



February 8, 2021

District Supervisor
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

**Re: Release Characterization and Remediation Work Plan
ConocoPhillips
SEMU Permian #73 Flowline Release
Unit Letter F, Section 19, Township 20 South, Range 38 East
Lea County, New Mexico
1RP-1342
Incident ID nPAC0714434336**

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to assess a historical release that occurred from a flowline associated with the South East Monument Unit (SEMU) Permian #73 well (API No. 30-025-07822). The release footprint is located in Public Land Survey System (PLSS) Unit Letter F, Section 19, Township 20 South, Range 38 East, in Lea County, New Mexico (Site). The approximate release point occurred at coordinates 32.559244°, -103.189252°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), on November 24, 2004 a release occurred due to internal corrosion on a flowline from the SEMU Permian #73 well. The release consisted of 35 barrels (bbls) of oil and produced water and affected a 55-foot (ft) by 25-ft area. During immediate response actions, a vacuum truck recovered 28 bbls of free liquids. The New Mexico Oil Conservation District (NMOCD) received the C-141 report form for the release on May 23, 2007. The release was subsequently assigned the Remediation Permit (RP) number 1RP-1342 and the Incident ID nPAC0714434336. The 1RP-1342 release is included in an Agreed Compliance Order-Releases (ACO-R) between COP and the NMOCD signed on May 7 and 9, 2019, respectively.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of low karst potential.

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are no water wells within an 800-meter radius of the Site. Furthermore, there are no water wells within a 1600-meter radius of the Site. However, there are four (4) water wells within 2,400 meters (approximately 1.5 miles) of the Site. The average depth to groundwater for these wells is 73 ft below ground surface (bgs). The site characterization data is included in Appendix B.

Tetra Tech

901 West Wall St., Suite 100, Midland, TX 79701

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com

REGULATORY FRAMEWORK

Based upon the release footprint and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the site characterization and in accordance with Table I of 19.15.29.12 NMAC, the remediation RRALs for the Site are as follows:

Constituent	Remediation RRAL
Chloride	10,000 mg/kg
TPH	2,500 mg/kg
BTEX	50 mg/kg

Additionally, in accordance with the NMOCD guidance *Procedures for Implementation of the Spill Rule (19.15.29 NMAC)* (September 6, 2019), the following reclamation RRALs for surface soils (0-4 ft bgs) outside of active oil and gas operations are as follows:

Constituent	Reclamation RRAL
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg

INITIAL ASSESSMENT ACTIVITIES AND SAMPLING RESULTS

Based on a review of available documentation, Environmental Plus, Inc (EPI) was onsite on behalf of COP on February 3, 2005 to delineate the vertical extent of impacted soil. The initial assessment activities and results are documented in a report prepared by EPI dated June 2, 2005 (Appendix C). During this initial assessment, EPI installed one soil boring to 15 ft bgs (BH-1) and one soil boring to 10 ft bgs (BH-2) within the release extent. Samples were collected at 2-ft, 5-ft, 10-ft, and 15-ft bgs and field screened for the presence of organic vapors and salinity. A total of six (6) samples were selected from the two (2) borings and sent to Environmental Lab of Texas in Odessa, Texas to be analyzed for BTEX via EPA Method 8021B, TPH via EPA Method 8015M, and chloride via EPA Method 300.0.

Analytical results associated with the 2-ft sample interval at location BH-1 exceeded the NMOCD remedial threshold for TPH (1,000 mg/kg) identified for the Site in this report. Analytical results from the 5-ft and 10-ft intervals at BH-1 and all sample intervals at BH-2 were below the NMOCD remedial thresholds proposed in this report for benzene (10 ppm), BTEX (50 ppm), and TPH (1,000 ppm). Analytical results for chloride in soil (measured in mg/kg) were directly compared to the New Mexico Water Quality Control Commission's (NMWQCC) chloride standard of 250 mg/L. The analytical results for the 5-ft interval samples at both locations exceeded the NMWQCC chloride standard.

Based on the initial assessment results, EPI concluded that soils impacted above the NMOCD remedial thresholds identified in the EPI report extended to a depth of approximately 5 ft bgs, and recommended that soils in the vicinity of BH-1 be excavated to this depth (Appendix C). EPI estimated the release area to be approximately 1,370 square ft. However, the release extent was not delineated horizontally during the initial assessment. Additionally, Tetra Tech has recently amended the proposed Site RRALs to reflect the most recent NMOCD requirements for remediation and restoration, which are more stringent than the remedial thresholds identified in the EPI report.

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Fax 432.682.3946

www.tetrattech.com

ADDITIONAL SITE ASSESSMENT

Based on the results of the previous assessment, Tetra Tech personnel were onsite on behalf of COP on November 5, 2020 to conduct soil sampling to complete vertical and horizontal delineation of the release. A total of five (5) borings were advanced via hand auger inside the release extent (AH-1) to a depth of 10 ft bgs, and along the perimeter of the release extent (AH-2 through AH-5) to depths of 3 ft bgs each. Soils at the Site consist of brown sandy soils from the surface down to 10 ft bgs. Figure 3 depicts the release extent and the November 2020 soil boring locations, and GPS coordinates for the boring locations are presented in Table 1. Photographic documentation of the release area from June 2020 is included in Appendix D.

Soils were field screened for salinity using an ExTech EC400 ExStik to determine sampling intervals. A total of twenty-two (22) samples were collected from the five (5) borings (AH-1 through AH-5) and submitted to Pace Analytical National Center for Testing & Innovation (Pace) in Nashville, Tennessee to be analyzed for chloride via EPA Method 300.0, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix E.

SUMMARY OF SAMPLING RESULTS

Results from the November 2020 soil sampling event are summarized in Table 2. The analytical results associated with the interior sample location (AH-1) exceeded the off-pad Site reclamation RRAL of 100 mg/kg for TPH in the sample intervals from the top 4 ft. There were no other analytical results which exceeded the TPH remediation RRAL of 2,500 mg/kg for subsurface (>4 ft bgs) soils during the additional assessment. The analytical results associated with the remainder of the samples analyzed were below the BTEX or chloride Site reclamation RRALs of 50 mg/kg and 600 mg/kg, respectively.

REMEDIATION WORK PLAN

Based on the analytical results, COP proposes to remove the impacted material as shown in Figure 4. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 4 ft below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the RRALs.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, NMOCD will be notified and the excavation will be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 240 cubic yards.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 5. Four (4) confirmation floor samples and ten (10) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 1,600 square ft.

These confirmation sidewall and floor samples will be representative of no more than approximately 500 square ft of excavated area. Confirmation samples will be sent to an accredited laboratory for analysis of TPH (Method 8015 modified), BTEX (Method 8260B), and chloride (Method 300.0). Once results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade.

SITE RECLAMATION AND RESTORATION PLAN

The backfilled areas will be seeded Spring 2021 (or the first favorable growing season) to aid in revegetation. Based on soils at the Site, the New Mexico State Land Office (NMSLO) Sandy (S) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed

Release Characterization and Remediation Work Plan
February 8, 2021

ConocoPhillips

(PLS) per acre. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the Site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the Site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix F.

CONCLUSION

ConocoPhillips proposes to begin remediation activities at the Site within 1 year of NMOCD plan approval. The SEMU Permian #73 Flowline Release (1RP-1342) is included in an Agreed Compliance Order-Releases (ACO-R) between COP and the NMOCD signed on May 7 and 9, 2019, respectively. COP is dedicated to addressing and closing all historical releases included in the ACO-R, and given the number of releases to be addressed, 1 year is anticipated to be a practicable timeline. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD.

If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 739-7874 or Christian at (512) 338-2861.

Sincerely,

Tetra Tech, Inc.



Samantha K. Abbott, P.G.
Senior Staff Geologist



Christian M, Llull, P.G.
Project Manager

cc:

Mr. Marvin Soriwei, RMR – ConocoPhillips
Mr. Charles Beauvais, GPBU - ConocoPhillips

LIST OF ATTACHMENTS

Figures:

- Figure 1 – Site Map
- Figure 2 – Topographic Map
- Figure 3 – Release Extent and Assessment Map
- Figure 4 – Proposed Remediation Extent
- Figure 5 – Alternative Confirmation Sampling Plan

Tables:

- Table 1 – Boring Location Coordinates
- Table 2 – Summary of Analytical Results – Soil Assessment

Appendices:

- Appendix A – C-141 Forms
- Appendix B – Site Characterization Data
- Appendix C – Initial Assessment Report (EPI, June 2, 2005)
- Appendix D – Photographic Documentation
- Appendix E – Laboratory Analytical Data
- Appendix F – NMSLO Seed Mixture Details

FIGURES



Source: Esri, Street Map January 2020

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\1RP-1342\FIGURE 1 SITE LOCATION_1RP-1342.MXD



TETRA TECH

www.tetrattech.com

901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS

1RP-1342
(32.55939°, -103.1891°)
LEA COUNTY, NEW MEXICO

**SEMU PERMIAN #73 FLOWLINE RELEASE
SITE LOCATION MAP**

PROJECT NO.: 212C-MD-02334

DATE: DECEMBER 17, 2020

DESIGNED BY: AAM

Figure No.

1



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\1RP-1342\FIGURE 2 TOPO. 1RP-1342.MXD


TETRA TECH
www.tetrattech.com

 901 West Wall Street, Suite 100
 Midland, Texas 79701
 Phone: (432) 682-4559
 Fax: (432) 682-3946

CONOCOPHILLIPS

 1RP-1342
 (32.55939°, -103.1891°)
 LEA COUNTY, NEW MEXICO

**SEMU PERMIAN #73 FLOWLINE RELEASE
 TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-02334

DATE: DECEMBER 17, 2020


DESIGNED BY: AAM

Figure No.

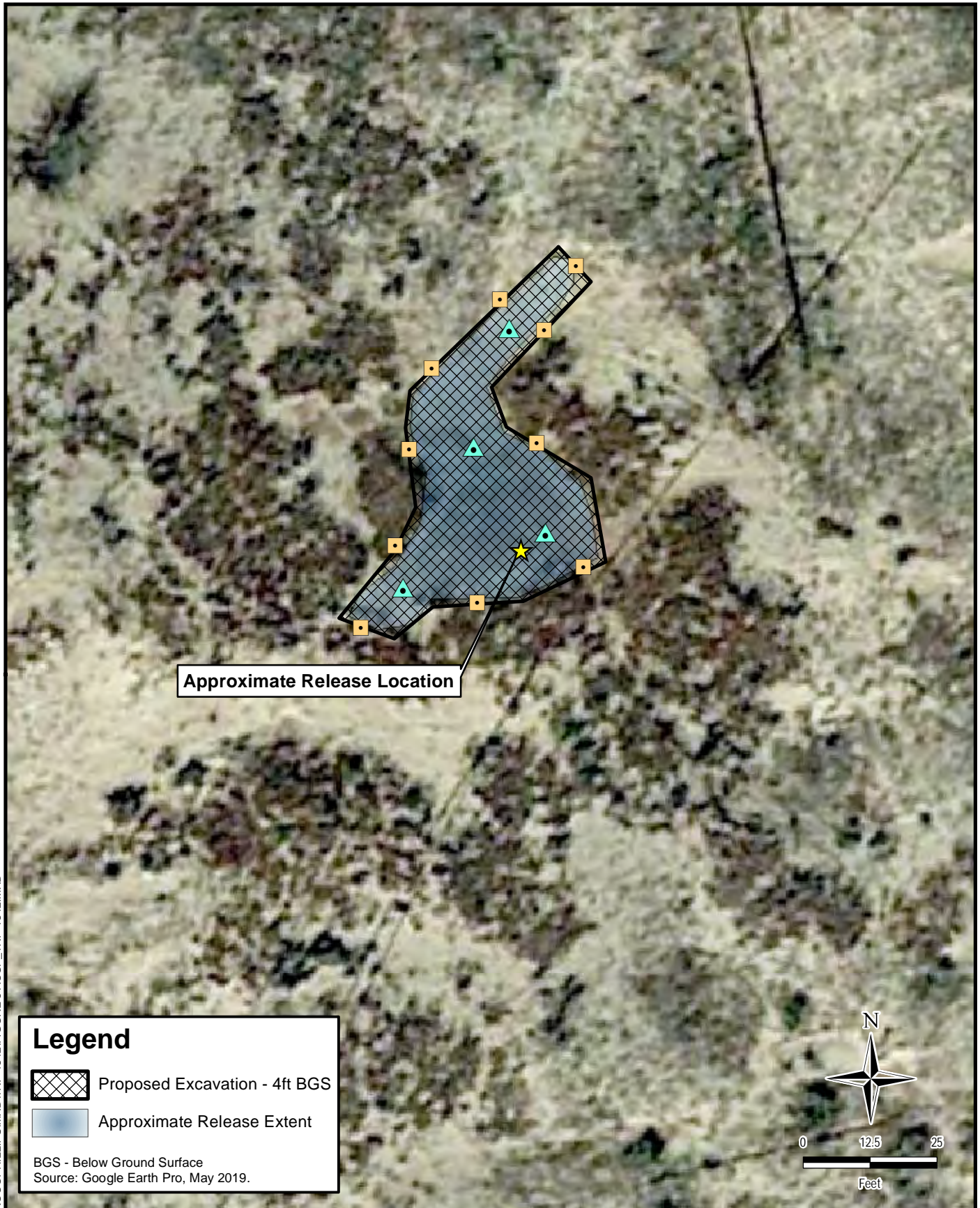
2



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\1RP-1342\FIGURE 3 SITE LOCATION_1RP-1342.MXD

<div style="text-align: center;">  TETRA TECH www.tetrattech.com 901 West Wall Street, Suite 100 Midland, Texas 79701 Phone: (432) 682-4559 Fax: (432) 682-3946 </div>	CONOCOPHILLIPS		PROJECT NO.: 212C-MD-02334
	1RP-1342 (32.55939°, -103.1891°) LEA COUNTY, NEW MEXICO		DATE: DECEMBER 17, 2020
	SEMU PERMIAN #73 FLOWLINE RELEASE RELEASE EXTENT AND SITE ASSESSMENT		DESIGNED BY: AAM <div style="text-align: center;"> Figure No. 3 </div>





DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\1RP-1342\FIGURE 5 ACSP_1RP-1342.MXD



TETRA TECH

www.tetrattech.com

901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS

1RP-1342
(32.55939°, -103.1891°)
LEA COUNTY, NEW MEXICO

SEMU PERMIAN #73 FLOWLINE RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.: 212C-MD-02334

DATE: DECEMBER 17, 2020

DESIGNED BY: AAM

Figure No.

5

TABLES

TABLE 1
BORING LOCATION COORDINATES
SOIL ASSESSMENT - 1RP-1342
CONOCOPHILLIPS
SEMU PERMIAN #73 FLOWLINE
LEA COUNTY, NM

Boring ID	Latitude	Longitude
AH-1	32.559241	-103.189240
AH-2	32.559401	-103.189279
AH-3	32.559260	-103.189183
AH-4	32.559186	-103.189197
AH-5	32.559251	-103.189410

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 1RP-1342
CONOCOPHILLIPS
SEMU PERMIAN #73 FLOWLINE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Field Screening Results		Chloride ¹		BTEX ²								TPH ³							
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX	GRO ⁴		DRO		ORO		Total TPH (GRO+DRO+ORO)
		C ₃ - C ₁₀			C ₁₀ - C ₂₈		C ₂₈ - C ₄₀															
		ft. bgs	ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-1	11/5/2020	0-1	56	-	< 20.1		< 0.00101		< 0.00507		< 0.00253		< 0.00659		-	< 0.101		311		1180		1491
		1-2	65	-	< 20.5		< 0.00105		< 0.00527		< 0.00264		< 0.00685		-	< 0.103		1170		2890		4060
		2-3	55	-	< 20.3		< 0.00103		< 0.00517		< 0.00259		0.000983	J	0.000983	< 0.102		247		968		1215
		3-4	32	-	< 20.3		< 0.00103		< 0.00516		< 0.00258		< 0.00670		-	< 0.102		134		446		580
		4-5	45	-	< 20.4		< 0.00104		< 0.00521		< 0.00260		< 0.00677		-	< 0.102		21.6		91.4		113
		5-6	50	-	< 20.3		< 0.00103		< 0.00515		< 0.00258		< 0.00670		-	< 0.102		9.91		24.7		34.6
		6-7	47	-	< 20.4		< 0.00104		< 0.00519		< 0.00260		< 0.00675		-	< 0.102		8.08		19.4		27.5
		7-8	50	-	< 20.8		< 0.00108		< 0.00541		< 0.00270		< 0.00703		-	0.0368	B J	12.6		29.7		42.3
		8-9	51	-	< 105		< 0.00110		< 0.00550		< 0.00275		< 0.00715		-	< 0.105		< 4.20		6.39		6.39
9-10	59	-	< 104		< 0.00108		< 0.00542		< 0.00271		< 0.00704		-	< 0.104		4.10	J	14.5		18.6		
AH-2	11/5/2020	0-1	59	-	< 20.1		< 0.00101		< 0.00503		< 0.00251		< 0.00654		-	< 0.100		< 4.01		2.06	J	2.06
		1-2	61	-	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.100		< 4.01		2.60	J	2.60
		2-3	52	-	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.100		< 4.02		1.91	J	1.91
AH-3	11/5/2020	0-1	71	-	< 20.3		< 0.00103		< 0.00517		< 0.00258		< 0.00672		-	< 0.102		6.29		29.4		35.7
		1-2	75	-	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.100		< 4.02		5.14		5.14
		2-3	61	-	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	0.0281	B J	< 4.01		8.70		8.73
AH-4	11/5/2020	0-1	56	-	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.100		< 4.02		7.56		7.56
		1-2	71	-	< 20.1		< 0.00101		< 0.00503		< 0.00251		< 0.00654		-	< 0.100		1.70	J	6.52		8.22
		2-3	45	-	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.100		< 4.01		3.76	J	3.76
AH-5	11/5/2020	0-1	65	-	< 20.1		< 0.00101		< 0.00506		< 0.00253		< 0.00658		-	< 0.101		2.33	J	14.1		16.4
		1-2	51	-	< 20.1		< 0.00101		< 0.00506		< 0.00253		< 0.00657		-	< 0.101		1.68	J	9.14		10.8
		2-3	49	-	< 20.1		< 0.00101		< 0.00506		< 0.00253		< 0.00658		-	< 0.101		2.46	J	11.2		13.7

NOTES:

ft. Feet
bgs Below ground surface
ppm Parts per million
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
ORO Oil range organics

Bold and italicized values indicate exceedance of proposed RRALs

Shaded rows indicate intervals proposed for excavation

- 1 EPA Method 300.0
2 EPA Method 8260B
3 EPA Method 8015
4 EPA Method 8015D/GRO

QUALIFIERS:

- B The same analyte is found in the associated blank.
J The identification of the analyte is acceptable; the reported value is an estimate.

APPENDIX A C-141 Forms

12-14-04; 11:06AM; Conoco Hobbs

; 505 391 3102

5/ 5

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Form C-14
Revised October 10, 20

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company ConocoPhillips Company	Contact John Abney
Address 4001 Penbrook Street Odessa, TX 79762	Telephone No. (505)391-3128
Facility Name SEMU Permian #73	Facility Type Oil Well

Surface Owner Bob McCasland	Mineral Owner BLM	Lease No. 031670B
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LOCATION OF RELEASE

AP1 # 30025 078220000

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	19	20S	38E	660	North	1980	East	

Latitude **32 33.561** Longitude **103 11.324**

NATURE OF RELEASE

Type of Release Oil and Produced water	Volume of Release 35 barrels	Volume Recovered 28 barrels
Source of Release Flowline	Date and Hour of Occurrence 11/24/04 4:10 pm	Date and Hour of Discovery 11/24/04
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dickey (via voice mail) NMOC	
By Whom? John Abney	Date and Hour 11/24/04 4:10 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken *

Internal corrosion on flowline. Line was clamped for the weekend and then replaced 2 joints of pipe on Monday 11/29/04.

Describe Area Affected and Cleanup Action Taken *

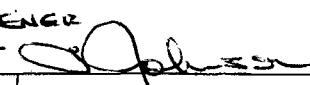
The area affected is 55' X 25' all free liquid was picked up. The site will have to be assessed to determine the appropriate remediation necessary.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC 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.

OIL CONSERVATION DIVISION

Signature: Printed Name: **John Abney**Title: **SHEAR Specialist**E-mail Address: **john.h.abney@conocophillips.com**Date: **11/30/2004**Phone: **(505)391-3128**

Attach Additional Sheets If Necessary

Approved by District Supervisor 
Approval Date: **5-23-07** Expiration Date:

Conditions of Approval:

SUBMIT FINAL (SIGNED)Attached ☐

**C-141 w/ CLOSURE
RESULTS ATTACHED**

RPT# 1342

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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.

Printed Name: _____ Title: _____

Signature: Charles R. Beauvais II Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 04/24/2023

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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.

Printed Name: _____ Title: _____

Signature: Charles R. Beauvais II Date: _____

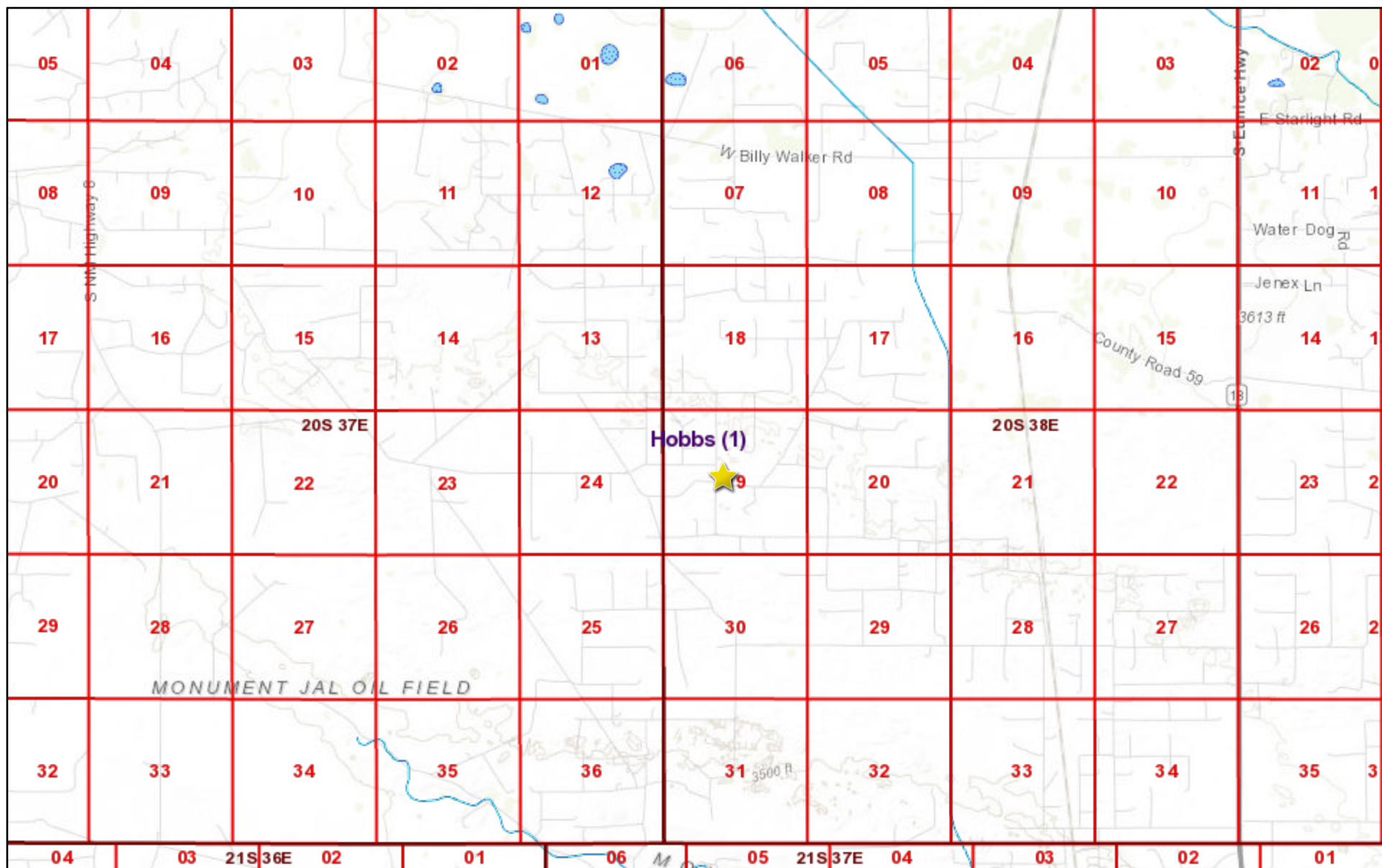
email: _____ Telephone: _____

OCD OnlyReceived by: Jocelyn Harimon Date: 04/24/2023☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral ApprovedSignature:  Date: 04/24/2023

APPENDIX B

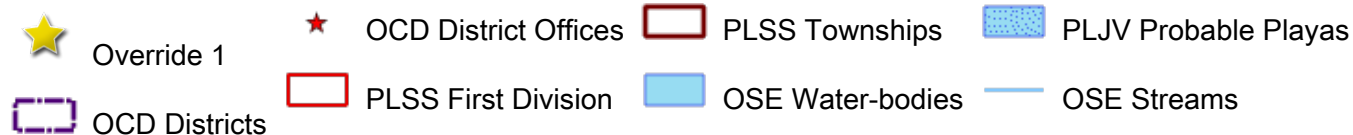
Site Characterization Data

1RP-1342



2/8/2021, 2:00:03 PM

1:72,224







OCD, Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE,

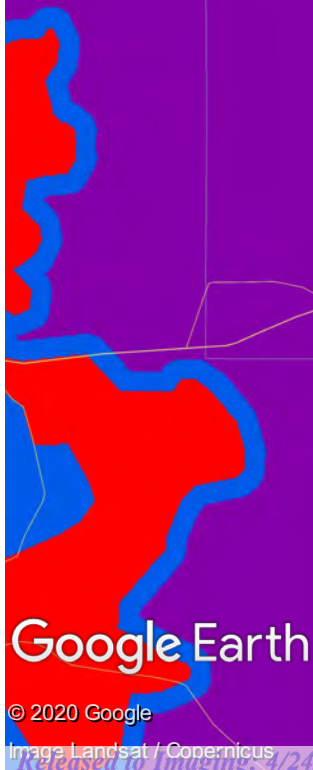
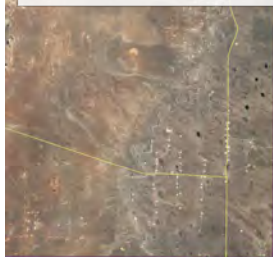
New Mexico Oil Conservation Division

KARST POTENTIAL MAP

1RP-1342

Legend

-  1RP-1342
-  High
-  Low
-  Medium



Google Earth

© 2020 Google

Image Landsat / Copernicus

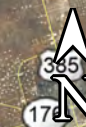
Released to Imaging: 4/24/2023 2:45:12 PM

Hobbs

1RP-1342

83

214



17

30 mi



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 Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	WaterColumn
L_04412 S	L	LE		4	4	2	13	20S	37E	669189	3605491*	1803	155	84	71
L_02109	L	LE		2	4	2	18	20S	38E	670803	3605719*	1992	124	50	74
L_04412	L	LE		4	2	2	13	20S	37E	669181	3605894*	2172	140	85	55
L_05351	L	LE			2	2	13	20S	37E	669082	3605995*	2304	115		
Average Depth to Water:														73 feet	
Minimum Depth:														50 feet	
Maximum Depth:														85 feet	

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 670015.41 Northing (Y): 3603888.24 Radius: 2400

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

APPENDIX C

Initial Assessment Report (EPI, June 2, 2005)



ENVIRONMENTAL PLUS, INC. Micro-Blaze Micro-Blaze Out™
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

2 June 2005

Mr. Larry Johnson
Environmental Engineer Specialist
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, NM 88240

RE: ConocoPhillips SEMU Permian Well 73 Release Site (Ref. #150008)

UL-B (NW¼ of the NE ¼) of Section 19, T20S, R38E

Latitude N 32° 33' 33.8" and Longitude W 103° 11' 20.7"

RP# 1342
API# 30025078220000

Dear Mr. Johnson:

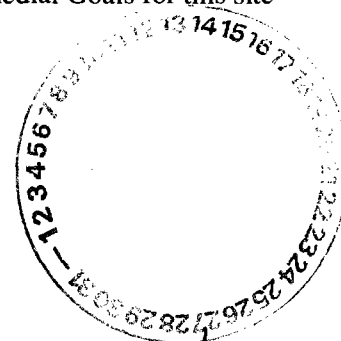
On November 24, 2004, a release of approximately 35 barrels of production fluid occurred as a result of a flow line leak at the above-referenced site. ConocoPhillips recovered approximately 28 barrels of production fluid and utilized a backhoe to back drag the release area to eliminate free-liquid residuals. ConocoPhillips retained Environmental Plus, Inc. (EPI) in January 2005 to delineate the vertical extent of impacted soil at the site. This letter report documents the results of the delineation activities and recommends how to proceed with the remediation of the impacted soil.

Site Background

The site is located in the NW¼ of the NE¼ of Section 19, Township 20 South, Range 38 East at an elevation of approximately 3,543 feet above mean sea level (reference *Figures 1 and 2*). The property is owned by Bob McCasland. A search for area water wells was completed utilizing the New Mexico Office of the State Engineers website and a database maintained by the United States Geological Survey (USGS). A total of 18 wells were found to be located either in Section 19 or one of the eight adjacent sections (i.e., sections 17, 18, 20, 29 and 23 of Township 20 South, Range 38 East and sections 13, 24 and 25 of Township 20 South, Range 37 East). The average depth to water in these wells was reported to be approximately 72 feet below ground surface (bgs) and ranged from 50 feet bgs to 82.73 feet bgs. (reference *Table 2*). No water supply wells or bodies of surface water were found to be located within a 1,000-foot radius of the release location, although one well (USGS #1) is located near the 1,000-foot boundary (reference *Figure 2*). Based on available information it was determined that the distance between the contamination and groundwater was between 50 and 100 feet. Utilizing this information, it was determined that the New Mexico Oil Conservation Division (NMOCD) Remedial Goals for this site were as follows:

Parameter	Remedial Goal
Benzene	10 parts per million
BTEX	50 parts per million
TPH	1,000 parts per million

Incident - n PAC0714434227
Application - p PAC0714434336



RP# 1342

P.O. BOX 1558

2100 AVENUE O

EDINBURGH, NEW MEXICO 88231

TELEPHONE 505•394•3481

FAX 505•394•2601

Mr. Larry Johnson

2 June 2005

Field Work

EPI was on site from February 3, 2005 to advance two soil borings within the perimeter of the release area to delineate the vertical extent of production fluid-impacted soil (reference *Figure 4*). During the advancement of the soil boring, samples were collected at 5-foot intervals with a portion of the sample being placed in a laboratory provided container and the remainder placed in a self sealing polyethylene bag. The samples placed in laboratory provided containers were immediately placed on ice for transport to Environmental Lab of Texas of Odessa, Texas, for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX), gasoline range organics (GRO), diesel range organics (DRO) and chloride.

The portion of the samples placed in the self-sealing polyethylene bag were placed in a heated environment (i.e., cab of a truck) to allow the volatilization of organic vapors. After the samples had been allowed to equilibrate to $\approx 70^{\circ}$ F, they were analyzed for the presence of organic vapors utilizing a MiniRae[®] photoionization detector (PID) equipped with a 9.8 electron-volt (eV) lamp. In addition, the samples were analyzed in the field for the presence of chloride using a LaMotte Chloride Test Kit.

The soil borings were advanced to depths of 10 and 15 feet below ground surface (bgs) and samples were collected at 2-feet, 5-feet, 10-feet, and 15-feet bgs. Field analyses of the samples collected during the advancement of soil boring BH-1 indicated the presence of organic vapors at concentrations ranging from 17.4 parts per million (ppm) at 15 feet bgs to 104 ppm at 2 feet bgs (reference *Table 1*). Field analyses for chloride indicated concentrations ranging from 240 milligrams per kilogram (mg/Kg) at 2 and 15 feet bgs to 1,840 mg/Kg at 5 feet bgs. Field analyses of samples collected during the advancement of soil boring BH-2 indicated the presence of organic vapors at concentrations ranging from 7.2 ppm at 10 feet bgs to 28.4 ppm at 2 feet bgs. Field analyses for chlorides indicated concentrations ranging from 240 mg/Kg at 2 and 10 feet bgs to 480 mg/Kg at 5 feet bgs.

During the advancement of the soil boring, the lithology was defined as sand to a depth of at least 15 feet bgs (reference *Attachment II*).

Analytical Data

Analytical results for the samples collected during the advancement of soil boring BH-1 indicated soil impacted above the NMOCD remedial threshold extends to a depth of between 2 and 5-feet bgs (reference *Table 1*). Analytical results for the samples collected during the advancement of soil boring BH-2 indicated there was no soil impacted above the NMOCD remedial thresholds. The only contaminant reported above the NMOCD remedial threshold for this site was total petroleum hydrocarbons (TPH) in the sample obtained from soil boring BH-1 at a depth of 2-feet bgs. TPH concentrations were reported at 20,500 milligrams per kilogram (mg/Kg) in this sample. Benzene and BTEX concentrations were reported at concentrations below the NMOCD remedial guidelines for all samples.

Chloride concentrations for the samples obtained during the advancement of soil boring BH-1 were reported ranging from 20.5 milligrams per liter (mg/L) at 2-feet bgs to 1,810 mg/L at 5 feet bgs. The reported concentrations are below the New Mexico Water Quality Control Commission's (NMWQCC) chloride standards for groundwater of 250 mg/L for all samples; with the exception of the sample collected at 5-feet bgs (reference *Table 2*).

Chloride concentrations for the samples obtained during the advancement of soil boring BH-2 were reported ranging from 22.2 mg/L at 2-feet bgs to 325 mg/L at 5-feet bgs. The reported concentrations are below the NMWQCC chloride standards for groundwater of 250 mg/L for all samples, with the exception of the sample collected at 5-feet bgs (reference *Table 2*).

Mr. Larry Johnson
2 June 2005

Conclusions

Based on field and analytical analyses, soil impacted above the NMOCD remedial thresholds extends to a depth of approximately 5-feet bgs in the vicinity of where soil boring BH-1 was advanced (reference Figure 4). The release area is approximately 1,370 square feet in size; however, the lateral extent of impacts above the NMOCD remedial thresholds is limited to the vicinity of where soil boring BH-1 was advanced. The volume of soil that is required to be treated is unknown; however, if the entire release area was excavated to a depth of 5-feet bgs, the volume of soil excavated would be approximately 250 cubic yards (*in situ*). Due to the fact that impacts above the NMOCD remedial thresholds are limited to the vicinity of where soil boring BH-1 was advanced, the volume of impacted soil is actually less than 250 cubic yards.

Chloride concentrations were reported below the NMWQCC standards for groundwater in all but two samples collected during the advancement of the soil borings. The samples exhibiting elevated chloride levels were collected at 5-feet bgs in each of the soil borings and concentrations ranged from 325 mg/Kg (BH-2) to 1,810 mg/Kg (BH-1). Due to the elevated chloride levels reported in the sample collected from soil boring BH-1 at 5-feet bgs and the depth to groundwater in the area, there is the possibility that groundwater could be impacted by chloride.

Recommendations

Based on field and analytical results, it is recommended that soil impacted above the remedial limits within the vicinity of soil boring BH-1 be excavated. The final lateral and vertical extents will be determined via field analyses of soil samples collected during excavation activities. Upon completion of excavation activities, the excavation basin will be sampled (i.e., grab samples collected from the sidewalls and floor) and the samples submitted to an independent laboratory for quantification of BTEX and TPH.

The excavated soil impacted above the NMOCD remedial thresholds can be treated either by (a) transporting it to a State approved land treatment facility and backfilling the excavation with clean soil obtained off-site or (b) blending the soil with clean soil obtained from along the right-of-way until NMOCD remedial goals are achieved. Samples would be collected from the blended soil and analyzed in the field to ascertain when NMOCD guidelines had been achieved and samples submitted to an independent laboratory to verify field analyzes. Upon receipt of analytical results verifying the blending of the soil to NMOCD remedial guidelines or below, the excavation should be backfilled, contoured to allow natural drainage and reseeded.

Mr. Larry Johnson

2 June 2005

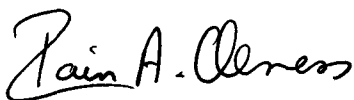
Should you have any questions or concerns, please feel free to contact me at (505) 394-3481 or via e-mail at iolness@hotmail.com. Upon your approval, EPI will initiate the next phase of the remediation. All official correspondence should be submitted to John Abney at:

John Abney, SHEaR Specialist
ConocoPhillips
1410 Northwest County Road
Hobbs, NM 88240

(505) 391-3128
John.H.Abney@conocophillips.com

Sincerely,

ENVIRONMENTAL PLUS, INC.



Iain A. Olness, P.G.
Hydrogeologist

cc: John Abney, ConocoPhillips – Hobbs
C. John Coy, ConocoPhillips – Hobbs
Bob McCasland, Property Owner
File

encl. Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Site Map
Figure 4 – Soil Boring Location Map
Table 1 – Summary of Soil Boring Analytical Results
Table 2 – Well Data
Attachment I – Laboratory Results and Chain-of-Custody Form
Attachment II – Soil Boring Logs
Attachment III – Copy of Initial C-141

FIGURES

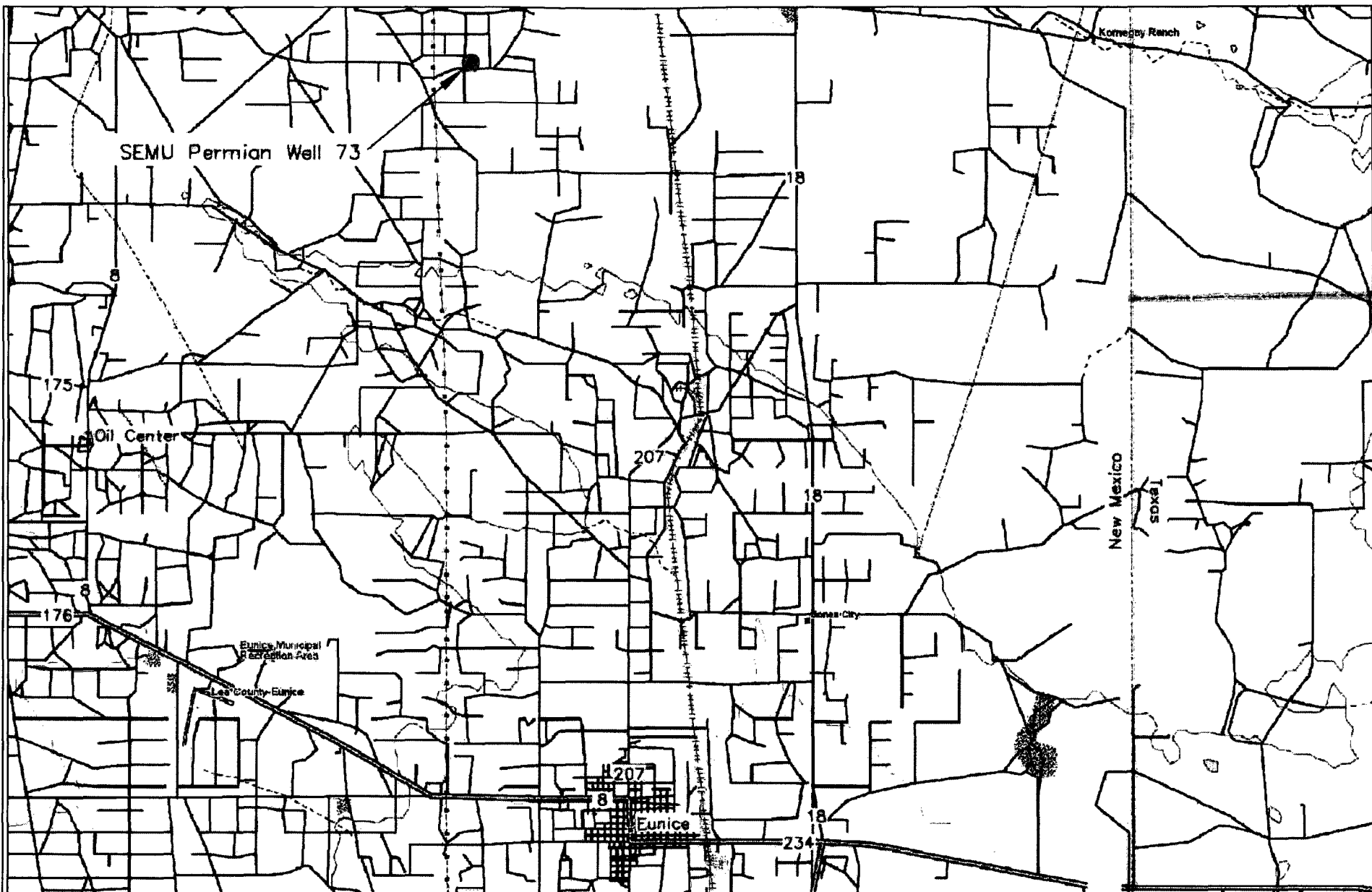


Figure 1
Area Map
ConocoPhillips
SEMU Permian Well 73

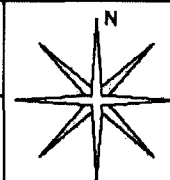
Lea County, New Mexico
NW 1/4 of the NE 1/4, Sec. 19, T20S, R38E
N 32° 33' 33.8" W 103° 11' 20.7"
Elevation: 3,543 feet amsl

DWG By: Iain Olness
March 2005

REVISED:



SHEET
1 of 1



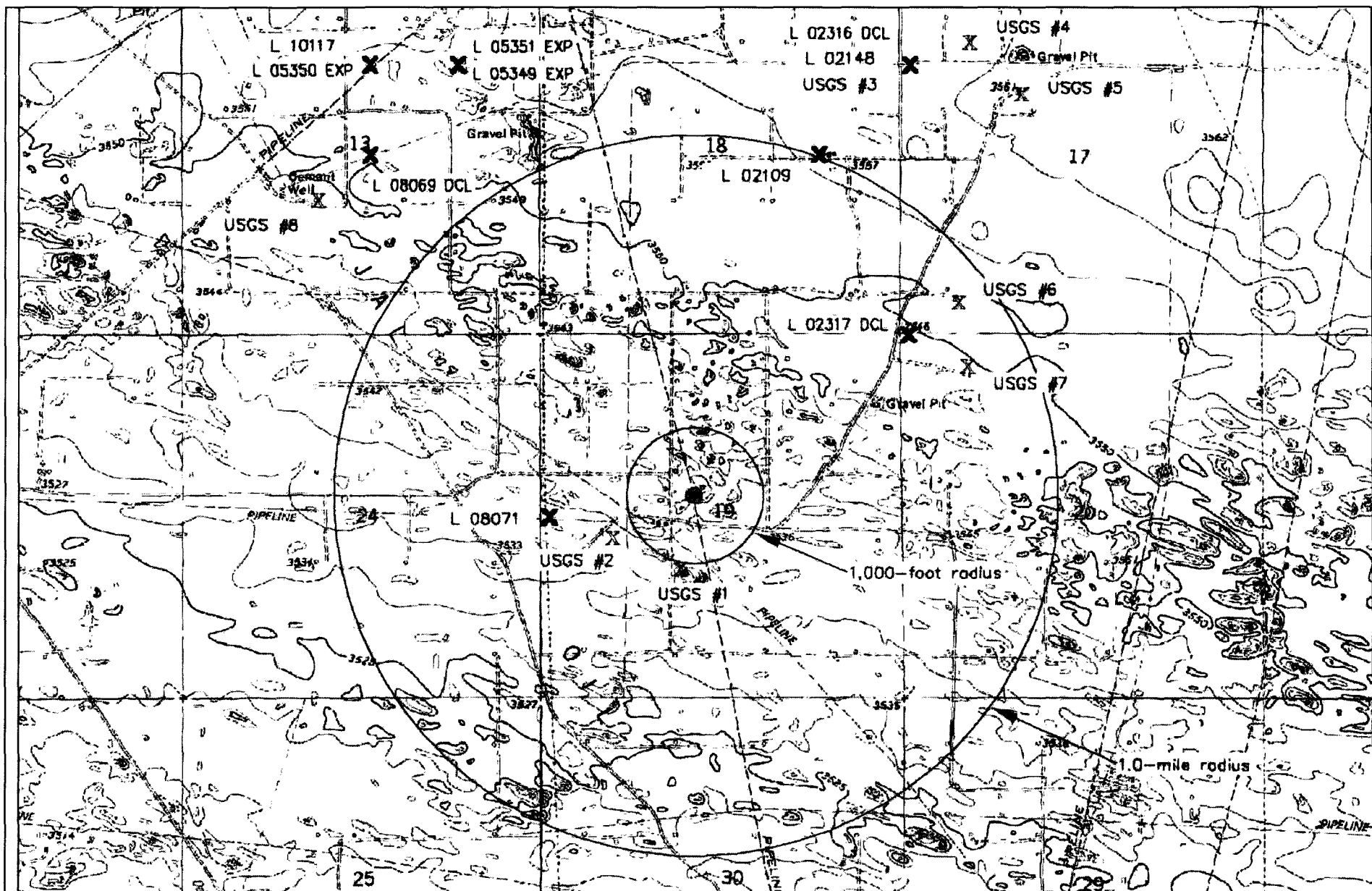
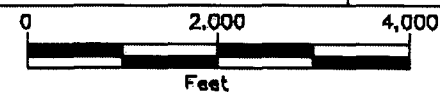


Figure 2
Site and Well Location Map
ConocoPhillips
SEMU Permian Well 73

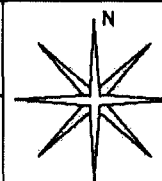
Lea County, New Mexico
NW 1/4 of the NE 1/4, Sec. 19, T20S, R38E
N 32° 33' 33.8" W 103° 11' 20.7"
Elevation: 3,543 feet amsl

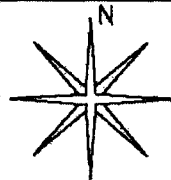
DWG By: Iain Olness
March 2005

REVISED:



SHEET
1 of 1





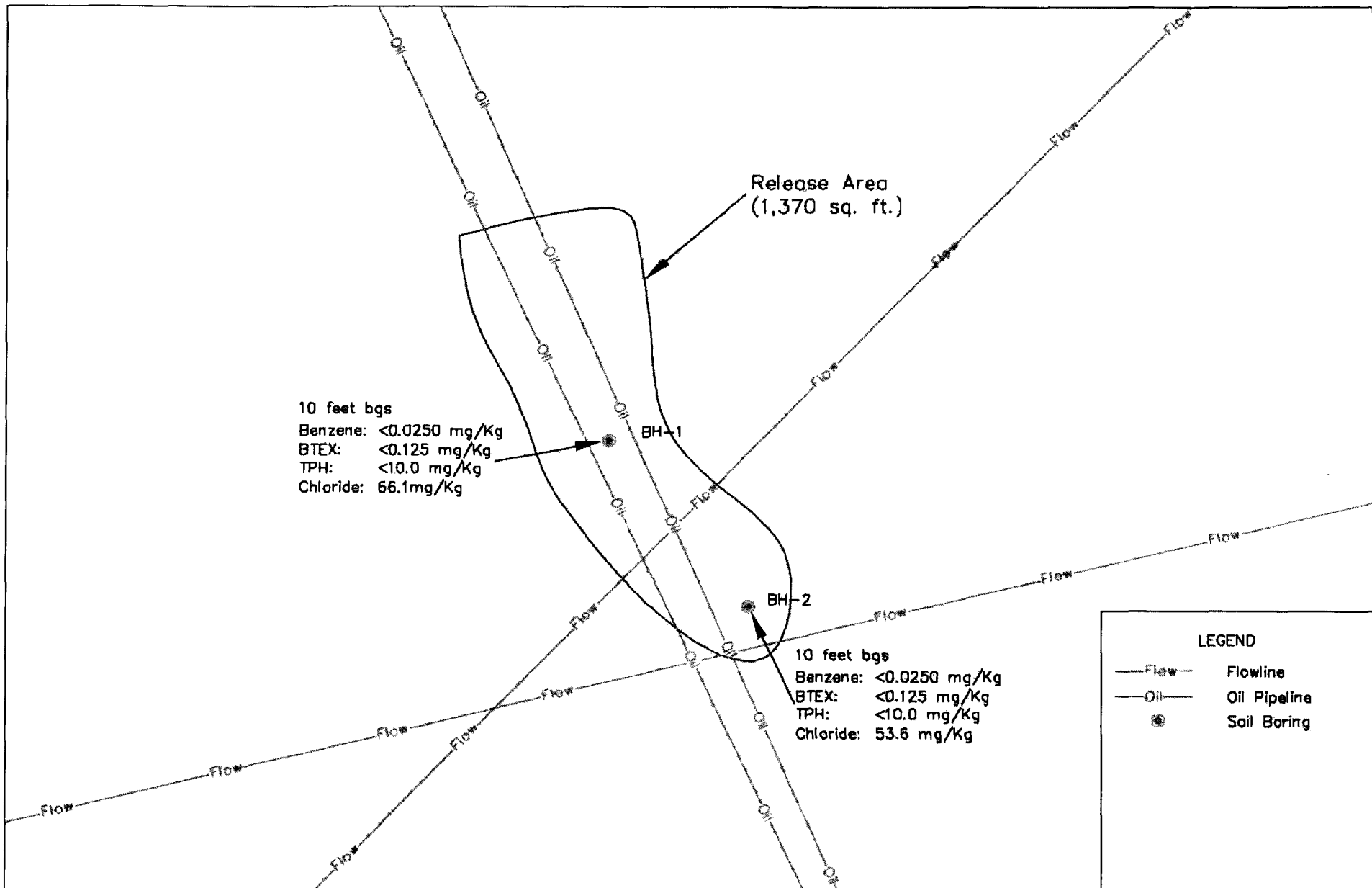
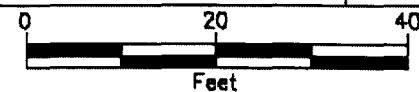


Figure 4
 Soil Boring Location Map
 ConocoPhillips
 SEMU Permian Well 73

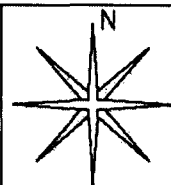
Leo County, New Mexico
 NW 1/4 of the NE 1/4, Sec. 19, T20S, R38E
 N 32° 33' 33.8" W 103° 11' 20.7"
 Elevation: 3,543 feet amsl

DWG By: Iain Olness
 March 2005

REMSD:



SHEET
 1 of 1



TABLES

TABLE 1

Summary of Soil Boring Analytical Results

Conoco Phillips SEMU Permian Well 73 (Ref. #150008)

Soil Boring	Depth (feet)	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	m,p-Xylenes (mg/Kg)	o-Xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
Background	Surface	03-Feb-05	NA	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-1	2	03-Feb-05	104	240	0.0503	1.35	3.14	6.91	2.78	14.2	2,900	17,600	20,500	20.5
	5	03-Feb-05	74.4	1,840	<0.0250	0.0914	0.355	0.855	0.379	1.68	210	518	728	1,810
	10	03-Feb-05	21.1	320	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.125	<10.0	8.48 ⁴	<10.0	66.1
	15	03-Feb-05	17.4	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-2	2	03-Feb-05	28.4	240	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.125	7.36 ⁴	154	154	22.2
	5	03-Feb-05	10.3	480	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.125	<10.0	<10.0	<10.0	325
	10	03-Feb-05	7.2	240	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.125	<10.0	<10.0	<10.0	53.6
NMOCD Remedial Thresholds			100 ³		10					50			1,000	250 ⁵

¹ Bolded values are in excess of the NMOCD Remediation Thresholds² NA = Not Analyzed³ In lieu of laboratory analyses of benzene, toluene, ethylbenzene and total xylenes.⁴ Detected, but below the reporting limit; therefore the result is an estimated concentration (CLP J-Flag)⁵ Chloride residuals may not be capable of impacting local groundwater above the NMWQCC standard of 250 mg/L

TABLE 2

Well Data

Conoco Phillips SEMU Permian Well 73 (Ref. #150008)

Well Number	Diversion ^A	Owner	Use	Source	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation ^B	Depth to Water (ft bgs)

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1)

Shaded well information indicates well location shown on Figure 2

^A = in acre feet per annum

^B = Elevation interpolated from USGS topographical map based on referenced location.

DOM = Domestic

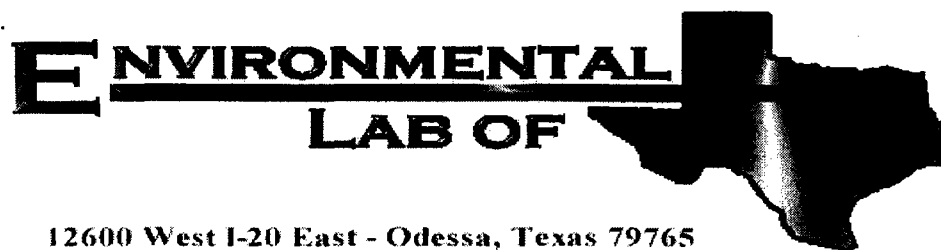
STK = Livestock Watering

EXP = Expired

IRR = Irrigation

P = The site was being pumped

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest



12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Conoco Phillips/ SEMU Permian Well 73

Project Number: 150008

Location: None Given

Lab Order Number: 5B09012

Report Date: 02/18/05

ATTACHMENT I

LABORATORY RESULTS

AND

CHAIN-OF-CUSTODY FORM

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601
Reported:
02/18/05 08:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 (2')	5B09012-01	Soil	02/03/05 11:00	02/09/05 16:15
BH-1 (5')	5B09012-02	Soil	02/03/05 11:10	02/09/05 16:15
BH-1 (10')	5B09012-03	Soil	02/03/05 12:49	02/09/05 16:15
BH-2 (2')	5B09012-05	Soil	02/03/05 14:10	02/09/05 16:15
BH-2 (5')	5B09012-06	Soil	02/03/05 14:17	02/09/05 16:15
BH-2 (10')	5B09012-07	Soil	02/03/05 14:45	02/09/05 16:15

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 (2') (5B09012-01) Soil									
Benzene	0.0503	0.0250	mg/kg dry	25	EB51409	02/10/05	02/14/05	EPA 8021B	
Toluene	1.35	0.0250	"	"	"	"	"	"	
Ethylbenzene	3.14	0.0250	"	"	"	"	"	"	
Xylene (p/m)	6.91	0.0250	"	"	"	"	"	"	
Xylene (o)	2.78	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		131 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		80.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	2900	50.0	mg/kg dry	5	EB51006	02/10/05	02/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	17600	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	20500	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		24.8 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		20.2 %	70-130		"	"	"	"	S-06
BH-1 (5') (5B09012-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB51409	02/10/05	02/10/05	EPA 8021B	
Toluene	0.0914	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.355	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.855	0.0250	"	"	"	"	"	"	
Xylene (o)	0.379	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		110 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	210	10.0	mg/kg dry	1	EB51006	02/10/05	02/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	518	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	728	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		93.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		84.0 %	70-130		"	"	"	"	
BH-1 (10') (5B09012-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB51409	02/10/05	02/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		109 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB51006	02/10/05	02/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	J [8.48]	10.0	"	"	"	"	"	"	J
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 (10') (5B09012-03) Soil									
Surrogate: 1-Chlorooctane		92.2 %	70-130		EB51006	02/10/05	02/10/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		77.6 %	70-130		"	"	"	"	
BH-2 (2') (5B09012-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB51409	02/10/05	02/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		110 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	J [7.36]	10.0	mg/kg dry	1	EB51006	02/10/05	02/10/05	EPA 8015M	J
Diesel Range Organics >C12-C35	154	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	154	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		89.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		76.8 %	70-130		"	"	"	"	
BH-2 (5') (5B09012-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB51409	02/10/05	02/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB51006	02/10/05	02/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		74.0 %	70-130		"	"	"	"	

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-2 (10') (5B09012-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB51409	02/10/05	02/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB51006	02/10/05	02/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		92.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		73.6 %	70-130		"	"	"	"	

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

**General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 (2') (5B09012-01) Soil									
Chloride	20.5	5.00	mg/kg	10	EB51717	02/14/05	02/14/05	EPA 300.0	
% Moisture	1.4	0.1	%	1	EB51102	02/10/05	02/11/05	% calculation	
BH-1 (5') (5B09012-02) Soil									
Chloride	1810	50.0	mg/kg	100	EB51717	02/14/05	02/14/05	EPA 300.0	
% Moisture	10.1	0.1	%	1	EB51102	02/10/05	02/11/05	% calculation	
BH-1 (10') (5B09012-03) Soil									
Chloride	66.1	5.00	mg/kg	10	EB51717	02/14/05	02/14/05	EPA 300.0	
% Moisture	6.1	0.1	%	1	EB51102	02/10/05	02/11/05	% calculation	
BH-2 (2') (5B09012-05) Soil									
Chloride	22.2	5.00	mg/kg	10	EB51717	02/14/05	02/14/05	EPA 300.0	
% Moisture	2.8	0.1	%	1	EB51102	02/10/05	02/11/05	% calculation	
BH-2 (5') (5B09012-06) Soil									
Chloride	325	10.0	mg/kg	20	EB51717	02/14/05	02/14/05	EPA 300.0	
% Moisture	4.6	0.1	%	1	EB51102	02/10/05	02/11/05	% calculation	
BH-2 (10') (5B09012-07) Soil									
Chloride	53.6	20.0	mg/kg	40	EB51717	02/14/05	02/14/05	EPA 300.0	
% Moisture	6.8	0.1	%	1	EB51102	02/10/05	02/11/05	% calculation	

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Environmental Plus, Incorporated
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Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EB51006 - Solvent Extraction (GC)**Blank (EB51006-BLK1)**

Prepared & Analyzed: 02/10/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	47.5		mg/kg	50.0		95.0	70-130			
Surrogate: 1-Chlorooctadecane	37.4		"	50.0		74.8	70-130			

Blank (EB51006-BLK2)

Prepared: 02/10/05 Analyzed: 02/11/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	47.6		mg/kg	50.0		95.2	70-130			
Surrogate: 1-Chlorooctadecane	35.2		"	50.0		70.4	70-130			

LCS (EB51006-BS1)

Prepared & Analyzed: 02/10/05

Gasoline Range Organics C6-C12	429	10.0	mg/kg wet	500		85.8	75-125			
Diesel Range Organics >C12-C35	442	10.0	"	500		88.4	75-125			
Total Hydrocarbon C6-C35	871	10.0	"	1000		87.1	75-125			
Surrogate: 1-Chlorooctane	43.1		mg/kg	50.0		86.2	70-130			
Surrogate: 1-Chlorooctadecane	38.5		"	50.0		77.0	70-130			

LCS (EB51006-BS2)

Prepared: 02/10/05 Analyzed: 02/11/05

Gasoline Range Organics C6-C12	445	10.0	mg/kg wet	500		89.0	75-125			
Diesel Range Organics >C12-C35	459	10.0	"	500		91.8	75-125			
Total Hydrocarbon C6-C35	904	10.0	"	1000		90.4	75-125			
Surrogate: 1-Chlorooctane	39.3		mg/kg	50.0		78.6	70-130			
Surrogate: 1-Chlorooctadecane	35.9		"	50.0		71.8	70-130			

Calibration Check (EB51006-CCV1)

Prepared & Analyzed: 02/10/05

Gasoline Range Organics C6-C12	489		mg/kg	500		97.8	80-120			
Diesel Range Organics >C12-C35	494		"	500		98.8	80-120			
Total Hydrocarbon C6-C35	983		"	1000		98.3	80-120			
Surrogate: 1-Chlorooctane	49.3		"	50.0		98.6	70-130			
Surrogate: 1-Chlorooctadecane	38.3		"	50.0		76.6	70-130			

Environmental Lab of Texas

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EB51006 - Solvent Extraction (GC)**Calibration Check (EB51006-CCV2)**

Prepared: 02/10/05 Analyzed: 02/11/05

Gasoline Range Organics C6-C12	490		mg/kg	500		98.0	80-120			
Diesel Range Organics >C12-C35	506		"	500		101	80-120			
Total Hydrocarbon C6-C35	996		"	1000		99.6	80-120			
Surrogate: 1-Chlorooctane	41.2		"	50.0		82.4	70-130			
Surrogate: 1-Chlorooctadecane	37.7		"	50.0		75.4	70-130			

Matrix Spike (EB51006-MS1)

Source: 5B09014-01

Prepared & Analyzed: 02/10/05

Gasoline Range Organics C6-C12	558	10.0	mg/kg dry	574	ND	97.2	75-125			
Diesel Range Organics >C12-C35	614	10.0	"	574	ND	107	75-125			
Total Hydrocarbon C6-C35	1170	10.0	"	1150	ND	102	75-125			
Surrogate: 1-Chlorooctane	51.6		mg/kg	50.0		103	70-130			
Surrogate: 1-Chlorooctadecane	39.5		"	50.0		79.0	70-130			

Matrix Spike (EB51006-MS2)

Source: 5B09015-04

Prepared: 02/10/05 Analyzed: 02/11/05

Gasoline Range Organics C6-C12	491	10.0	mg/kg dry	531	ND	92.5	75-125			
Diesel Range Organics >C12-C35	560	10.0	"	531	ND	105	75-125			
Total Hydrocarbon C6-C35	1050	10.0	"	1060	ND	99.1	75-125			
Surrogate: 1-Chlorooctane	49.1		mg/kg	50.0		98.2	70-130			
Surrogate: 1-Chlorooctadecane	39.7		"	50.0		79.4	70-130			

Matrix Spike Dup (EB51006-MSD1)

Source: 5B09014-01

Prepared & Analyzed: 02/10/05

Gasoline Range Organics C6-C12	527	10.0	mg/kg dry	574	ND	91.8	75-125	5.71	20	
Diesel Range Organics >C12-C35	604	10.0	"	574	ND	105	75-125	1.64	20	
Total Hydrocarbon C6-C35	1130	10.0	"	1150	ND	98.3	75-125	3.48	20	
Surrogate: 1-Chlorooctane	48.5		mg/kg	50.0		97.0	70-130			
Surrogate: 1-Chlorooctadecane	36.4		"	50.0		72.8	70-130			

Matrix Spike Dup (EB51006-MSD2)

Source: 5B09015-04

Prepared: 02/10/05 Analyzed: 02/11/05

Gasoline Range Organics C6-C12	516	10.0	mg/kg dry	531	ND	97.2	75-125	4.97	20	
Diesel Range Organics >C12-C35	546	10.0	"	531	ND	103	75-125	2.53	20	
Total Hydrocarbon C6-C35	1060	10.0	"	1060	ND	100	75-125	0.948	20	
Surrogate: 1-Chlorooctane	49.9		mg/kg	50.0		99.8	70-130			
Surrogate: 1-Chlorooctadecane	38.0		"	50.0		76.0	70-130			

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Environmental Plus, Incorporated
P.O. Box 1558
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Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EB51409 - EPA 5030C (GC)**Blank (EB51409-BLK1)**

Prepared & Analyzed: 02/10/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	94.0		ug/kg	100		94.0	80-120			
Surrogate: 4-Bromofluorobenzene	108		"	100		108	80-120			

LCS (EB51409-BS1)

Prepared & Analyzed: 02/10/05

Benzene	100		ug/kg	100		100	80-120			
Toluene	103		"	100		103	80-120			
Ethylbenzene	117		"	100		117	80-120			
Xylene (p/m)	238		"	200		119	80-120			
Xylene (o)	113		"	100		113	80-120			
Surrogate: a,a,a-Trifluorotoluene	117		"	100		117	80-120			
Surrogate: 4-Bromofluorobenzene	120		"	100		120	80-120			

Calibration Check (EB51409-CCV1)

Prepared: 02/10/05 Analyzed: 02/11/05

Benzene	102		ug/kg	100		102	80-120			
Toluene	97.6		"	100		97.6	80-120			
Ethylbenzene	99.1		"	100		99.1	80-120			
Xylene (p/m)	214		"	200		107	80-120			
Xylene (o)	106		"	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	118		"	100		118	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			

Matrix Spike (EB51409-MS1)

Source: 5B10010-01

Prepared & Analyzed: 02/10/05

Benzene	100		ug/kg	100	ND	100	80-120			
Toluene	98.9		"	100	ND	98.9	80-120			
Ethylbenzene	105		"	100	ND	105	80-120			
Xylene (p/m)	227		"	200	ND	114	80-120			
Xylene (o)	111		"	100	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	116		"	100		116	80-120			
Surrogate: 4-Bromofluorobenzene	111		"	100		111	80-120			

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Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EB51409 - EPA 5030C (GC)**Matrix Spike Dup (EB51409-MSD1)****Source: 5B10010-01**

Prepared: 02/10/05

Analyzed: 02/11/05

Benzene	91.0		ug/kg	100	ND	91.0	80-120	9.42	20	
Toluene	87.3		"	100	ND	87.3	80-120	12.5	20	
Ethylbenzene	91.4		"	100	ND	91.4	80-120	13.8	20	
Xylene (p/m)	200		"	200	ND	100	80-120	13.1	20	
Xylene (o)	100		"	100	ND	100	80-120	10.4	20	
Surrogate: a,a,a-Trifluorotoluene	107		"	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

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Eunice NM, 88231

Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EB51102 - General Preparation (Prep)**Blank (EB51102-BLK1)**

Prepared: 02/10/05 Analyzed: 02/11/05

% Moisture	ND	0.1	%							
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Duplicate (EB51102-DUP1)

Source: 5B09012-01

Prepared: 02/10/05 Analyzed: 02/11/05

% Moisture	1.5	0.1	%		1.4			6.90	20	
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Batch EB51717 - Water Extraction**Blank (EB51717-BLK1)**

Prepared & Analyzed: 02/14/05

Chloride	ND	0.500	mg/kg							
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LCS (EB51717-BS1)

Prepared & Analyzed: 02/14/05

Chloride	9.45		mg/L	10.0		94.5	80-120			
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LCS Dup (EB51717-BSD1)

Prepared & Analyzed: 02/14/05

Chloride	9.31		mg/L	10.0		93.1	80-120	1.49	20	
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Calibration Check (EB51717-CCV1)

Prepared & Analyzed: 02/14/05

Chloride	9.74		mg/L	10.0		97.4	80-120			
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Duplicate (EB51717-DUP1)

Source: 5B09012-02

Prepared & Analyzed: 02/14/05

Chloride	1790	50.0	mg/kg		1810			1.11	20	
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Project: Conoco Phillips/ SEMU Permian Well 73
Project Number: 150008
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
02/18/05 08:29

Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By: Raland K. Tuttle Date: 2-18-05

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 11 of 11

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Labs of Texas

12600 West I-20 East, Odessa, TX 79763
(915) 563-1800 FAX: (915) 563-1713

Chain of Custody Form

Company Name		Environmental Plus, Inc.	
EPI Project Manager		Iain Olness	
Mailing Address		P.O. BOX 1558	
City, State, Zip		Eunice New Mexico 88231	
EPI Phone#/Fax#		505-394-3481 / 505-394-2601	
Client Company		Conoco Phillips	
Facility Name		SEMU Permian Well 73	
Project Reference		150008	
EPI Sampler Name		Manuel Gonzales	

LAB I.D.		SAMPLE I.D.	
5B09012--			
1	BH-1 (2')	C 1	
2	BH-1 (5')	C 1	
3	BH-1 (10')	C 1	
4	BH-1 (15')	C 1	
5	BH-2 (2')	C 1	
6	BH-2 (5')	C 1	
7	BH-2 (10')	C 1	
8			
9			
10			

LAB I.D.	SAMPLE I.D.	# CONTAINERS	MATRIX					PRESERV.			SAMPLING		DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO ₄)	PH	TCLP	OTHER >>>	PAH	
			GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER												
1	BH-1 (2')	C 1			X											X	X	X					
2	BH-1 (5')	C 1			X											X	X	X					
3	BH-1 (10')	C 1			X											X	X	X					
4	BH-1 (15')	C 1			X											X	X	X					
5	BH-2 (2')	C 1			X											X	X	X					
6	BH-2 (5')	C 1			X											X	X	X					
7	BH-2 (10')	C 1			X											X	X	X					
8																							
9																							
10																							

Sampler Relinquished:		Date 2-9		Received By:	
Manuel Gonzales		Time 8:00		Manuel Gonzales	
Relinquished by:		Date 2-9		Received By: (Lab staff)	
Manuel Gonzales		Time 16:15		Cecilia Vega	
Delivered by:		Temp 4.0°C		Sample Cool & Intact	
		Yes		No	
		4.0°C		JMM	

402 jar

E-mail results to: iainess@hotmail.com

REMARKS: Only analyze Sample BH-1 (15') if analytical results for sample BH-1 (10') indicate TPH concentrations > 100 ppm and/or benzene concentrations > 10 ppm and/or BTEX concentrations > 50 ppm. If chloride concentrations in sample BH-1 (10') are > 500 ppm, then analyze sample BH-1 (15') for chlorides. ** ANY QUESTIONS, PLEASE CONTACT IAIN**



Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

Environmental Lab of Texas

Variance / Corrective Action Report – Sample Log-In

Client: Environmental PlusDate/Time: 2/9/05 16:45Order #: 5B09012Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	No	4.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____
 Regarding: _____

Corrective Action Taken:

ATTACHMENT II

SOIL BORING LOGS

Log Of Test Borings

(NOTE - Page 1 of 1)



ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND
ENVIRONMENTAL SERVICES
EUNICE
505-394-3481

Project Number: 150008

Project Name: Conoco Phillips SEMU Permian Well 73

Location: UL-B, Section 19, Township 20 South, Range 38 East

Boring Number: BH-1

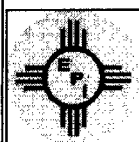
Surface Elevation: 3,543

Sample # and Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	U.S.C.S. Symbol	Depth (feet)	Description
1100	Cuttings	NA	Da	104	SP		SAND, Oil Stained
						5	
1110	CS	10	Da	74.4	SP		SAND, Oil Stained
						10	
1249	CS	12	Da	21.1	SP		SAND
						15	
1312	CS	8	Da	17.4	SP		SAND, Red
						20	
						25	
						30	
							End of Boring at 17.0'

Water Level Measurements (feet)						Drilling Method: HSA 3.5" ID
Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level	Backfill Method: Bentonite
02/03/05	-	-	-	-	-	
-	-	-	-	-	-	Field Representative: MG

Log Of Test Borings

(NOTE - Page 1 of 1)



ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND
ENVIRONMENTAL SERVICES
EUNICE
505-394-3481

Project Number: 150008

Project Name: Conoco Phillips SEMU Permian Well 73

Location: UL-B, Section 19, Township 20 South, Range 38 East

Boring Number: SB-2

Surface Elevation: 3,548

Sample # and Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	U.S.C.S. Symbol	Depth (feet)	Description
1410	Cuttings	NA	Da	28.4	SP		SAND, Brown
						5	
1417	CS	9	Da	10.3	SP		SAND, White
						10	
1445	CS	12	Da	7.2	SP		SAND, White
						15	
						20	
						25	
						30	
							End of Boring at 12.0'

Water Level Measurements (feet)						Drilling Method: HSA 3.5' ID
Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level	Backfill Method: Bentonite
02/03/05	-	-	-	-	-	Field Representative: MG
-	-	-	-	-	-	
-	-	-	-	-	-	

ATTACHMENT III

COPY OF INITIAL C-141

12-14-04; 11:06AM; Conoco Hobbs

; 505 391 3102

5/ 5

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Form C-14
Revised October 10, 20

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company ConocoPhillips Company	Contact John Abney
Address 4001 Penbrook Street Odessa, TX 79762	Telephone No. (505)391-3128
Facility Name SEMU Permian #73	Facility Type Oil Well

Surface Owner Bob McCasland	Mineral Owner BLM	Lease No. 031670B
------------------------------------	--------------------------	--------------------------

LOCATION OF RELEASE

AP1 # 30025 078220000

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	19	20S	38E	660	North	1980	East	

Latitude **32 33.561** Longitude **103 11.324**

NATURE OF RELEASE

Type of Release Oil and Produced water	Volume of Release 35 barrels	Volume Recovered 28 barrels
Source of Release Flowline	Date and Hour of Occurrence 11/24/04 4:10 pm	Date and Hour of Discovery 11/24/04
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dickey (via voice mail) NMOC	
By Whom? John Abney	Date and Hour 11/24/04 4:10 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	
If a Watercourse was Impacted, Describe Fully.* NA		

Describe Cause of Problem and Remedial Action Taken *

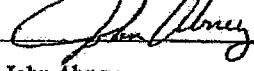

Internal corrosion on flowline. Line was clamped for the weekend and then replaced 2 joints of pipe on Monday 11/29/04.

Describe Area Affected and Cleanup Action Taken *

The area affected is 55' X 25' all free liquid was picked up. The site will have to be assessed to determine the appropriate remediation necessary.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC 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.

OIL CONSERVATION DIVISION

Signature: 	Approved by District Supervisor: 	
Printed Name: John Abney	Approval Date: 5-23-07	Expiration Date:
Title: SHEAR Specialist	Conditions of Approval: SUBMIT FINAL (SIGNED)	
E-mail Address: john.h.abney@conocophillips.com	Attached <input type="checkbox"/>	
Date: 11/30/2004 Phone: (505)391-3128	Attach Additional Sheets If Necessary	

C-141 w/ closure
RESULTS ATTACHED

RPT# 1342

APPENDIX D

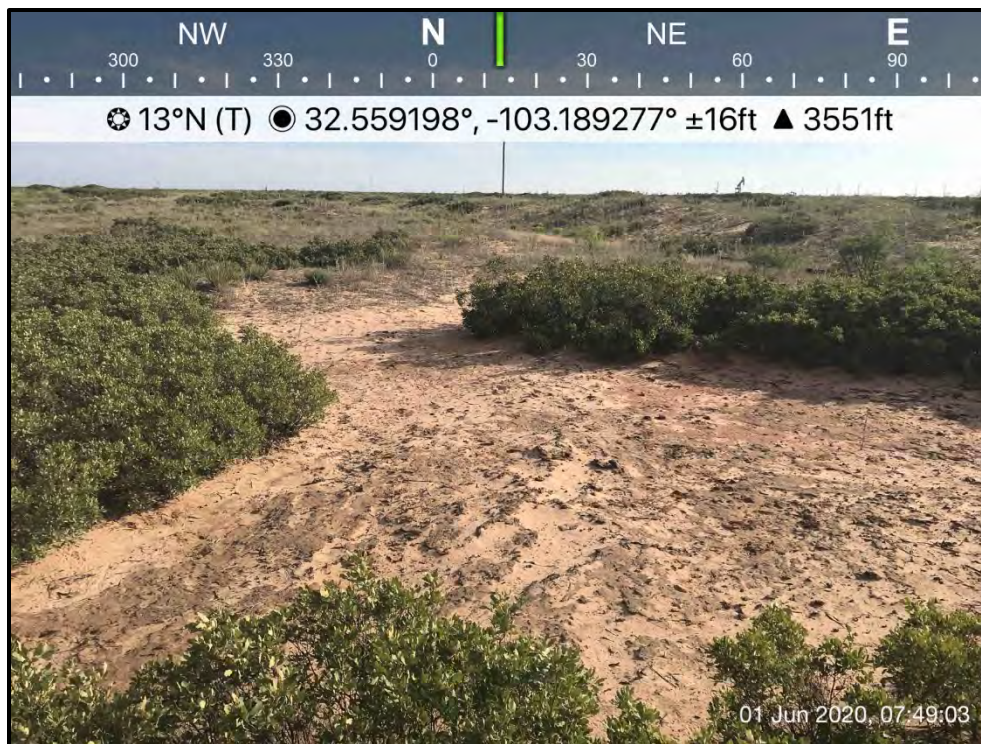
Photographic Documentation



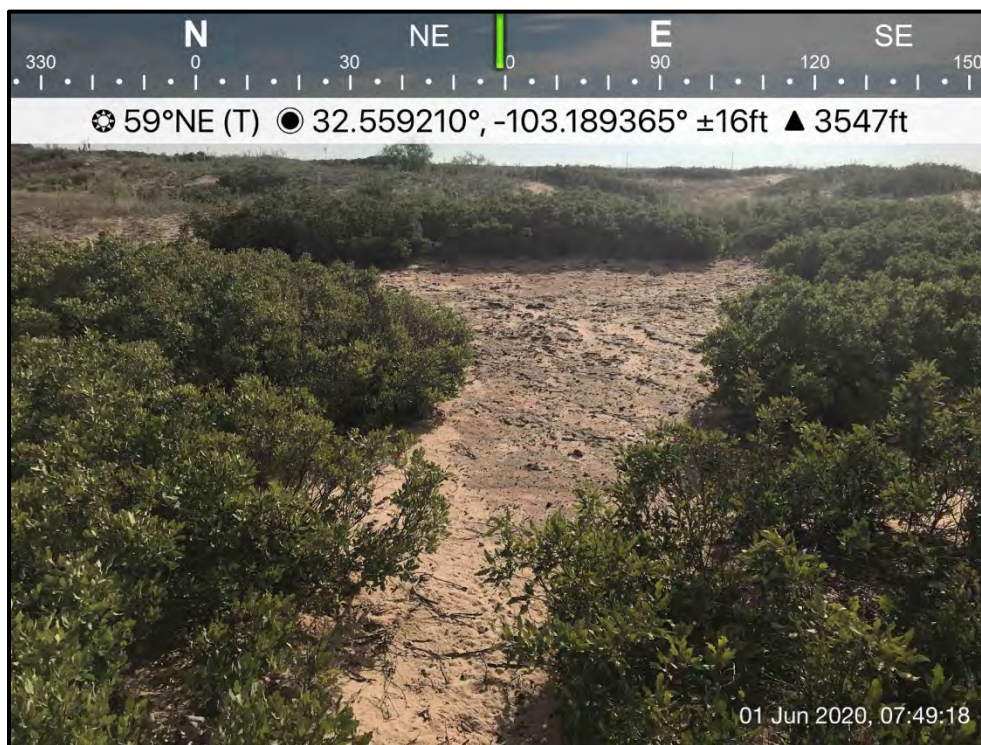
TETRA TECH, INC. PROJECT NO. 212C-MD-02152	DESCRIPTION	View facing south of release area.	1
	SITE NAME	SEMU Permian #73 Flowline Release	6/1/2020



TETRA TECH, INC. PROJECT NO. 212C-MD-02152	DESCRIPTION	View facing northwest of release area.	2
	SITE NAME	SEMU Permian #73 Flowline Release	6/1/2020



TETRA TECH, INC. PROJECT NO. 212C-MD-02152	DESCRIPTION	View facing north of release area.	3
	SITE NAME	SEMU Permian #73 Flowline Release	6/1/2020



TETRA TECH, INC. PROJECT NO. 212C-MD-02152	DESCRIPTION	View facing northeast of release area.	4
	SITE NAME	SEMU Permian #73 Flowline Release	6/1/2020

APPENDIX E

Laboratory Analytical Data



ANALYTICAL REPORT

November 23, 2020

ConocoPhillips - Tetra Tech

Sample Delivery Group: L1283206
Samples Received: 11/07/2020
Project Number: 212C-MD-02334
Description: SEMU Permian #73 Flowline (1RP-1342)

Report To: Christian Llull
901 West Wall
Suite 100
Midland, TX 79701

Entire Report Reviewed By:

Erica McNeese
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Cp: Cover Page	1
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Semi-Volatile Organic Compounds (GC) by Method 8015	40
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Al: Accreditations & Locations	43
Sc: Sample Chain of Custody	44

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

AH-1 (0-1') L1283206-01 Solid

				Collected by	Collected date/time	Received date/time
				Adrian Garcia	11/05/20 12:00	11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575378	1	11/13/20 03:57	11/13/20 04:03	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 18:08	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 07:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 14:55	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	50	11/14/20 21:33	11/15/20 13:25	JN	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

AH-1 (1-2') L1283206-02 Solid

				Collected by	Collected date/time	Received date/time
				Adrian Garcia	11/05/20 12:10	11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575378	1	11/13/20 03:57	11/13/20 04:03	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 18:36	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 07:22	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 15:15	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	50	11/14/20 21:33	11/15/20 13:38	JN	Mt. Juliet, TN

AH-1 (2-3') L1283206-03 Solid

				Collected by	Collected date/time	Received date/time
				Adrian Garcia	11/05/20 12:20	11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575378	1	11/13/20 03:57	11/13/20 04:03	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 18:55	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 07:43	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 15:34	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	50	11/14/20 21:33	11/16/20 23:33	JDG	Mt. Juliet, TN

AH-1 (3-4') L1283206-04 Solid

				Collected by	Collected date/time	Received date/time
				Adrian Garcia	11/05/20 12:30	11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575378	1	11/13/20 03:57	11/13/20 04:03	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 19:05	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 08:04	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 15:53	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	20	11/14/20 21:33	11/15/20 17:07	JN	Mt. Juliet, TN

AH-1 (4-5') L1283206-05 Solid

				Collected by	Collected date/time	Received date/time
				Adrian Garcia	11/05/20 12:40	11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 19:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 09:25	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 16:12	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	5	11/14/20 21:33	11/15/20 12:13	JDG	Mt. Juliet, TN

AH-1 (5-6') L1283206-06 Solid

				Collected by Adrian Garcia	Collected date/time 11/05/20 12:50	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 19:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 09:46	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 16:31	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	1	11/14/20 21:33	11/15/20 16:28	JN	Mt. Juliet, TN

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

AH-1 (6-7') L1283206-07 Solid

				Collected by Adrian Garcia	Collected date/time 11/05/20 13:00	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 19:52	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 10:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 16:50	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	1	11/14/20 21:33	11/15/20 16:54	JN	Mt. Juliet, TN

AH-1 (7-8') L1283206-08 Solid

				Collected by Adrian Garcia	Collected date/time 11/05/20 13:20	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 20:02	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 10:28	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 17:09	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576739	1	11/14/20 21:33	11/15/20 16:02	JN	Mt. Juliet, TN

AH-1 (8-9') L1283206-09 Solid

				Collected by Adrian Garcia	Collected date/time 11/05/20 13:40	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	5	11/11/20 12:59	11/11/20 20:11	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 10:49	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 17:28	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 13:04	JDG	Mt. Juliet, TN

AH-1 (9-10') L1283206-10 Solid

				Collected by Adrian Garcia	Collected date/time 11/05/20 14:00	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	5	11/11/20 12:59	11/11/20 20:21	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 11:10	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 17:47	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 13:18	JDG	Mt. Juliet, TN

AH-2 (0-1') L1283206-11 Solid

				Collected by Adrian Garcia	Collected date/time 11/04/20 14:10	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 20:30	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 11:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 18:06	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 11:06	JDG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

AH-2 (1-2') L1283206-12 Solid

				Collected by Adrian Garcia	Collected date/time 11/04/20 14:20	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 20:40	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 11:52	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575403	1	11/11/20 13:58	11/12/20 18:25	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 11:33	JDG	Mt. Juliet, TN

AH-2 (2-3') L1283206-13 Solid

				Collected by Adrian Garcia	Collected date/time 11/04/20 14:21	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 20:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 12:13	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/12/20 22:12	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 11:20	JDG	Mt. Juliet, TN

AH-3 (0-1') L1283206-14 Solid

				Collected by Adrian Garcia	Collected date/time 11/04/20 14:22	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575380	1	11/13/20 03:45	11/13/20 03:54	JAV	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 20:59	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 12:34	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/12/20 22:31	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/17/20 23:40	TJD	Mt. Juliet, TN

AH-3 (1-2') L1283206-15 Solid

				Collected by Adrian Garcia	Collected date/time 11/04/20 14:23	Received date/time 11/07/20 10:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 21:08	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 12:55	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/12/20 22:51	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 12:12	JDG	Mt. Juliet, TN

AH-3 (2-3') L1283206-16 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:24

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 21:37	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575123	1	11/11/20 13:58	11/12/20 13:16	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/12/20 23:10	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 12:25	JDG	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

AH-4 (0-1') L1283206-17 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:25

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 21:46	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575601	1	11/11/20 13:58	11/13/20 03:19	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/12/20 23:29	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 12:38	JDG	Mt. Juliet, TN

AH-4 (1-2') L1283206-18 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:26

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 21:56	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575601	1	11/11/20 13:58	11/13/20 03:40	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/12/20 23:48	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 11:59	JDG	Mt. Juliet, TN

AH-4 (2-3') L1283206-19 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:27

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574603	1	11/11/20 12:59	11/11/20 22:06	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575601	1	11/11/20 13:58	11/13/20 04:01	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/13/20 00:07	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/16/20 10:40	JDG	Mt. Juliet, TN

AH-5 (0-1') L1283206-20 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:28

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574604	1	11/15/20 15:20	11/15/20 20:26	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575601	1	11/11/20 13:58	11/13/20 04:22	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/13/20 00:26	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/17/20 23:27	TJD	Mt. Juliet, TN

AH-5 (1-2') L1283206-21 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:30

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574604	1	11/15/20 15:20	11/15/20 20:54	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575601	1	11/11/20 13:58	11/13/20 04:43	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/13/20 00:45	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/17/20 23:01	TJD	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

AH-5 (2-3') L1283206-22 Solid

Collected by
Adrian Garcia

Collected date/time
11/04/20 14:35

Received date/time
11/07/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1575382	1	11/13/20 03:33	11/13/20 03:43	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1574604	1	11/15/20 15:20	11/15/20 21:13	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1575601	1	11/11/20 13:58	11/13/20 05:04	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1575500	1	11/11/20 13:58	11/13/20 01:04	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1576942	1	11/15/20 16:54	11/17/20 23:14	TJD	Mt. Juliet, TN

5Sr

6Qc

7Gl

8Al

9Sc

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.



Erica McNeese
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Collected date/time: 11/05/20 12:00

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.3		1	11/13/2020 04:03	WG1575378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.26	20.1	1	11/11/2020 18:08	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0218	0.101	1	11/12/2020 07:01	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	107			77.0-120		11/12/2020 07:01	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000473	0.00101	1	11/12/2020 14:55	WG1575403
Toluene	U		0.00132	0.00507	1	11/12/2020 14:55	WG1575403
Ethylbenzene	U		0.000747	0.00253	1	11/12/2020 14:55	WG1575403
Total Xylenes	U		0.000892	0.00659	1	11/12/2020 14:55	WG1575403
(S) Toluene-d8	110			75.0-131		11/12/2020 14:55	WG1575403
(S) 4-Bromofluorobenzene	92.9			67.0-138		11/12/2020 14:55	WG1575403
(S) 1,2-Dichloroethane-d4	97.4			70.0-130		11/12/2020 14:55	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	311		81.1	201	50	11/15/2020 13:25	WG1576739
C28-C40 Oil Range	1180		13.8	201	50	11/15/2020 13:25	WG1576739
(S) o-Terphenyl	68.8	J7		18.0-148		11/15/2020 13:25	WG1576739

Collected date/time: 11/05/20 12:10

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.4		1	11/13/2020 04:03	WG1575378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.45	20.5	1	11/11/2020 18:36	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	11/12/2020 07:22	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	104			77.0-120		11/12/2020 07:22	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000492	0.00105	1	11/12/2020 15:15	WG1575403
Toluene	U		0.00137	0.00527	1	11/12/2020 15:15	WG1575403
Ethylbenzene	U		0.000777	0.00264	1	11/12/2020 15:15	WG1575403
Total Xylenes	U		0.000928	0.00685	1	11/12/2020 15:15	WG1575403
(S) Toluene-d8	127			75.0-131		11/12/2020 15:15	WG1575403
(S) 4-Bromofluorobenzene	94.4			67.0-138		11/12/2020 15:15	WG1575403
(S) 1,2-Dichloroethane-d4	95.3			70.0-130		11/12/2020 15:15	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1170		82.7	205	50	11/15/2020 13:38	WG1576739
C28-C40 Oil Range	2890		14.1	205	50	11/15/2020 13:38	WG1576739
(S) o-Terphenyl	0.000	J7		18.0-148		11/15/2020 13:38	WG1576739

Collected date/time: 11/05/20 12:20

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.3		1	11/13/2020 04:03	WG1575378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	U		9.36	20.3	1	11/11/2020 18:55	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0221	0.102	1	11/12/2020 07:43	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120		11/12/2020 07:43	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000483	0.00103	1	11/12/2020 15:34	WG1575403
Toluene	U		0.00135	0.00517	1	11/12/2020 15:34	WG1575403
Ethylbenzene	U		0.000763	0.00259	1	11/12/2020 15:34	WG1575403
Total Xylenes	0.000983	J	0.000911	0.00673	1	11/12/2020 15:34	WG1575403
(S) Toluene-d8	102			75.0-131		11/12/2020 15:34	WG1575403
(S) 4-Bromofluorobenzene	82.9			67.0-138		11/12/2020 15:34	WG1575403
(S) 1,2-Dichloroethane-d4	93.8			70.0-130		11/12/2020 15:34	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	247		81.9	203	50	11/16/2020 23:33	WG1576739
C28-C40 Oil Range	968		13.9	203	50	11/16/2020 23:33	WG1576739
(S) o-Terphenyl	84.3	J7		18.0-148		11/16/2020 23:33	WG1576739

Collected date/time: 11/05/20 12:30

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.5		1	11/13/2020 04:03	WG1575378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.34	20.3	1	11/11/2020 19:05	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0220	0.102	1	11/12/2020 08:04	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	107			77.0-120		11/12/2020 08:04	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000482	0.00103	1	11/12/2020 15:53	WG1575403
Toluene	U		0.00134	0.00516	1	11/12/2020 15:53	WG1575403
Ethylbenzene	U		0.000760	0.00258	1	11/12/2020 15:53	WG1575403
Total Xylenes	U		0.000907	0.00670	1	11/12/2020 15:53	WG1575403
(S) Toluene-d8	117			75.0-131		11/12/2020 15:53	WG1575403
(S) 4-Bromofluorobenzene	89.8			67.0-138		11/12/2020 15:53	WG1575403
(S) 1,2-Dichloroethane-d4	94.1			70.0-130		11/12/2020 15:53	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	134		32.7	81.2	20	11/15/2020 17:07	WG1576739
C28-C40 Oil Range	446		5.57	81.2	20	11/15/2020 17:07	WG1576739
(S) o-Terphenyl	72.7	J7		18.0-148		11/15/2020 17:07	WG1576739

Collected date/time: 11/05/20 12:40

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.0		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.39	20.4	1	11/11/2020 19:14	WG1574603

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0222	0.102	1	11/12/2020 09:25	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		11/12/2020 09:25	WG1575123

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000486	0.00104	1	11/12/2020 16:12	WG1575403
Toluene	U		0.00135	0.00521	1	11/12/2020 16:12	WG1575403
Ethylbenzene	U		0.000768	0.00260	1	11/12/2020 16:12	WG1575403
Total Xylenes	U		0.000917	0.00677	1	11/12/2020 16:12	WG1575403
(S) Toluene-d8	110			75.0-131		11/12/2020 16:12	WG1575403
(S) 4-Bromofluorobenzene	93.6			67.0-138		11/12/2020 16:12	WG1575403
(S) 1,2-Dichloroethane-d4	103			70.0-130		11/12/2020 16:12	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	21.6		8.22	20.4	5	11/15/2020 12:13	WG1576739
C28-C40 Oil Range	91.4		1.40	20.4	5	11/15/2020 12:13	WG1576739
(S) o-Terphenyl	69.1			18.0-148		11/15/2020 12:13	WG1576739

Collected date/time: 11/05/20 12:50

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.5		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.34	20.3	1	11/11/2020 19:43	WG1574603

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0220	0.102	1	11/12/2020 09:46	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		11/12/2020 09:46	WG1575123

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000481	0.00103	1	11/12/2020 16:31	WG1575403
Toluene	U		0.00134	0.00515	1	11/12/2020 16:31	WG1575403
Ethylbenzene	U		0.000759	0.00258	1	11/12/2020 16:31	WG1575403
Total Xylenes	U		0.000907	0.00670	1	11/12/2020 16:31	WG1575403
(S) Toluene-d8	122			75.0-131		11/12/2020 16:31	WG1575403
(S) 4-Bromofluorobenzene	96.8			67.0-138		11/12/2020 16:31	WG1575403
(S) 1,2-Dichloroethane-d4	95.3			70.0-130		11/12/2020 16:31	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	9.91		1.63	4.06	1	11/15/2020 16:28	WG1576739
C28-C40 Oil Range	24.7		0.278	4.06	1	11/15/2020 16:28	WG1576739
(S) o-Terphenyl	73.9			18.0-148		11/15/2020 16:28	WG1576739

Collected date/time: 11/05/20 13:00

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.1		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.38	20.4	1	11/11/2020 19:52	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0221	0.102	1	11/12/2020 10:07	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	107			77.0-120		11/12/2020 10:07	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000485	0.00104	1	11/12/2020 16:50	WG1575403
Toluene	U		0.00135	0.00519	1	11/12/2020 16:50	WG1575403
Ethylbenzene	U		0.000766	0.00260	1	11/12/2020 16:50	WG1575403
Total Xylenes	U		0.000914	0.00675	1	11/12/2020 16:50	WG1575403
(S) Toluene-d8	118			75.0-131		11/12/2020 16:50	WG1575403
(S) 4-Bromofluorobenzene	105			67.0-138		11/12/2020 16:50	WG1575403
(S) 1,2-Dichloroethane-d4	101			70.0-130		11/12/2020 16:50	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	8.08		1.64	4.08	1	11/15/2020 16:54	WG1576739
C28-C40 Oil Range	19.4		0.279	4.08	1	11/15/2020 16:54	WG1576739
(S) o-Terphenyl	70.8			18.0-148		11/15/2020 16:54	WG1576739

Collected date/time: 11/05/20 13:20

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.1		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.57	20.8	1	11/11/2020 20:02	WG1574603

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0368	B J	0.0226	0.104	1	11/12/2020 10:28	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		11/12/2020 10:28	WG1575123

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000505	0.00108	1	11/12/2020 17:09	WG1575403
Toluene	U		0.00141	0.00541	1	11/12/2020 17:09	WG1575403
Ethylbenzene	U		0.000797	0.00270	1	11/12/2020 17:09	WG1575403
Total Xylenes	U		0.000951	0.00703	1	11/12/2020 17:09	WG1575403
(S) Toluene-d8	112			75.0-131		11/12/2020 17:09	WG1575403
(S) 4-Bromofluorobenzene	86.9			67.0-138		11/12/2020 17:09	WG1575403
(S) 1,2-Dichloroethane-d4	99.2			70.0-130		11/12/2020 17:09	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	12.6		1.68	4.16	1	11/15/2020 16:02	WG1576739
C28-C40 Oil Range	29.7		0.285	4.16	1	11/15/2020 16:02	WG1576739
(S) o-Terphenyl	56.2			18.0-148		11/15/2020 16:02	WG1576739

Collected date/time: 11/05/20 13:40

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.3		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		48.3	105	5	11/11/2020 20:11	WG1574603

Sample Narrative:

L1283206-09 WG1574603: diluted due to matrix

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0228	0.105	1	11/12/2020 10:49	WG1575123
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	109			77.0-120		11/12/2020 10:49	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000514	0.00110	1	11/12/2020 17:28	WG1575403
Toluene	U		0.00143	0.00550	1	11/12/2020 17:28	WG1575403
Ethylbenzene	U		0.000810	0.00275	1	11/12/2020 17:28	WG1575403
Total Xylenes	U		0.000968	0.00715	1	11/12/2020 17:28	WG1575403
(S) <i>Toluene-d8</i>	113			75.0-131		11/12/2020 17:28	WG1575403
(S) <i>4</i> -Bromofluorobenzene	91.4			67.0-138		11/12/2020 17:28	WG1575403
(S) <i>1,2</i> -Dichloroethane- <i>d4</i>	97.5			70.0-130		11/12/2020 17:28	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.69	4.20	1	11/16/2020 13:04	WG1576942
C28-C40 Oil Range	6.39		0.288	4.20	1	11/16/2020 13:04	WG1576942
(S) <i>o</i> -Terphenyl	34.8			18.0-148		11/16/2020 13:04	WG1576942

Collected date/time: 11/05/20 14:00

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.0		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		47.9	104	5	11/11/2020 20:21	WG1574603

Sample Narrative:

L1283206-10 WG1574603: diluted due to matrix

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0226	0.104	1	11/12/2020 11:10	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	103			77.0-120		11/12/2020 11:10	WG1575123

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000506	0.00108	1	11/12/2020 17:47	WG1575403
Toluene	U		0.00141	0.00542	1	11/12/2020 17:47	WG1575403
Ethylbenzene	U		0.000799	0.00271	1	11/12/2020 17:47	WG1575403
Total Xylenes	U		0.000954	0.00704	1	11/12/2020 17:47	WG1575403
(S) Toluene-d8	133	J1		75.0-131		11/12/2020 17:47	WG1575403
(S) 4-Bromofluorobenzene	90.9			67.0-138		11/12/2020 17:47	WG1575403
(S) 1,2-Dichloroethane-d4	95.1			70.0-130		11/12/2020 17:47	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	4.10	J	1.68	4.17	1	11/16/2020 13:18	WG1576942
C28-C40 Oil Range	14.5		0.285	4.17	1	11/16/2020 13:18	WG1576942
(S) o-Terphenyl	40.9			18.0-148		11/16/2020 13:18	WG1576942

Collected date/time: 11/04/20 14:10

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.7		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.23	20.1	1	11/11/2020 20:30	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/12/2020 11:31	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120		11/12/2020 11:31	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000470	0.00101	1	11/12/2020 18:06	WG1575403
Toluene	U		0.00131	0.00503	1	11/12/2020 18:06	WG1575403
Ethylbenzene	U		0.000741	0.00251	1	11/12/2020 18:06	WG1575403
Total Xylenes	U		0.000885	0.00654	1	11/12/2020 18:06	WG1575403
(S) Toluene-d8	112			75.0-131		11/12/2020 18:06	WG1575403
(S) 4-Bromofluorobenzene	95.4			67.0-138		11/12/2020 18:06	WG1575403
(S) 1,2-Dichloroethane-d4	95.5			70.0-130		11/12/2020 18:06	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.61	4.01	1	11/16/2020 11:06	WG1576942
C28-C40 Oil Range	2.06	J	0.275	4.01	1	11/16/2020 11:06	WG1576942
(S) o-Terphenyl	63.9			18.0-148		11/16/2020 11:06	WG1576942

Collected date/time: 11/04/20 14:20

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.6		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.23	20.1	1	11/11/2020 20:40	WG1574603

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/12/2020 11:52	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		11/12/2020 11:52	WG1575123

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000470	0.00101	1	11/12/2020 18:25	WG1575403
Toluene	U		0.00131	0.00504	1	11/12/2020 18:25	WG1575403
Ethylbenzene	U		0.000742	0.00252	1	11/12/2020 18:25	WG1575403
Total Xylenes	U		0.000886	0.00655	1	11/12/2020 18:25	WG1575403
(S) Toluene-d8	112			75.0-131		11/12/2020 18:25	WG1575403
(S) 4-Bromofluorobenzene	102			67.0-138		11/12/2020 18:25	WG1575403
(S) 1,2-Dichloroethane-d4	92.9			70.0-130		11/12/2020 18:25	WG1575403

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.62	4.01	1	11/16/2020 11:33	WG1576942
C28-C40 Oil Range	2.60	J	0.275	4.01	1	11/16/2020 11:33	WG1576942
(S) o-Terphenyl	64.1			18.0-148		11/16/2020 11:33	WG1576942

Collected date/time: 11/04/20 14:21

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.6		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	U		9.24	20.1	1	11/11/2020 20:49	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/12/2020 12:13	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120		11/12/2020 12:13	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000471	0.00101	1	11/12/2020 22:12	WG1575500
Toluene	U		0.00131	0.00504	1	11/12/2020 22:12	WG1575500
Ethylbenzene	U		0.000743	0.00252	1	11/12/2020 22:12	WG1575500
Total Xylenes	U		0.000887	0.00655	1	11/12/2020 22:12	WG1575500
(S) Toluene-d8	116			75.0-131		11/12/2020 22:12	WG1575500
(S) 4-Bromofluorobenzene	93.2			67.0-138		11/12/2020 22:12	WG1575500
(S) 1,2-Dichloroethane-d4	101			70.0-130		11/12/2020 22:12	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.62	4.02	1	11/16/2020 11:20	WG1576942
C28-C40 Oil Range	1.91	J	0.275	4.02	1	11/16/2020 11:20	WG1576942
(S) o-Terphenyl	45.7			18.0-148		11/16/2020 11:20	WG1576942

Collected date/time: 11/04/20 14:22

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.4		1	11/13/2020 03:54	WG1575380

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.35	20.3	1	11/11/2020 20:59	WG1574603

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0221	0.102	1	11/12/2020 12:34	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		11/12/2020 12:34	WG1575123

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000483	0.00103	1	11/12/2020 22:31	WG1575500
Toluene	U		0.00134	0.00517	1	11/12/2020 22:31	WG1575500
Ethylbenzene	U		0.000762	0.00258	1	11/12/2020 22:31	WG1575500
Total Xylenes	U		0.000910	0.00672	1	11/12/2020 22:31	WG1575500
(S) Toluene-d8	117			75.0-131		11/12/2020 22:31	WG1575500
(S) 4-Bromofluorobenzene	78.9			67.0-138		11/12/2020 22:31	WG1575500
(S) 1,2-Dichloroethane-d4	96.3			70.0-130		11/12/2020 22:31	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.29		1.64	4.07	1	11/17/2020 23:40	WG1576942
C28-C40 Oil Range	29.4		0.279	4.07	1	11/17/2020 23:40	WG1576942
(S) o-Terphenyl	63.7			18.0-148		11/17/2020 23:40	WG1576942

Collected date/time: 11/04/20 14:23

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.6		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	U		9.24	20.1	1	11/11/2020 21:08	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/12/2020 12:55	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120		11/12/2020 12:55	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000471	0.00101	1	11/12/2020 22:51	WG1575500
Toluene	U		0.00131	0.00504	1	11/12/2020 22:51	WG1575500
Ethylbenzene	U		0.000743	0.00252	1	11/12/2020 22:51	WG1575500
Total Xylenes	U		0.000887	0.00655	1	11/12/2020 22:51	WG1575500
(S) Toluene-d8	112			75.0-131		11/12/2020 22:51	WG1575500
(S) 4-Bromofluorobenzene	97.9			67.0-138		11/12/2020 22:51	WG1575500
(S) 1,2-Dichloroethane-d4	101			70.0-130		11/12/2020 22:51	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.62	4.02	1	11/16/2020 12:12	WG1576942
C28-C40 Oil Range	5.14		0.275	4.02	1	11/16/2020 12:12	WG1576942
(S) o-Terphenyl	65.3			18.0-148		11/16/2020 12:12	WG1576942

Collected date/time: 11/04/20 14:24

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.6		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.23	20.1	1	11/11/2020 21:37	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0281	B J	0.0218	0.100	1	11/12/2020 13:16	WG1575123
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		11/12/2020 13:16	WG1575123

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000470	0.00101	1	11/12/2020 23:10	WG1575500
Toluene	U		0.00131	0.00504	1	11/12/2020 23:10	WG1575500
Ethylbenzene	U		0.000742	0.00252	1	11/12/2020 23:10	WG1575500
Total Xylenes	U		0.000886	0.00655	1	11/12/2020 23:10	WG1575500
(S) Toluene-d8	137	J1		75.0-131		11/12/2020 23:10	WG1575500
(S) 4-Bromofluorobenzene	97.1			67.0-138		11/12/2020 23:10	WG1575500
(S) 1,2-Dichloroethane-d4	95.4			70.0-130		11/12/2020 23:10	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.62	4.01	1	11/16/2020 12:25	WG1576942
C28-C40 Oil Range	8.70		0.275	4.01	1	11/16/2020 12:25	WG1576942
(S) o-Terphenyl	60.8			18.0-148		11/16/2020 12:25	WG1576942

Collected date/time: 11/04/20 14:25

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.6		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.24	20.1	1	11/11/2020 21:46	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/13/2020 03:19	WG1575601
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		11/13/2020 03:19	WG1575601

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000471	0.00101	1	11/12/2020 23:29	WG1575500
Toluene	U		0.00131	0.00504	1	11/12/2020 23:29	WG1575500
Ethylbenzene	U		0.000743	0.00252	1	11/12/2020 23:29	WG1575500
Total Xylenes	U		0.000887	0.00655	1	11/12/2020 23:29	WG1575500
(S) Toluene-d8	113			75.0-131		11/12/2020 23:29	WG1575500
(S) 4-Bromofluorobenzene	96.7			67.0-138		11/12/2020 23:29	WG1575500
(S) 1,2-Dichloroethane-d4	102			70.0-130		11/12/2020 23:29	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.62	4.02	1	11/16/2020 12:38	WG1576942
C28-C40 Oil Range	7.56		0.275	4.02	1	11/16/2020 12:38	WG1576942
(S) o-Terphenyl	55.6			18.0-148		11/16/2020 12:38	WG1576942

Collected date/time: 11/04/20 14:26

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.7		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.23	20.1	1	11/11/2020 21:56	WG1574603

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/13/2020 03:40	WG1575601
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		11/13/2020 03:40	WG1575601

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000470	0.00101	1	11/12/2020 23:48	WG1575500
Toluene	U		0.00131	0.00503	1	11/12/2020 23:48	WG1575500
Ethylbenzene	U		0.000741	0.00251	1	11/12/2020 23:48	WG1575500
Total Xylenes	U		0.000885	0.00654	1	11/12/2020 23:48	WG1575500
(S) Toluene-d8	102			75.0-131		11/12/2020 23:48	WG1575500
(S) 4-Bromofluorobenzene	95.9			67.0-138		11/12/2020 23:48	WG1575500
(S) 1,2-Dichloroethane-d4	101			70.0-130		11/12/2020 23:48	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.70	J	1.61	4.01	1	11/16/2020 11:59	WG1576942
C28-C40 Oil Range	6.52		0.275	4.01	1	11/16/2020 11:59	WG1576942
(S) o-Terphenyl	67.3			18.0-148		11/16/2020 11:59	WG1576942

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 11/04/20 14:27

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.6		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.23	20.1	1	11/11/2020 22:06	WG1574603

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0218	0.100	1	11/13/2020 04:01	WG1575601
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		11/13/2020 04:01	WG1575601

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000470	0.00101	1	11/13/2020 00:07	WG1575500
Toluene	U		0.00131	0.00504	1	11/13/2020 00:07	WG1575500
Ethylbenzene	U		0.000742	0.00252	1	11/13/2020 00:07	WG1575500
Total Xylenes	U		0.000886	0.00655	1	11/13/2020 00:07	WG1575500
(S) Toluene-d8	112			75.0-131		11/13/2020 00:07	WG1575500
(S) 4-Bromofluorobenzene	92.6			67.0-138		11/13/2020 00:07	WG1575500
(S) 1,2-Dichloroethane-d4	96.5			70.0-130		11/13/2020 00:07	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.62	4.01	1	11/16/2020 10:40	WG1576942
C28-C40 Oil Range	3.76	J	0.275	4.01	1	11/16/2020 10:40	WG1576942
(S) o-Terphenyl	63.4			18.0-148		11/16/2020 10:40	WG1576942

Collected date/time: 11/04/20 14:28

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.4		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.26	20.1	1	11/15/2020 20:26	WG1574604

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0218	0.101	1	11/13/2020 04:22	WG1575601
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		11/13/2020 04:22	WG1575601

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000473	0.00101	1	11/13/2020 00:26	WG1575500
Toluene	U		0.00132	0.00506	1	11/13/2020 00:26	WG1575500
Ethylbenzene	U		0.000746	0.00253	1	11/13/2020 00:26	WG1575500
Total Xylenes	U		0.000891	0.00658	1	11/13/2020 00:26	WG1575500
(S) Toluene-d8	115			75.0-131		11/13/2020 00:26	WG1575500
(S) 4-Bromofluorobenzene	96.4			67.0-138		11/13/2020 00:26	WG1575500
(S) 1,2-Dichloroethane-d4	94.3			70.0-130		11/13/2020 00:26	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.33	J	1.62	4.03	1	11/17/2020 23:27	WG1576942
C28-C40 Oil Range	14.1		0.276	4.03	1	11/17/2020 23:27	WG1576942
(S) o-Terphenyl	61.9			18.0-148		11/17/2020 23:27	WG1576942

Collected date/time: 11/04/20 14:30

L1283206

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.5		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.25	20.1	1	11/15/2020 20:54	WG1574604

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0218	0.101	1	11/13/2020 04:43	WG1575601
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		11/13/2020 04:43	WG1575601

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000472	0.00101	1	11/13/2020 00:45	WG1575500
Toluene	U		0.00131	0.00506	1	11/13/2020 00:45	WG1575500
Ethylbenzene	U		0.000745	0.00253	1	11/13/2020 00:45	WG1575500
Total Xylenes	U		0.000890	0.00657	1	11/13/2020 00:45	WG1575500
(S) Toluene-d8	112			75.0-131		11/13/2020 00:45	WG1575500
(S) 4-Bromofluorobenzene	96.9			67.0-138		11/13/2020 00:45	WG1575500
(S) 1,2-Dichloroethane-d4	101			70.0-130		11/13/2020 00:45	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.68	J	1.62	4.02	1	11/17/2020 23:01	WG1576942
C28-C40 Oil Range	9.14		0.276	4.02	1	11/17/2020 23:01	WG1576942
(S) o-Terphenyl	74.3			18.0-148		11/17/2020 23:01	WG1576942

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.4		1	11/13/2020 03:43	WG1575382

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.26	20.1	1	11/15/2020 21:13	WG1574604

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0218	0.101	1	11/13/2020 05:04	WG1575601
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		11/13/2020 05:04	WG1575601

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000473	0.00101	1	11/13/2020 01:04	WG1575500
Toluene	U		0.00132	0.00506	1	11/13/2020 01:04	WG1575500
Ethylbenzene	U		0.000746	0.00253	1	11/13/2020 01:04	WG1575500
Total Xylenes	U		0.000891	0.00658	1	11/13/2020 01:04	WG1575500
(S) Toluene-d8	115			75.0-131		11/13/2020 01:04	WG1575500
(S) 4-Bromofluorobenzene	89.9			67.0-138		11/13/2020 01:04	WG1575500
(S) 1,2-Dichloroethane-d4	94.0			70.0-130		11/13/2020 01:04	WG1575500

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.46	J	1.62	4.03	1	11/17/2020 23:14	WG1576942
C28-C40 Oil Range	11.2		0.276	4.03	1	11/17/2020 23:14	WG1576942
(S) o-Terphenyl	74.5			18.0-148		11/17/2020 23:14	WG1576942

Total Solids by Method 2540 G-2011 [L1283206-01,02,03,04](#)

Method Blank (MB)

(MB) R3592727-1 11/13/20 04:03

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1283206-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1283206-01 11/13/20 04:03 • (DUP) R3592727-3 11/13/20 04:03

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	99.3	99.3	1	0.0104		10

Laboratory Control Sample (LCS)

(LCS) R3592727-2 11/13/20 04:03

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

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

[L1283206-05,06,07,08,09,10,11,12,13,14](#)

Method Blank (MB)

(MB) R3592723-1 11/13/20 03:54

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1283206-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1283206-12 11/13/20 03:54 • (DUP) R3592723-3 11/13/20 03:54

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Total Solids	99.6	99.6	1	0.0707		10

Laboratory Control Sample (LCS)

(LCS) R3592723-2 11/13/20 03:54

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Total Solids by Method 2540 G-2011 [L1283206-15,16,17,18,19,20,21,22](#)

Method Blank (MB)

(MB) R3592719-1 11/13/20 03:43

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1283206-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1283206-15 11/13/20 03:43 • (DUP) R3592719-3 11/13/20 03:43

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	99.6	99.6	1	0.0195		10

Laboratory Control Sample (LCS)

(LCS) R3592719-2 11/13/20 03:43

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

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 300.0

L1283206-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19

Method Blank (MB)

(MB) R3592268-1 11/11/20 17:39

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		9.20	20.0

L1283206-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1283206-02 11/11/20 18:36 • (DUP) R3592268-5 11/11/20 18:46

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	U	U	1	0.000		20

L1283206-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1283206-19 11/11/20 22:06 • (DUP) R3592268-6 11/11/20 22:15

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3592268-2 11/11/20 17:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	207	103	90.0-110	

L1283206-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283206-01 11/11/20 18:08 • (MS) R3592268-3 11/11/20 18:17 • (MSD) R3592268-4 11/11/20 18:27

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	503	U	503	503	99.9	99.9	1	80.0-120			0.0647	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 300.0

[L1283206-20,21,22](#)

Method Blank (MB)

(MB) R3593303-1 11/15/20 18:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1283206-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1283206-21 11/15/20 20:54 • (DUP) R3593303-5 11/15/20 21:03

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	U	1	0.000		20

L1283209-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1283209-07 11/16/20 00:33 • (DUP) R3593303-6 11/16/20 00:42

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3593303-2 11/15/20 18:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	102	90.0-110	

L1283206-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283206-20 11/15/20 20:26 • (MS) R3593303-3 11/15/20 20:35 • (MSD) R3593303-4 11/15/20 20:44

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 %
Chloride	503	U	518	511	103	102	1	80.0-120			1.34	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

[L1283206-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16](#)

Method Blank (MB)

(MB) R3594000-2 11/12/20 04:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0342	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3594000-1 11/12/20 04:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.71	104	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	

L1283204-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283204-10 11/12/20 05:58 • (MS) R3594000-3 11/12/20 13:37 • (MSD) R3594000-4 11/12/20 13:58

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	5.32	U	4.00	3.44	75.2	63.5	1	10.0-151			14.9	28
(S) a,a,a-Trifluorotoluene(FID)					97.1	97.6		77.0-120				

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

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

L1283206-17,18,19,20,21,22

Method Blank (MB)

(MB) R3592707-2 11/12/20 17:48

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)	111			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3592707-1 11/12/20 17:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.54	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			101	77.0-120	

L1283207-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283207-10 11/13/20 08:34 • (MS) R3592707-3 11/13/20 09:16 • (MSD) R3592707-4 11/13/20 09:37

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	5.38	U	3.52	3.60	65.4	67.6	1	10.0-151			2.27	28
(S) a,a,a-Trifluorotoluene(FID)					103	103		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

L1283206-01,02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3592364-2 11/12/20 10:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	115			75.0-131
(S) 4-Bromofluorobenzene	102			67.0-138
(S) 1,2-Dichloroethane-d4	101			70.0-130

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3592364-1 11/12/20 09:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.150	120	70.0-123	
Ethylbenzene	0.125	0.140	112	74.0-126	
Toluene	0.125	0.137	110	75.0-121	
Xylenes, Total	0.375	0.420	112	72.0-127	
(S) Toluene-d8			107	75.0-131	
(S) 4-Bromofluorobenzene			96.7	67.0-138	
(S) 1,2-Dichloroethane-d4			111	70.0-130	

L1283204-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283204-05 11/12/20 11:34 • (MS) R3592364-3 11/12/20 18:44 • (MSD) R3592364-4 11/12/20 19:03

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	0.125	U	0.115	0.105	91.9	83.9	1	10.0-149			9.17	37
Ethylbenzene	0.125	U	0.109	0.114	87.1	91.1	1	10.0-160			4.52	38
Toluene	0.125	U	0.106	0.112	84.7	89.5	1	10.0-156			5.56	38
Xylenes, Total	0.375	0.000898	0.298	0.338	79.3	89.8	1	10.0-160			12.4	38
(S) Toluene-d8					107	111		75.0-131				
(S) 4-Bromofluorobenzene					96.1	92.8		67.0-138				
(S) 1,2-Dichloroethane-d4					99.6	89.7		70.0-130				

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

L1283206-13,14,15,16,17,18,19,20,21,22

Method Blank (MB)

(MB) R3592703-2 11/12/20 21:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	110			75.0-131
(S) 4-Bromofluorobenzene	99.7			67.0-138
(S) 1,2-Dichloroethane-d4	99.4			70.0-130

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3592703-1 11/12/20 20:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.124	99.2	70.0-123	
Ethylbenzene	0.125	0.132	106	74.0-126	
Toluene	0.125	0.131	105	75.0-121	
Xylenes, Total	0.375	0.383	102	72.0-127	
(S) Toluene-d8			110	75.0-131	
(S) 4-Bromofluorobenzene			78.9	67.0-138	
(S) 1,2-Dichloroethane-d4			99.9	70.0-130	

L1283206-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283206-13 11/12/20 22:12 • (MS) R3592703-3 11/13/20 03:56 • (MSD) R3592703-4 11/13/20 04:15

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	0.126	U	0.103	0.105	81.6	83.2	1	10.0-149			1.94	37
Ethylbenzene	0.126	U	0.104	0.113	82.4	89.6	1	10.0-160			8.37	38
Toluene	0.126	U	0.0938	0.116	74.4	92.0	1	10.0-156			21.2	38
Xylenes, Total	0.378	U	0.272	0.332	72.0	87.7	1	10.0-160			19.7	38
(S) Toluene-d8					98.6	114		75.0-131				
(S) 4-Bromofluorobenzene					81.1	88.6		67.0-138				
(S) 1,2-Dichloroethane-d4					101	99.4		70.0-130				

Semi-Volatile Organic Compounds (GC) by Method 8015 [L1283206-01,02,03,04,05,06,07,08](#)

Method Blank (MB)

(MB) R3593410-1 11/15/20 08:30

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	0.375	J	0.274	4.00
(S) o-Terphenyl	69.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3593410-2 11/15/20 08:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.8	63.6	50.0-150	
(S) o-Terphenyl			58.3	18.0-148	

L1283204-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283204-01 11/16/20 22:54 • (MS) R3593866-1 11/16/20 23:07 • (MSD) R3593866-2 11/16/20 23:20

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	49.2	6.24	41.8	44.5	72.2	77.7	1	50.0-150			6.32	20
(S) o-Terphenyl					61.5	60.5		18.0-148				

1
Cp

2
Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

[L1283206-09,10,11,12,13,14,15,16,17,18,19,20,21,22](#)

Method Blank (MB)

(MB) R3593867-1 11/16/20 10:14

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	59.3			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3593867-2 11/16/20 10:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	27.8	55.6	50.0-150	
(S) o-Terphenyl			54.2	18.0-148	

L1283207-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283207-03 11/16/20 13:31 • (MS) R3593867-3 11/16/20 13:44 • (MSD) R3593867-4 11/16/20 13:57

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	52.1	56.2	128	66.2	137	18.9	1	50.0-150		J3 J6	63.4	20
(S) o-Terphenyl					41.2	27.0		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Guide to Reading and Understanding Your Laboratory Report

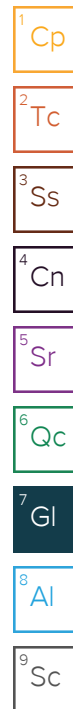
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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 Reporting Limit (or MDL where applicable).
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.



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	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
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

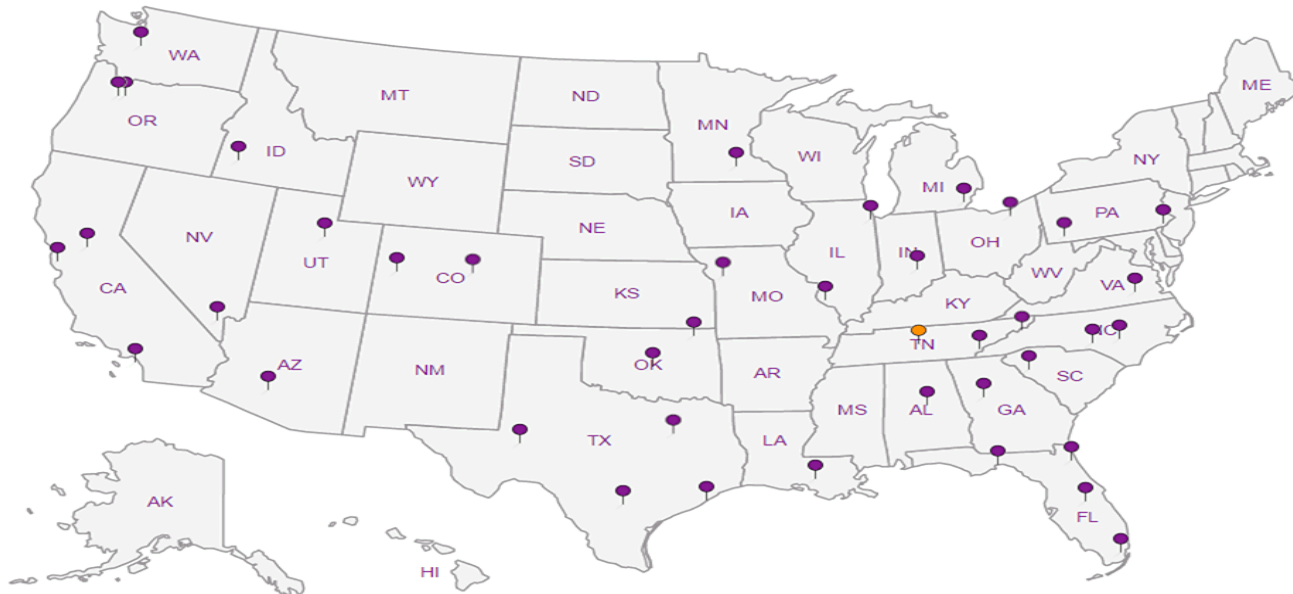
Third Party Federal Accreditations

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.




Analysis Request of Chain of Custody Record

[illegible]

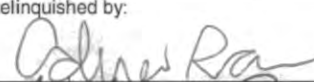


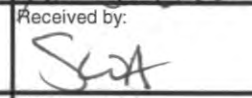
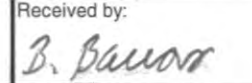
A097

Analysis Request of Chain of Custody Record

L17283204 Page: 2 of 3

 <b style="font-size: 24pt;">Tetra Tech, Inc.				901 West Wall Street, Suite 100 Midland, Texas 79701 Tel (432) 682-4559 Fax (432) 682-3946			
Client Name: Conoco Phillips				Site Manager: Christian Llull			
Project Name: SEMU Permian #73 Flowline (1RP-1342)				Contact Info: Email: christian.llull@tetratech.com Phone: (512) 338-1667			
Project Location: (county, state) Lea County, New Mexico				Project #: 212C-MD-02334, Task No. 11			
Invoice to: Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701							
Receiving Laboratory: Pace Analytical				Sampler Signature: Adrian Garcia			
Comments: COPTETRA Acctnum							

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)																								
		YEAR: 2020		WATER	SOIL	HCL	HNO ₃	ICE	NONE			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	FCI	GC/MS Vol. 8260B / 624	GC/MS 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 8015R	HOLD					
		DATE	TIME																																	
-11	AH-2 (0'-1')	11/04/20	1410		X			X		1	N	X	X																							
-12	AH-2 (1'-2')	11/04/20	1420		X			X		1	N	X	X																							
-13	AH-2 (2'-3')	11/04/20	1421		X			X		1	N	X	X																							
-14	AH-3 (0'-1')	11/04/20	1422		X			X		1	N	X	X																							
-15	AH-3 (1'-2')	11/04/20	1423		X			X		1	N	X	X																							
-16	AH-3 (2'-3')	11/04/20	1424		X			X		1	N	X	X																							
-17	AH-4 (0'-1')	11/04/20	1425		X			X		1	N	X	X																							
-18	AH-4 (1'-2')	11/04/20	1426		X			X		1	N	X	X																							
-19	AH-4 (2'-3')	11/04/20	1427		X			X		1	N	X	X																							
-20	AH-5 (0'-1')	11/04/20	1428		X			X		1	N	X	X																							

Relinquished by:  Date: 11/6/20 Time: 14:00	Received by:  Date: 11.6.20 Time: 14:00	LAB USE ONLY Sample Temperature _____ REMARKS: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH: Same Day 24 hr. 48 hr. 72 hr. <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TRRP Report
Relinquished by:  Date: 11.6.20 Time: 16:30	Received by:  Date: 11.6.20 Time: 16:30	
Relinquished by: _____ Date: _____ Time: _____	Received by:  Date: 11-7-20 Time: 1030	

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

MPA2
1.8 ± 0.18
RAD SCREEN: <0.5 mR/hr

Page : 2 of 3

U7283204

[illegible]

MFA2
1.8 ± 0 = 1.8

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: <u>COPTETRA</u>		<u>41203700</u>	
Cooler Received/Opened On: 11 / <u>7</u> / 20		Temperature: <u>1.8</u>	
Received By: Billy Barras			
Signature: <u>B. Barras</u>			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	<u>/</u>		
COC Signed / Accurate?		<u>/</u>	
Bottles arrive intact?		<u>/</u>	
Correct bottles used?		<u>/</u>	
Sufficient volume sent?		<u>/</u>	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

APPENDIX F

NMSLO Seed Mixture Details



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Lea County, New Mexico**

1RP-1342



December 18, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map


The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water


 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 17, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit soils and Dune land, 0 to 12 percent slopes	0.9	100.0%
Totals for Area of Interest		0.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Custom Soil Resource Report

Lea County, New Mexico**KM—Kermit soils and Dune land, 0 to 12 percent slopes****Map Unit Setting**

National map unit symbol: dmpx
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 46 percent
Dune land: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit**Setting**

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

Custom Soil Resource Report

Description of Dune Land**Setting**

Landform: Dunes

Landform position (two-dimensional): Shoulder, backslope, footslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear, concave

Across-slope shape: Convex

Typical profile

A - 0 to 6 inches: fine sand

C - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8e

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components**Palomas**

Percent of map unit: 3 percent

Ecological site: R042XC003NM - Loamy Sand

Hydric soil rating: No

Pyote

Percent of map unit: 3 percent

Ecological site: R042XC003NM - Loamy Sand

Hydric soil rating: No

Wink

Percent of map unit: 2 percent

Ecological site: R042XC003NM - Loamy Sand

Hydric soil rating: No

Maljamar

Percent of map unit: 2 percent

Ecological site: R042XC003NM - Loamy Sand

Hydric soil rating: No

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NMSLO Seed Mix**Sandy (S)****SANDY (S) SITES SEED MIXTURE:**

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sand bluestem	Elida, VNS, So.	2.0	F
Little bluestem	Cimarron, Pastura	3.0	F
Black grama	VNS, Southern	1.0	D
Sand dropseed	VNS, Southern	4.0	S
Plains bristlegrass	VNS, Southern	2.0	D
Forbs:			
Firewheel (Gaillardia)	VNS, Southern	1.0	D
Annual Sunflower	VNS, Southern	1.0	D
Shrubs:			
Fourwing Saltbush	VNS, Southern	1.0	F
Total PLS/acre		16.0	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box
VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at <http://plants.usda.gov>.



District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 208278

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 208278
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
jharimon	The proposed remediation plan is approved with the following conditions Please make sure the floor confirmation samples are delineated/excavated to meet closure criteria standards for proven depth to water determination. Sidewall samples should be delineated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. The request for a Variance for and Alternative Sampling Plan is not approved the OCD requires a grab sample plan of the remediation area, where each composite sample is not representative of more than 200 ft2	4/24/2023