SITE INFORMATION

Report Type: Closure Report 1RP-4533

General Site Information:						
Site:	**Vacuum Abo Unit 14-02**					
Company:	**ConocoPhillips**					
Section, Township and Range		**Sec. 5**	**T 18S**	**R 35E**		
Lease Number:	**API No. 30-025-03064**					
County:	**Lea**					
Release GPS:	**32.7714844**			**-103.4862823**		
Surface Owner:	State					
Mineral Owner:						
Directions:	From the intersection of HWY 238 and Buckeye Road travel south on HWY-238 for 2.4 miles. Turn left (east) and travel approximately 0.4 miles until the intersection. Take the road to the right (south) and follow 0.1 miles to site.					

Release Data:	
Date Released:	12/16/2016
Type Release:	Oil
Source of Contamination:	Flow line
Fluid Released:	16 bbls
Fluids Recovered:	5 bbls

Official Communication:			
Name:	Jenni Fortunato		Greg Pope
Company:	ConocoPhillips		Tetra Tech
Address:	935 N. Eldridge Pkwy.		901 W. Wall Street
			Suite 100
City:	Houston, TX 77079		Midland, Texas
Phone number:	(281) 293-1000		(432) 687-8134
Fax:			
Email:	Jenni.Fortunato@conocophillips.com		Greg.Pope@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	***10***	Approximately 65 feet
>100 ft.	0	
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	***0***	0
Total Ranking Score:	***10***	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	1,000

CLOSURE REPORT SUBMITTED VIA EMAIL
Wednesday, March 13, 2019
To: emnrd-ocd-district1spills@state.nm.us
RESUBMITTED AS FEE APPLICATION DUE TO LACK OF RESPONSE

February 28, 2019

Ms. Christina Hernandez
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Revised Closure Report for the ConocoPhillips Company, Vacuum Abo Unit 14-02, Section 5, Township 18 South, Range 35 East, Lea County, New Mexico. 1RP-4533

Ms. Hernandez:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (ConocoPhillips) to assess a release that occurred at the Vacuum Abo Unit 14-02, Section 5, Township 18 South, Range 35 East, Lea County, New Mexico (site). The spill site coordinates are N 32.7714844º, W 103.4862823º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 19, 2016, and released approximately sixteen (16) barrels of crude oil due to a flow line leak. As a part of the emergency response action, Conoco isolated the well and recovered approximately five (5) barrels of fluid by a vacuum truck. In addition, Conoco immediately excavated the soils to a depth of approximately 6" to 1.0' below surface to the top of a dense rock formation. The release occurred in the pasture and impacted an area measuring approximately 50'x 150'. The initial C-141 Form is included in Appendix A.

Groundwater

Four (4) water wells were reported within Section 5 on the New Mexico Office of the State Engineer's (NMOSE) database with an average depth to groundwater of 68 feet below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is less than 100 feet below surface. The groundwater data is shown in Appendix B.

Tetra Tech
901 W. Wall Street, Suite 100, Midland, TX 79701
Tel 432.682.4559 www.tetratech.com

Regulatory

A risk-based evaluation was performed for the site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The approved RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the approved RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On August 7, 2017, Tetra Tech personnel were onsite to supervise the installation of soil borings in order to further evaluate and sample the release area. A total of three (3) soil borings (SB-1, SB-2, and SB-3) were installed in the spill area to assess and define the extents of the impacted soils. Soil samples were collected and field screened with a PID and for chlorides. Three (3) soil samples from each soil boring were collected for analysis of TPH by method 8015B modified and BTEX by Method 8260. All of the samples collected were analyzed for chloride by EPA method 300.0. The laboratory results are summarized in Table 1. A copy of the laboratory analytical report and chain-of-custody document is included in Appendix C.

Referring to Table 1, the samples selected for BTEX and TPH analysis did not show concentrations above the laboratory reporting limits or above the RRAL's. Additionally, the area of soil boring (SB-3) did not show any chloride concentrations above the 600 mg/kg threshold, with a chloride high of 150 mg/kg at 0.5'-1.0' below surface. However, some of the chloride concentrations exceeded the recommended limit of 600 mg/kg in the areas of soil borings (SB-1 and SB-2). The area of soil boring (SB-1) showed a chloride high of 1,140 mg/kg at 0.5'-1.0' below surface, which declined with depth. The area of soil boring (SB-2) showed chloride concentrations of 951 mg/kg (0.5'-1.0') and 1,060 mg/kg (2'-3'), which then declined with depth to below the laboratory reporting limits.

Soil Excavation and Analytical Results

On February 23, 2018, Tetra Tech submitted a closure report to NMOCD for the site. Per discussions with NMOCD, Tetra Tech provided boring logs to determine the caliche depths and thickness. Additionally, sidewall samples were requested to determine horizontal delineation.

On October 4, 2018, Tetra Tech collected six sidewall samples from the excavated area. The samples collected at SSW-1 and ESW-2 showed chloride levels below the 600 mg/kg recommended threshold. However, the other four samples exceeded. The sidewall samples are presented in Table 2.

Tetra Tech was onsite October 29, 2018 to perform chloride field screenings along the outer edges of the excavation that were above the chloride threshold to determine the

horizontal extent of the chloride release for excavation. Based on the field screenings, Tetra Tech and a contractor were onsite November 1, 2018 to remove the surface soil until refusal of the dense compacted limestone formation in the subsurface soil to the horizontal extent as defined by the field screening data. Four confirmation sidewall samples were collected, and the data is presented in Table 2.

All soil samples were collected for analysis of TPH by method 8015B modified, BTEX by Method 8260, and for chloride by EPA method 300.0. The laboratory results are summarized in Table 2. A copy of the laboratory analytical report and chain-of-custody document is included in Appendix C.

Referring to Table 2, all of the final excavated edges of the release were below their respective RRALs and the chloride recommended level of 600 mg/kg.

Conclusions and Recommendations

The site location poses significant remediation challenges based on the surface conditions at the site. The soil lithology logged during the soil boring investigation showed a dense and compacted limestone formation in the subsurface soils. After the release, Conoco immediately removed the impacted soil to the top of the limestone formation and transported the material for proper disposal.

Based on the assessment results, the areas of soil borings (SB-1 and SB-2) showed a shallow chloride impact that does not appear to be significant, with concentrations ranging from 951 mg/kg to 1,140 mg/kg. Based on the laboratory results, the chloride concentrations do not appear to be an environmental concern. Due to the shallow dense formation, any removal of the material would be not be feasible using excavation equipment. The final sidewall data collected in October and November 2018 confirm the horizontal extents of the release were removed.

Based on the results and the site lithology, ConocoPhillips request closure of the site. The Final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call at (432) 682-4559.

Additionally, Tetra Tech will monitor the re-vegetation in 2019 to confirm that an established perennial grass life cycle covers approximately 70% of the backfilled area. If the area does not meet the State Land Office requirements, the backfill area will be reseeded accordingly and continued to be monitored. Documentation of the re-vegetation will be provided to the State Land Office.

Respectfully submitted,
TETRA TECH

Kayla Taylor,
Project Manager, P.G.

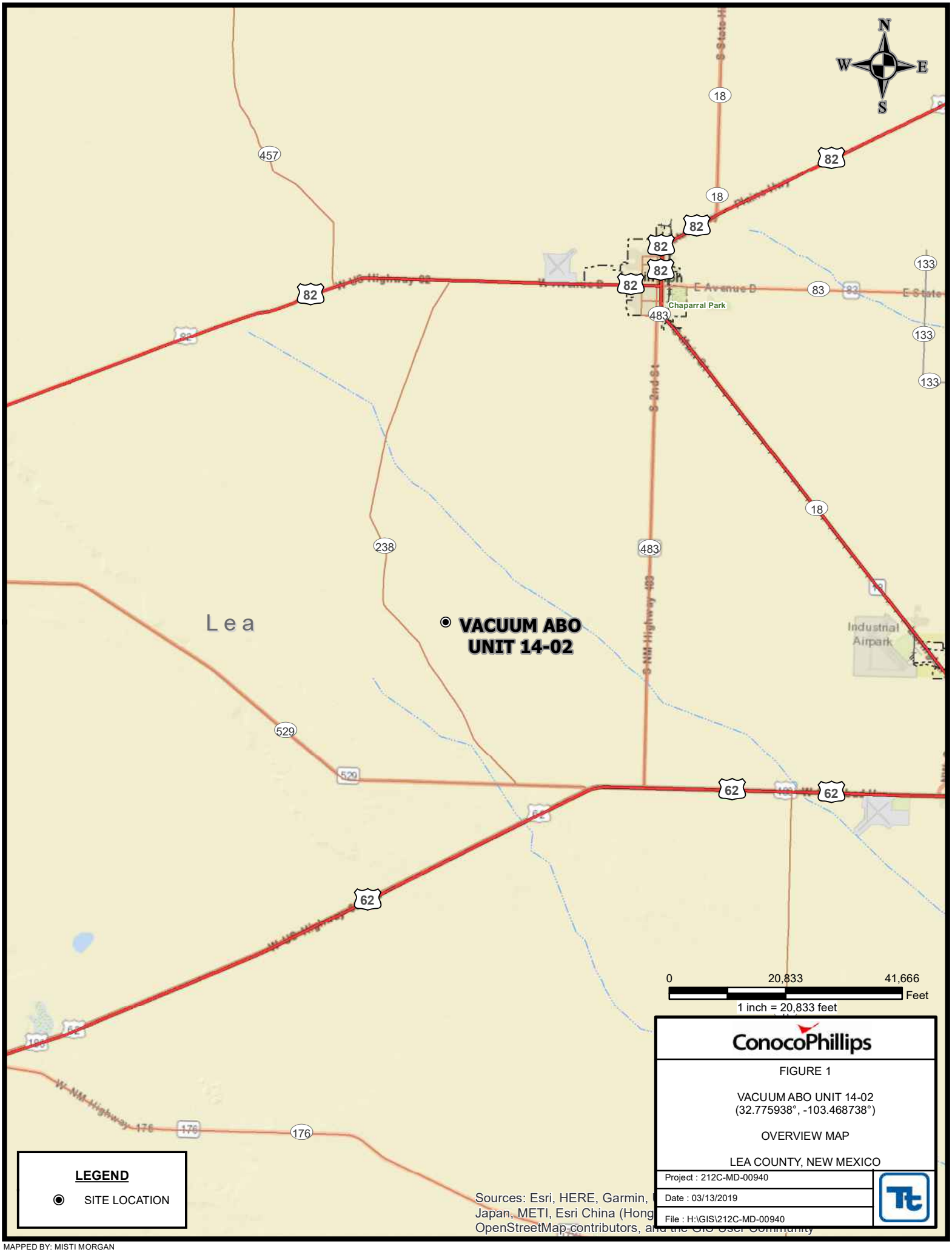
Greg W. Pope,
Program Manager, P.G.

cc: Jenni Fortunato – ConocoPhillips

Attachments:

- Figure 1 – Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Spill Assessment Map
- Figure 4 – Excavation Areas and Depths Map
- Table 1 – Summary of Soil Boring Assessment Analysis
- Table 2 – Summary of Soil Excavation Sample Locations
- Photos – Documentation of Soil Excavation Activities
- Appendix A – NMOCD C-141 Forms
- Appendix B – NMOSE Groundwater Data
- Appendix C – Laboratory Analytical Data
- Appendix D – Waste Manifests

Figures



ConocoPhillips

FIGURE 1

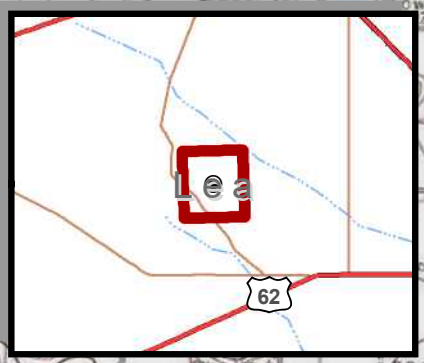
VACUUM ABO UNIT 14-02
(32.775938°, -103.468738°)

OVERVIEW MAP

LEA COUNTY, NEW MEXICO

Project : 212C-MD-00940	
Date : 03/13/2019	
File : H:\GIS\212C-MD-00940	

MAPPED BY: MISTI MORGAN



OVERALL VIEW 1:739,221

VACUUM ABO UNIT 14-02

N
W
E
S

0 2,000 4,000 Feet

1 inch = 2,000 feet

LEGEND

◉ SITE LOCATION

ConocoPhillips

FIGURE 2

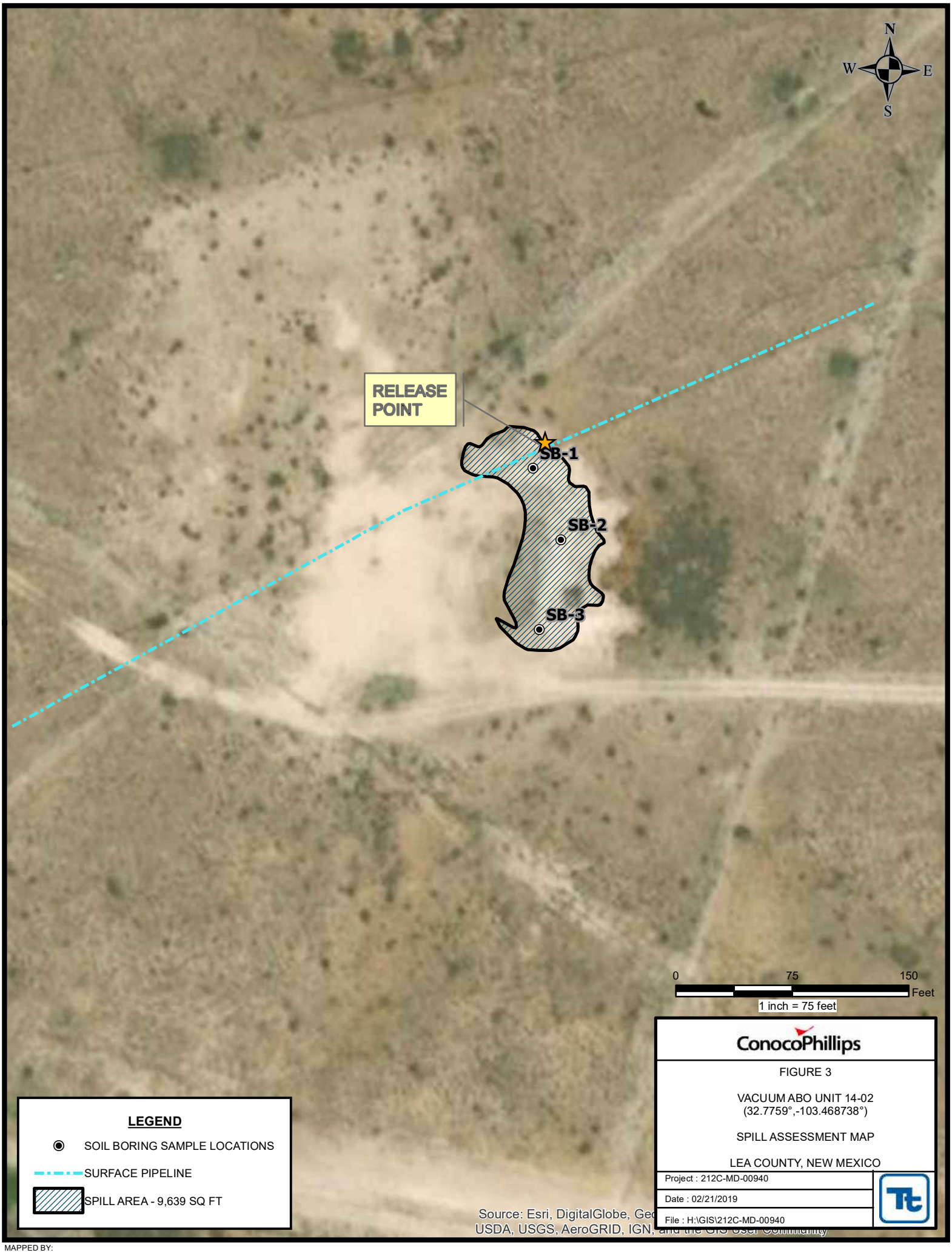
VACUUM ABO UNIT 14-02
(32.775938°, -103.468738°)

TOPOGRPHIC MAP

LEA COUNTY, NEW MEXICO

Project : 212C-MD-00940	
Date : 03/13/2019	
File : H:\GIS\212C-MD-00940	

MAPPED BY: MISTI MORGAN



ConocoPhillips

FIGURE 3

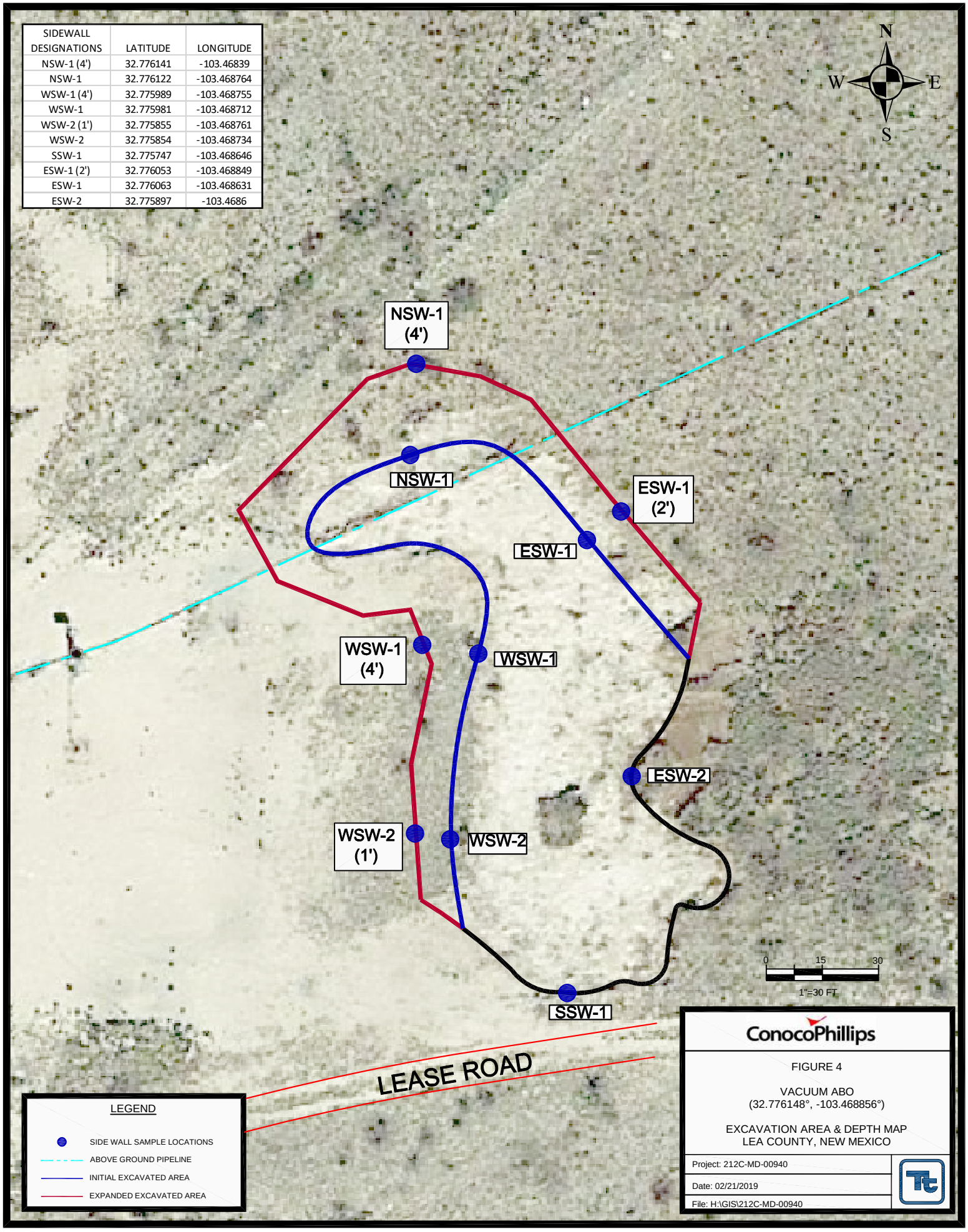
VACUUM ABO UNIT 14-02
(32.7759°,-103.468738°)

SPILL ASSESSMENT MAP

LEA COUNTY, NEW MEXICO

Project : 212C-MD-00940	
Date : 02/21/2019	
File : H:\GIS\212C-MD-00940	

MAPPED BY:


SIDEWALL DESIGNATIONS | LATITUDE | LONGITUDE
NSW-1 (4') | 32.776141 | -103.46839
NSW-1 | 32.776122 | -103.468764
WSW-1 (4') | 32.775989 | -103.468755
WSW-1 | 32.775981 | -103.468712
WSW-2 (1') | 32.775855 | -103.468761
WSW-2 | 32.775854 | -103.468734
SSW-1 | 32.775747 | -103.468646
ESW-1 (2') | 32.776053 | -103.468849
ESW-1 | 32.776063 | -103.468631
ESW-2 | 32.775897 | -103.4686
N
W
E
S
NSW-1 (4')
NSW-1
ESW-1 (2')
ESW-1
WSW-1 (4')
WSW-1
ESW-2
WSW-2 (1')
WSW-2
SSW-1
0
15
30
1"=30 FT
LEASE ROAD
LEGEND
SIDE WALL SAMPLE LOCATIONS
ABOVE GROUND PIPELINE
INITIAL EXCAVATED AREA
EXPANDED EXCAVATED AREA
ConocoPhillips
FIGURE 4
VACUUM ABO
(32.776148°, -103.468856°)
EXCAVATION AREA & DEPTH MAP
LEA COUNTY, NEW MEXICO
Project: 212C-MD-00940
Date: 02/21/2019
File: H:\GIS\212C-MD-00940

Tables

Table 1
ConocoPhillips
Soil Assessment Analytical Results
Vacuum ABO Unit 14-02 1RP-4533

Sample ID	Sample Date	Sample Depth (ft)		TPH				BTEX					Chlorides	
			Field PID (PPM)	TPH GRO mg/kg	TPH DRO mg/kg	TPH ORO mg/kg	Total TPH mg/kg	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Xylenes (ug/kg)	Total BTEX (ug/kg)	Field Chlorides (PPM)	Chlorides (mg/kg)
SB-1 - Cuttings	08/07/17	0-1	1.0	ND	ND	ND	-	ND	ND	ND	ND	-	400	1,140
Cuttings	"	2-3	0.6	ND	ND	ND	-	ND	ND	ND	ND	-	126	ND
Cuttings	"	4-5	0.6	-	-	-	-	-	-	-	-	-	104	ND
Cuttings	"	6-7	0.6	-	-	-	-	-	-	-	-	-	104	ND
Cuttings	"	9-10	0.6	ND	14.0	14.4	28.4	ND	ND	ND	ND	-	52.1	ND
SB-2 - Cuttings	08/07/17	0-1	209.8	ND	380.0	93.0	473.0	ND	ND	ND	ND	-	712	951
Cuttings	"	2-3	7.1	-	-	-	-	-	-	-	-	-	560	1,060
Cuttings	"	4-5	3.6	ND	ND	ND	-	ND	ND	ND	ND	-	106	ND
Cuttings	"	6-7	3.2	-	-	-	-	-	-	-	-	-	157	ND
Cuttings	"	9-10	1.0	-	-	-	-	-	-	-	-	-	43.3	ND
Cuttings	"	14-15	1.0	ND	ND	ND	-	ND	ND	ND	ND	-	78	ND
SB-3 - Cuttings	08/07/17	0-1	42.9	ND	84.5	25.9	110.4	ND	ND	ND	ND	-	407	150
Cuttings	"	2-3	4.7	ND	ND	ND	-	ND	ND	ND	ND	-	170	ND
Cuttings	"	4-5	2.4	-	-	-	-	-	-	-	-	-	149	ND
Cuttings	"	6-7	2.4	-	-	-	-	-	-	-	-	-	237	ND
Cuttings	"	9-10	1.7	ND	ND	ND	-	ND	ND	ND	ND	-	251	127

(-) Not Analyzed

Table 2
Conoco Phillips
Sidewall Confirmation Analytical Results
Vac ABO Unit 14-02 1RP-4533

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		PID (PPM)	TPH							BTEX									Chlorides	
			In Situ	Removed		TPH GRO (mg/kg)	Qualifier	TPH DRO (mg/kg)	Qualifier	TPH ORO (mg/kg)	Qualifier	Total TPH (mg/kg)	Benzene (mg/kg)	Qualifier	Toluene (mg/kg)	Qualifier	Ethylbenzene (mg/kg)	Qualifier	Xylenes (mg/kg)	Qualifier	Total BTEX (mg/kg)	Chloride (PPM)	Chloride (mg/kg)
October 4, 2018 Sidewall Sample Data																							
NSW-1	10/4/2018	-	X	-	-	0.0308	J	12.2		23.1		35.33	<0.00434		<0.00136		<0.000575		<0.00519		<0.00519	10.28 PPT	**3,090**
SSW-1	10/4/2018	-	X	-	-	0.0373	J	319		228		547.04	<0.000425		<0.00133		<0.000563		<0.00507		<0.00507	3.09 PPT	214
ESW-1	10/4/2018	-	X	-	-	0.0447	J	7.85		31.6		39.49	<0.000434		<0.00136		<0.000575		<0.00518		<0.00518	370	**8,690**
ESW-2	10/4/2018	-	X	-	-	0.056	J	1.920	J	12.9		14.88	<0.000426		<0.00133		<0.000565		<0.00510		<0.00510	613	256
WSW-1	10/4/2018	-	X	-	-	0.0394	J	95.1		117		212.14	<0.000437		<0.00137		<0.000579		<0.00522		<0.00522	2.06 PPT	**4,730**
WSW-2	10/4/2018	-	X	-	-	0.0541	J	54		73.8		127.85	<0.000457		<0.00143		<0.000605		<0.00546		<0.00546	8.09 PPT	**5,540**
November 1, 2018 Sidewall Sample Data																							
NSW-1 (4')	11/1/2018	-	X	-	-	<0.0284		2.64	J	3.36	BJ	6.00	<0.000524		<0.00164		<0.000694		<0.00626		<0.00626	320	179
WSW-1 (4')	11/1/2018	-	X	-	-	<0.0276		10.2		17.4		27.60	<0.000509		<0.00159		<0.000675		<0.00608		<0.00608	330	273
WSW-2 (1')	11/1/2018	-	X	-	-	<0.0275		3.71	J	5.62	BJ	9.33	<0.000506		<0.00158		<0.000671		<0.00605		<0.00605	420	441
ESW-1 (2')	11/1/2018	-	X	-	-	<0.0263		7.62		15.8		23.42	<0.000485		<0.00152		<0.000643		<0.00580		<0.00580	165	36.8

NOTES:

ft	Feet	DRO	Diesel Range Organics
PPM	Parts per million	ORO	Oil Range Organics
mg/kg	Milligrams per kilogram	J	The identification of the analyte is acceptable; the reported value is an estimate.
TPH	Total Petroleum Hydrocarbons	B	The same analyte is found in the associated blank.
GRO	Gasoline Range Organics	J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low

Photos

ConocoPhillips
Vacuum Abo Unit 14-02
Lea County, New Mexico

View Northeast- Spill Area

View Northeast– Area of SB-1

ConocoPhillips
Vacuum Abo Unit 14-02
Lea County, New Mexico

View Southeast– Area of SB-2

View Southeast– Area of SB-3

ConocoPhillips
Vacuum Abo Unit 14-02
Lea County, New Mexico

View Northeast– Area of WSW-1 and WSW-2

View Southwest– Area of NWS-1 and WSW-1

ConocoPhillips
Vacuum Abo Unit 14-02
Lea County, New Mexico

View Northwest– Area of NWS-1

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 22 2016
RECEIVED

Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1636439168 217817

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **ConocoPhillips**	Contact: **Cullen**
Address: **29 Vacuum Complex Lane**	Telephone No. **575-391-3133**
Facility Name: **Vacuum Abo Unit 14-02**	Facility Type: **Flow line**

Surface Owner: State	Mineral Owner: N/A	API No.30-025-03064

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	5	18S	35E					**Lea**

Latitude 32.7714844 **Longitude** -103.4862823

NATURE OF RELEASE

Type of Release: **16 BBL Oil**	Volume of Release: **16 BBl**	Volume Recovered: 5 BBl
Source of Release: **Flow line**	Date and Hour of Occurrence **12-19-2016 11:15 AM**	Date and Hour of Discovery **SAME**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Kristen Lynch	
By Whom? **Cullen Rosine**	Date and Hour: **12-20-2016 via phone/email**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Descr On December 19, 2016 at 1115, MSO discovered a flow line leak that resulted in 16 BBL oil spilled. 5 BBLs were recovered by vacuum truck. Spill site will be remediated per NMOCD and COPC guidelines. ibe Cause of Problem and Remedial Action Taken. *

Describe Area Affected and Cleanup Action Taken. *
Area 1 – 21' X 60' X 2" deep.
Area 2 – 30' X 36' X 2" dep.
Area 3 – 48' X 75' X 2" deep.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: *Cullen Rosine*	OIL CONSERVATION DIVISION
Printed Name: Cullen Rosine	Approved by Environmental Specialist:
Title: HSE Specialist	Approval Date: 12/29/16 Expiration Date: N/A
E-mail Address: **Cullen.J.Rosine@conocophillips.com**	Conditions of Approval: see attached Attached ☒
Date: 12/20/2016 Phone:575-391-3133	

* Attach Additional Sheets If Necessary

IRP-4533

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-4533
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

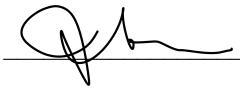
☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jenni Fortunato Title: Program Manager, Risk Management & Remediation

Signature:  Date: 3/12/2019

email: jenni.fortunato@cop.com Telephone: 832-486-2477

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
Conoco Phillips - Vacuum Abo Unit 14-02
Lea County, New Mexico

17 South 34 East

6 120 157	5	4 65	3 95	2 80	1 77
7 140	8 140	9	10 95	11 92	12 115
18 160	17 113	16 60	15 114 60	14 79	13 84
19 78	20 140	21 153	22 109	23	24
30	29	28	27	26	25 82
31	32	33	34	35	36

17 South 35 East

6	5	4	3	2	1 50
7	8	9	10	11	12
18 40	17 55	16	15	14	13
19 85	20 60	21	22	23	24
30 83	29	28 70	27	26	25
31 106	32	33 63	34 56	35 40	36 50

17 South 36 East

6 50	5	4 65	3 60	2 60 69	1 83 74
7	8	9	10 43	11	12 44 46
18	17	16	15	14 48	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 34 East

6 130	5 105	4	3 87	2 102	1 107
7 83	8 148	9	10 148	11 110	12 115 92
18 125	17	16 108	15 114 110	14 103	13 96
19 105	20 125	21	22	23	24
30	29	28	27 112	26	25 117
31	32	33	34	35 118	36

18 South 35 East

6 89	5 68	4 58	3 62	2 55 51	1
7 85	8	9 72	10 49	11 59 48	12
18 90	17 90 124	16 75	15	14 90	13 135
19 74 70	20 85 50	21	22 70	23	24
30	29 95	28	27 68	26 60	25
31	32 58	33 80	34	35 58	36

18 South 36 East

6 45	5 35	4 65	3	2 60	1 50
7 65	8	9 85	10	11 38	12 40
18 25	17	16	15 53	14 55	13
19	20 59	21 58	22 60	23 39	24 28
30	29 55	28 45	27 55	26 55	25 62
31	32	33	34 70	35	36

19 South 34 East

6 244	5	4	3	2 100	1
7	8	9 29 28.6	10	11 123	12 60
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25 28
31 65	32	33	34	35	36

19 South 35 East

6 61 58	5 63	4 70	3	2	1 63
7 51	8 18	9 20	10 53	11	12
18	17 26 30	16	15 26	14 27	13 27
19	20	21	22 27	23	24 20
30	29	28	27	26	25
31	32	33	34	35	36

19 South 36 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 04250	L	LE				05	18S	35E	642378	3627565*	112	60	52
L 04591	L	LE	4	2		05	18S	35E	642970	3627785*	130	75	55
L 04664	L	LE	2	3		05	18S	35E	642171	3627371*	140	70	70
L 04931	L	LE	1	2		05	18S	35E	642561	3628183*	237	70	167

Average Depth to Water: **68 feet**

Minimum Depth: **60 feet**

Maximum Depth: **75 feet**

Record Count: 4

PLSS Search:

Section(s): 5 **Township:** 18S **Range:** 35E

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 00335		L	LE	4	1	3	35	18S	35E	646843	3619253*	124	45	79
L 01225 POD1		L	LE	1	2	3	35	18S	35E	647047	3619458*	97	50	47
L 02052		L	LE				17	18S	35E	642438	3624337*	190	72	118
L 02053		L	LE				20	18S	35E	642464	3622723*	175	78	97
L 02348		L	LE	3	1	4	09	18S	35E	644116	3625679*	215	105	110
L 02349	R	L	LE	3	1	4	07	18S	35E	640891	3625641*	207	85	122
L 02349 POD2		L	LE	4	1	4	07	18S	35E	641091	3625641*	214	85	129
L 02349 POD3		L	LE	4	1	4	07	18S	35E	641091	3625641	220	142	78
L 02350		L	LE	4	1	3	08	18S	35E	641897	3625650*	216	105	111
L 02357		L	LE			2	20	18S	35E	642855	3623137*	170	77	93
L 02503	R	L	LE	2	4	1	02	18S	35E	647106	3627930*	100		
L 02520		L	LE		4	1	23	18S	35E	647088	3622989*	134	78	56
L 02628		L	LE	2	2	3	11	18S	35E	647141	3625912*	112	40	72
L 02675		L	LE		3	2	15	18S	35E	645850	3624587*	197	47	150
L 02676		L	LE		1	2	16	18S	35E	644231	3624972*	175	60	115
L 02677		L	LE		3	4	15	18S	35E	645863	3623780*	194	54	140
L 02678		L	LE		3	4	22	18S	35E	645890	3622166*	200	58	142
L 02678	R	L	LE		3	4	22	18S	35E	645890	3622166*	200	58	142
L 02678 POD2	R	L	LE		3	4	22	18S	35E	645890	3622166*	185	58	127
L 02678 POD3		L	LE		3	4	22	18S	35E	645890	3622166*	190	154	36
L 02679		L	LE		4	4	21	18S	35E	644680	3622151*	200	68	132
L 02679	R	L	LE		4	4	21	18S	35E	644680	3622151*	200	68	132
L 02679 POD2		L	LE		3	2	22	18S	35E	645876	3622973*	187	65	122
L 02680		L	LE		1	2	21	18S	35E	644257	3623357*	190	59	131
L 03171		L	LE		3	3	17	18S	35E	641835	3623734*	170	150	20
L 03221		L	LE		4	2	14	18S	35E	647868	3624613*	100	90	10

***UTM location was derived from PLSS - see Help**

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(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 03678	L	LE				35	18S	35E	647354	3619554*	115	60	55
L 03721	L	LE		3	3	18	18S	35E	640241	3623717*	161	90	71
L 03772	L	LE		2	2	21	18S	35E	644659	3623361*	130	60	70
L 03783	L	LE				27	18S	35E	645710	3621138*	115	65	50
L 03866	L	LE		3	3	22	18S	35E	645082	3622155*	127	65	62
L 03888	L	LE		3	1	19	18S	35E	640253	3622912*	107	70	37
L 03963	L	LE		1	2	27	18S	35E	645896	3621762*	127	70	57
L 04206	L	LE		3	4	04	18S	35E	644194	3626992*	125	50	75
L 04250	L	LE				05	18S	35E	642378	3627565*	112	60	52
L 04399	L	LE		3	3	22	18S	35E	645082	3622155*	90	75	15
L 04498	L	LE		3	1	04	18S	35E	643373	3627790*	128	70	58
L 04562	L	LE		3	1	29	18S	35E	641874	3621315*	156	95	61
L 04591	L	LE		4	2	05	18S	35E	642970	3627785*	130	75	55
L 04631	L	LE	2	1	1	04	18S	35E	643465	3628292*	140	60	80
L 04664	L	LE		2	3	05	18S	35E	642171	3627371*	140	70	70
L 04744	L	LE	1	2	2	02	18S	35E	647704	3628341*	122	51	71
L 04777	L	LE	1	2	2	07	18S	35E	641279	3626653*	145	85	60
L 04778	L	LE		2	1	07	18S	35E	640575	3626545*	150	75	75
L 04794	L	LE			4	07	18S	35E	641200	3625540*	150	95	55
L 04796	L	LE	4	4	3	06	18S	35E	640667	3626847*	150	95	55
L 04906	L	LE			3	07	18S	35E	640415	3625532*	155	87	68
L 04931	L	LE		1	2	05	18S	35E	642561	3628183*	237	70	167
L 04931 X	L	LE		1	3	07	18S	35E	640208	3625735*	212	105	107
L 04975	L	LE	2	2	3	07	18S	35E	640688	3625837*	152	105	47
L 05156	L	LE		4	1	17	18S	35E	642224	3624545*	150	90	60
L 05172	L	LE		3	3	07	18S	35E	640214	3625331*	161	85	76
L 05235	L	LE		1	2	02	18S	35E	647402	3628238*	114	54	60
L 05385	L	LE				01	18S	35E	648832	3627639*	100		
L 05411	L	LE		3	4	06	18S	35E	640970	3626952*	120	60	60

***UTM location was derived from PLSS - see Help**

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(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 05444	L	LE		4	3	32	18S	35E	642319	3618899*	80	58	22
L 05523	L	LE	3	3	2	06	18S	35E	640855	3627660*	147	85	62
L 05810	L	LE		2	3	22	18S	35E	645479	3622564*	145	95	50
L 06047	L	LE	2	2	1	16	18S	35E	643927	3625066*	122	65	57
L 06868	L	LE	1	4	3	26	18S	35E	647026	3620666*	110	57	53
L 06869	L	LE		1	3	26	18S	35E	646717	3620966*	125	60	65
L 07119	L	LE	1	1	1	06	18S	35E	640068	3628255*	233	95	138
L 07119 S	L	LE	1	2	1	06	18S	35E	640445	3628259*	233	95	138
L 07129	L	LE	4	3	3	34	18S	35E	645237	3618830*	60	40	20
L 07872	L	LE	1	3	3	03	18S	35E	644900	3627101*	162	62	100
L 07928	L	LE	4	4	1	19	18S	35E	640639	3622915	175		
L 08309	L	LE	1	2	2	10	18S	35E	646122	3626711*	112	49	63
L 09373	L	LE		1	1	26	18S	35E	646704	3621773*	120	60	60
L 09524	L	LE		1	4	35	18S	35E	647552	3619364*	140	57	83
L 09574	L	LE		4	2	14	18S	35E	647868	3624613*	90		
L 09588	L	LE	4	3	4	16	18S	35E	644349	3623659*	155	84	71
L 09726	L	LE	4	4	4	11	18S	35E	647953	3625318*	135	48	87
L 09742	L	LE		1	4	17	18S	35E	642474	3624312	200		
L 09745	L	LE	2	4	3	35	18S	35E	647254	3619055*	106	65	41
L 09762	L	LE		3	3	33	18S	35E	643526	3618913*	160	80	80
L 09766	L	LE		1	1	13	18S	35E	648106	3624799	135	135	0
L 09958	L	LE	4	2	2	35	18S	35E	648040	3620074*	150	55	95
L 10294	L	LE		2	4	03	18S	35E	646209	3627419*	90	61	29
L 10304	L	LE	1	4	4	09	18S	35E	644526	3625479*	170	72	98
L 10337	L	LE	4	1	1	06	18S	35E	640268	3628055*	190	100	90
L 11511	L	LE	2	4	4	25	18S	35E	649646	3620696*	102	62	40
L 12932 POD1	L	LE	2	2	1	02	18S	35E	676000	3628886	175	95	80
L 13041 POD1	L	LE		2	2	06	18S	35E	641152	3628026	130		
L 13041 POD2	L	LE		2	2	06	18S	35E	641152	3628026	140		

***UTM location was derived from PLSS - see Help**

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(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 13041 POD3	L	LE		2	2	06	18S	35E	641152	3628026	140		
L 13041 POD4	L	LE		2	2	06	18S	35E	641152	3628026	140		
L 13988 POD1	L	LE	1	3	4	34	18S	35E	645839	3618945	110	38	72

Average Depth to Water: **74 feet**

Minimum Depth: **38 feet**

Maximum Depth: **154 feet**

Record Count: 87

PLSS Search:

Township: 18S **Range:** 35E

Appendix C

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

August 24, 2017

Greg Pope
TetraTech
4000 N. Big Spring St.
Ste 401
Midland, TX 79705

RE: Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Dear Greg Pope:
Enclosed are the analytical results for sample(s) received by the laboratory on August 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melissa McCullough
melissa.mccullough@pacelabs.com
(972)727-1123
Project Manager

Enclosures

cc: Jeanne Fitch, Tetra Tech
Todd Wells, TetraTech

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

CERTIFICATIONS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

SAMPLE SUMMARY

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Lab ID	Sample ID	Matrix	Date Collected	Date Received
7572003001	**COP Vac Abo Unit SB-1 (0-1')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003002	**COP Vac Abo Unit SB-1 (2-3')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003003	**COP Vac Abo Unit SB-1 (4-5')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003004	**COP Vac Abo Unit SB-1 (6-7')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003005	**COP Vac Abo Unit SB-1 (9-10')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003006	**COP Vac Abo Unit SB-2 (0-1')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003007	**COP Vac Abo Unit SB-2 (2-3')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003008	**COP Vac Abo Unit SB-2 (4-5')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003009	**COP Vac Abo Unit SB-2 (6-7')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003010	**COP Vac Abo Unit SB-2 (9-10')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003011	**COP Vac Abo Unit SB-2 (14-15')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003012	**COP Vac Abo Unit SB-3 (0-1')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003013	**COP Vac Abo Unit SB-3 (2-3')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003014	**COP Vac Abo Unit SB-3 (4-5')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003015	**COP Vac Abo Unit SB-3 (6-7')**	Solid	08/07/17 00:01	08/15/17 08:50
7572003016	**COP Vac Abo Unit SB-3 (9-10')**	Solid	08/07/17 00:01	08/15/17 08:50

Pace Analytical Services, LLC
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Allen, TX 75013
(972)727-1123

SAMPLE ANALYTE COUNT

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7572003001	**COP Vac Abo Unit SB-1 (0-1')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003002	**COP Vac Abo Unit SB-1 (2-3')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003003	**COP Vac Abo Unit SB-1 (4-5')**	EPA 300.0	OL	1	PASI-K
7572003004	**COP Vac Abo Unit SB-1 (6-7')**	EPA 300.0	OL	1	PASI-K
7572003005	**COP Vac Abo Unit SB-1 (9-10')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003006	**COP Vac Abo Unit SB-2 (0-1')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003007	**COP Vac Abo Unit SB-2 (2-3')**	EPA 300.0	OL	1	PASI-K
7572003008	**COP Vac Abo Unit SB-2 (4-5')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003009	**COP Vac Abo Unit SB-2 (6-7')**	EPA 300.0	OL	1	PASI-K
7572003010	**COP Vac Abo Unit SB-2 (9-10')**	EPA 300.0	OL	1	PASI-K
7572003011	**COP Vac Abo Unit SB-2 (14-15')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003012	**COP Vac Abo Unit SB-3 (0-1')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K
7572003013	**COP Vac Abo Unit SB-3 (2-3')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K

Pace Analytical Services, LLC
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(972)727-1123

SAMPLE ANALYTE COUNT

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7572003014	**COP Vac Abo Unit SB-3 (4-5')**	EPA 300.0	OL	1	PASI-K
7572003015	**COP Vac Abo Unit SB-3 (6-7')**	EPA 300.0	OL	1	PASI-K
7572003016	**COP Vac Abo Unit SB-3 (9-10')**	EPA 8015B	AJM	4	PASI-K
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	CJW	7	PASI-K
		EPA 300.0	OL	1	PASI-K

Pace Analytical Services, LLC
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(972)727-1123

ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-1 (0-1') **Lab ID: 7572003001** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	ND	mg/kg	23.4	1	08/21/17 07:51	08/23/17 01:37		
TPH-ORO (C28-C35)	ND	mg/kg	23.4	1	08/21/17 07:51	08/23/17 01:37		
Surrogates								
n-Tetracosane (S)	95	%	65-119	1	08/21/17 07:51	08/23/17 01:37	646-31-1	
p-Terphenyl (S)	93	%	41-131	1	08/21/17 07:51	08/23/17 01:37	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	12.4	1	08/17/17 00:00	08/18/17 16:42		
Surrogates								
4-Bromofluorobenzene (S)	95	%	64-122	1	08/17/17 00:00	08/18/17 16:42	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.3	1		08/19/17 02:09	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		08/19/17 02:09	100-41-4	
Toluene	ND	ug/kg	6.3	1		08/19/17 02:09	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		08/19/17 02:09	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	87-112	1		08/19/17 02:09	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-115	1		08/19/17 02:09	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	85-115	1		08/19/17 02:09	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	**1140**	mg/kg	124	10	08/22/17 20:03	08/22/17 20:03	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-1 (2-3') **Lab ID: 7572003002** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	ND	mg/kg	10.8	1	08/21/17 07:51	08/23/17 01:47		
TPH-ORO (C28-C35)	ND	mg/kg	10.8	1	08/21/17 07:51	08/23/17 01:47		
Surrogates								
n-Tetracosane (S)	82	%	65-119	1	08/21/17 07:51	08/23/17 01:47	646-31-1	
p-Terphenyl (S)	85	%	41-131	1	08/21/17 07:51	08/23/17 01:47	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	11.4	1	08/17/17 00:00	08/18/17 16:58		
Surrogates								
4-Bromofluorobenzene (S)	98	%	64-122	1	08/17/17 00:00	08/18/17 16:58	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	5.8	1		08/19/17 02:24	71-43-2	
Ethylbenzene	ND	ug/kg	5.8	1		08/19/17 02:24	100-41-4	
Toluene	ND	ug/kg	5.8	1		08/19/17 02:24	108-88-3	
Xylene (Total)	ND	ug/kg	5.8	1		08/19/17 02:24	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	87-112	1		08/19/17 02:24	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-115	1		08/19/17 02:24	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	85-115	1		08/19/17 02:24	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	ND	mg/kg	113	10	08/23/17 10:45	08/23/17 16:01	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-1 (4-5') **Lab ID: 7572003003** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	100	10	08/23/17 10:45	08/23/17 16:27	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-1 (6-7') **Lab ID: 7572003004** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	99.6	10	08/23/17 10:45	08/23/17 16:40	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-1 (9-10') Lab ID: 7572003005 Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	**14.0**	mg/kg	10.2	1	08/21/17 07:51	08/23/17 01:56		
TPH-ORO (C28-C35)	**14.4**	mg/kg	10.2	1	08/21/17 07:51	08/23/17 01:56		
Surrogates								
n-Tetracosane (S)	91	%	65-119	1	08/21/17 07:51	08/23/17 01:56	646-31-1	
p-Terphenyl (S)	84	%	41-131	1	08/21/17 07:51	08/23/17 01:56	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	10.3	1	08/17/17 00:00	08/18/17 17:14		
Surrogates								
4-Bromofluorobenzene (S)	98	%	64-122	1	08/17/17 00:00	08/18/17 17:14	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	5.2	1		08/19/17 02:40	71-43-2	
Ethylbenzene	ND	ug/kg	5.2	1		08/19/17 02:40	100-41-4	
Toluene	ND	ug/kg	5.2	1		08/19/17 02:40	108-88-3	
Xylene (Total)	ND	ug/kg	5.2	1		08/19/17 02:40	1330-20-7	
Surrogates								
Toluene-d8 (S)	101	%	87-112	1		08/19/17 02:40	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-115	1		08/19/17 02:40	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	85-115	1		08/19/17 02:40	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	ND	mg/kg	102	10	08/23/17 10:45	08/23/17 17:18	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-2 (0-1') **Lab ID: 7572003006** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	**380**	mg/kg	10.6	1	08/21/17 07:51	08/23/17 02:06		
TPH-ORO (C28-C35)	**93.0**	mg/kg	10.6	1	08/21/17 07:51	08/23/17 02:06		
Surrogates								
n-Tetracosane (S)	144	%	65-119	1	08/21/17 07:51	08/23/17 02:06	646-31-1	S5
p-Terphenyl (S)	91	%	41-131	1	08/21/17 07:51	08/23/17 02:06	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	10.6	1	08/17/17 00:00	08/18/17 02:09		
Surrogates								
4-Bromofluorobenzene (S)	102	%	64-122	1	08/17/17 00:00	08/18/17 02:09	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	5.4	1		08/19/17 02:55	71-43-2	
Ethylbenzene	ND	ug/kg	5.4	1		08/19/17 02:55	100-41-4	
Toluene	ND	ug/kg	5.4	1		08/19/17 02:55	108-88-3	
Xylene (Total)	ND	ug/kg	5.4	1		08/19/17 02:55	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	87-112	1		08/19/17 02:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-115	1		08/19/17 02:55	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	85-115	1		08/19/17 02:55	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	**951**	mg/kg	107	10	08/23/17 10:45	08/23/17 17:31	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-2 (2-3') **Lab ID: 7572003007** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1060**	mg/kg	98.8	10	08/23/17 10:45	08/23/17 17:44	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-2 (4-5') **Lab ID: 7572003008** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	ND	mg/kg	12.6	1	08/21/17 07:51	08/23/17 02:15		
TPH-ORO (C28-C35)	ND	mg/kg	12.6	1	08/21/17 07:51	08/23/17 02:15		
Surrogates								
n-Tetracosane (S)	89	%	65-119	1	08/21/17 07:51	08/23/17 02:15	646-31-1	
p-Terphenyl (S)	91	%	41-131	1	08/21/17 07:51	08/23/17 02:15	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	12.4	1	08/17/17 00:00	08/18/17 02:26		
Surrogates								
4-Bromofluorobenzene (S)	101	%	64-122	1	08/17/17 00:00	08/18/17 02:26	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		08/19/17 03:11	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		08/19/17 03:11	100-41-4	
Toluene	ND	ug/kg	6.4	1		08/19/17 03:11	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		08/19/17 03:11	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	87-112	1		08/19/17 03:11	2037-26-5	
4-Bromofluorobenzene (S)	106	%	87-115	1		08/19/17 03:11	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	85-115	1		08/19/17 03:11	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	ND	mg/kg	125	10	08/23/17 10:45	08/23/17 17:57	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-2 (6-7') **Lab ID: 7572003009** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	99.2	10	08/23/17 10:45	08/23/17 18:10	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-2 (9-10') **Lab ID: 7572003010** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	98.0	10	08/23/17 10:45	08/23/17 18:23	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-2 (14-15') **Lab ID: 7572003011** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO (C10-C28)	ND	mg/kg	12.1	1	08/21/17 07:51	08/23/17 02:25		
TPH-ORO (C28-C35)	ND	mg/kg	12.1	1	08/21/17 07:51	08/23/17 02:25		
Surrogates								
n-Tetracosane (S)	93	%	65-119	1	08/21/17 07:51	08/23/17 02:25	646-31-1	
p-Terphenyl (S)	91	%	41-131	1	08/21/17 07:51	08/23/17 02:25	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	12.1	1	08/17/17 00:00	08/18/17 02:42		
Surrogates								
4-Bromofluorobenzene (S)	99	%	64-122	1	08/17/17 00:00	08/18/17 02:42	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.2	1		08/19/17 03:26	71-43-2	
Ethylbenzene	ND	ug/kg	6.2	1		08/19/17 03:26	100-41-4	
Toluene	ND	ug/kg	6.2	1		08/19/17 03:26	108-88-3	
Xylene (Total)	ND	ug/kg	6.2	1		08/19/17 03:26	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	87-112	1		08/19/17 03:26	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-115	1		08/19/17 03:26	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	85-115	1		08/19/17 03:26	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	122	10	08/23/17 10:45	08/23/17 18:36	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-3 (0-1') **Lab ID: 7572003012** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	**84.5**	mg/kg	10.2	1	08/21/17 07:51	08/23/17 02:34		
TPH-ORO (C28-C35)	**25.9**	mg/kg	10.2	1	08/21/17 07:51	08/23/17 02:34		
Surrogates								
n-Tetracosane (S)	116	%	65-119	1	08/21/17 07:51	08/23/17 02:34	646-31-1	
p-Terphenyl (S)	94	%	41-131	1	08/21/17 07:51	08/23/17 02:34	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	10.2	1	08/17/17 00:00	08/18/17 02:58		
Surrogates								
4-Bromofluorobenzene (S)	101	%	64-122	1	08/17/17 00:00	08/18/17 02:58	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	5.1	1		08/19/17 03:42	71-43-2	
Ethylbenzene	ND	ug/kg	5.1	1		08/19/17 03:42	100-41-4	
Toluene	ND	ug/kg	5.1	1		08/19/17 03:42	108-88-3	
Xylene (Total)	ND	ug/kg	5.1	1		08/19/17 03:42	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	87-112	1		08/19/17 03:42	2037-26-5	
4-Bromofluorobenzene (S)	106	%	87-115	1		08/19/17 03:42	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	85-115	1		08/19/17 03:42	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	**150**	mg/kg	103	10	08/23/17 10:45	08/23/17 18:49	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-3 (2-3') **Lab ID: 7572003013** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	ND	mg/kg	11.8	1	08/21/17 07:51	08/23/17 02:44		
TPH-ORO (C28-C35)	ND	mg/kg	11.8	1	08/21/17 07:51	08/23/17 02:44		
Surrogates								
n-Tetracosane (S)	82	%	65-119	1	08/21/17 07:51	08/23/17 02:44	646-31-1	
p-Terphenyl (S)	79	%	41-131	1	08/21/17 07:51	08/23/17 02:44	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	12.0	1	08/18/17 00:00	08/18/17 18:33		
Surrogates								
4-Bromofluorobenzene (S)	88	%	64-122	1	08/18/17 00:00	08/18/17 18:33	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.0	1		08/19/17 03:57	71-43-2	
Ethylbenzene	ND	ug/kg	6.0	1		08/19/17 03:57	100-41-4	
Toluene	ND	ug/kg	6.0	1		08/19/17 03:57	108-88-3	
Xylene (Total)	ND	ug/kg	6.0	1		08/19/17 03:57	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	87-112	1		08/19/17 03:57	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-115	1		08/19/17 03:57	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	85-115	1		08/19/17 03:57	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	ND	mg/kg	117	10	08/23/17 10:45	08/23/17 19:02	16887-00-6	

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ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-3 (4-5') **Lab ID: 7572003014** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	99.2	10	08/23/17 10:45	08/23/17 19:14	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-3 (6-7') **Lab ID: 7572003015** Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	96.7	10	08/23/17 10:45	08/23/17 19:53	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(972)727-1123

ANALYTICAL RESULTS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Sample: COP Vac Abo Unit SB-3 (9-10') Lab ID: 7572003016 Collected: 08/07/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 3546					
TPH-DRO (C10-C28)	ND	mg/kg	12.5	1	08/21/17 07:51	08/23/17 02:53		
TPH-ORO (C28-C35)	ND	mg/kg	12.5	1	08/21/17 07:51	08/23/17 02:53		
Surrogates								
n-Tetracosane (S)	78	%	65-119	1	08/21/17 07:51	08/23/17 02:53	646-31-1	
p-Terphenyl (S)	71	%	41-131	1	08/21/17 07:51	08/23/17 02:53	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B		Preparation Method: EPA 5035A/5030B					
TPH-GRO	ND	mg/kg	12.7	1	08/18/17 00:00	08/18/17 19:21		
Surrogates								
4-Bromofluorobenzene (S)	100	%	64-122	1	08/18/17 00:00	08/18/17 19:21	460-00-4	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		08/19/17 04:13	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		08/19/17 04:13	100-41-4	
Toluene	ND	ug/kg	6.4	1		08/19/17 04:13	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		08/19/17 04:13	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	87-112	1		08/19/17 04:13	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-115	1		08/19/17 04:13	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	85-115	1		08/19/17 04:13	17060-07-0	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0		Preparation Method: EPA 300.0					
Chloride	**127**	mg/kg	127	10	08/23/17 10:45	08/23/17 20:06	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

QC Batch: 490296 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7572003001, 7572003002, 7572003005, 7572003006, 7572003008, 7572003011, 7572003012

METHOD BLANK: 2008151 Matrix: Solid
Associated Lab Samples: 7572003001, 7572003002, 7572003005, 7572003006, 7572003008, 7572003011, 7572003012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	08/18/17 11:34	
4-Bromofluorobenzene (S)	%	108	64-122	08/18/17 11:34	

LABORATORY CONTROL SAMPLE: 2007133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	55.7	111	85-130	
4-Bromofluorobenzene (S)	%			100	64-122	

LABORATORY CONTROL SAMPLE: 2008152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	54.1	108	85-130	
4-Bromofluorobenzene (S)	%			100	64-122	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2007134 2007135

Parameter	Units	7572002001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	60.5	60.5	63.5	65.6	103	106	85-125	3	12	
4-Bromofluorobenzene (S)	%						104	109	64-122			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

QC Batch: 490358 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7572003013, 7572003016

METHOD BLANK: 2007289 Matrix: Solid
Associated Lab Samples: 7572003013, 7572003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10	08/18/17 18:18	
4-Bromofluorobenzene (S)	%	102	64-122	08/18/17 18:18	

METHOD BLANK: 2009097 Matrix: Solid
Associated Lab Samples: 7572003013, 7572003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	08/20/17 13:10	
4-Bromofluorobenzene (S)	%	96	64-122	08/20/17 13:10	

METHOD BLANK: 2009805 Matrix: Solid
Associated Lab Samples: 7572003013, 7572003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	08/21/17 11:30	
4-Bromofluorobenzene (S)	%	103	64-122	08/21/17 11:30	

LABORATORY CONTROL SAMPLE: 2007290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	49.9	52.2	105	85-130	
4-Bromofluorobenzene (S)	%			100	64-122	

LABORATORY CONTROL SAMPLE: 2009098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	51.9	104	85-130	
4-Bromofluorobenzene (S)	%			94	64-122	

LABORATORY CONTROL SAMPLE: 2009806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	55.8	112	85-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

LABORATORY CONTROL SAMPLE: 2009806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			102	64-122	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2007291 2007292

Parameter	Units	7572003013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	60	60	64.5	63.9	106	105	85-125	1	12	
4-Bromofluorobenzene (S)	%						99	91	64-122			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

QC Batch: 490534 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 7572003001, 7572003002, 7572003005, 7572003006, 7572003008, 7572003011, 7572003012, 7572003013, 7572003016

METHOD BLANK: 2008099 Matrix: Solid
Associated Lab Samples: 7572003001, 7572003002, 7572003005, 7572003006, 7572003008, 7572003011, 7572003012, 7572003013, 7572003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	08/18/17 23:50	
Ethylbenzene	ug/kg	ND	5.0	08/18/17 23:50	
Toluene	ug/kg	ND	5.0	08/18/17 23:50	
Xylene (Total)	ug/kg	ND	5.0	08/18/17 23:50	
1,2-Dichloroethane-d4 (S)	%	104	85-115	08/18/17 23:50	
4-Bromofluorobenzene (S)	%	113	87-115	08/18/17 23:50	
Toluene-d8 (S)	%	103	87-112	08/18/17 23:50	

LABORATORY CONTROL SAMPLE: 2008100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	98.9	99	81-115	
Ethylbenzene	ug/kg	100	92.6	93	76-119	
Toluene	ug/kg	100	95.8	96	77-116	
Xylene (Total)	ug/kg	300	272	91	76-121	
1,2-Dichloroethane-d4 (S)	%			115	85-115	
4-Bromofluorobenzene (S)	%			113	87-115	
Toluene-d8 (S)	%			102	87-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2008101 2008102

Parameter	Units	7572004001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	ND	120	119	111	119	93	100	30-139	7	28	
Ethylbenzene	ug/kg	ND	120	119	102	112	85	95	10-147	10	32	
Toluene	ug/kg	ND	120	119	110	125	91	104	22-138	12	39	
Xylene (Total)	ug/kg	ND	360	356	304	346	84	97	10-152	13	35	
1,2-Dichloroethane-d4 (S)	%						101	94	85-115			
4-Bromofluorobenzene (S)	%						101	97	87-115			
Toluene-d8 (S)	%						99	101	87-112			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

QC Batch: 490646 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7572003001, 7572003002, 7572003005, 7572003006, 7572003008, 7572003011, 7572003012, 7572003013, 7572003016

METHOD BLANK: 2008548 Matrix: Solid
Associated Lab Samples: 7572003001, 7572003002, 7572003005, 7572003006, 7572003008, 7572003011, 7572003012, 7572003013, 7572003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/kg	ND	9.9	08/23/17 12:02	
TPH-ORO (C28-C35)	mg/kg	ND	9.9	08/23/17 12:02	
n-Tetracosane (S)	%	83	65-119	08/23/17 12:02	
p-Terphenyl (S)	%	84	41-131	08/23/17 12:02	

LABORATORY CONTROL SAMPLE: 2008549

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/kg	82	73.1	89	80-112	
n-Tetracosane (S)	%			89	65-119	
p-Terphenyl (S)	%			88	41-131	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2008550 2008551

Parameter	Units	60251267011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO (C10-C28)	mg/kg	78.6	92	90.8	228	234	162	171	10-180	2	39	
n-Tetracosane (S)	%						90	82	65-119		58	
p-Terphenyl (S)	%						82	77	41-131		56	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

QC Batch: 490485 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7572003001

METHOD BLANK: 2007886 Matrix: Solid
Associated Lab Samples: 7572003001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	100	08/23/17 15:50	

LABORATORY CONTROL SAMPLE: 2007887

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	500	476	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2007888 2007889

Parameter	Units	7572014011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	567	506	499	1040	1040	94	95	80-120	0	15	

MATRIX SPIKE SAMPLE: 2007890

Parameter	Units	7572014020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	107	504	139	6	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

QC Batch: 490610 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7572003002, 7572003003, 7572003004, 7572003005, 7572003006, 7572003007, 7572003008, 7572003009, 7572003010, 7572003011, 7572003012, 7572003013, 7572003014, 7572003015, 7572003016

METHOD BLANK: 2008467 Matrix: Solid
Associated Lab Samples: 7572003002, 7572003003, 7572003004, 7572003005, 7572003006, 7572003007, 7572003008, 7572003009, 7572003010, 7572003011, 7572003012, 7572003013, 7572003014, 7572003015, 7572003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	100	08/23/17 14:56	

LABORATORY CONTROL SAMPLE: 2008468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	500	477	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2008469 2008470

Parameter	Units	7572002021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	ND	544	552	544	553	89	90	80-120	2	15	

MATRIX SPIKE SAMPLE: 2008471

Parameter	Units	7572003002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	ND	563	641	97	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-K	Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: 490996

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 212C-MD-00940/EVGSAU Vac Abo
Pace Project No.: 7572003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7572003001	**COP Vac Abo Unit SB-1 (0-1')**	EPA 3546	490646	EPA 8015B	491023
7572003002	**COP Vac Abo Unit SB-1 (2-3')**	EPA 3546	490646	EPA 8015B	491023
7572003005	**COP Vac Abo Unit SB-1 (9-10')**	EPA 3546	490646	EPA 8015B	491023
7572003006	**COP Vac Abo Unit SB-2 (0-1')**	EPA 3546	490646	EPA 8015B	491023
7572003008	**COP Vac Abo Unit SB-2 (4-5')**	EPA 3546	490646	EPA 8015B	491023
7572003011	**COP Vac Abo Unit SB-2 (14-15')**	EPA 3546	490646	EPA 8015B	491023
7572003012	**COP Vac Abo Unit SB-3 (0-1')**	EPA 3546	490646	EPA 8015B	491023
7572003013	**COP Vac Abo Unit SB-3 (2-3')**	EPA 3546	490646	EPA 8015B	491023
7572003016	**COP Vac Abo Unit SB-3 (9-10')**	EPA 3546	490646	EPA 8015B	491023
7572003001	**COP Vac Abo Unit SB-1 (0-1')**	EPA 5035A/5030B	490296	EPA 8015B	490559
7572003002	**COP Vac Abo Unit SB-1 (2-3')**	EPA 5035A/5030B	490296	EPA 8015B	490559
7572003005	**COP Vac Abo Unit SB-1 (9-10')**	EPA 5035A/5030B	490296	EPA 8015B	490559
7572003006	**COP Vac Abo Unit SB-2 (0-1')**	EPA 5035A/5030B	490296	EPA 8015B	490558
7572003008	**COP Vac Abo Unit SB-2 (4-5')**	EPA 5035A/5030B	490296	EPA 8015B	490558
7572003011	**COP Vac Abo Unit SB-2 (14-15')**	EPA 5035A/5030B	490296	EPA 8015B	490558
7572003012	**COP Vac Abo Unit SB-3 (0-1')**	EPA 5035A/5030B	490296	EPA 8015B	490558
7572003013	**COP Vac Abo Unit SB-3 (2-3')**	EPA 5035A/5030B	490358	EPA 8015B	490786
7572003016	**COP Vac Abo Unit SB-3 (9-10')**	EPA 5035A/5030B	490358	EPA 8015B	490786
7572003001	**COP Vac Abo Unit SB-1 (0-1')**	EPA 8260	490534		
7572003002	**COP Vac Abo Unit SB-1 (2-3')**	EPA 8260	490534		
7572003005	**COP Vac Abo Unit SB-1 (9-10')**	EPA 8260	490534		
7572003006	**COP Vac Abo Unit SB-2 (0-1')**	EPA 8260	490534		
7572003008	**COP Vac Abo Unit SB-2 (4-5')**	EPA 8260	490534		
7572003011	**COP Vac Abo Unit SB-2 (14-15')**	EPA 8260	490534		
7572003012	**COP Vac Abo Unit SB-3 (0-1')**	EPA 8260	490534		
7572003013	**COP Vac Abo Unit SB-3 (2-3')**	EPA 8260	490534		
7572003016	**COP Vac Abo Unit SB-3 (9-10')**	EPA 8260	490534		
7572003001	**COP Vac Abo Unit SB-1 (0-1')**	EPA 300.0	490485	EPA 300.0	491036
7572003002	**COP Vac Abo Unit SB-1 (2-3')**	EPA 300.0	490610	EPA 300.0	491159
7572003003	**COP Vac Abo Unit SB-1 (4-5')**	EPA 300.0	490610	EPA 300.0	491159
7572003004	**COP Vac Abo Unit SB-1 (6-7')**	EPA 300.0	490610	EPA 300.0	491159
7572003005	**COP Vac Abo Unit SB-1 (9-10')**	EPA 300.0	490610	EPA 300.0	491159
7572003006	**COP Vac Abo Unit SB-2 (0-1')**	EPA 300.0	490610	EPA 300.0	491159
7572003007	**COP Vac Abo Unit SB-2 (2-3')**	EPA 300.0	490610	EPA 300.0	491159
7572003008	**COP Vac Abo Unit SB-2 (4-5')**	EPA 300.0	490610	EPA 300.0	491159
7572003009	**COP Vac Abo Unit SB-2 (6-7')**	EPA 300.0	490610	EPA 300.0	491159
7572003010	**COP Vac Abo Unit SB-2 (9-10')**	EPA 300.0	490610	EPA 300.0	491159
7572003011	**COP Vac Abo Unit SB-2 (14-15')**	EPA 300.0	490610	EPA 300.0	491159
7572003012	**COP Vac Abo Unit SB-3 (0-1')**	EPA 300.0	490610	EPA 300.0	491159
7572003013	**COP Vac Abo Unit SB-3 (2-3')**	EPA 300.0	490610	EPA 300.0	491159
7572003014	**COP Vac Abo Unit SB-3 (4-5')**	EPA 300.0	490610	EPA 300.0	491159
7572003015	**COP Vac Abo Unit SB-3 (6-7')**	EPA 300.0	490610	EPA 300.0	491159
7572003016	**COP Vac Abo Unit SB-3 (9-10')**	EPA 300.0	490610	EPA 300.0	491159

Pace Analytical®	Document Name: Sample Condition Upon Receipt	Document Revised: 7/25/16 Page 1 of 1
	Document No.: F-DAL-C-001-rev.06	Issuing Authority: Pace Dallas Quality Office

Sample Condition Upon Receipt

WO#: 7572003

7572003

☒Dallas ☐Ft Worth ☐San Angelo

Client Name: Tetra Tech Project Work order:

Courier: FedEX ☑ UPS ☐ USPS ☐ Client ☐ Courier ☐ LSO ☐ PACE ☐ Other:____

Tracking#: 7420 8979 1910 / 7420 8979 1909

Custody Seal on Cooler/Box: Yes ☑ No ☐ **Seals Intact:** Yes ☑ No ☐ NA ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: IR-CS4 Type of Ice: Wet ☑ Blue ☐ None ☐ Sample Received on ice, cooling process has begun ☑

Cooler Temp °C: 4.3, 4.0 (Recorded) 0.2 (Correction Factor) 4.5, 4.2 (Actual) Temp should be above freezing to 6°C

Chain of Custody Present	Yes ☑ No ☐ NA ☐	1
Chain of Custody filled out	Yes ☑ No ☐ NA ☐	2
Chain of Custody relinquished	Yes ☑ No ☐ NA ☐	3
Sampler name & signature on COC	Yes ☑ No ☐ NA ☐	4
Sample received within HT	Yes ☑ No ☐ NA ☐	5
Short HT analyses (<72 hrs)	Yes ☐ No ☑ NA ☐	6
Rush TAT requested	Yes ☐ No ☑ NA ☐	7
Sufficient Volume received	Yes ☑ No ☐ NA ☐	8
Correct Container used Pace Container used	Yes ☑ No ☐ NA ☐ Yes ☑ No ☐ NA ☐	9
Container Intact	Yes ☑ No ☐ NA ☐	10
Unpreserved 5035A soil frozen within 48 hrs	Yes ☐ No ☐ NA ☑	11
Filtered volume received for Dissolved tests	Yes ☐ No ☐ NA ☑	12
Sample labels match COC Include date/time/ID/analyses Matrix: SOLID	Yes ☑ No ☐ NA ☐	13
All containers needing preservation have been checked	Yes ☐ No ☐ NA ☑	14a. Lot# of pH strip:_____ Original pH: <☐ or >☐ 2☐ 9☐ 12☐ or received Neutral ☐ Lot# of Iodine strip:_____ Lot# of Lead Acetate strip:_____
Do containers require preservation at the lab	Yes ☐ No ☐ NA ☑	14b. Preservation: Lot# and adjusted pH: pH<2 ☐ pH>9 ☐ pH>12 ☐
All containers needing preservation are found to be in Compliance with EPA recommendation **Exception:** VOA, coliform, O&G	Yes ☐ No ☐ NA ☑ Yes ☐ No ☑	14c.
Are soil samples (volatiles) received in Bulk ☐ Terracore ☐ EnCore ☐	NA ☑	15.
Trip Blank present Trip Blank Custody Seals Intact Pace Trip Blank Lot# (if purchased):_____	Yes ☐ No ☐ NA ☑ Yes ☐ No ☐ NA ☑	16.
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑	17.
Project sampled in USDA Regulated Area:	Yes ☑ No ☐ NA ☐	18. List State TX

Client Notification/Resolution/Comments:

Person Contacted:_____ Date:_____

Comments/Resolution:_____

Person Examining Contents: [illegible] Date: 8/15/17 Project Manager Review: mm

7572003

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Conoco Phillips	**Site Manager:** Ike Tavarez
Project Name: EVGSAU Vac Abo Unit 14-02	
Project Location: (county, state) Lea Co NM	**Project #:** 212C-MD-00940
Invoice to:	
Receiving Laboratory: Pace Analytical	**Sampler Signature:** Clint Merritt

Comments: If TPH exceeds 1,000 mg/kg, run deeper sample. If Benzene exceeds 10mg/kg or total BTEX exceeds 50 mg/kg, run deeper sample

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
001	COP Vac Abo Unit SB-1 (0-1')	8/7/2017			X			X	1		X		X												X							
002	COP Vac Abo Unit SB-1 (2'-3')	8/7/2017			X			X	1		X		X												X							
003	COP Vac Abo Unit SB-1 (4'-5')	8/7/2017			X			X	1																X							
004	COP Vac Abo Unit SB-1 (6'-7')	8/7/2017			X			X	1																X							
005	COP Vac Abo Unit SB-1 (9'-10')	8/7/2017			X			X	1		X		X												X							
006	COP Vac Abo Unit SB-2 (0-1')	8/7/2017			X			X	1		X		X												X							
007	COP Vac Abo Unit SB-2 (2'-3')	8/7/2017			X			X	1																X							
008	COP Vac Abo Unit SB-2 (4'-5')	8/7/2017			X			X	1		X		X												X							
009	COP Vac Abo Unit SB-2 (6'-7')	8/7/2017			X			X	1																X							
010	COP Vac Abo Unit SB-2 (9'-10')	8/7/2017			X			X	1																X							

Relinquished by: Clint Merritt	Date: 8/14/17	Time: 17:00	Received by: [signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 8/15/17 Time: 0850

LAB USE ONLY

Sample Temperature
4.5
4.6, 4.2
TMS 8/15/17

REMARKS:

- ☐ RUSH: Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED (FEDEX) UPS Tracking #: 7420 8979 1470

7420 8979 1409

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175720 03

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Conoco Phillips	**Site Manager:** Ike Tavarez
Project Name: EVGSAU Vac Abo Unit 14-02	
Project Location: (county, state) Lea Co NM	**Project #:** 212C-MD-00940
Invoice to:	
Receiving Laboratory: Pace Analytical	**Sampler Signature:** Clint Merritt

Comments: If TPH exceeds 1,000 mg/kg, run deeper sample. If Benzene exceeds 10mg/kg or total BTEX exceeds 50 mg/kg, run deeper sample

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE			# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
011	COP Vac Abo Unit SB-2 (14'-15')	8/7/2017			X				X			1		X		X												X								
012	COP Vac Abo Unit SB-3 (0-1')	8/7/2017			X				X			1		X		X												X								
013	COP Vac Abo Unit SB-3 (2'-3')	8/7/2017			X				X			1		X		X												X								
014	COP Vac Abo Unit SB-3 (4'-5')	8/7/2017			X				X			1																X								
015	COP Vac Abo Unit SB-3 (6'-7')	8/7/2017			X				X			1																X								
016	COP Vac Abo Unit SB-3 (9'-10')	8/7/2017			X				X			1		X		X												X								

Relinquished by: Clint Merritt	Date: 8/14/17	Time: 17:00	Received by: Pace	Date: 8/15/17	Time: 0850
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature
4.2, 4.5

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: 7420 8979 1910
7420 8979 1909

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 17, 2018

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1032972
Samples Received:	10/09/2018
Project Number:	212C-MD-00940
Description:	Vacuum Abo Unit 14-02
Site:	LEA COUNTY, NEW MEXICO
Report To:	Kayla Taylor 4001 N. Big Spring St., Ste. 401 Midland, TX 79705

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

NSW-1 L1032972-01 Solid

Collected by	Collected date/time	Received date/time
	10/04/18 14:55	10/09/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1179555	1	10/12/18 11:56	10/12/18 12:13	KDW
Wet Chemistry by Method 300.0	WG1178328	5	10/10/18 08:30	10/16/18 00:04	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1180136	1	10/09/18 18:08	10/12/18 19:34	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1180634	1	10/09/18 18:08	10/14/18 02:27	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1180708	1	10/14/18 07:42	10/16/18 14:02	MTJ

SSW-1 L1032972-02 Solid

Collected by	Collected date/time	Received date/time
	10/04/18 15:10	10/09/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1179555	1	10/12/18 11:56	10/12/18 12:13	KDW
Wet Chemistry by Method 300.0	WG1178328	1	10/10/18 08:30	10/16/18 00:13	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1180136	1	10/09/18 18:08	10/12/18 19:55	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1180634	1	10/09/18 18:08	10/14/18 02:46	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1180708	2	10/14/18 07:42	10/15/18 23:55	AAT

ESW-1 L1032972-03 Solid

Collected by	Collected date/time	Received date/time
	10/04/18 15:22	10/09/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1179555	1	10/12/18 11:56	10/12/18 12:13	KDW
Wet Chemistry by Method 300.0	WG1178328	20	10/10/18 08:30	10/16/18 00:22	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1180136	1	10/09/18 18:08	10/12/18 20:16	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1180634	1	10/09/18 18:08	10/14/18 03:05	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1180708	1	10/14/18 07:42	10/15/18 22:20	AAT

ESW-2 L1032972-04 Solid

Collected by	Collected date/time	Received date/time
	10/04/18 15:18	10/09/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1179556	1	10/12/18 11:01	10/12/18 11:35	KDW
Wet Chemistry by Method 300.0	WG1178328	1	10/10/18 08:30	10/16/18 00:31	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1180136	1	10/09/18 18:08	10/12/18 20:37	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1180634	1	10/09/18 18:08	10/14/18 03:24	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1180708	1	10/14/18 07:42	10/15/18 22:56	AAT

WSW-1 L1032972-05 Solid

Collected by	Collected date/time	Received date/time
	10/04/18 15:30	10/09/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1179556	1	10/12/18 11:01	10/12/18 11:35	KDW
Wet Chemistry by Method 300.0	WG1178328	20	10/10/18 08:30	10/16/18 00:39	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1180136	1	10/09/18 18:08	10/12/18 20:58	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1180634	1	10/09/18 18:08	10/14/18 03:42	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1180708	1	10/14/18 07:42	10/16/18 00:07	AAT

WSW-2 L1032972-06 Solid

Collected by	Collected date/time	Received date/time
	10/04/18 15:32	10/09/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1179556	1	10/12/18 11:01	10/12/18 11:35	KDW
Wet Chemistry by Method 300.0	WG1178328	20	10/10/18 08:30	10/16/18 00:48	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1180136	1	10/09/18 18:08	10/12/18 21:19	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1180634	1	10/09/18 18:08	10/14/18 04:01	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1180708	2	10/14/18 07:42	10/15/18 23:08	AAT

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.1		1	10/12/2018 12:13	WG1179555

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	3090		4.32	10.0	54.3	5	10/16/2018 00:04	WG1178328

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0308	J	0.0236	0.100	0.109	1	10/12/2018 19:34	WG1180136
(S) a,a,a-Trifluorotoluene(FID)	*94.2*				*77.0-120*		*10/12/2018 19:34*	WG1180136

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000434	0.00100	0.00109	1	10/14/2018 02:27	WG1180634
Toluene	U		0.00136	0.00500	0.00543	1	10/14/2018 02:27	WG1180634
Ethylbenzene	U		0.000575	0.00250	0.00271	1	10/14/2018 02:27	WG1180634
Total Xylenes	U		0.00519	0.00650	0.00706	1	10/14/2018 02:27	WG1180634
(S) Toluene-d8	*108*				*75.0-131*		*10/14/2018 02:27*	WG1180634
(S) Dibromofluoromethane	*106*				*65.0-129*		*10/14/2018 02:27*	WG1180634
(S) a,a,a-Trifluorotoluene	*96.9*				*80.0-120*		*10/14/2018 02:27*	WG1180634
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*10/14/2018 02:27*	WG1180634

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	12.2		1.75	4.00	4.34	1	10/16/2018 14:02	WG1180708
C28-C40 Oil Range	23.1		0.297	4.00	4.34	1	10/16/2018 14:02	WG1180708
(S) o-Terphenyl	*54.5*				*18.0-148*		*10/16/2018 14:02*	WG1180708

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.2		1	10/12/2018 12:13	WG1179555

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	214		0.844	10.0	10.6	1	10/16/2018 00:13	WG1178328

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0373	J	0.0230	0.100	0.106	1	10/12/2018 19:55	WG1180136
(S) a,a,a-Trifluorotoluene(FID)	*94.1*				*77.0-120*		*10/12/2018 19:55*	WG1180136

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000425	0.00100	0.00106	1	10/14/2018 02:46	WG1180634
Toluene	U		0.00133	0.00500	0.00531	1	10/14/2018 02:46	WG1180634
Ethylbenzene	U		0.000563	0.00250	0.00265	1	10/14/2018 02:46	WG1180634
Total Xylenes	U		0.00507	0.00650	0.00690	1	10/14/2018 02:46	WG1180634
(S) Toluene-d8	*110*				*75.0-131*		*10/14/2018 02:46*	WG1180634
(S) Dibromofluoromethane	*108*				*65.0-129*		*10/14/2018 02:46*	WG1180634
(S) a,a,a-Trifluorotoluene	*99.0*				*80.0-120*		*10/14/2018 02:46*	WG1180634
(S) 4-Bromofluorobenzene	*107*				*67.0-138*		*10/14/2018 02:46*	WG1180634

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	319		3.42	4.00	8.49	2	10/15/2018 23:55	WG1180708
C28-C40 Oil Range	228		0.582	4.00	8.49	2	10/15/2018 23:55	WG1180708
(S) o-Terphenyl	*113*				*18.0-148*		*10/15/2018 23:55*	WG1180708

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.2		1	10/12/2018 12:13	WG1179555

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	8690		17.2	10.0	217	20	10/16/2018 00:22	WG1178328

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0447	J	0.0235	0.100	0.108	1	10/12/2018 20:16	WG1180136
(S) a,a,a-Trifluorotoluene(FID)	*94.7*				*77.0-120*		*10/12/2018 20:16*	WG1180136

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000434	0.00100	0.00108	1	10/14/2018 03:05	WG1180634
Toluene	U		0.00136	0.00500	0.00542	1	10/14/2018 03:05	WG1180634
Ethylbenzene	U		0.000575	0.00250	0.00271	1	10/14/2018 03:05	WG1180634
Total Xylenes	U		0.00518	0.00650	0.00705	1	10/14/2018 03:05	WG1180634
(S) Toluene-d8	*108*				*75.0-131*		*10/14/2018 03:05*	WG1180634
(S) Dibromofluoromethane	*112*				*65.0-129*		*10/14/2018 03:05*	WG1180634
(S) a,a,a-Trifluorotoluene	*98.5*				*80.0-120*		*10/14/2018 03:05*	WG1180634
(S) 4-Bromofluorobenzene	*103*				*67.0-138*		*10/14/2018 03:05*	WG1180634

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	7.85		1.75	4.00	4.34	1	10/15/2018 22:20	WG1180708
C28-C40 Oil Range	31.6		0.297	4.00	4.34	1	10/15/2018 22:20	WG1180708
(S) o-Terphenyl	*117*				*18.0-148*		*10/15/2018 22:20*	WG1180708

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.8		1	10/12/2018 11:35	WG1179556

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	256		0.848	10.0	10.7	1	10/16/2018 00:31	WG1178328

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0560	J	0.0231	0.100	0.107	1	10/12/2018 20:37	WG1180136
(S) a,a,a-Trifluorotoluene(FID)	*92.8*				*77.0-120*		*10/12/2018 20:37*	WG1180136

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000426	0.00100	0.00107	1	10/14/2018 03:24	WG1180634
Toluene	U		0.00133	0.00500	0.00533	1	10/14/2018 03:24	WG1180634
Ethylbenzene	U		0.000565	0.00250	0.00267	1	10/14/2018 03:24	WG1180634
Total Xylenes	U		0.00510	0.00650	0.00693	1	10/14/2018 03:24	WG1180634
(S) Toluene-d8	*108*				*75.0-131*		*10/14/2018 03:24*	WG1180634
(S) Dibromofluoromethane	*110*				*65.0-129*		*10/14/2018 03:24*	WG1180634
(S) a,a,a-Trifluorotoluene	*98.1*				*80.0-120*		*10/14/2018 03:24*	WG1180634
(S) 4-Bromofluorobenzene	*109*				*67.0-138*		*10/14/2018 03:24*	WG1180634

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.92	J	1.72	4.00	4.26	1	10/15/2018 22:56	WG1180708
C28-C40 Oil Range	12.9		0.292	4.00	4.26	1	10/15/2018 22:56	WG1180708
(S) o-Terphenyl	*142*				*18.0-148*		*10/15/2018 22:56*	WG1180708

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.5		1	10/12/2018 11:35	WG1179556

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	4730		17.4	10.0	219	20	10/16/2018 00:39	WG1178328

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0394	J	0.0237	0.100	0.109	1	10/12/2018 20:58	WG1180136
(S) a,a,a-Trifluorotoluene(FID)	*93.3*				*77.0-120*		*10/12/2018 20:58*	WG1180136

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000437	0.00100	0.00109	1	10/14/2018 03:42	WG1180634
Toluene	U		0.00137	0.00500	0.00546	1	10/14/2018 03:42	WG1180634
Ethylbenzene	U		0.000579	0.00250	0.00273	1	10/14/2018 03:42	WG1180634
Total Xylenes	U		0.00522	0.00650	0.00710	1	10/14/2018 03:42	WG1180634
(S) Toluene-d8	*108*				*75.0-131*		*10/14/2018 03:42*	WG1180634
(S) Dibromofluoromethane	*112*				*65.0-129*		*10/14/2018 03:42*	WG1180634
(S) a,a,a-Trifluorotoluene	*101*				*80.0-120*		*10/14/2018 03:42*	WG1180634
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*10/14/2018 03:42*	WG1180634

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	95.1		1.76	4.00	4.37	1	10/16/2018 00:07	WG1180708
C28-C40 Oil Range	117		0.299	4.00	4.37	1	10/16/2018 00:07	WG1180708
(S) o-Terphenyl	*94.0*				*18.0-148*		*10/16/2018 00:07*	WG1180708

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.6		1	10/12/2018 11:35	WG1179556

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	5540		18.2	10.0	228	20	10/16/2018 00:48	WG1178328

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0541	J	0.0248	0.100	0.114	1	10/12/2018 21:19	WG1180136
(S) a,a,a-Trifluorotoluene(FID)	*92.2*				*77.0-120*		*10/12/2018 21:19*	WG1180136

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000457	0.00100	0.00114	1	10/14/2018 04:01	WG1180634
Toluene	U		0.00143	0.00500	0.00571	1	10/14/2018 04:01	WG1180634
Ethylbenzene	U		0.000605	0.00250	0.00285	1	10/14/2018 04:01	WG1180634
Total Xylenes	U		0.00546	0.00650	0.00742	1	10/14/2018 04:01	WG1180634
(S) Toluene-d8	*109*				*75.0-131*		*10/14/2018 04:01*	WG1180634
(S) Dibromofluoromethane	*117*				*65.0-129*		*10/14/2018 04:01*	WG1180634
(S) a,a,a-Trifluorotoluene	*99.5*				*80.0-120*		*10/14/2018 04:01*	WG1180634
(S) 4-Bromofluorobenzene	*106*				*67.0-138*		*10/14/2018 04:01*	WG1180634

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	54.0		3.68	4.00	9.13	2	10/15/2018 23:08	WG1180708
C28-C40 Oil Range	73.8		0.625	4.00	9.13	2	10/15/2018 23:08	WG1180708
(S) o-Terphenyl	*119*				*18.0-148*		*10/15/2018 23:08*	WG1180708

Method Blank (MB)

(MB) R3350297-1 10/12/18 12:13

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1032972-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1032972-01 10/12/18 12:13 • (DUP) R3350297-3 10/12/18 12:13

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	92.1	92.1	1	0.0539		10

Laboratory Control Sample (LCS)

(LCS) R3350297-2 10/12/18 12:13

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3350296-1 10/12/18 11:35

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1032976-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1032976-02 10/12/18 11:35 • (DUP) R3350296-3 10/12/18 11:35

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	92.4	91.9	1	0.476		10

Laboratory Control Sample (LCS)

(LCS) R3350296-2 10/12/18 11:35

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3350923-1 10/15/18 21:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		0.795	10.0

L1032959-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1032959-22 10/15/18 22:28 • (DUP) R3350923-4 10/15/18 22:37

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8770	11500	20	27.1	J3	20

L1032976-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1032976-05 10/16/18 02:07 • (DUP) R3350923-7 10/16/18 02:16

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	42.9	43.1	1	0.612		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3350923-2 10/15/18 21:33 • (LCSD) R3350923-3 10/15/18 21:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	198	199	99.1	99.4	90.0-110			0.250	20

L1032976-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1032976-02 10/16/18 01:23 • (MS) R3350923-5 10/16/18 01:32 • (MSD) R3350923-6 10/16/18 01:41

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	541	47.8	606	586	103	99.3	1	80.0-120			3.35	20

Method Blank (MB)

(MB) R3350500-3 10/12/18 18:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3350500-1 10/12/18 17:49 • (LCSD) R3350500-2 10/12/18 18:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.73	5.89	104	107	72.0-127			2.71	20
(S) a,a,a-Trifluorotoluene(FID)				*113*	*113*	*77.0-120*				

L1032976-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1032976-02 10/12/18 22:01 • (MS) R3350500-4 10/13/18 02:33 • (MSD) R3350500-5 10/13/18 02:54

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.96	204	489	414	48.0	35.3	100	10.0-151			16.8	28
(S) a,a,a-Trifluorotoluene(FID)					*97.3*	*97.6*		*77.0-120*				

Method Blank (MB)

(MB) R3350488-3 10/14/18 02:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*112*			*75.0-131*
(S) Dibromofluoromethane	*103*			*65.0-129*
(S) a,a,a-Trifluorotoluene	*100*			*80.0-120*
(S) 4-Bromofluorobenzene	*107*			*67.0-138*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3350488-1 10/14/18 00:52 • (LCSD) R3350488-2 10/14/18 01:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.134	0.146	108	117	70.0-123			8.53	20
Ethylbenzene	0.125	0.113	0.115	90.1	91.8	74.0-126			1.88	20
Toluene	0.125	0.121	0.126	96.5	101	75.0-121			4.46	20
Xylenes, Total	0.375	0.325	0.341	86.7	90.9	72.0-127			4.80	20
(S) Toluene-d8				*107*	*107*	*75.0-131*				
(S) Dibromofluoromethane				*111*	*113*	*65.0-129*				
(S) a,a,a-Trifluorotoluene				*98.9*	*100*	*80.0-120*				
(S) 4-Bromofluorobenzene				*102*	*101*	*67.0-138*				

L1032976-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1032976-04 10/14/18 04:39 • (MS) R3350488-4 10/14/18 08:45 • (MSD) R3350488-5 10/14/18 09:04

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.127	U	0.124	0.0809	98.1	63.8	1	10.0-149		J3	42.4	37
Ethylbenzene	0.127	U	0.122	0.0764	95.7	60.2	1	10.0-160		J3	45.6	38
Toluene	0.127	U	0.126	0.0821	99.3	64.7	1	10.0-156		J3	42.2	38
Xylenes, Total	0.381	U	0.359	0.224	94.1	58.9	1	10.0-160		J3	46.1	38
(S) Toluene-d8					*109*	*113*		*75.0-131*				
(S) Dibromofluoromethane					*103*	*100*		*65.0-129*				
(S) a,a,a-Trifluorotoluene					*102*	*99.4*		*80.0-120*				
(S) 4-Bromofluorobenzene					*102*	*104*		*67.0-138*				

Method Blank (MB)

(MB) R3350681-1 10/14/18 17:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*98.8*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3350681-2 10/14/18 18:11 • (LCSD) R3350681-3 10/14/18 18:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	32.3	32.5	64.6	65.0	50.0-150			0.617	20
(S) o-Terphenyl				*122*	*122*	*18.0-148*				

L1032972-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1032972-03 10/15/18 22:20 • (MS) R3350972-1 10/15/18 22:32 • (MSD) R3350972-2 10/15/18 22:44

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	54.2	7.85	63.2	54.4	102	85.9	1	50.0-150			14.9	20
(S) o-Terphenyl					*153*	*132*		*18.0-148*	J1			

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

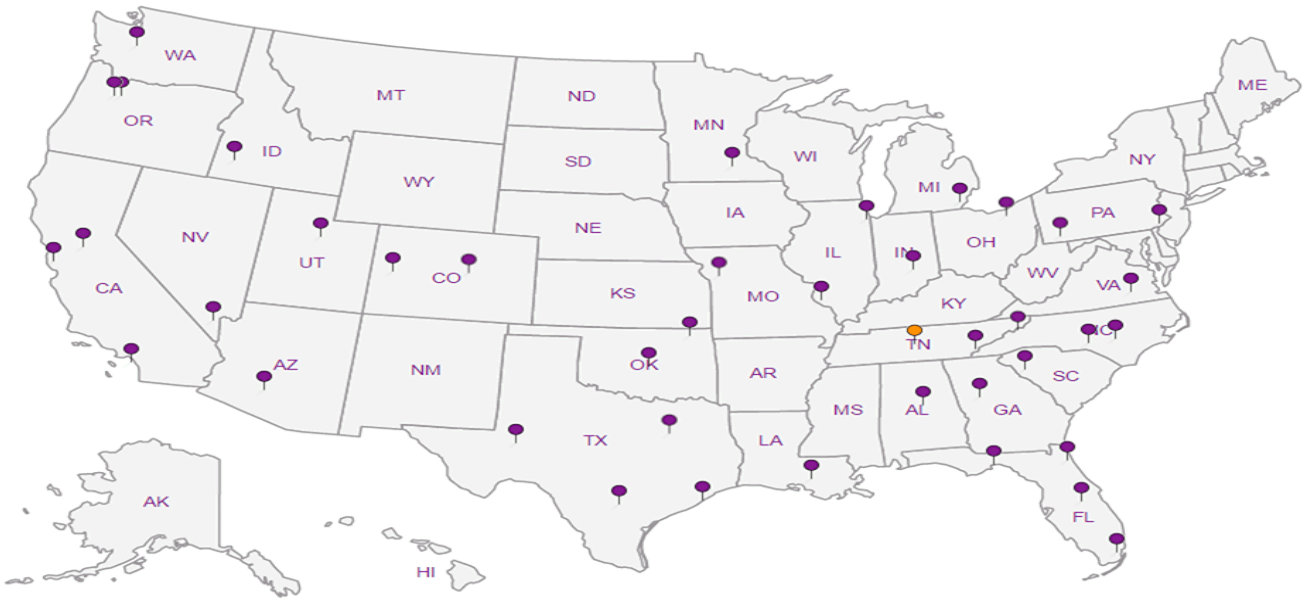
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



C169

L1032972

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

100 West Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	Conoco Phillips	Site Manager	Kayla Taylor
Project Name:	Vacuum Abo Unit 14-02		
Project Location (county, state)	Lea County, New Mexico	Project #:	212C-MD-00940
Invoice to	Accounts Payable 900 West Wall Street Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	
Comments:	COPTETRA Acctnum		

LAB #	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR 2018)	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	HNO3	ICE	None	# CONTAINERS	FILTERED (Y/N)
	NSW-1	10/4/2018	1455		X			X		1	N
	SSW-1	10/4/2018	1510		X			X		1	N
	ESW-1	10/4/2018	1522		X			X		1	N
	ESW-2	10/4/2018	1518		X			X		1	N
	WSW-1	10/4/2018	1530		X			X		1	N
	WSW-2	10/4/2018	1532		X			X		1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB #	BTEX 8021B / 8260	TPH TX1005 (Ext to C35)	8015M GRO - DRO - ORO - MRO	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GCMS Vol. 8260B / 624	GCMS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8016R	Hold
	X		X												X					-01
	X		X												X					-02
	X		X												X					-03
	X		X												X					-04
	X		X												X					-05
	X		X												X					-06

Relinquished by: Date 10-5-18 Time 0800
Received by: Kayla Taylor Date 10-5-18 Time 0800

Relinquished by: Kayla Taylor Date: 10-8-18 Time: 1500
Received by: Date Time 10-8-18 1500

Relinquished by: Date: Time:
Received by: Date: 10/9/18 Time 845

ORIGINAL COPY

LAB USE ONLY
Sample Temperature

REMARKS:
☒ STANDARD
☐ RUSH: Same Day 24 hr 48 hr 72 hr
☐ Rush Charges Authorized
☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

6 = 402

4-7 15 to

MD SCREEN: <0.5

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: COPTETRA	SDG#	L1032972
Cooler Received/Opened On: 10/9 /18	Temperature:	4.7
Received By: Patrick Nshizirungu		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?			
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 14, 2018

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1041662
Samples Received:	11/03/2018
Project Number:	212C-MD-00940
Description:	Vacuum ABO Unit 14-02

Report To: Kayla Taylor
4001 N. Big Spring St., Ste. 401
Midland, TX 79705

Entire Report Reviewed By:

Chris McCord
Project Manager

TABLE OF CONTENTS

NSW-1 (4') L1041662-01 Solid

Collected by: Devin Dominguez | Collected date/time: 11/01/18 12:45 | Received date/time: 11/03/18 08:50

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1193479	1	11/08/18 14:50	11/08/18 15:03	JD
Wet Chemistry by Method 300.0	WG1192443	1	11/07/18 14:02	11/07/18 19:11	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1193687	1	11/07/18 10:52	11/09/18 05:53	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1193103	1	11/07/18 10:52	11/08/18 07:07	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1194435	1	11/10/18 16:21	11/12/18 05:38	MTJ

WSW-1 (4') L1041662-02 Solid

Collected by: Devin Dominguez | Collected date/time: 11/01/18 13:00 | Received date/time: 11/03/18 08:50

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1193479	1	11/08/18 14:50	11/08/18 15:03	JD
Wet Chemistry by Method 300.0	WG1192443	1	11/07/18 14:02	11/07/18 19:20	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1193687	1	11/07/18 10:52	11/09/18 06:17	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1193103	1	11/07/18 10:52	11/08/18 07:26	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1194435	1	11/10/18 16:21	11/12/18 07:12	MTJ

WSW-2 (4') L1041662-03 Solid

Collected by: Devin Dominguez | Collected date/time: 11/01/18 10:00 | Received date/time: 11/03/18 08:50

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1193479	1	11/08/18 14:50	11/08/18 15:03	JD
Wet Chemistry by Method 300.0	WG1192443	1	11/07/18 14:02	11/07/18 19:46	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1193687	1	11/07/18 10:52	11/09/18 06:41	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1193103	1	11/07/18 10:52	11/08/18 07:44	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1194435	1	11/10/18 16:21	11/12/18 06:56	MTJ

ESW-1 (2') L1041662-04 Solid

Collected by: Devin Dominguez | Collected date/time: 11/01/18 12:15 | Received date/time: 11/03/18 08:50

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1193479	1	11/08/18 14:50	11/08/18 15:03	JD
Wet Chemistry by Method 300.0	WG1192443	1	11/07/18 14:02	11/07/18 19:55	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1193687	1	11/07/18 10:52	11/09/18 07:05	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1193103	1	11/07/18 10:52	11/08/18 08:02	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1194435	1	11/10/18 16:21	11/12/18 07:27	KME

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	76.4		1	11/08/2018 15:03	WG1193479

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	179		1.04	10.0	13.1	1	11/07/2018 19:11	WG1192443

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0284	0.100	0.131	1	11/09/2018 05:53	WG1193687
(S) a,a,a-Trifluorotoluene(FID)	*95.5*				*77.0-120*		*11/09/2018 05:53*	WG1193687

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000524	0.00100	0.00131	1	11/08/2018 07:07	WG1193103
Toluene	U		0.00164	0.00500	0.00655	1	11/08/2018 07:07	WG1193103
Ethylbenzene	U		0.000694	0.00250	0.00327	1	11/08/2018 07:07	WG1193103
Total Xylenes	U		0.00626	0.00650	0.00851	1	11/08/2018 07:07	WG1193103
(S) Toluene-d8	*100*				*75.0-131*		*11/08/2018 07:07*	WG1193103
(S) Dibromofluoromethane	*116*				*65.0-129*		*11/08/2018 07:07*	WG1193103
(S) a,a,a-Trifluorotoluene	*101*				*80.0-120*		*11/08/2018 07:07*	WG1193103
(S) 4-Bromofluorobenzene	*104*				*67.0-138*		*11/08/2018 07:07*	WG1193103

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.64	J	2.11	4.00	5.24	1	11/12/2018 05:38	WG1194435
C28-C40 Oil Range	3.36	B J	0.359	4.00	5.24	1	11/12/2018 05:38	WG1194435
(S) o-Terphenyl	*57.4*				*18.0-148*		*11/12/2018 05:38*	WG1194435

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.6		1	11/08/2018 15:03	WG1193479

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	273		1.01	10.0	12.7	1	11/07/2018 19:20	WG1192443

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0276	0.100	0.127	1	11/09/2018 06:17	WG1193687
(S) a,a,a-Trifluorotoluene(FID)	*95.2*				*77.0-120*		*11/09/2018 06:17*	WG1193687

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000509	0.00100	0.00127	1	11/08/2018 07:26	WG1193103
Toluene	U		0.00159	0.00500	0.00636	1	11/08/2018 07:26	WG1193103
Ethylbenzene	U		0.000675	0.00250	0.00318	1	11/08/2018 07:26	WG1193103
Total Xylenes	U		0.00608	0.00650	0.00827	1	11/08/2018 07:26	WG1193103
(S) Toluene-d8	*99.6*				*75.0-131*		*11/08/2018 07:26*	WG1193103
(S) Dibromofluoromethane	*117*				*65.0-129*		*11/08/2018 07:26*	WG1193103
(S) a,a,a-Trifluorotoluene	*102*				*80.0-120*		*11/08/2018 07:26*	WG1193103
(S) 4-Bromofluorobenzene	*104*				*67.0-138*		*11/08/2018 07:26*	WG1193103

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	10.2		2.05	4.00	5.09	1	11/12/2018 07:12	WG1194435
C28-C40 Oil Range	17.4		0.349	4.00	5.09	1	11/12/2018 07:12	WG1194435
(S) o-Terphenyl	*66.9*				*18.0-148*		*11/12/2018 07:12*	WG1194435

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	79.0		1	11/08/2018 15:03	WG1193479

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	441		1.01	10.0	12.7	1	11/07/2018 19:46	WG1192443

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0275	0.100	0.127	1	11/09/2018 06:41	WG1193687
(S) a,a,a-Trifluorotoluene(FID)	*96.1*				*77.0-120*		*11/09/2018 06:41*	WG1193687

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000506	0.00100	0.00127	1	11/08/2018 07:44	WG1193103
Toluene	U		0.00158	0.00500	0.00633	1	11/08/2018 07:44	WG1193103
Ethylbenzene	U		0.000671	0.00250	0.00316	1	11/08/2018 07:44	WG1193103
Total Xylenes	U		0.00605	0.00650	0.00823	1	11/08/2018 07:44	WG1193103
(S) Toluene-d8	*99.8*				*75.0-131*		*11/08/2018 07:44*	WG1193103
(S) Dibromofluoromethane	*118*				*65.0-129*		*11/08/2018 07:44*	WG1193103
(S) a,a,a-Trifluorotoluene	*102*				*80.0-120*		*11/08/2018 07:44*	WG1193103
(S) 4-Bromofluorobenzene	*102*				*67.0-138*		*11/08/2018 07:44*	WG1193103

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.71	J	2.04	4.00	5.06	1	11/12/2018 06:56	WG1194435
C28-C40 Oil Range	5.62	B	0.347	4.00	5.06	1	11/12/2018 06:56	WG1194435
(S) o-Terphenyl	*73.8*				*18.0-148*		*11/12/2018 06:56*	WG1194435

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.4		1	11/08/2018 15:03	WG1193479

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	36.8		0.965	10.0	12.1	1	11/07/2018 19:55	WG1192443

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0263	0.100	0.121	1	11/09/2018 07:05	WG1193687
(S) a,a,a-Trifluorotoluene(FID)	*97.7*				*77.0-120*		*11/09/2018 07:05*	WG1193687

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000485	0.00100	0.00121	1	11/08/2018 08:02	WG1193103
Toluene	U		0.00152	0.00500	0.00607	1	11/08/2018 08:02	WG1193103
Ethylbenzene	U		0.000643	0.00250	0.00303	1	11/08/2018 08:02	WG1193103
Total Xylenes	U		0.00580	0.00650	0.00789	1	11/08/2018 08:02	WG1193103
(S) Toluene-d8	*98.1*				*75.0-131*		*11/08/2018 08:02*	WG1193103
(S) Dibromofluoromethane	*118*				*65.0-129*		*11/08/2018 08:02*	WG1193103
(S) a,a,a-Trifluorotoluene	*102*				*80.0-120*		*11/08/2018 08:02*	WG1193103
(S) 4-Bromofluorobenzene	*102*				*67.0-138*		*11/08/2018 08:02*	WG1193103

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	7.62		1.95	4.00	4.85	1	11/12/2018 07:27	WG1194435
C28-C40 Oil Range	15.8		0.332	4.00	4.85	1	11/12/2018 07:27	WG1194435
(S) o-Terphenyl	*100*				*18.0-148*		*11/12/2018 07:27*	WG1194435

Method Blank (MB)

(MB) R3358382-1 11/08/18 15:03

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1041662-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1041662-02 11/08/18 15:03 • (DUP) R3358382-3 11/08/18 15:03

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	78.6	78.6	1	0.0295		10

Laboratory Control Sample (LCS)

(LCS) R3358382-2 11/08/18 15:03

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3357931-1 11/07/18 16:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		0.795	10.0

L1041522-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1041522-04 11/07/18 17:26 • (DUP) R3357931-3 11/07/18 17:35

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1440	1710	5	17.0		20

L1041662-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1041662-04 11/07/18 19:55 • (DUP) R3357931-6 11/07/18 20:04

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	36.8	35.3	1	3.97		20

Laboratory Control Sample (LCS)

(LCS) R3357931-2 11/07/18 16:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	200	100	90.0-110	

L1041529-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1041529-01 11/07/18 18:01 • (MS) R3357931-4 11/07/18 18:10 • (MSD) R3357931-5 11/07/18 18:19

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	544	79.1	612	569	98.0	90.2	1	80.0-120			7.24	20

Method Blank (MB)

(MB) R3358427-3 11/08/18 23:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3358427-1 11/08/18 22:37 • (LCSD) R3358427-2 11/08/18 23:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.82	5.80	106	105	72.0-127			0.459	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*105*	*77.0-120*				

L1041501-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1041501-01 11/09/18 08:17 • (MS) R3358427-4 11/09/18 08:42 • (MSD) R3358427-5 11/09/18 09:06

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	54.0	55.1	38.8	39.6	25	10.0-151			1.95	28
(S) a,a,a-Trifluorotoluene(FID)					*101*	*102*		*77.0-120*				

Method Blank (MB)

(MB) R3358526-3 11/08/18 04:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*98.1*			*75.0-131*
(S) Dibromofluoromethane	*117*			*65.0-129*
(S) a,a,a-Trifluorotoluene	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*67.0-138*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3358526-1 11/08/18 03:44 • (LCSD) R3358526-2 11/08/18 04:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.124	0.121	99.4	96.5	70.0-123			2.96	20
Ethylbenzene	0.125	0.123	0.119	98.3	95.6	74.0-126			2.83	20
Toluene	0.125	0.122	0.116	97.3	92.8	75.0-121			4.66	20
Xylenes, Total	0.375	0.384	0.370	102	98.7	72.0-127			3.71	20
(S) Toluene-d8				*97.0*	*98.0*	*75.0-131*				
(S) Dibromofluoromethane				*115*	*115*	*65.0-129*				
(S) a,a,a-Trifluorotoluene				*103*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*105*	*103*	*67.0-138*				

L1041152-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1041152-03 11/08/18 10:30 • (MS) R3358526-4 11/08/18 11:26 • (MSD) R3358526-5 11/08/18 11:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.217	1.58	2.10	136	188	8	10.0-149		J5	28.5	37
Ethylbenzene	0.125	4.05	15.6	16.7	1160	1270	8	10.0-160	V	V	6.51	38
Toluene	0.125	4.17	17.1	18.3	1290	1410	8	10.0-156	V	V	6.69	38
Xylenes, Total	0.375	27.0	95.2	99.0	2270	2400	8	10.0-160	E V	E V	3.91	38
(S) Toluene-d8					*93.5*	*94.1*		*75.0-131*				
(S) Dibromofluoromethane					*119*	*116*		*65.0-129*				
(S) a,a,a-Trifluorotoluene					*98.3*	*98.1*		*80.0-120*				
(S) 4-Bromofluorobenzene					*101*	*104*		*67.0-138*				

Method Blank (MB)

(MB) R3359149-1 11/12/18 04:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	0.467	J	0.274	4.00
(S) o-Terphenyl	*86.5*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3359149-2 11/12/18 05:08 • (LCSD) R3359149-3 11/12/18 05:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	35.2	33.9	70.4	67.8	50.0-150			3.76	20
(S) o-Terphenyl				*85.9*	*101*	*18.0-148*				

L1041662-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1041662-01 11/12/18 05:38 • (MS) R3359149-4 11/12/18 05:53 • (MSD) R3359149-5 11/12/18 06:09

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	64.0	2.64	41.2	41.1	60.3	59.0	1	50.0-150			0.318	20
(S) o-Terphenyl					*72.7*	*63.1*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

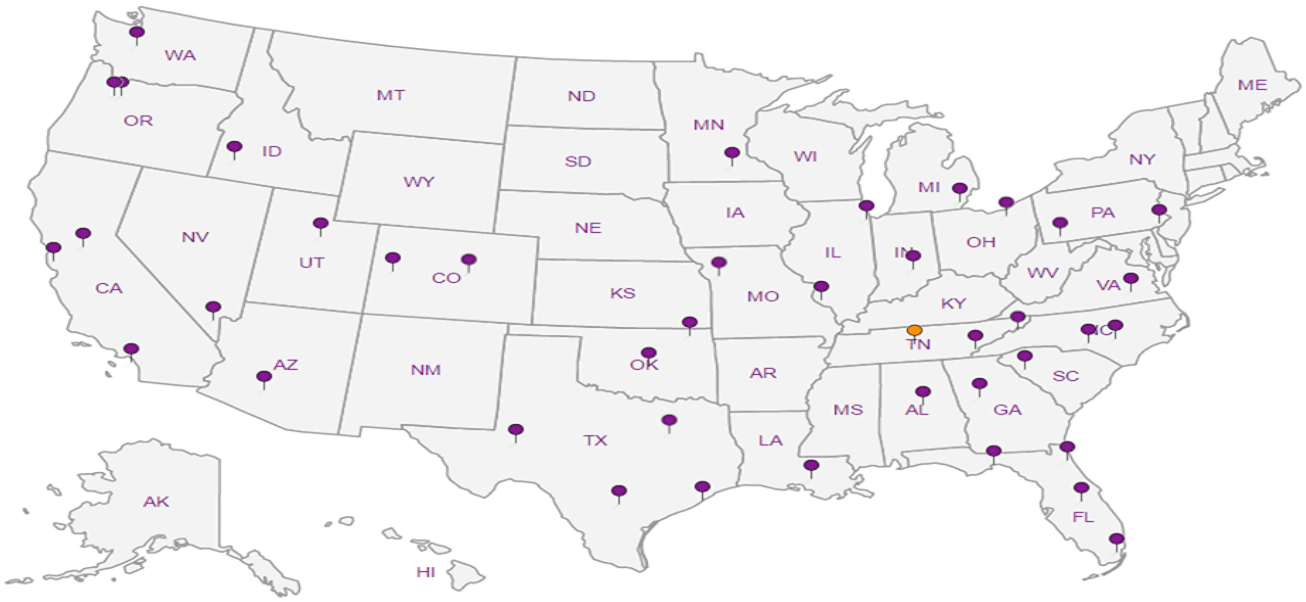
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



E118

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name	COP	Site Manager:	Kayla Taylor
Project Name:	Vacuum ABO 14-02		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-00940
Invoice to:	Accounts Payable 900 West Wall Street Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	Devin Dominguez
Comments:	COPTETRA		

LAB #	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)
1 (64160)	NSW-1 (4')	11/1/2018	12:45		X				X			1	N
02	WSW-1 (4')	11/1/2018	11:30		X				X			1	N
03	WSW-2 (4')	11/1/2018	10:00		X				X			1	N
04	ESW-1 (2')	11/1/2018	12:15		X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB #	BTEX 8021B 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GCMS Vol. 8260B / 624	GCMS Semi Vol. 8270D/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			Hold
1 (64160)	X		X												X							
02	X		X												X							
03	X		X												X							
04	X		X												X							

	Date	Time		Date	Time
Relinquished by:	11/2/18	1:30pm	Received by:	11/2/18	15:50
Relinquished by:	Date:	Time:	Received by:	11/3/18	0850
Relinquished by	Date	Time:	Received by:	Date	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

- [X] STANDARD
- [ ] RUSH Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #

ORIGINAL COPY

28 VAM

rec. 4 cont
COC

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: COPTETRA		SDG#	L1041662
Cooler Received/Opened On: 11/3/18		Temperature:	2.8
Received By: Keteishia Cameron			
Signature: KCameron			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Jeremy W. Watkins

Pace Analytical®
National Center for Testing & Innovation

Login #: L1041662	Client: COPTETRA	Date: 11/3/18	Evaluated by: Jeremy

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume		Received additional samples not listed on coc		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH
					Carrier:
					Tracking#

Login Comments: What Methods?

Client informed by:		Call		Email		Voice Mail		Date: 11/5/18	Time: 14 58
TSR Initials: CM	Client Contact:								

Login Instructions:

Log V8260BTEX, GRO, DRORLA, and CHLORIDE-300

Appendix D

TRANSPORTER'S MANIFEST

MANIFEST # 1

SHIPPING FACILITY NAME & ADDRESS:
ConocoPhillips Company
600 N. Dairy Ashford Rd, Houston, TX 77079
Attn. Neal Goates
N.Goates@conocophillips.com
832.486.2425

ACCOUNTING INFORMATION
Vac Abo 14-02– RMR Project
GL Account No.: 702000
WBS Element: WAO.000.7073.00.AS
PO No.: 4520794279

LOCATION OF MATERIAL: 30-025-03064
ConocoPhillips Co.
Vacuum Abo 14-02
Section 5 - Township 18 South - Range 35 East,
Lea County, New Mexico

TRANSPORTER NAME AND ADDRESS:

McNabb Partners
4008 N. Grimes
Hobbs, New Mexico 88240
575.397.0050

DESCRIPTION OF WASTE:
Impacted Soil

QUANTITY: 18 yds

FACILITY CONTACT:

Date: 11/1/18

Signature of Contact:
(Agent for ConocoPhillips)

NAME OF TRANSPORTER (Driver):

Date: 11-1-18

Signature Driver:

DISPOSAL SITE:

R360
P.O. Box 388
Hobbs, New Mexico 88241

Date:

Representative
Signature

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	CONOCOPHILLIPS	Ticket #:	700-947668
Customer #:	CRI2190	Bid #:	O6UJ9A0009Z1
Ordered by:	NEAL GOATES	Date:	11/1/2018
AFE #:		Generator:	CONOCOPHILLIPS
PO #:		Generator #:	
Manifest #:	1	Well Ser. #:	03064
Manif. Date:	11/1/2018	Well Name:	VACUUM ABO UNIT
Hauler:	MCNABB PARTNERS	Well #:	002
Driver	CLEO	Field:	
Truck #	M31	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	LEA (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	18.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

TRANSPORTER'S MANIFEST

MANIFEST # 2

SHIPPING FACILITY NAME & ADDRESS:
ConocoPhillips Company
600 N. Dairy Ashford Rd, Houston, TX 77079
Attn. Neal Goates
N.Goates@conocophillips.com
832.486.2425

ACCOUNTING INFORMATION
Vac Abo 14-02– RMR Project
GL Account No.: 702000
WBS Element: WAO.000.7073.00.AS
PO No.: 4520794279
API: 30-025-03064

LOCATION OF MATERIAL:
ConocoPhillips Co.
Vacuum Abo 14-02
Section 5 - Township 18 South - Range 35 East,
Lea County, New Mexico

TRANSPORTER NAME AND ADDRESS:

McNabb Partners
4008 N. Grimes
Hobbs, New Mexico 88240
575.397.0050

DESCRIPTION OF WASTE:
Impacted Soil

QUANTITY: 18 yds

FACILITY CONTACT:

Date: 11/1/18

Signature of Contact:
(Agent for ConocoPhillips)

NAME OF TRANSPORTER (Driver):

Date: 11-1-18

Signature Driver:

DISPOSAL SITE:

R360
P.O. Box 388
Hobbs, New Mexico 88241

Date: 11/1/18

Representative
Signature

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	CONOCOPHILLIPS
Customer #:	CRI2190
Ordered by:	NEAL GOATES
AFE #:	
PO #:	
Manifest #:	2
Manif. Date:	11/1/2018
Hauler:	MCNABB PARTNERS
Driver	CLEO
Truck #	M31
Card #	
Job Ref #	

Ticket #:	700-947717
Bid #:	O6UJ9A0009Z1
Date:	11/1/2018
Generator:	CONOCOPHILLIPS
Generator #:	
Well Ser. #:	03064
Well Name:	VACUUM ABO UNIT
Well #:	002
Field:	
Field #:	
Rig:	NON-DRILLING
County	LEA (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	18.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature _____

R360 Representative Signature _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

TRANSPORTER'S MANIFEST

MANIFEST # 3

SHIPPING FACILITY NAME & ADDRESS:
ConocoPhillips Company
600 N. Dairy Ashford Rd, Houston, TX 77079
Attn. Neal Goates
N.Goates@conocophillips.com
832.486.2425

ACCOUNTING INFORMATION
Vac Abo 14-02– RMR Project
GL Account No.: 702000
WBS Element: WAO.000.7073.00.AS
PO No.: 4520794279

LOCATION OF MATERIAL:
ConocoPhillips Co.
Vacuum Abo 14-02
Section 5 - Township 18 South - Range 35 East,
Lea County, New Mexico

TRANSPORTER NAME AND ADDRESS:

McNabb Partners
4008 N. Grimes
Hobbs, New Mexico 88240
575.397.0050

DESCRIPTION OF WASTE:
Impacted Soil

QUANTITY: 18 yds

FACILITY CONTACT:

Date: 11/1/18

Signature of Contact:
(Agent for ConocoPhillips)

NAME OF TRANSPORTER (Driver):

Date:

Signature Driver:

DISPOSAL SITE:

R360
P.O. Box 388
Hobbs, New Mexico 88241

Date: 11/1/18

Representative
Signature

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	CONOCOPHILLIPS	Ticket #:	700-947769
Customer #:	CRI2190	Bid #:	O6UJ9A0009Z1
Ordered by:	NEAL GOATES	Date:	11/1/2018
AFE #:		Generator:	CONOCOPHILLIPS
PO #:		Generator #:	
Manifest #:	3	Well Ser. #:	03064
Manif. Date:	11/1/2018	Well Name:	VACUUM ABO UNIT
Hauler:	MCNABB PARTNERS	Well #:	002
Driver	GUMER	Field:	
Truck #	M32	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	LEA (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	18.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

TRANSPORTER'S MANIFEST

MANIFEST # 4

SHIPPING FACILITY NAME & ADDRESS:
ConocoPhillips Company
600 N. Dairy Ashford Rd, Houston, TX 77079
Attn. Neal Goates
N.Goates@conocophillips.com
832.486.2425

ACCOUNTING INFORMATION
Vac Abo 14-02– RMR Project
GL Account No.: 702000
WBS Element: WAO.000.7073.00.AS
PO No.: 4520794279
API: 30-025-03064

LOCATION OF MATERIAL:
ConocoPhillips Co.
Vacuum Abo 14-02
Section 5 - Township 18 South - Range 35 East,
Lea County, New Mexico

TRANSPORTER NAME AND ADDRESS:

McNabb Partners
4008 N. Grimes
Hobbs, New Mexico 88240
575.397.0050

DESCRIPTION OF WASTE:
Impacted Soil

QUANTITY: 18 yds

FACILITY CONTACT:

Date: 11/1/18

Signature of Contact:
(Agent for ConocoPhillips)

NAME OF TRANSPORTER (Driver):

Date: 11-1-18

Signature Driver:

DISPOSAL SITE:

R360
P.O. Box 388
Hobbs, New Mexico 88241

Date:

Representative
Signature

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	CONOCOPHILLIPS	Ticket #:	700-947803
Customer #:	CRI2190	Bid #:	O6UJ9A0009Z1
Ordered by:	NEAL GOATES	Date:	11/1/2018
AFE #:		Generator:	CONOCOPHILLIPS
PO #:		Generator #:	
Manifest #:	4	Well Ser. #:	03064
Manif. Date:	11/1/2018	Well Name:	VACUUM ABO UNIT
Hauler:	MCNABB PARTNERS	Well #:	002
Driver	CLEO	Field:	
Truck #	M31	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	LEA (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	18.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis.	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____