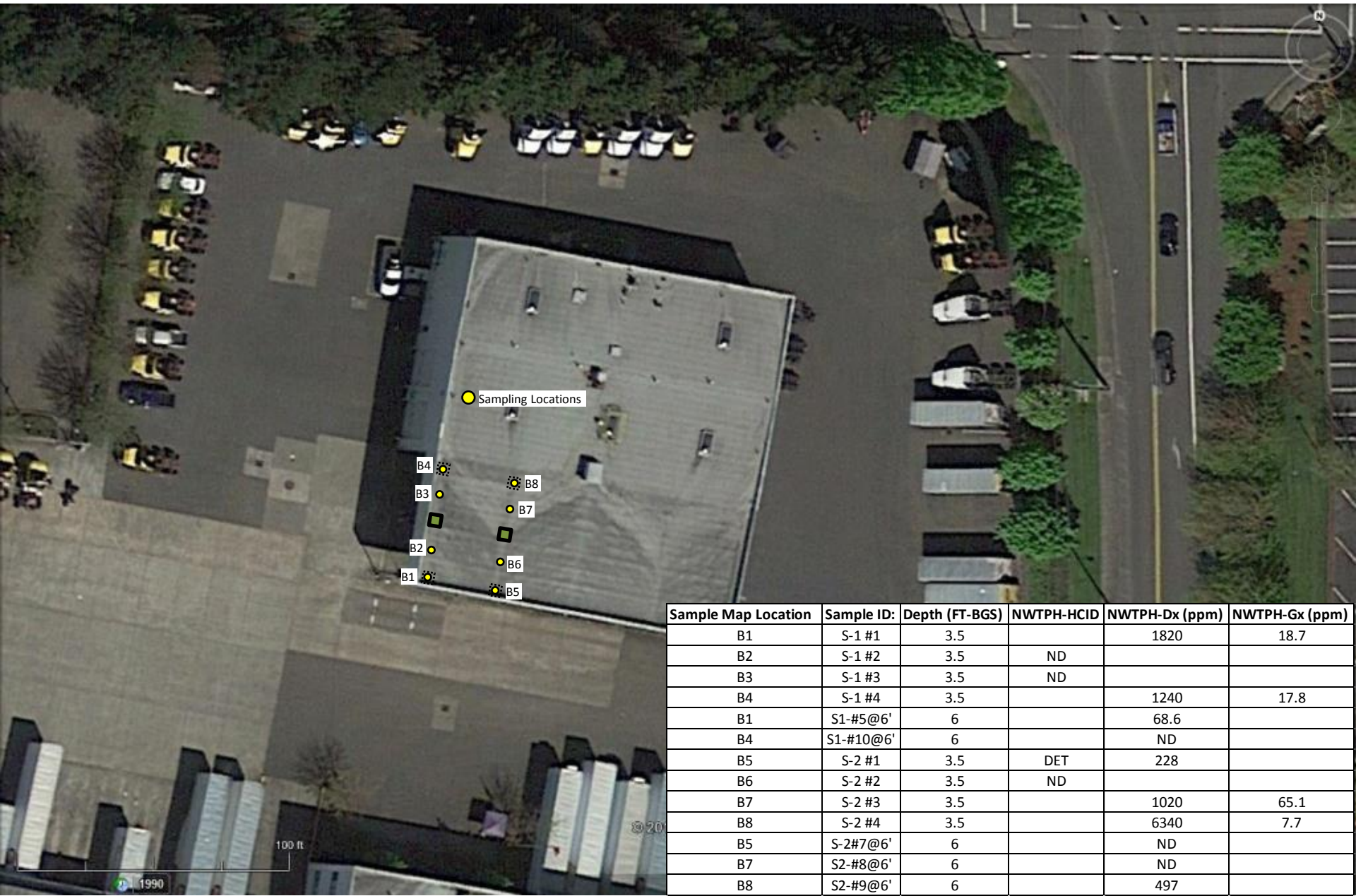
or outside the Portland area leaving a message on the UST Help Line (toll-free in Oregon) at 1-800-742-7878

KEEP A COPY OF THIS REPORT FOR YOUR FACILITY RECORDS

The fueling system consisted of two main dispensers and four satellite dispensers. Each main dispenser had two associated satellite dispensers. The modification was initiated after a DEQ inspection which revealed metal pipe existing the main dispensers and going underground to satellite dispensers. The use of the satellites was stopped. 4C's removed a section of concrete in front of one of the main dispensers and excavated down to the fuel pipe associated with the satellite dispenser. The pipe underground between the main dispensers and satellite was double wall fiberglass. It is assumed that the metal pipe existing the main dispenser goes below ground and connects to a 90 degree fiberglass elbow; there are no UDC's. It was decided by the system owner to remove the satellites, abandon the satellite fuel lines, and only use the two main dispensers. 4C's removed the satellites and left on-site for the owner. The underground satellite fuel lines were removed of fuel, rinsed, and vacuumed. The fuel lines were capped and the cut outs in the concrete islands covered. The metal lines exiting the main dispensers were removed and plugged in the dispenser and capped at the concrete surface. Soil samples were collected below each satellite dispenser location and along the fuel pipe between the main dispensers and satellite.



Site Map



Sample Locations

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Tuesday, August 2, 2016

Casey Michaels
4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

RE: ESTES/1305

Enclosed are the results of analyses for work order A6G0447, which was received by the laboratory on 7/13/2016 at 3:06:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1 #1	A6G0447-01	Soil	07/13/16 10:22	07/13/16 15:06
S-1 #2	A6G0447-02	Soil	07/13/16 10:50	07/13/16 15:06
S-1 #3	A6G0447-03	Soil	07/13/16 11:10	07/13/16 15:06
S-1 #4	A6G0447-04	Soil	07/13/16 11:10	07/13/16 15:06
S-2 #1	A6G0447-05	Soil	07/13/16 11:22	07/13/16 15:06
S-2 #2	A6G0447-06	Soil	07/13/16 11:34	07/13/16 15:06
S-2 #3	A6G0447-07	Soil	07/13/16 12:11	07/13/16 15:06
S-2 #4	A6G0447-08	Soil	07/13/16 12:18	07/13/16 15:06

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darrell Auvil, Project Manager

4C's Environmental Inc.

1590 SE Uglow Ave
Dallas, OR 97338

Project/#: ESTES/1305

Project Manager: Casey Michaels

Reported:

08/02/16 11:40

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
S-1 #2 (A6G0447-02)			Matrix: Soil	Batch: 6070360				
Gasoline Range Organics	ND	---	20.6	mg/kg dry	1	07/14/16 06:22	NWTPH-HCID	
Diesel Range Organics	ND	---	51.5	"	"	"	"	
Oil Range Organics	ND	---	103	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-1 #3 (A6G0447-03)			Matrix: Soil	Batch: 6070360				
Gasoline Range Organics	ND	---	20.5	mg/kg dry	1	07/14/16 06:43	NWTPH-HCID	
Diesel Range Organics	ND	---	51.3	"	"	"	"	
Oil Range Organics	ND	---	103	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-2 #1 (A6G0447-05)			Matrix: Soil	Batch: 6070360				
Gasoline Range Organics	ND	---	20.7	mg/kg dry	1	07/14/16 07:05	NWTPH-HCID	
Diesel Range Organics	DET	---	51.9	"	"	"	"	F-11
Oil Range Organics	ND	---	104	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-2 #2 (A6G0447-06)			Matrix: Soil	Batch: 6070360				
Gasoline Range Organics	ND	---	21.0	mg/kg dry	1	07/14/16 07:26	NWTPH-HCID	
Diesel Range Organics	ND	---	52.5	"	"	"	"	
Oil Range Organics	ND	---	105	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



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Darrell Auvil, Project Manager

4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
S-1 #1 (A6G0447-01)			Matrix: Soil		Batch: 6070369			
Diesel	1820	---	25.0	mg/kg dry	1	07/14/16 00:34	NWTPH-Dx	F-11
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 114 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-1 #4 (A6G0447-04)			Matrix: Soil		Batch: 6070369			
Diesel	1240	---	31.2	mg/kg dry	1	07/14/16 00:54	NWTPH-Dx	F-11
Oil	ND	---	62.3	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 110 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-2 #1 (A6G0447-05)			Matrix: Soil		Batch: 6070460			
Diesel	228	---	25.0	mg/kg dry	1	07/15/16 23:41	NWTPH-Dx	F-11
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 73 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-2 #3 (A6G0447-07)			Matrix: Soil		Batch: 6070369			
Diesel	1020	---	25.0	mg/kg dry	1	07/14/16 01:14	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 115 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S-2 #4 (A6G0447-08)			Matrix: Soil		Batch: 6070369			
Diesel	6340	---	97.7	mg/kg dry	5	07/14/16 01:34	NWTPH-Dx	
Oil	ND	---	195	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 122 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



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Darrell Auvil, Project Manager

4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

Project/#: ESTES/1305

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
S-1 #1 (A6G0447-01)			Matrix: Soil		Batch: 6070397		V-15	
Gasoline Range Organics	18.7	---	6.78	mg/kg dry	50	07/14/16 11:50	NWTPH-Gx (MS)	F-09
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 130 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			107 %	Limits: 50-150 %	"	"	"	
S-1 #4 (A6G0447-04)			Matrix: Soil		Batch: 6070397		V-15	
Gasoline Range Organics	17.8	---	11.0	mg/kg dry	50	07/14/16 12:15	NWTPH-Gx (MS)	F-09
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 120 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			103 %	Limits: 50-150 %	"	"	"	
S-2 #3 (A6G0447-07)			Matrix: Soil		Batch: 6070397		V-15	
Gasoline Range Organics	65.1	---	4.97	mg/kg dry	50	07/14/16 12:40	NWTPH-Gx (MS)	F-09
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 134 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			101 %	Limits: 50-150 %	"	"	"	
S-2 #4 (A6G0447-08)			Matrix: Soil		Batch: 6070397		V-15	
Gasoline Range Organics	7.71	---	5.20	mg/kg dry	50	07/14/16 13:06	NWTPH-Gx (MS)	F-09
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 104 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			96 %	Limits: 50-150 %	"	"	"	

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Darrell Auvil, Project Manager

4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
S-1 #1 (A6G0447-01)			Matrix: Soil		Batch: 6070365			
% Solids	83.2	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-1 #2 (A6G0447-02)			Matrix: Soil		Batch: 6070365			
% Solids	94.4	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-1 #3 (A6G0447-03)			Matrix: Soil		Batch: 6070365			
% Solids	94.6	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-1 #4 (A6G0447-04)			Matrix: Soil		Batch: 6070365			
% Solids	60.3	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-2 #1 (A6G0447-05)			Matrix: Soil		Batch: 6070365			
% Solids	92.3	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-2 #2 (A6G0447-06)			Matrix: Soil		Batch: 6070365			
% Solids	93.6	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-2 #3 (A6G0447-07)			Matrix: Soil		Batch: 6070365			
% Solids	92.5	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	
S-2 #4 (A6G0447-08)			Matrix: Soil		Batch: 6070365			
% Solids	91.0	---	1.00	% by Weight	1	07/14/16 09:30	EPA 8000C	

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Darrell Auvil, Project Manager

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4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

Project/#: ESTES/1305

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070360 - NWTPH-HCID (Soil)						Soil						
Blank (6070360-BLK1)						Prepared: 07/13/16 13:06		Analyzed: 07/14/16 04:13				
NWTPH-HCID												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	45.5	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	---	90.9	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 104 %		Limits: 50-150 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		101 %		50-150 %		"						

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Darrell Auvil, Project Manager

4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070369 - EPA 3546 (Fuels)						Soil						
Blank (6070369-BLK1)						Prepared: 07/13/16 15:13		Analyzed: 07/13/16 21:56				
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 110 %		Limits: 50-150 %		Dilution: 1x						
LCS (6070369-BS1)						Prepared: 07/13/16 15:13		Analyzed: 07/13/16 22:16				
NWTPH-Dx												
Diesel	116	---	25.0	mg/kg wet	1	125	---	93	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x						

Apex Laboratories



Darrell Auvil, Project Manager

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4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070460 - EPA 3546 (Fuels)						Soil						
Blank (6070460-BLK1)						Prepared: 07/15/16 12:07		Analyzed: 07/15/16 20:42				
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 86 %		Limits: 50-150 %		Dilution: 1x						
LCS (6070460-BS1)						Prepared: 07/15/16 12:07		Analyzed: 07/15/16 21:02				
NWTPH-Dx												
Diesel	106	---	25.0	mg/kg wet	1	125	---	85	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 79 %		Limits: 50-150 %		Dilution: 1x						

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Darrell Auvil, Project Manager

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4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070397 - EPA 5035A						Soil						
Blank (6070397-BLK1)				Prepared: 07/14/16 08:00 Analyzed: 07/14/16 11:25								
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 114 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		107 %		50-150 %		"						
LCS (6070397-BS2)				Prepared: 07/14/16 08:00 Analyzed: 07/14/16 11:00								
NWTPH-Gx (MS)												
Gasoline Range Organics	20.1	---	5.00	mg/kg wet	50	25.0	---	80	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 111 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		105 %		50-150 %		"						

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Darrell Auvil, Project Manager

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4C's Environmental Inc.

Project/ #: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070365 - Total Solids (Dry Weight)							Soil					
Duplicate (6070365-DUP3)					Prepared: 07/13/16 17:56		Analyzed: 07/14/16 09:30					
QC Source Sample: S-1 #1 (A6G0447-01)												
EPA 8000C												
% Solids	83.0	---	1.00	% by Weight	1	---	83.2	---	---	0.3	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Darrell Auvil, Project Manager

4C's Environmental Inc.

1590 SE Uglow Ave
Dallas, OR 97338

Project#: ESTES/1305

Project Manager: Casey Michaels

Reported:

08/02/16 11:40

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070360							
A6G0447-02	Soil	NWTPH-HCID	07/13/16 10:50	07/13/16 18:12	10.28g/10mL	10g/10mL	0.97
A6G0447-03	Soil	NWTPH-HCID	07/13/16 11:10	07/13/16 18:12	10.3g/10mL	10g/10mL	0.97
A6G0447-05	Soil	NWTPH-HCID	07/13/16 11:22	07/13/16 18:12	10.44g/10mL	10g/10mL	0.96
A6G0447-06	Soil	NWTPH-HCID	07/13/16 11:34	07/13/16 18:12	10.17g/10mL	10g/10mL	0.98

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070369							
A6G0447-01	Soil	NWTPH-Dx	07/13/16 10:22	07/13/16 17:54	11.44g/5mL	10g/5mL	0.87
A6G0447-04	Soil	NWTPH-Dx	07/13/16 11:10	07/13/16 17:54	10.64g/5mL	10g/5mL	0.94
A6G0447-07	Soil	NWTPH-Dx	07/13/16 12:11	07/13/16 17:54	10.89g/5mL	10g/5mL	0.92
A6G0447-08	Soil	NWTPH-Dx	07/13/16 12:18	07/13/16 17:54	11.25g/5mL	10g/5mL	0.89
Batch: 6070460							
A6G0447-05	Soil	NWTPH-Dx	07/13/16 11:22	07/15/16 15:14	11.25g/5mL	10g/5mL	0.89

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070397							
A6G0447-01	Soil	NWTPH-Gx (MS)	07/13/16 10:22	07/13/16 17:25	5.205g/5mL	5g/5mL	0.96
A6G0447-04	Soil	NWTPH-Gx (MS)	07/13/16 11:10	07/13/16 17:25	5.404g/5mL	5g/5mL	0.93
A6G0447-07	Soil	NWTPH-Gx (MS)	07/13/16 12:11	07/13/16 17:25	5.92g/5mL	5g/5mL	0.85
A6G0447-08	Soil	NWTPH-Gx (MS)	07/13/16 12:18	07/13/16 17:25	5.85g/5mL	5g/5mL	0.86

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070365							
A6G0447-01	Soil	EPA 8000C	07/13/16 10:22	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA
A6G0447-02	Soil	EPA 8000C	07/13/16 10:50	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA
A6G0447-03	Soil	EPA 8000C	07/13/16 11:10	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories

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Darrell Auvil, Project Manager

4C's Environmental Inc.

Project/#: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6G0447-04	Soil	EPA 8000C	07/13/16 11:10	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA
A6G0447-05	Soil	EPA 8000C	07/13/16 11:22	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA
A6G0447-06	Soil	EPA 8000C	07/13/16 11:34	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA
A6G0447-07	Soil	EPA 8000C	07/13/16 12:11	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA
A6G0447-08	Soil	EPA 8000C	07/13/16 12:18	07/13/16 17:56	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



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Darrell Auvil, Project Manager

4C's Environmental Inc.

Project/ #: ESTES/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

Notes and Definitions

Qualifiers:

- F-09 Results in the Gasoline Range are primarily due to overlap from a heavier fuel hydrocarbon product.
- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- V-15 Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Darrell Auvil, Project Manager

4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

Project#: ESTES/1305

Project Manager: Casey Michaels

Reported:
08/02/16 11:40

CHAIN OF CUSTODY

Lab # 106647 COC 1 of 1

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: 4C's Environmental Inc. 1590 SE Uglow Ave. Dallas, OR 97338		Project Mgr: <u>Casey</u>		Project Name: <u>ESTES</u>		Project #: <u>1305</u>														
Address: <u>1590 SE Uglow Ave.</u> Dallas, OR 97338		Phone: <u>503-718-5000</u>		Fax: <u>503-718-3700</u>		Email: _____														
Sampled by: <u>Casey</u>																				
Site Location: <u>OR</u> WA _____																				
Other: _____																				
LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-ICID	NWTPH-DX	NWTPH-GX	8260 VOC	8260 RBDH VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHS	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	AL, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Hg, Mn, Mo, Ni, K, Se, Ag, Na, Ti, V, Zn	TOTAL DISS TCLP	1200-COLS	1200-Z
1 S-1 #1	7/5	10:12	Soil	1		X														
2 S-1 #2	7/5	10:50	Soil	1	X															
3 S-1 #3	7/5	11:10	Soil	1	X															
4 S-1 #4	7/5	11:15	Soil	1		X														
5 S-2 #1	7/5	11:22	Soil	1	X															
6 S-2 #2	7/5	11:34	Soil	1	X															
7 S-2 #3	7/5	12:11	Soil	1		X														
8 S-2 #4	7/5	12:18	Soil	1		X														
9																				
10																				

Normal Turn Around Time (TAT) = 7-10 Business Days

TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

YES ☒ NO ☐

RELINQUISHED BY:

Signature: [Signature] Date: 7/13/16

Printed Name: Casey Michaels Time: 3:06

Company: Apex

RECEIVED BY:

Signature: [Signature] Date: _____

Printed Name: _____ Time: _____

Company: _____

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Friday, August 19, 2016

Casey Michaels
4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

RE: Ester Trucking-Satelites/1305

Enclosed are the results of analyses for work order A6H0572, which was received by the laboratory on 8/17/2016 at 4:47:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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Darrell Auvil, Project Manager

4C's Environmental Inc.

1590 SE Uglow Ave
Dallas, OR 97338

Project/#: Ester Trucking-Satelites/1305

Project Manager: Casey Michaels

Reported:

08/19/16 11:21

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S1-#5@6'	A6H0572-01	Soil	08/17/16 12:53	08/17/16 16:47
S2-#7@6'	A6H0572-02	Soil	08/17/16 13:38	08/17/16 16:47
S2-#8@6'	A6H0572-03	Soil	08/17/16 14:14	08/17/16 16:47
S2-#9@6'	A6H0572-04	Soil	08/17/16 14:58	08/17/16 16:47
S1-#10@6'	A6H0572-05	Soil	08/17/16 15:15	08/17/16 16:47

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Darrell Auvil, Project Manager

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4C's Environmental Inc.

1590 SE Uglow Ave
Dallas, OR 97338

Project/#: Ester Trucking-Satelites/1305

Project Manager: Casey Michaels

Reported:

08/19/16 11:21

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
S1-#5@6' (A6H0572-01)			Matrix: Soil		Batch: 6080630			
Diesel	68.6	---	26.1	mg/kg dry	1	08/17/16 22:32	NWTPH-Dx	F-11
Oil	ND	---	52.2	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S2-#7@6' (A6H0572-02)			Matrix: Soil		Batch: 6080630			
Diesel	ND	---	25.0	mg/kg dry	1	08/17/16 22:53	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 88 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S2-#8@6' (A6H0572-03)			Matrix: Soil		Batch: 6080630			
Diesel	ND	---	25.3	mg/kg dry	1	08/17/16 23:13	NWTPH-Dx	
Oil	ND	---	50.7	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S2-#9@6' (A6H0572-04)			Matrix: Soil		Batch: 6080630			
Diesel	497	---	25.0	mg/kg dry	1	08/17/16 23:33	NWTPH-Dx	F-11
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
S1-#10@6' (A6H0572-05)			Matrix: Soil		Batch: 6080630			
Diesel	ND	---	25.9	mg/kg dry	1	08/17/16 23:53	NWTPH-Dx	
Oil	ND	---	51.8	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



Darrell Auvil, Project Manager

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4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

Project/#: Ester Trucking-Satelites/1305

Project Manager: Casey Michaels

Reported:
08/19/16 11:21

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
S1-#5@6' (A6H0572-01)			Matrix: Soil		Batch: 6080623			
% Solids	70.9	---	1.00	% by Weight	1	08/18/16 07:50	EPA 8000C	
S2-#7@6' (A6H0572-02)			Matrix: Soil		Batch: 6080623			
% Solids	75.7	---	1.00	% by Weight	1	08/18/16 07:50	EPA 8000C	
S2-#8@6' (A6H0572-03)			Matrix: Soil		Batch: 6080623			
% Solids	74.5	---	1.00	% by Weight	1	08/18/16 07:50	EPA 8000C	
S2-#9@6' (A6H0572-04)			Matrix: Soil		Batch: 6080623			
% Solids	81.1	---	1.00	% by Weight	1	08/18/16 07:50	EPA 8000C	
S1-#10@6' (A6H0572-05)			Matrix: Soil		Batch: 6080623			
% Solids	73.7	---	1.00	% by Weight	1	08/18/16 07:50	EPA 8000C	

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Darrell Auvil, Project Manager

4C's Environmental Inc.

Project/#: Ester Trucking-Satelites/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/19/16 11:21

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6080630 - EPA 3546 (Fuels)						Soil						
Blank (6080630-BLK1)						Prepared: 08/17/16 15:25 Analyzed: 08/17/16 20:46						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
LCS (6080630-BS1)						Prepared: 08/17/16 15:25 Analyzed: 08/17/16 21:05						
NWTPH-Dx												
Diesel	118	---	25.0	mg/kg wet	1	125	---	94	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (6080630-DUP2)						Prepared: 08/17/16 18:25 Analyzed: 08/18/16 00:13						
QC Source Sample: S1-#10@6' (A6H0572-05)												
NWTPH-Dx												
Diesel	ND	---	25.9	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	51.7	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						

Apex Laboratories



Darrell Auvil, Project Manager

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4C's Environmental Inc.

Project/#: Ester Trucking-Satelites/1305

1590 SE Uglow Ave
Dallas, OR 97338

Project Manager: Casey Michaels

Reported:
08/19/16 11:21

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	--------------------	-------	------	-----------------	------------------	------	----------------	-----	--------------	-------

Batch 6080623 - Total Solids (Dry Weight)

Soil

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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4C's Environmental Inc.

1590 SE Uglow Ave
Dallas, OR 97338

Project/#: Ester Trucking-Satelites/1305

Project Manager: Casey Michaels

Reported:

08/19/16 11:21

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6080630							
A6H0572-01	Soil	NWTPH-Dx	08/17/16 12:53	08/17/16 18:25	10.81g/5mL	10g/5mL	0.93
A6H0572-02	Soil	NWTPH-Dx	08/17/16 13:38	08/17/16 18:25	10.89g/5mL	10g/5mL	0.92
A6H0572-03	Soil	NWTPH-Dx	08/17/16 14:14	08/17/16 18:25	10.6g/5mL	10g/5mL	0.94
A6H0572-04	Soil	NWTPH-Dx	08/17/16 14:58	08/17/16 18:25	10.57g/5mL	10g/5mL	0.95
A6H0572-05	Soil	NWTPH-Dx	08/17/16 15:15	08/17/16 18:25	10.48g/5mL	10g/5mL	0.95

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6080623							
A6H0572-01	Soil	EPA 8000C	08/17/16 12:53	08/17/16 19:53	1N/A/1N/A	1N/A/1N/A	NA
A6H0572-02	Soil	EPA 8000C	08/17/16 13:38	08/17/16 19:53	1N/A/1N/A	1N/A/1N/A	NA
A6H0572-03	Soil	EPA 8000C	08/17/16 14:14	08/17/16 19:53	1N/A/1N/A	1N/A/1N/A	NA
A6H0572-04	Soil	EPA 8000C	08/17/16 14:58	08/17/16 19:53	1N/A/1N/A	1N/A/1N/A	NA
A6H0572-05	Soil	EPA 8000C	08/17/16 15:15	08/17/16 19:53	1N/A/1N/A	1N/A/1N/A	NA

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1590 SE Uglow Ave
Dallas, OR 97338

Project/#: Ester Trucking-Satelites/1305

Project Manager: Casey Michaels

Reported:

08/19/16 11:21

Notes and Definitions

Qualifiers:

F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Darrell Auvil, Project Manager

4C's Environmental Inc.
1590 SE Uglow Ave
Dallas, OR 97338

Project#: Ester Trucking-Satellites/1305

Project Manager: Casey Michaels

Reported:
08/19/16 11:21

Lab # AL040572 COC 1 of 1

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: 4C's Environmental Inc. 1590 SE Uglow Ave. Dallas, OR 97338		Project Mgr: CASEY		Project Name: Ester Trucking-Satellites		Project # 1305	
Address: Dallas, OR 97338		Phone: 503 666 3000		Fax: 503 666 2120		Email:	
Sampled by:							
Site Location: OR WA		ANALYSIS REQUEST					
Other:		1200-COLS TOTAL DISS TCLP Se, Ag, Na, TL, V, Zn Hg, Mg, Mn, Mo, Ni, K Cr, Cu, Fe, Pb Al, Sb, As, Ba, Be, Cd TCLP Metals (8) RCRA Metals (8) 600 TTO 8082 PCBs 8270 SIM PAHs 8270 SVOC 8260 BTEX 8260 RBDN VOCs 8260 VOC NWTPH-CX 50% NWTPH-DX NWTPH-HCID # OF CONTAINERS MATRIX TIME DATE LAB ID #					
SAMPLE ID		1 S1-#5 @ 6' 2 S2-#7 @ 6' 3 S2-#8 @ 6' 4 S2-#9 @ 6' 5 S1-#10 @ 6' 6 7 8 9 10					
Normal Turn Around Time (TAT) = 7-10 Business Days		YES NO 1 Day 2 Day 3 Day TAT Requested (circle) 4 DAY 5 DAY Other: SAMPLES ARE HELD FOR 30 DAYS					
RELINQUISHED BY:		RECEIVED BY:					
Signature: [Signature]		Signature: [Signature]					
Date: 8/17/16		Date: 8/17/16					
Printed Name: Thomas [Signature]		Printed Name: [Signature]					
Time: 4:47		Time: 10:47					
Company:		Company:					

Apex Laboratories

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[Signature]

Darrell Auvil, Project Manager