SITE INFORMATION

Report Type: Work Plan 1RP No. 4202

General Site Information:						
Site:	**EVGSAU Injection 4 Header**					
Company:	**ConocoPhillips**					
Section, Township and Range		**Sec. 33**	**T 17S**	**R 35E**		
Lease Number:	**API No. 30-025-34025**					
County:	**Lea**					
Release GPS:	**32.796871°N**			**103.471310°W**		
Surface Owner:	State					
Mineral Owner:						
Directions:	From the intersection of HWY 238 and Buckeye Road in Maljamar, travel east 1.7 miles. Turn right (south) and travel <150 feet. Turn left (east) and travel 0.17 miles to fork. Take the left (east) for and travel <0.1 miles to the site.					

Release Data:	
Date Released:	2/26/2016
Type Release:	Produced Water
Source of Contamination:	Failed fiberglass swage
Fluid Released:	141 bbls
Fluids Recovered:	95 bbls

Official Communication:			
Name:	Neal Goates		Greg Pope
Company:	ConocoPhillips		Tetra Tech
Address:	600 N Dairy Ashford Road		4000 N. Big Spring
			Ste 401
City:	Houston, TX 77079		Midland, Texas
Phone number:	(281) 293-1000		(432) 687-8134
Fax:			
Email:	N.Goates@conocophillips.com		Greg.Pope@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	***10***	Average 70 feet
>100 ft.	0	
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	***0***	0
Total Ranking Score:	***10***	

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

TETRA TECH

APPROVED
By Olivia Yu at 4:20 pm, Mar 12, 2018

March 6, 2018

NMOCD approves of the delineation completed for 1RP-4202 and the proposed remediation with one condition: bottom and sidewall confirmation samples approximately 75 ft. interval.

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

RE: Work Plan for the ConocoPhillips Company, EVGSAU Injection 4 Header, Section 33, Township 17S, Range 35E, Lea County, New Mexico, 1RP No. 4202

Ms. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (Conoco) to assess a release that occurred at the EVGSAU Injection 4 Header (site) located in Section 33, Township 17 South, Range 35 East, Lea County, New Mexico, approximately 12 miles southwest of the town of Lovington and 21 miles northwest of Hobbs in southeastern Lea County. The spill site coordinates are N 32.796871º, W 103.471310º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report for 1RP#4202, the leak was discovered on February 26, 2016, and released 141 barrels of produced water due to a failed fiberglass swage at the header. Emergency response action included isolating the header and removing approximately 400 yards of wet soil. As a result, approximately ninety-five (95) barrels of produced water were recovered, leaving approximately forty-six (46) barrels unrecovered. The C-141 form is included in Appendix A.

Groundwater

According to New Mexico Office of State Engineer's (NMOSE) Water Rights Reporting System, there are seven (7) water wells are located within Section 33, Township 17 South (T17S), Range 35 East (R35E). Of these wells, the shallowest depth to water was reported at 50 feet below ground surface, and the average depth to water was reported at 70 feet below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to water in the area is less than 100 feet below surface. The NMOSE groundwater data is presented in Appendix B.

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

Regulatory

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

Previous Soil Assessment and Analytical Results

Prior to Tetra Tech's soil investigation, Conoco conducted an initial soil sampling of eleven (11) verticals in the spill area in March 2017 and depicted on Figure 3. However, the data provided to Tetra Tech was limited. The soil sampling results are summarized in Table 1. Referring to Table 1, none of the BTEX and TPH samples were reported above laboratory detection limits and the chloride concentrations detected ranging from 64 mg/kg to 560 mg/kg. According to the NMOCD correspondence, they requested additional samples be collected from the areas of Verticals (3, 6, 8 and 11) to either define extents or to confirm the concentrations detected from the initial evaluation.

Soil Assessment and Analytical Results

On August 17, 2017, Tetra Tech personnel and subcontractor were onsite to advance three (3) soil boring (SB-1 through SB-3, Figure 3) to approximately fifteen (15) feet below ground surface to assess and define the extents. A soil boring was not installed in the area of Vertical 11 due to a drilling rig that was present on the pad during the drilling of the soil borings. Soil samples were collected and field screened for chlorides and organic vapors with a PID. Selected samples were analyzed for TPH by EPA method 8015B modified and BTEX by EPA Method 8260. Soil samples from every interval were analyzed for chloride by EPA method 300.0.

The soil analytical results are summarized in Table 2, and a copy of the laboratory analytical report and chain-of-custody document is included in Appendix C. BTEX constituents were not reported above laboratory detection limits. The total TPH did not exceed the RRAL of 1,000 mg/kg in any of the samples, with the highest total TPH concentration was 101.2 mg/kg in sample SB-1 0-6". Chlorides were concentrated in the shallow soil from 0-6" (inches) and declined with depth in majority of the samples at 1.0' below surface.

Work Plan

Based on the results, ConocoPhillips proposes to remove the impacted material as highlighted (green) in Table 2 and shown on Figure 4. Based on the analytical data, ConocoPhillips proposes to scrape the top six (6) inches of soil to remove the elevated

chlorides. One excavated, the excavation will then be backfilled with clean material to surface grade. All of the excavated material will be transported offsite for proper disposal.

The proposed excavation depths may not be reached due safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns for onsite personnel. As shown on Figure 4, proposed excavation areas are located around multiple lines and if there is a safety concern, these areas will not be excavated. However, ConocoPhillips will excavate the impacted soils to the maximum extent practicable.

Revegetation Plan

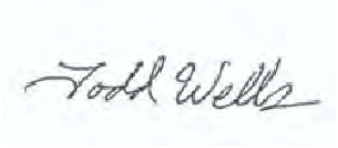
The backfilled areas will be seeded in June 2018 in order to coincide with the rainy season in Southeastern New Mexico to aid in revegetation. Based on the soils at the site, the New Mexico State Land Office (NMSLO) Shallow (SH) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (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 D.

Conclusion

Upon completion, a final report detailing the remediation activities will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

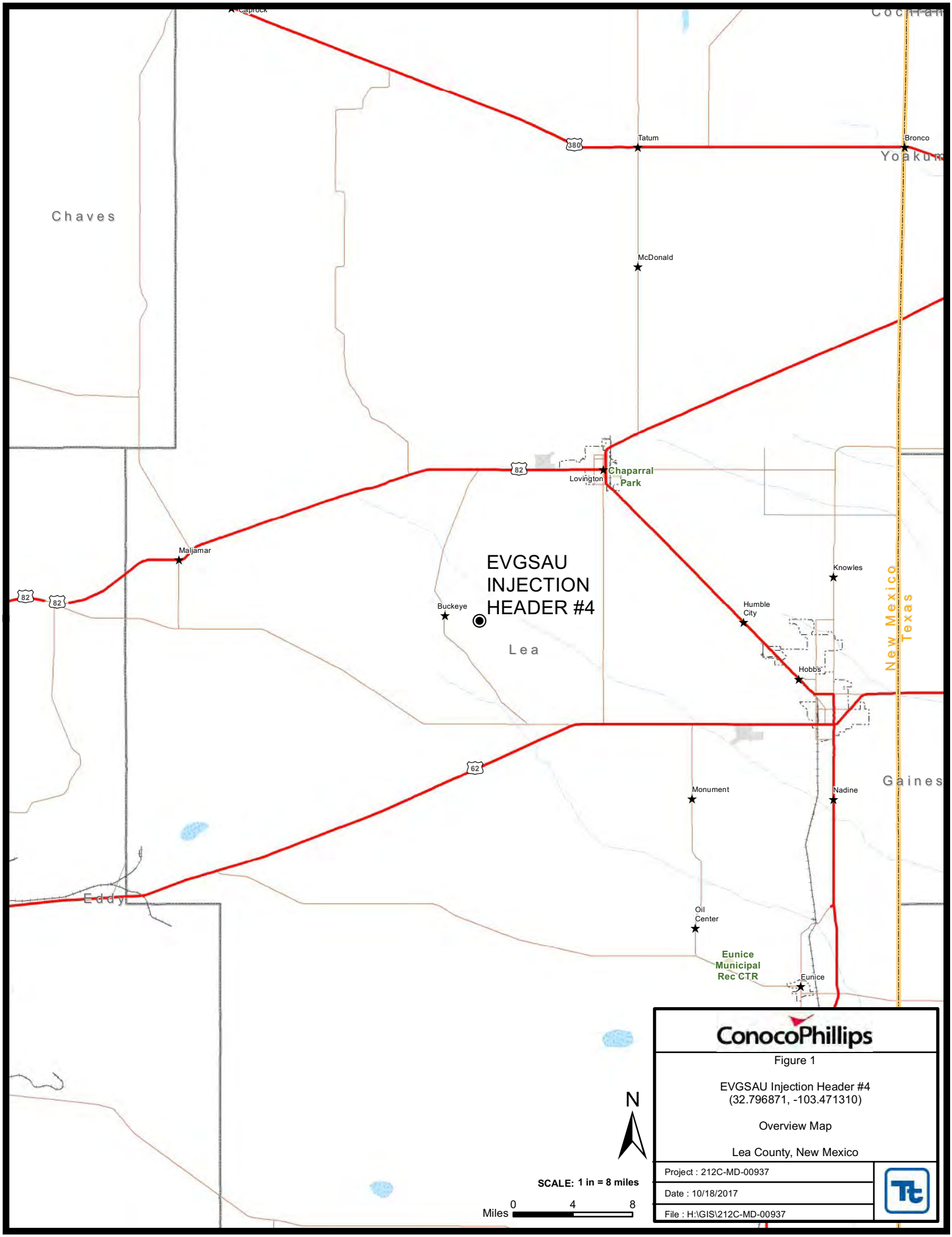


Todd Wells,
Project Manager

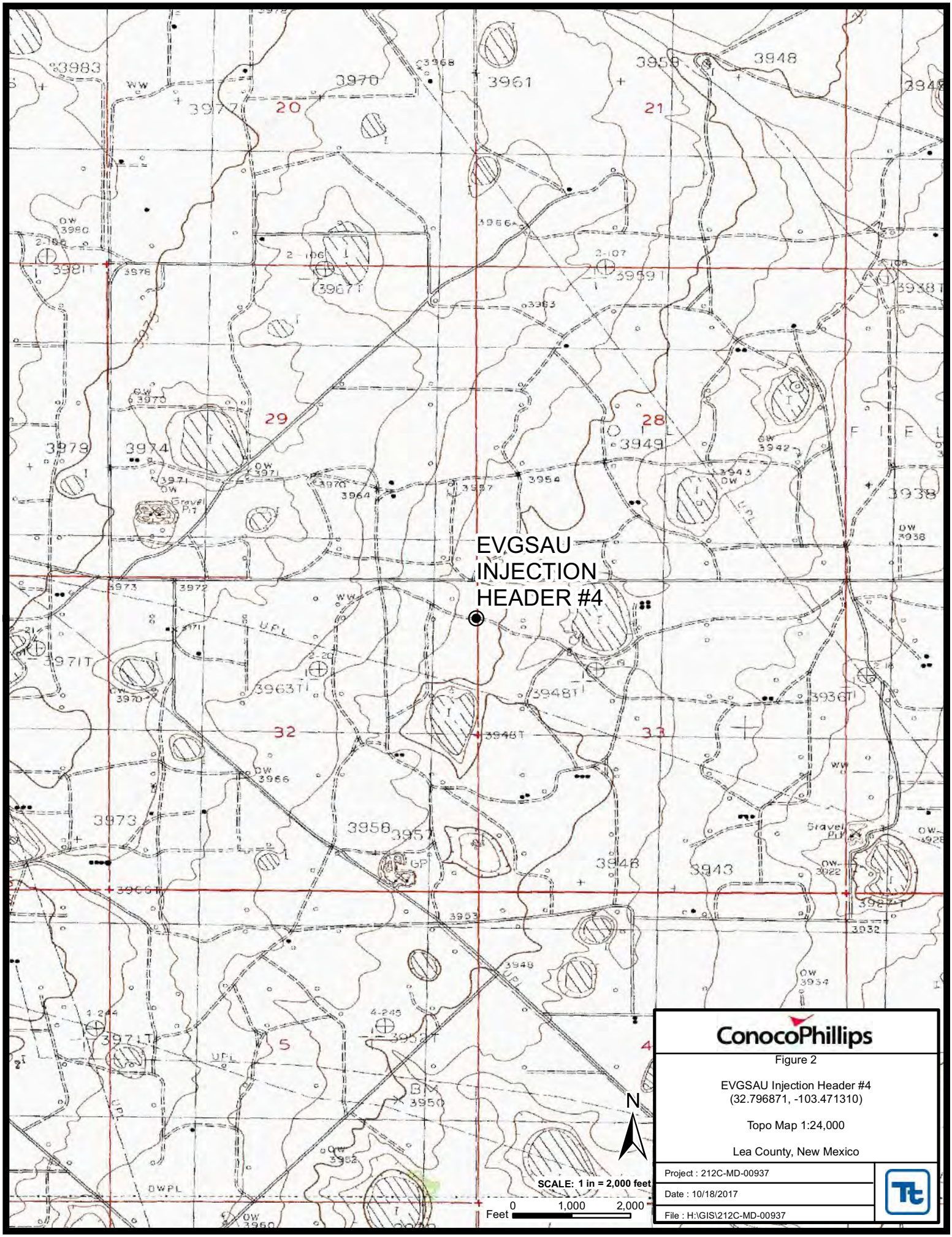
Greg W. Pope, P.G.
Senior Project Manager

cc: Neal Goates – ConocoPhillips

Figures



Mapped By: Isabel Marmolejo



ConocoPhillips

Figure 2

EVGSAU Injection Header #4
(32.796871, -103.471310)

Topo Map 1:24,000

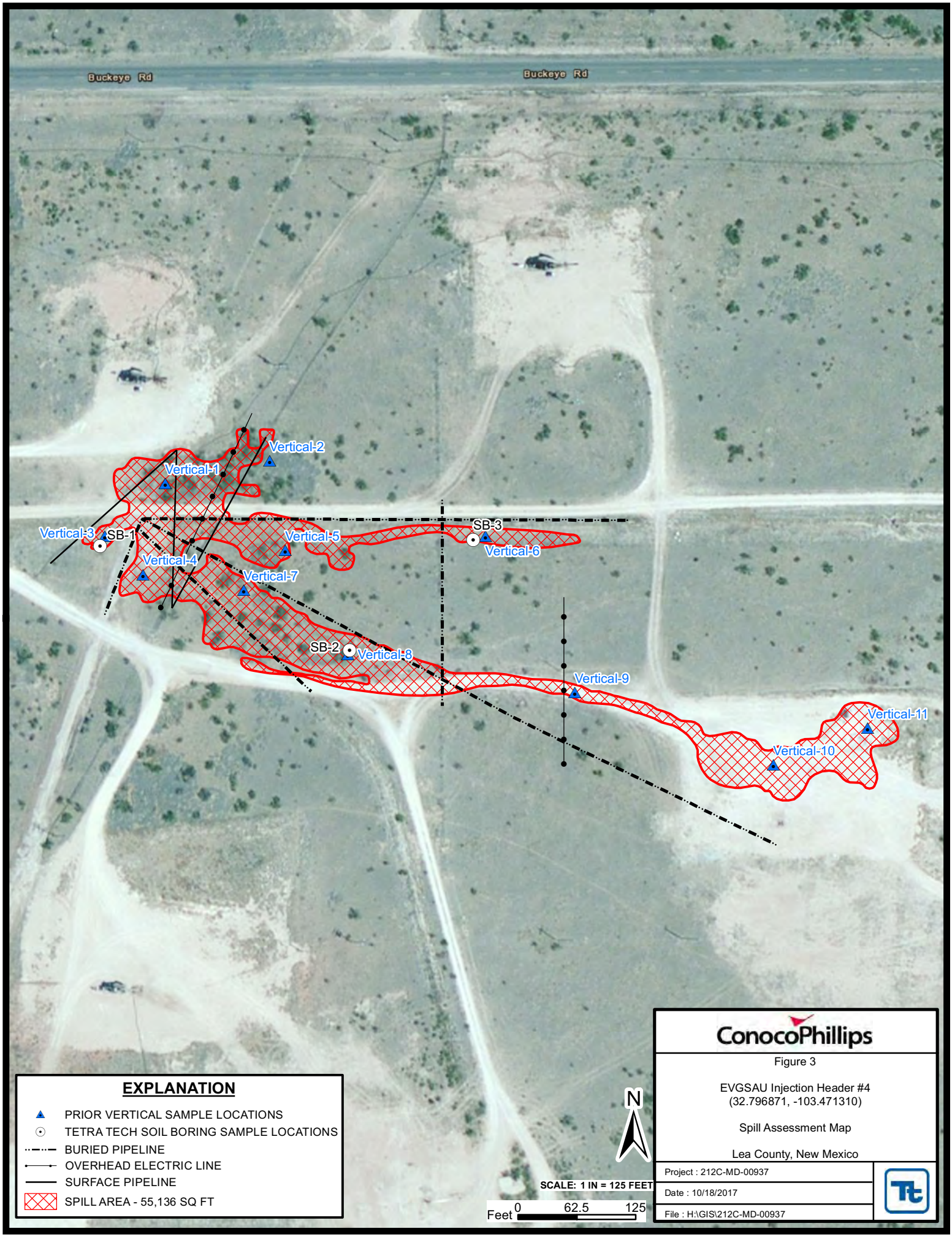
Lea County, New Mexico

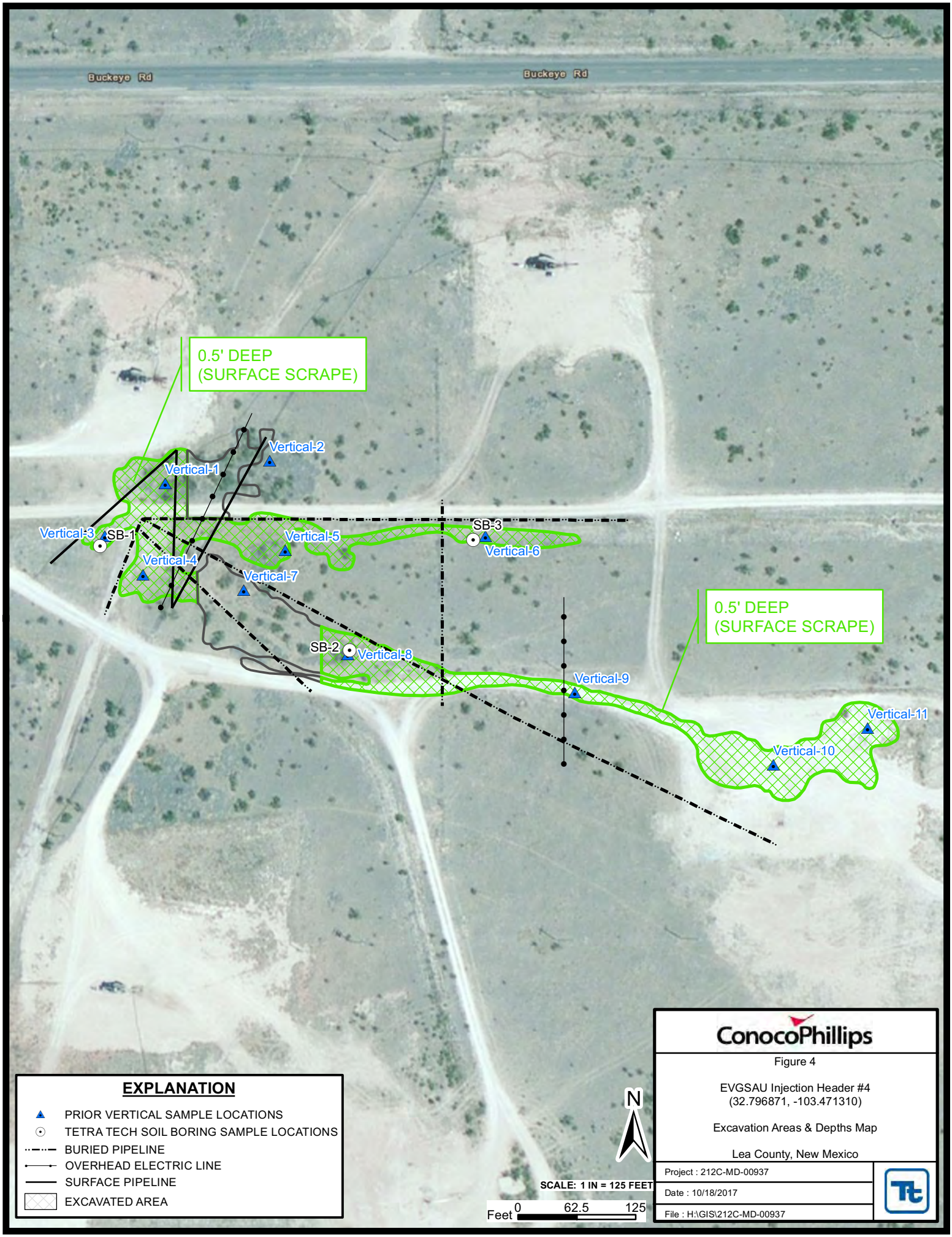
Project : 212C-MD-00937

Date : 10/18/2017

File : H:\GIS\212C-MD-00937

Mapped By: Isabel Marmolejo


Buckeye Rd
Buckeye Rd
Vertical-1
Vertical-2
Vertical-3
SB-1
Vertical-4
Vertical-5
SB-3
Vertical-6
Vertical-7
SB-2
Vertical-8
Vertical-9
Vertical-10
Vertical-11
EXPLANATION
PRIOR VERTICAL SAMPLE LOCATIONS
TETRA TECH SOIL BORING SAMPLE LOCATIONS
BURIED PIPELINE
OVERHEAD ELECTRIC LINE
SURFACE PIPELINE
SPILL AREA - 55,136 SQ FT
N
SCALE: 1 IN = 125 FEET
Feet 0 62.5 125
ConocoPhillips
Figure 3
EVGSAU Injection Header #4
(32.796871, -103.471310)
Spill Assessment Map
Lea County, New Mexico
Project : 212C-MD-00937
Date : 10/18/2017
File : H:\GIS\212C-MD-00937
Mapped By: Isabel Marmolejo


Buckeye Rd
Buckeye Rd
0.5' DEEP
(SURFACE SCRAPE)
Vertical-1
Vertical-2
Vertical-3
SB-1
Vertical-4
Vertical-5
Vertical-6
SB-3
Vertical-7
SB-2
Vertical-8
0.5' DEEP
(SURFACE SCRAPE)
Vertical-9
Vertical-10
Vertical-11
EXPLANATION
PRIOR VERTICAL SAMPLE LOCATIONS
TETRA TECH SOIL BORING SAMPLE LOCATIONS
BURIED PIPELINE
OVERHEAD ELECTRIC LINE
SURFACE PIPELINE
EXCAVATED AREA
N
SCALE: 1 IN = 125 FEET
Feet 0 62.5 125
ConocoPhillips
Figure 4
EVGSAU Injection Header #4
(32.796871, -103.471310)
Excavation Areas & Depths Map
Lea County, New Mexico
Project : 212C-MD-00937
Date : 10/18/2017
File : H:\GIS\212C-MD-00937
Mapped By: Isabel Marmolejo

Tables

Table 1
ConocoPhillips
Injection Header 4
Verticals Installed by Conoco
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Field PID (PPM)	TPH				BTEX					Chlorides	
				TPH GRO mg/kg	TPH DRO mg/kg	TPH ORO mg/kg	Total TPH mg/kg	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Field Chlorides (PPM)	Chlorides (mg/kg)
Vertical 1	03/07/16	0.5	1.1	ND	ND	-	0.0	-	-	-	-	-	**8,414**	-
	"	1	0.3	-	-	-	-	-	-	-	-	-	-	512
	"	1.5	0	-	-	-	-	-	-	-	-	-	-	240
Vertical 2	03/07/16	0.5	0.3	ND	ND	-	0.0	-	-	-	-	-	-	64
	"	1	0.3	-	-	-	-	-	-	-	-	-	87	-
Vertical 3	03/07/16	0.5	0.8	-	-	-	-	-	-	-	-	-	23,218	-
	"	1	0										1,608	-
	"	1.5	0	ND	ND	-	0.0	-	-	-	-	-	-	96
Vertical 4	03/07/16	0.5	2.1	-	-	-	-	-	-	-	-	-	**14,017**	-
	"	1	0.5	ND	ND	-	0.0	-	-	-	-	-	-	256
	"	1.5	0.0	-	-	-	-	-	-	-	-	-	118	-
Vertical 5	03/07/16	0.5	0.2	-	-	-	-	-	-	-	-	-	**3,257**	-
	"	1	0	ND	ND	-	0.0	-	-	-	-	-	-	64
Vertical 6	03/07/16	0.5	0.1	-	-	-	-	-	-	-	-	-	**33,545**	-
	"	1	0.0	ND	ND	-	0.0	-	-	-	-	-	-	560
	"	1.5	0.0	ND	ND	-	0.0	-	-	-	-	-	-	96
Vertical 7	03/07/16	0.5	0.0	ND	ND	-	0.0	-	-	-	-	-	-	224
	"	1	0.0	-	-	-	-	-	-	-	-	-	123	-
Vertical 8	03/07/16	0.5	0.1	-	-	-	-	-	-	-	-	-	**5,557**	-
	"	1.0	0	-	-	-	-	-	-	-	-	-	**1,452**	-
	"	1.5	0	-	-	-	-	-	-	-	-	-	629	-
	"	2.0	0	ND	ND	-	0.0	-	-	-	-	-	-	320
	"	2.5	0	-	-	-	-	-	-	-	-	-	234	-
	"	3	0	ND	ND	-	0.0	-	-	-	-	-	-	112

Table 1
ConocoPhillips
Injection Header 4
Verticals Installed by Conoco
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Field PID (PPM)	TPH				BTEX					Chlorides	
				TPH GRO mg/kg	TPH DRO mg/kg	TPH ORO mg/kg	Total TPH mg/kg	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Field Chlorides (PPM)	Chlorides (mg/kg)
Vertical 9	03/07/16	0.3	1	-	-	-	-	-	-	-	-	-	**1,729**	-
	"	0.5	1.2	ND	ND	-	0.0	-	-	-	-	-	-	432
	"	1.0	0	-	-	-	-	-	-	-	-	-	313	-
	"	1.5	0	ND	ND	-	0.0	-	-	-	-	-	-	64
Vertical 10	03/07/16	0.3	0	-	-	-	-	-	-	-	-	-	**24,701**	-
	"	0.5	0	ND	ND	-	0.0	-	-	-	-	-	-	240
	"	1.0	0	ND	ND	-	0.0	-	-	-	-	-	-	192
Vertical 11	03/07/16	0.3	1	-	-	-	-	-	-	-	-	-	**13,941**	-
	"	0.5	0	ND	ND	-	0.0	-	-	-	-	-	-	576
	"	1.0	0	-	-	-	-	-	-	-	-	-	338	-
	"	1.5	0	ND	ND	-	0.0	-	-	-	-	-	-	96

ND Not Detected
(-) Not Analyzed
Proposed Excavation Depth
Verticals 3, 6 and 8 Areas Re-assessed and Installed Soil Borings

Table 2
ConocoPhillips
Injection Header 4
Soil Borings installed by Tetra Tech
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Field PID (PPM)	TPH				BTEX					Chlorides	
			In-Situ	Removed		TPH GRO mg/kg	TPH DRO mg/kg	TPH ORO mg/kg	Total TPH mg/kg	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Field Chlorides (PPM)	Chlorides (mg/kg)
SB-1	08/16/17	0-6"	X		0.5	ND	24.4	76.8	101.2	ND	ND	ND	ND	-	93.9	127
	"	6"-1'	X		0.4	-	-	-	-	-	-	-	-	-	250.0	109
Vertical 3	"	2-3'	X		0.4	-	-	-	-	-	-	-	-	-	254.0	299
	"	4-5'	X		0.3	ND	ND	15.8	15.8	ND	ND	ND	ND	-	83.7	ND
	"	6-7'	X		0.3	-	-	-	-	-	-	-	-	-	56.9	ND
	"	9-10'	X		0.3	-	-	-	-	-	-	-	-	-	43.1	ND
	"	14-15'	X		0.3	ND	ND	ND	-	ND	ND	ND	ND	-	40.8	ND
SB-2	08/17/17	0-6"	X		1.0	ND	ND	17.9	17.9	ND	ND	ND	ND	-	1.3 PPT	**1,530**
	"	6"-1'	X		0.6	-	-	-	-	-	-	-	-	-	85.0	ND
Vertical 8	"	2-3'	X		0.6	ND	ND	ND	-	ND	ND	ND	ND	-	58.4	ND
	"	4-5'	X		0.6	-	-	-	-	-	-	-	-	-	69.2	ND
	"	6-7'	X		0.6	-	-	-	-	-	-	-	-	-	75.2	ND
	"	9-10'	X		0.6	-	-	-	-	-	-	-	-	-	74.6	ND
	"	14-15'	X		0.6	ND	ND	ND	-	ND	ND	ND	ND	-	58.6	ND
SB-3	08/17/17	0-6"	X		0.5	ND	ND	40	40.4	ND	ND	ND	ND	-	1.10 PPT	**1,450**
	"	6"-1'	X		0.6	-	-	-	-	-	-	-	-	-	713	507
Vertical 6	"	2-3'	X		0.6	ND	ND	ND	-	ND	ND	ND	ND	-	113	ND
	"	4-5'	X		0.6	-	-	-	-	-	-	-	-	-	98	ND
	"	6-7'	X		0.6	-	-	-	-	-	-	-	-	-	76	ND
	"	9-10'	X		0.6	-	-	-	-	-	-	-	-	-	103	ND
	"	14-15'	X		0.6	ND	ND	6.6	6.6	ND	ND	ND	ND	-	111	ND

ND Not Detected
(-) Not Analyzed
Proposed Excavation Depths

Photos

ConocoPhillips
EVGSAU Injection Header 4
Lea County, New Mexico

View Northeast - Area of SB-1

View Southwest – Area of SB-2

ConocoPhillips
EVGSAU Injection Header 4
Lea County, New Mexico

TETRA TECH

View Northwest – Area of SB-3

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **ConocoPhillips** ✓	Contact: **Adam Stephens**
Address: **29 Vacuum Complex Lane**	Telephone No. **575-391-3133**
Facility Name: **EVGSAU Injection 4 Header**	Facility Type: **Header**

Surface Owner: NMOCD	Mineral Owner: NMOCD	API No. 30-025-34025 ✓

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	33	17S	35E	800	North	330	West	**LEA** ✓

Latitude N32°47'51" Longitude W103° 28' 20"

NATURE OF RELEASE

Type of Release: **Spill**	Volume of Release: 141.0 BBLS	Volume Recovered: 95 BBLS
Source of Release: Malfunctioning swage. API of nearby well. Location of release accurate with Lat/Lon.	Date and Hour of Occurrence **02/26/2016 4:30 am**	Date and Hour of Discovery **02/26/2016 4:30 am**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Jamie Keyes, NMOCD**	
By Whom? **Adam Stephens**	Date and Hour: **02/26/2016 12:00 pm**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Describe Area Affected and Cleanup Action Taken.*

On Friday February 26, 2016 at 0430 (MST), a release of produced water occurred after a failed fiberglass swage was discovered, resulting in the release of 141 bbls produced water with 95 bbls recovered. Immediate action was to isolate the header and make an emergency OneCall. Approximately 400 yards of wet soil was removed during remediation, with soil testing to follow. Location will be remediated in accordance with NMOCD and COPC policies.

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

Signature: *Adam R. Stephens*	OIL CONSERVATION DIVISION	
Printed Name: Adam Stephens	Approved by Environmental Specialist:	
Title: LEAD HSE	Approval Date: 03/08/2016	Expiration Date: 05/08/2016
E-mail Address: **adam.r.stephens@conocophillips.com**	Conditions of Approval: Discrete site samples only. Delineate and remediate per NMOCD guidelines. Ensure SLO concurrence/ approval.	Attached ☐ 1RP 4202
Date: 03/01/2016 Phone:575-391-3133		

* Attach Additional Sheets If Necessary

nJXK1606850915
pJXK1606851011

CY

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
Conoco Phillips - EVGSAU Injection Header 4
Lea County, New Mexico

16 South 34 East

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

16 South 35 East

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

16 South 36 East

6	5	4	3	2	1
7	8	9 Lovington	10	11	12
18 54	17	16	15	14	13
19	20 70	21 70	22 63 63	23 70 61	24 55
30 82	29	28	27	26 63	25 68
31 74	32 65	33	34	35 41	36 60

17 South 34 East

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

17 South 35 East

6	5	4	3	2	1 50
7	8	9	10	11	12
18 40	17 55	16	15	14	13
19 85	20 60	21	22 49	23 45	24
30 83	29	28 70	27 76	26 50	25 75
31 106	32	33 70	34 56 65	35 40	36 50

17 South 36 East

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

18 South 34 East

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

18 South 35 East

6 89 Buckeye	5 69	4 58	3 62	2 55 51	1
7 85	8	9 72	10 49	11 59 48	12
18 90	17 90 124	16 75	15	14 90	13 135
19 74 70	20 85 50	21	22 70	23	24
30	29 95	28	27 68	26 60	25
31	32 58	33 80	34	35 58	36

18 South 36 East

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

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

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

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 04578		L	LE				33	17S	35E	643962	3629198*	126	60	66
L 04586		L	LE	3	3	4	33	17S	35E	644065	3628502*	125	50	75
L 04633		L	LE		2	4	33	17S	35E	644564	3629010*	130	65	65
L 04829 S5		L	LE		3	1	33	17S	35E	643347	3629400*	220	90	130
L 04880		L	LE		2	3	33	17S	35E	643757	3629002*	145	90	55
L 05834	R	L	LE	2	2	4	33	17S	35E	644663	3629109*	160	70	90
L 05834 POD5		L	LE	2	2	4	33	17S	35E	644663	3629109*	234	65	169

Average Depth to Water: **70 feet**
Minimum Depth: **50 feet**
Maximum Depth: **90 feet**

Record Count: 7

PLSS Search:

Section(s): 33 **Township:** 17S **Range:** 35E

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

Appendix C

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

August 28, 2017

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

RE: Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

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

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

Sincerely,

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

Enclosures

cc: Jeanne Fitch, Tetra Tech
Todd Wells, TetraTech

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

CERTIFICATIONS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Kansas Certification IDs

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

Dallas Certification IDs:

400 West Bethany Dr Suite 190, Allen, TX 75013
EPA# TX00074
Florida Certification #: E871118
Texas Certification #: T104704232
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: TX00074
Louisiana Certification #: 30686
Iowa Certification #: 408
Florida Certification #: E871118
Nevada Certification #: TX00074

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Lab ID	Sample ID	Matrix	Date Collected	Date Received
7572002001	**COP EVGSAU HDR SB-1(0-6'')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002002	**COP EVGSAU HDR SB-1(6''-1')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002003	**COP EVGSAU HDR SB-1(2-3')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002004	**COP EVGSAU HDR SB-1(4-5')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002005	**COP EVGSAU HDR SB-1(6-7')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002006	**COP EVGSAU HDR SB-1(9-10')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002007	**COP EVGSAU HDR SB-1(14-15')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002008	**COP EVGSAU HDR SB-2 (0-6'')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002009	**COP EVGSAU HDR SB-2(6''-1')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002010	**COP EVGSAU HDR SB-2 (2-3')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002011	**COP EVGSAU HDR SB-2(4-5')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002012	**COP EVGSAU HDR SB-2(6-7')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002013	**COP EVGSAU HDR SB-2(9-10')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002014	**COP EVGSAU HDR SB-2 (14-15')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002015	**COP EVGSAU HDR SB-3 (0-6'')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002016	**COP EVGSAU HDR SB-3(6''-1')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002017	**COP EVGSAU HDR SB-3 (2-3')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002018	**COP EVGSAU HDR SB-3(4-5')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002019	**COP EVGSAU HDR SB-3(6-7')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002020	**COP EVGSAU HDR SB-3(9-10')**	Solid	08/14/17 00:01	08/15/17 08:50
7572002021	**COP EVGSAU HDR SB-3 (14-15')**	Solid	08/14/17 00:01	08/15/17 08:50

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
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SAMPLE ANALYTE COUNT

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7572002001	**COP EVGSAU HDR SB-1(0-6'')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	DJF	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002002	**COP EVGSAU HDR SB-1(6''-1')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002003	**COP EVGSAU HDR SB-1(2-3')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002004	**COP EVGSAU HDR SB-1(4-5')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	DJF	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002005	**COP EVGSAU HDR SB-1(6-7')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002006	**COP EVGSAU HDR SB-1(9-10')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002007	**COP EVGSAU HDR SB-1(14-15')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	DJF	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002008	**COP EVGSAU HDR SB-2 (0-6'')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	DJF	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002009	**COP EVGSAU HDR SB-2(6''-1')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002010	**COP EVGSAU HDR SB-2 (2-3')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	DJF	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002011	**COP EVGSAU HDR SB-2(4-5')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002012	**COP EVGSAU HDR SB-2(6-7')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002013	**COP EVGSAU HDR SB-2(9-10')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002014	**COP EVGSAU HDR SB-2 (14-15')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	DJF	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002015	**COP EVGSAU HDR SB-3 (0-6'')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002016	**COP EVGSAU HDR SB-3(6''-1')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002017	**COP EVGSAU HDR SB-3 (2-3')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002018	**COP EVGSAU HDR SB-3(4-5')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002019	**COP EVGSAU HDR SB-3(6-7')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002020	**COP EVGSAU HDR SB-3(9-10')**	ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K
7572002021	**COP EVGSAU HDR SB-3 (14-15')**	EPA 8015B	MS1	2	PASI-D
		EPA 8015B Modified	PMS	2	PASI-D

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	DAT	1	PASI-D
		EPA 300.0	OL	1	PASI-K

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(0-6'') **Lab ID: 7572002001** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**24.4**	mg/kg	6.0	1	08/17/17 19:45	08/28/17 13:26		1t
Surrogates								
a-Pinene (S)	36	%.	10-87	1	08/17/17 19:45	08/28/17 13:26		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**76.8**	mg/kg	6.0	1	08/17/17 19:45	08/28/17 12:21		N2
Surrogates								
a-Pinene (S)	41	%.	17-70	1	08/17/17 19:45	08/28/17 12:21		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	12.1	1	08/17/17 00:00	08/18/17 12:10		
Surrogates								
4-Bromofluorobenzene (S)	105	%	64-122	1	08/17/17 00:00	08/18/17 12:10	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0025	1	08/16/17 18:00	08/16/17 23:09	71-43-2	
Ethylbenzene	ND	mg/kg	0.0025	1	08/16/17 18:00	08/16/17 23:09	100-41-4	
Toluene	ND	mg/kg	0.0025	1	08/16/17 18:00	08/16/17 23:09	108-88-3	
Xylene (Total)	ND	mg/kg	0.0074	1	08/16/17 18:00	08/16/17 23:09	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1	08/16/17 18:00	08/16/17 23:09	17060-07-0	IS
4-Bromofluorobenzene (S)	105	%.	70-130	1	08/16/17 18:00	08/16/17 23:09	460-00-4	
Toluene-d8 (S)	94	%.	70-130	1	08/16/17 18:00	08/16/17 23:09	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**18.8**	%		1		08/21/17 17:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**127**	mg/kg	125	10	08/23/17 10:00	08/23/17 17:21	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(6"-1') **Lab ID: 7572002002** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**9.5**	%		1		08/21/17 17:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**109**	mg/kg	109	10	08/23/17 10:00	08/23/17 18:36	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(2-3') **Lab ID: 7572002003** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.4**	%		1		08/21/17 17:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**299**	mg/kg	107	10	08/23/17 10:00	08/23/17 19:07	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(4-5') **Lab ID: 7572002004** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.3	1	08/17/17 19:45	08/21/17 18:58		
Surrogates								
a-Pinene (S)	36	%.	10-87	1	08/17/17 19:45	08/21/17 18:58		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**15.8**	mg/kg	5.3	1	08/17/17 19:45	08/21/17 19:30		N2
Surrogates								
a-Pinene (S)	47	%.	17-70	1	08/17/17 19:45	08/21/17 19:30		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	10.7	1	08/17/17 00:00	08/18/17 12:58		
Surrogates								
4-Bromofluorobenzene (S)	100	%	64-122	1	08/17/17 00:00	08/18/17 12:58	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/16/17 23:36	71-43-2	
Ethylbenzene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/16/17 23:36	100-41-4	
Toluene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/16/17 23:36	108-88-3	
Xylene (Total)	ND	mg/kg	0.0064	1	08/16/17 18:00	08/16/17 23:36	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%.	70-130	1	08/16/17 18:00	08/16/17 23:36	17060-07-0	
4-Bromofluorobenzene (S)	99	%.	70-130	1	08/16/17 18:00	08/16/17 23:36	460-00-4	
Toluene-d8 (S)	94	%.	70-130	1	08/16/17 18:00	08/16/17 23:36	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**7.2**	%		1		08/21/17 17:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	107	10	08/23/17 10:00	08/23/17 19:22	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(6-7') **Lab ID: 7572002005** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.1**	%		1		08/21/17 17:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	105	10	08/23/17 10:00	08/23/17 19:37	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(9-10') **Lab ID: 7572002006** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**7.7**	%		1		08/21/17 17:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	108	10	08/23/17 10:00	08/23/17 19:52	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-1(14-15') **Lab ID: 7572002007** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.2	1	08/17/17 19:45	08/24/17 15:44		
Surrogates								
a-Pinene (S)	67	%.	10-87	1	08/17/17 19:45	08/24/17 15:44		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	ND	mg/kg	5.2	1	08/17/17 19:45	08/24/17 15:44		N2
Surrogates								
a-Pinene (S)	37	%.	17-70	1	08/17/17 19:45	08/24/17 15:44		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	10.5	1	08/17/17 00:00	08/18/17 13:14		
Surrogates								
4-Bromofluorobenzene (S)	104	%	64-122	1	08/17/17 00:00	08/18/17 13:14	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/17/17 00:02	71-43-2	
Ethylbenzene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/17/17 00:02	100-41-4	
Toluene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/17/17 00:02	108-88-3	
Xylene (Total)	ND	mg/kg	0.0064	1	08/16/17 18:00	08/17/17 00:02	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	88	%.	70-130	1	08/16/17 18:00	08/17/17 00:02	17060-07-0	
4-Bromofluorobenzene (S)	101	%.	70-130	1	08/16/17 18:00	08/17/17 00:02	460-00-4	
Toluene-d8 (S)	98	%.	70-130	1	08/16/17 18:00	08/17/17 00:02	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.4**	%		1		08/21/17 17:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	107	10	08/23/17 10:00	08/23/17 20:07	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2 (0-6'') **Lab ID: 7572002008** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.8	1	08/17/17 19:45	08/25/17 12:02		
Surrogates								
a-Pinene (S)	31	%.	10-87	1	08/17/17 19:45	08/25/17 12:02		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**17.9**	mg/kg	5.8	1	08/17/17 19:45	08/25/17 12:02		N2
Surrogates								
a-Pinene (S)	35	%.	17-70	1	08/17/17 19:45	08/25/17 12:02		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	11.5	1	08/17/17 00:00	08/18/17 13:30		
Surrogates								
4-Bromofluorobenzene (S)	97	%	64-122	1	08/17/17 00:00	08/18/17 13:30	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0023	1	08/16/17 18:00	08/17/17 00:28	71-43-2	
Ethylbenzene	ND	mg/kg	0.0023	1	08/16/17 18:00	08/17/17 00:28	100-41-4	
Toluene	ND	mg/kg	0.0023	1	08/16/17 18:00	08/17/17 00:28	108-88-3	
Xylene (Total)	ND	mg/kg	0.0070	1	08/16/17 18:00	08/17/17 00:28	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%.	70-130	1	08/16/17 18:00	08/17/17 00:28	17060-07-0	
4-Bromofluorobenzene (S)	102	%.	70-130	1	08/16/17 18:00	08/17/17 00:28	460-00-4	
Toluene-d8 (S)	97	%.	70-130	1	08/16/17 18:00	08/17/17 00:28	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**14.4**	%		1		08/21/17 17:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1530**	mg/kg	119	10	08/23/17 10:00	08/23/17 20:22	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2(6"-1') **Lab ID: 7572002009** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**11.6**	%		1		08/21/17 17:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	115	10	08/23/17 10:00	08/23/17 21:07	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2 (2-3') **Lab ID: 7572002010** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.3	1	08/17/17 19:45	08/24/17 16:17		
Surrogates								
a-Pinene (S)	34	%.	10-87	1	08/17/17 19:45	08/24/17 16:17		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	ND	mg/kg	5.3	1	08/17/17 19:45	08/24/17 16:17		N2
Surrogates								
a-Pinene (S)	40	%.	17-70	1	08/17/17 19:45	08/24/17 16:17		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	10.5	1	08/17/17 00:00	08/18/17 13:46		
Surrogates								
4-Bromofluorobenzene (S)	101	%	64-122	1	08/17/17 00:00	08/18/17 13:46	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/17/17 00:54	71-43-2	
Ethylbenzene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/17/17 00:54	100-41-4	
Toluene	ND	mg/kg	0.0021	1	08/16/17 18:00	08/17/17 00:54	108-88-3	
Xylene (Total)	ND	mg/kg	0.0064	1	08/16/17 18:00	08/17/17 00:54	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	87	%.	70-130	1	08/16/17 18:00	08/17/17 00:54	17060-07-0	
4-Bromofluorobenzene (S)	102	%.	70-130	1	08/16/17 18:00	08/17/17 00:54	460-00-4	
Toluene-d8 (S)	98	%.	70-130	1	08/16/17 18:00	08/17/17 00:54	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.4**	%		1		08/21/17 17:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	108	10	08/23/17 10:00	08/23/17 21:23	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2(4-5') **Lab ID: 7572002011** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**8.0**	%		1		08/21/17 17:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	108	10	08/23/17 10:00	08/23/17 21:38	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2(6-7') **Lab ID: 7572002012** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**9.8**	%		1		08/21/17 17:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	112	10	08/23/17 10:00	08/23/17 21:53	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2(9-10') **Lab ID: 7572002013** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**12.0**	%		1		08/21/17 17:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	112	10	08/23/17 10:00	08/23/17 22:08	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-2 (14-15') **Lab ID: 7572002014** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.5	1	08/17/17 19:45	08/25/17 02:45		
Surrogates								
a-Pinene (S)	26	%.	10-87	1	08/17/17 19:45	08/25/17 02:45		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	ND	mg/kg	5.5	1	08/17/17 19:45	08/25/17 02:45		N2
Surrogates								
a-Pinene (S)	28	%.	17-70	1	08/17/17 19:45	08/25/17 02:45		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	11.2	1	08/20/17 00:00	08/21/17 16:01		
Surrogates								
4-Bromofluorobenzene (S)	100	%	64-122	1	08/20/17 00:00	08/21/17 16:01	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0023	1	08/16/17 18:00	08/17/17 01:21	71-43-2	
Ethylbenzene	ND	mg/kg	0.0023	1	08/16/17 18:00	08/17/17 01:21	100-41-4	
Toluene	ND	mg/kg	0.0023	1	08/16/17 18:00	08/17/17 01:21	108-88-3	
Xylene (Total)	ND	mg/kg	0.0068	1	08/16/17 18:00	08/17/17 01:21	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%.	70-130	1	08/16/17 18:00	08/17/17 01:21	17060-07-0	
4-Bromofluorobenzene (S)	101	%.	70-130	1	08/16/17 18:00	08/17/17 01:21	460-00-4	
Toluene-d8 (S)	95	%.	70-130	1	08/16/17 18:00	08/17/17 01:21	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**10.3**	%		1		08/21/17 17:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	113	10	08/23/17 10:00	08/23/17 22:23	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3 (0-6'') **Lab ID: 7572002015** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	10.7	1	08/22/17 15:30	08/28/17 12:53		
Surrogates								
a-Pinene (S)	28	%.	10-87	1	08/22/17 15:30	08/28/17 12:53		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**40.4**	mg/kg	10.7	1	08/22/17 15:30	08/28/17 13:26		M1,N2
Surrogates								
a-Pinene (S)	31	%.	17-70	1	08/22/17 15:30	08/28/17 13:26		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	10.9	1	08/20/17 00:00	08/21/17 16:48		
Surrogates								
4-Bromofluorobenzene (S)	93	%	64-122	1	08/20/17 00:00	08/21/17 16:48	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0022	1	08/17/17 16:00	08/17/17 19:45	71-43-2	
Ethylbenzene	ND	mg/kg	0.0022	1	08/17/17 16:00	08/17/17 19:45	100-41-4	
Toluene	ND	mg/kg	0.0022	1	08/17/17 16:00	08/17/17 19:45	108-88-3	
Xylene (Total)	ND	mg/kg	0.0065	1	08/17/17 16:00	08/17/17 19:45	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%.	70-130	1	08/17/17 16:00	08/17/17 19:45	17060-07-0	
4-Bromofluorobenzene (S)	102	%.	70-130	1	08/17/17 16:00	08/17/17 19:45	460-00-4	
Toluene-d8 (S)	94	%.	70-130	1	08/17/17 16:00	08/17/17 19:45	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**8.1**	%		1		08/21/17 17:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1450**	mg/kg	109	10	08/23/17 10:00	08/23/17 22:38	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3(6"-1') **Lab ID: 7572002016** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.4**	%		1		08/21/17 17:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**507**	mg/kg	107	10	08/23/17 10:00	08/23/17 22:53	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3 (2-3') **Lab ID: 7572002017** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.2	1	08/22/17 15:30	08/25/17 21:36		
Surrogates								
a-Pinene (S)	23	%.	10-87	1	08/22/17 15:30	08/25/17 21:36		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	ND	mg/kg	5.2	1	08/22/17 15:30	08/25/17 21:36		N2
Surrogates								
a-Pinene (S)	24	%.	17-70	1	08/22/17 15:30	08/25/17 21:36		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	10.5	1	08/20/17 00:00	08/21/17 17:04		
Surrogates								
4-Bromofluorobenzene (S)	93	%	64-122	1	08/20/17 00:00	08/21/17 17:04	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0021	1	08/17/17 16:00	08/17/17 20:12	71-43-2	
Ethylbenzene	ND	mg/kg	0.0021	1	08/17/17 16:00	08/17/17 20:12	100-41-4	
Toluene	ND	mg/kg	0.0021	1	08/17/17 16:00	08/17/17 20:12	108-88-3	
Xylene (Total)	ND	mg/kg	0.0063	1	08/17/17 16:00	08/17/17 20:12	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1	08/17/17 16:00	08/17/17 20:12	17060-07-0	
4-Bromofluorobenzene (S)	92	%.	70-130	1	08/17/17 16:00	08/17/17 20:12	460-00-4	
Toluene-d8 (S)	90	%.	70-130	1	08/17/17 16:00	08/17/17 20:12	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.1**	%		1		08/21/17 17:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	106	10	08/23/17 10:00	08/23/17 23:08	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3(4-5') **Lab ID: 7572002018** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.4**	%		1		08/21/17 17:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	107	10	08/23/17 10:00	08/23/17 23:23	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3(6-7') **Lab ID: 7572002019** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.8**	%		1		08/21/17 17:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	107	10	08/23/17 10:00	08/24/17 00:09	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3(9-10') **Lab ID: 7572002020** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**12.7**	%		1		08/21/17 17:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	114	10	08/23/17 10:00	08/24/17 00:24	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Sample: COP EVGSAU HDR SB-3 (14-15') **Lab ID: 7572002021** Collected: 08/14/17 00:01 Received: 08/15/17 08:50 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	ND	mg/kg	5.4	1	08/17/17 19:45	08/25/17 22:37		
Surrogates								
a-Pinene (S)	27	%.	10-87	1	08/17/17 19:45	08/25/17 22:37		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**6.6**	mg/kg	5.4	1	08/17/17 19:45	08/25/17 22:37		N2
Surrogates								
a-Pinene (S)	28	%.	17-70	1	08/17/17 19:45	08/25/17 22:37		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	10.8	1	08/17/17 00:00	08/18/17 14:01		
Surrogates								
4-Bromofluorobenzene (S)	97	%	64-122	1	08/17/17 00:00	08/18/17 14:01	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.0022	1	08/17/17 16:00	08/17/17 20:39	71-43-2	
Ethylbenzene	ND	mg/kg	0.0022	1	08/17/17 16:00	08/17/17 20:39	100-41-4	
Toluene	ND	mg/kg	0.0022	1	08/17/17 16:00	08/17/17 20:39	108-88-3	
Xylene (Total)	ND	mg/kg	0.0066	1	08/17/17 16:00	08/17/17 20:39	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	70-130	1	08/17/17 16:00	08/17/17 20:39	17060-07-0	
4-Bromofluorobenzene (S)	97	%.	70-130	1	08/17/17 16:00	08/17/17 20:39	460-00-4	
Toluene-d8 (S)	95	%.	70-130	1	08/17/17 16:00	08/17/17 20:39	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**8.6**	%		1		08/21/17 17:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	ND	mg/kg	110	10	08/23/17 10:45	08/23/17 15:22	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 490296 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002021

METHOD BLANK: 2007132 Matrix: Solid
Associated Lab Samples: 7572002007, 7572002008, 7572002010, 7572002021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	08/17/17 18:47	
4-Bromofluorobenzene (S)	%	107	64-122	08/17/17 18:47	

METHOD BLANK: 2008151 Matrix: Solid
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002021

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

LABORATORY CONTROL SAMPLE: 2008152

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2007134 2007135

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

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 490632 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7572002014, 7572002015, 7572002017

METHOD BLANK: 2008512 Matrix: Solid
Associated Lab Samples: 7572002014, 7572002015, 7572002017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	08/21/17 15:45	
4-Bromofluorobenzene (S)	%	112	64-122	08/21/17 15:45	

LABORATORY CONTROL SAMPLE: 2008513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	48.4	97	85-130	
4-Bromofluorobenzene (S)	%			109	64-122	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2008514 2008515

Parameter	Units	7572002014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	56	56	58.0	56.0	102	98	85-125	4	12	
4-Bromofluorobenzene (S)	%						101	87	64-122			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 81797 Analysis Method: EPA 8260
QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Soil Low Level
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002014

METHOD BLANK: 359724 Matrix: Solid
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0020	08/16/17 21:26	
Ethylbenzene	mg/kg	ND	0.0020	08/16/17 21:26	
Toluene	mg/kg	ND	0.0020	08/16/17 21:26	
Xylene (Total)	mg/kg	ND	0.0060	08/16/17 21:26	
1,2-Dichloroethane-d4 (S)	%.	88	70-130	08/16/17 21:26	
4-Bromofluorobenzene (S)	%.	101	70-130	08/16/17 21:26	
Toluene-d8 (S)	%.	95	70-130	08/16/17 21:26	

LABORATORY CONTROL SAMPLE: 359725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.05	0.050	100	74-130	
Ethylbenzene	mg/kg	.05	0.050	100	77-127	
Toluene	mg/kg	.05	0.048	96	74-127	
Xylene (Total)	mg/kg	.15	0.14	96	74-128	
1,2-Dichloroethane-d4 (S)	%.			85	70-130	
4-Bromofluorobenzene (S)	%.			99	70-130	
Toluene-d8 (S)	%.			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 359726 359727

Parameter	Units	7571855042 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	.058	.058	0.056	0.057	98	100	32-152	1	20	
Ethylbenzene	mg/kg	ND	.058	.057	0.056	0.055	97	96	18-166	1	20	
Toluene	mg/kg	ND	.058	.058	0.054	0.054	94	94	18-166	1	20	
Xylene (Total)	mg/kg	ND	.17	.17	0.16	0.16	94	94	10-172	1	20	
1,2-Dichloroethane-d4 (S)	%.						85	87	70-130			
4-Bromofluorobenzene (S)	%.						100	96	70-130			
Toluene-d8 (S)	%.						99	97	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 81956 Analysis Method: EPA 8260
QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Soil Low Level
Associated Lab Samples: 7572002015, 7572002017, 7572002021

METHOD BLANK: 360685 Matrix: Solid
Associated Lab Samples: 7572002015, 7572002017, 7572002021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0020	08/17/17 19:17	
Ethylbenzene	mg/kg	ND	0.0020	08/17/17 19:17	
Toluene	mg/kg	ND	0.0020	08/17/17 19:17	
Xylene (Total)	mg/kg	ND	0.0060	08/17/17 19:17	
1,2-Dichloroethane-d4 (S)	%.	86	70-130	08/17/17 19:17	
4-Bromofluorobenzene (S)	%.	103	70-130	08/17/17 19:17	
Toluene-d8 (S)	%.	96	70-130	08/17/17 19:17	

LABORATORY CONTROL SAMPLE: 360686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.05	0.051	103	74-130	
Ethylbenzene	mg/kg	.05	0.050	101	77-127	
Toluene	mg/kg	.05	0.049	99	74-127	
Xylene (Total)	mg/kg	.15	0.15	97	74-128	
1,2-Dichloroethane-d4 (S)	%.			88	70-130	
4-Bromofluorobenzene (S)	%.			98	70-130	
Toluene-d8 (S)	%.			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 360687 360688

Parameter	Units	7572002017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	.052	.052	0.047	0.047	91	90	32-152	2	20	
Ethylbenzene	mg/kg	ND	.052	.052	0.045	0.045	87	87	18-166	0	20	
Toluene	mg/kg	ND	.052	.052	0.045	0.046	86	87	18-166	2	20	
Xylene (Total)	mg/kg	ND	.16	.16	0.13	0.13	85	85	10-172	0	20	
1,2-Dichloroethane-d4 (S)	%.						85	84	70-130			
4-Bromofluorobenzene (S)	%.						97	99	70-130			
Toluene-d8 (S)	%.						96	96	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 81971 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002014, 7572002021

METHOD BLANK: 360757 Matrix: Solid
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002014, 7572002021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	3.3	08/23/17 23:01	
a-Pinene (S)	%.	33	10-87	08/23/17 23:01	

LABORATORY CONTROL SAMPLE: 360758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/kg	33.2	18.2	55	42-124	
a-Pinene (S)	%.			34	10-87	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 360759 360760

Parameter	Units	7571855041 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	3170	6060	6030	1220	5870	-32	45	10-172	131	20	M1,R1
a-Pinene (S)	%.						88	166	10-87			S2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 82207 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7572002015, 7572002017

METHOD BLANK: 361810 Matrix: Solid
Associated Lab Samples: 7572002015, 7572002017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	3.3	08/24/17 18:27	
a-Pinene (S)	%.	27	10-87	08/24/17 18:27	

LABORATORY CONTROL SAMPLE: 361811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/kg	33.3	15.7	47	42-124	
a-Pinene (S)	%.			37	10-87	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 361812 361813

Parameter	Units	7572002015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	ND	109	109	65.7	69.9	55	58	10-172	6	20	
a-Pinene (S)	%.						33	34	10-87			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 81972 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 ORO
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002014, 7572002021

METHOD BLANK: 360761 Matrix: Solid
Associated Lab Samples: 7572002001, 7572002004, 7572002007, 7572002008, 7572002010, 7572002014, 7572002021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil Range Organics	mg/kg	ND	3.3	08/23/17 21:28	N2
a-Pinene (S)	%.	42	17-70	08/23/17 21:28	

LABORATORY CONTROL SAMPLE: 360762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil Range Organics	mg/kg	33.2	26.9	81	48-145	N2
a-Pinene (S)	%.			42	17-70	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 360763 360764

Parameter	Units	7571855041 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Oil Range Organics	mg/kg	2700	6020	5970	4450	2520	29	-3	10-196	55	40	M3, N2, R1
a-Pinene (S)	%.						0	0	17-70			S2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 82210 | Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 3546 | Analysis Description: EPA 8015 ORO
Associated Lab Samples: 7572002015, 7572002017

METHOD BLANK: 361819 | Matrix: Solid
Associated Lab Samples: 7572002015, 7572002017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil Range Organics	mg/kg	ND	3.3	08/24/17 18:59	N2
a-Pinene (S)	%.	29	17-70	08/24/17 18:59	

LABORATORY CONTROL SAMPLE: 361820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil Range Organics	mg/kg	33.3	31.1	93	48-145	N2
a-Pinene (S)	%.			28	17-70	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 361821 361822

Parameter	Units	7572002015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Oil Range Organics	mg/kg	40.4	539	537	88.6	91.8	9	10	10-196	4	40	M1,N2
a-Pinene (S)	%.						6	14	17-70			S0

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 82139 Analysis Method: ASTM D2974-07
QC Batch Method: ASTM D2974-07 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 7572002001, 7572002002, 7572002003, 7572002004, 7572002005, 7572002006, 7572002007, 7572002008, 7572002009, 7572002010, 7572002011, 7572002012, 7572002013, 7572002014, 7572002015, 7572002016, 7572002017, 7572002018, 7572002019, 7572002020

SAMPLE DUPLICATE: 361498

Parameter	Units	7572002001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.8	16.9	11	20	

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 82140
QC Batch Method: ASTM D2974-07
Analysis Method: ASTM D2974-07
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 7572002021

SAMPLE DUPLICATE: 361501

Parameter	Units	7571482001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.2	12.7	4	20	H1

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 490609 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7572002001, 7572002002, 7572002003, 7572002004, 7572002005, 7572002006, 7572002007, 7572002008, 7572002009, 7572002010, 7572002011, 7572002012, 7572002013, 7572002014, 7572002015, 7572002016, 7572002017, 7572002018, 7572002019, 7572002020

METHOD BLANK: 2008462 Matrix: Solid
Associated Lab Samples: 7572002001, 7572002002, 7572002003, 7572002004, 7572002005, 7572002006, 7572002007, 7572002008, 7572002009, 7572002010, 7572002011, 7572002012, 7572002013, 7572002014, 7572002015, 7572002016, 7572002017, 7572002018, 7572002019, 7572002020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	100	08/23/17 16:51	

LABORATORY CONTROL SAMPLE: 2008463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	500	478	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2008464 2008465

Parameter	Units	7572002001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	127	624	622	636	639	81	82	80-120	1	15	

MATRIX SPIKE SAMPLE: 2008466

Parameter	Units	7572002002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	109	552	582	86	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

QC Batch: 490610 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7572002021

METHOD BLANK: 2008467 Matrix: Solid
Associated Lab Samples: 7572002021

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

LABORATORY CONTROL SAMPLE: 2008468

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2008469 2008470

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

MATRIX SPIKE SAMPLE: 2008471

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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The Nelac Institute

LABORATORIES

PASI-D	Pace Analytical Services - Dallas
PASI-K	Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

1t	The reported results may be elevated due to the presence of oil in the sample.
H1	Analysis conducted outside the EPA method holding time.
IS	The internal standard response is below criteria. Results may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S2	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7572002001	COP EVGSAU HDR SB-1(0-6'')	EPA 3546	81971	EPA 8015B	82060
7572002004	COP EVGSAU HDR SB-1(4-5')	EPA 3546	81971	EPA 8015B	82060
7572002007	COP EVGSAU HDR SB-1(14-15')	EPA 3546	81971	EPA 8015B	82060
7572002008	COP EVGSAU HDR SB-2 (0-6'')	EPA 3546	81971	EPA 8015B	82060
7572002010	COP EVGSAU HDR SB-2 (2-3')	EPA 3546	81971	EPA 8015B	82060
7572002014	COP EVGSAU HDR SB-2 (14-15')	EPA 3546	81971	EPA 8015B	82060
7572002015	COP EVGSAU HDR SB-3 (0-6'')	EPA 3546	82207	EPA 8015B	82420
7572002017	COP EVGSAU HDR SB-3 (2-3')	EPA 3546	82207	EPA 8015B	82420
7572002021	COP EVGSAU HDR SB-3 (14-15')	EPA 3546	81971	EPA 8015B	82060
7572002001	COP EVGSAU HDR SB-1(0-6'')	EPA 3546	81972	EPA 8015B Modified	82061
7572002004	COP EVGSAU HDR SB-1(4-5')	EPA 3546	81972	EPA 8015B Modified	82061
7572002007	COP EVGSAU HDR SB-1(14-15')	EPA 3546	81972	EPA 8015B Modified	82061
7572002008	COP EVGSAU HDR SB-2 (0-6'')	EPA 3546	81972	EPA 8015B Modified	82061
7572002010	COP EVGSAU HDR SB-2 (2-3')	EPA 3546	81972	EPA 8015B Modified	82061
7572002014	COP EVGSAU HDR SB-2 (14-15')	EPA 3546	81972	EPA 8015B Modified	82061
7572002015	COP EVGSAU HDR SB-3 (0-6'')	EPA 3546	82210	EPA 8015B Modified	82419
7572002017	COP EVGSAU HDR SB-3 (2-3')	EPA 3546	82210	EPA 8015B Modified	82419
7572002021	COP EVGSAU HDR SB-3 (14-15')	EPA 3546	81972	EPA 8015B Modified	82061
7572002001	COP EVGSAU HDR SB-1(0-6'')	EPA 5035A/5030B	490296	EPA 8015B	490559
7572002004	COP EVGSAU HDR SB-1(4-5')	EPA 5035A/5030B	490296	EPA 8015B	490559
7572002007	COP EVGSAU HDR SB-1(14-15')	EPA 5035A/5030B	490296	EPA 8015B	490559
7572002008	COP EVGSAU HDR SB-2 (0-6'')	EPA 5035A/5030B	490296	EPA 8015B	490559
7572002010	COP EVGSAU HDR SB-2 (2-3')	EPA 5035A/5030B	490296	EPA 8015B	490559
7572002014	COP EVGSAU HDR SB-2 (14-15')	EPA 5035A/5030B	490632	EPA 8015B	490997
7572002015	COP EVGSAU HDR SB-3 (0-6'')	EPA 5035A/5030B	490632	EPA 8015B	490997
7572002017	COP EVGSAU HDR SB-3 (2-3')	EPA 5035A/5030B	490632	EPA 8015B	490997
7572002021	COP EVGSAU HDR SB-3 (14-15')	EPA 5035A/5030B	490296	EPA 8015B	490559
7572002001	COP EVGSAU HDR SB-1(0-6'')	EPA 5030 Low	81797	EPA 8260	81893
7572002004	COP EVGSAU HDR SB-1(4-5')	EPA 5030 Low	81797	EPA 8260	81893
7572002007	COP EVGSAU HDR SB-1(14-15')	EPA 5030 Low	81797	EPA 8260	81893
7572002008	COP EVGSAU HDR SB-2 (0-6'')	EPA 5030 Low	81797	EPA 8260	81893
7572002010	COP EVGSAU HDR SB-2 (2-3')	EPA 5030 Low	81797	EPA 8260	81893
7572002014	COP EVGSAU HDR SB-2 (14-15')	EPA 5030 Low	81797	EPA 8260	81893
7572002015	COP EVGSAU HDR SB-3 (0-6'')	EPA 5030 Low	81956	EPA 8260	81973
7572002017	COP EVGSAU HDR SB-3 (2-3')	EPA 5030 Low	81956	EPA 8260	81973
7572002021	COP EVGSAU HDR SB-3 (14-15')	EPA 5030 Low	81956	EPA 8260	81973
7572002001	COP EVGSAU HDR SB-1(0-6'')	ASTM D2974-07	82139		
7572002002	COP EVGSAU HDR SB-1(6''-1')	ASTM D2974-07	82139		
7572002003	COP EVGSAU HDR SB-1(2-3')	ASTM D2974-07	82139		
7572002004	COP EVGSAU HDR SB-1(4-5')	ASTM D2974-07	82139		
7572002005	COP EVGSAU HDR SB-1(6-7')	ASTM D2974-07	82139		
7572002006	COP EVGSAU HDR SB-1(9-10')	ASTM D2974-07	82139		
7572002007	COP EVGSAU HDR SB-1(14-15')	ASTM D2974-07	82139		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 212C-MD-00937/EVGSAU Inj.
Pace Project No.: 7572002

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7572002008	**COP EVGSAU HDR SB-2 (0-6'')**	ASTM D2974-07	82139		
7572002009	**COP EVGSAU HDR SB-2(6''-1')**	ASTM D2974-07	82139		
7572002010	**COP EVGSAU HDR SB-2 (2-3')**	ASTM D2974-07	82139		
7572002011	**COP EVGSAU HDR SB-2(4-5')**	ASTM D2974-07	82139		
7572002012	**COP EVGSAU HDR SB-2(6-7')**	ASTM D2974-07	82139		
7572002013	**COP EVGSAU HDR SB-2(9-10')**	ASTM D2974-07	82139		
7572002014	**COP EVGSAU HDR SB-2 (14-15')**	ASTM D2974-07	82139		
7572002015	**COP EVGSAU HDR SB-3 (0-6'')**	ASTM D2974-07	82139		
7572002016	**COP EVGSAU HDR SB-3(6''-1')**	ASTM D2974-07	82139		
7572002017	**COP EVGSAU HDR SB-3 (2-3')**	ASTM D2974-07	82139		
7572002018	**COP EVGSAU HDR SB-3(4-5')**	ASTM D2974-07	82139		
7572002019	**COP EVGSAU HDR SB-3(6-7')**	ASTM D2974-07	82139		
7572002020	**COP EVGSAU HDR SB-3(9-10')**	ASTM D2974-07	82139		
7572002021	**COP EVGSAU HDR SB-3 (14-15')**	ASTM D2974-07	82140		
7572002001	**COP EVGSAU HDR SB-1(0-6'')**	EPA 300.0	490609	EPA 300.0	491162
7572002002	**COP EVGSAU HDR SB-1(6''-1')**	EPA 300.0	490609	EPA 300.0	491162
7572002003	**COP EVGSAU HDR SB-1(2-3')**	EPA 300.0	490609	EPA 300.0	491162
7572002004	**COP EVGSAU HDR SB-1(4-5')**	EPA 300.0	490609	EPA 300.0	491162
7572002005	**COP EVGSAU HDR SB-1(6-7')**	EPA 300.0	490609	EPA 300.0	491162
7572002006	**COP EVGSAU HDR SB-1(9-10')**	EPA 300.0	490609	EPA 300.0	491162
7572002007	**COP EVGSAU HDR SB-1(14-15')**	EPA 300.0	490609	EPA 300.0	491162
7572002008	**COP EVGSAU HDR SB-2 (0-6'')**	EPA 300.0	490609	EPA 300.0	491162
7572002009	**COP EVGSAU HDR SB-2(6''-1')**	EPA 300.0	490609	EPA 300.0	491162
7572002010	**COP EVGSAU HDR SB-2 (2-3')**	EPA 300.0	490609	EPA 300.0	491162
7572002011	**COP EVGSAU HDR SB-2(4-5')**	EPA 300.0	490609	EPA 300.0	491162
7572002012	**COP EVGSAU HDR SB-2(6-7')**	EPA 300.0	490609	EPA 300.0	491162
7572002013	**COP EVGSAU HDR SB-2(9-10')**	EPA 300.0	490609	EPA 300.0	491162
7572002014	**COP EVGSAU HDR SB-2 (14-15')**	EPA 300.0	490609	EPA 300.0	491162
7572002015	**COP EVGSAU HDR SB-3 (0-6'')**	EPA 300.0	490609	EPA 300.0	491162
7572002016	**COP EVGSAU HDR SB-3(6''-1')**	EPA 300.0	490609	EPA 300.0	491162
7572002017	**COP EVGSAU HDR SB-3 (2-3')**	EPA 300.0	490609	EPA 300.0	491162
7572002018	**COP EVGSAU HDR SB-3(4-5')**	EPA 300.0	490609	EPA 300.0	491162
7572002019	**COP EVGSAU HDR SB-3(6-7')**	EPA 300.0	490609	EPA 300.0	491162
7572002020	**COP EVGSAU HDR SB-3(9-10')**	EPA 300.0	490609	EPA 300.0	491162
7572002021	**COP EVGSAU HDR SB-3 (14-15')**	EPA 300.0	490610	EPA 300.0	491159

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

Sample Condition Upon Receipt

WO# : 7572002

7572002

☒Dallas ☐Ft Worth ☐San Angelo

Client Name: Tetra Tech Project Work order:

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

Tracking#: 7420 8979 1910 / 7420 8979 1909

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

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

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

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

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

Client Notification/Resolution/Comments:

Person Contacted:____ Date:____

Comments/Resolution:____

Person Examining Contents: [signature] Date: 8/15/17 Project Manager Review: MM

7572002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: Conoco Phillips	**Site Manager:** Ike Tavarez
Project Name: EVGSAU Inj. Header 4	
Project Location: (county, state) Lea Co NM	**Project #:** 212C-MD-00937
Invoice to:	
Receiving Laboratory: Pace Analytical	**Sampler Signature:** Clint Merritt

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

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

Received by: [signature] Date: 8/15/17 Time: 0850

LAB USE ONLY

Sample Temperature
4.5, 4.2

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

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

7420 8979 1909

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7572002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: Conoco Phillips	**Site Manager:** Ike Tavarez
Project Name: EVGSAU Inj. Header 4	
Project Location: (county, state) Lea Co NM	**Project #:** 212C-MD-00937
Invoice to:	
Receiving Laboratory: Pace Analytical	**Sampler Signature:** Clint Merritt

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

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

LAB USE ONLY

Sample Temperature: 4.5, 4.2

REMARKS:

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

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

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7572002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: Conoco Phillips	**Site Manager:** Ike Tavarez
Project Name: EVGSAU Inj. Header 4	
Project Location: (county, state) Lea Co NM	**Project #:** 212C-MD-00937
Invoice to:	
Receiving Laboratory: Pace Analytical	**Sampler Signature:** Clint Merritt

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

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

LAB USE ONLY

Sample Temperature: 4.5, 4.2

REMARKS:

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

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

7420 8979 1909

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Appendix D

Lea County, New Mexico

KU—Kimbrough-Lea complex, dry, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tw46
Elevation: 2,500 to 4,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Kimbrough and similar soils: 45 percent
Lea and similar soils: 25 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimbrough

Setting

Landform: Plains, playa rims
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Loamy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 3 inches: gravelly loam
Bw - 3 to 10 inches: loam
Bkkm1 - 10 to 16 inches: cemented material
Bkkm2 - 16 to 80 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 4 to 18 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 95 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: Very Shallow 12-17" PZ (R077DY049TX)
Hydric soil rating: No

Description of Lea

Setting

Landform: Plains
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Calcareous, loamy eolian deposits from the blackwater draw formation of pleistocene age over indurated caliche of pliocene age

Typical profile

A - 0 to 10 inches: loam
Bk - 10 to 18 inches: loam
Bkk - 18 to 26 inches: gravelly fine sandy loam
Bkkm - 26 to 80 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 22 to 30 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 90 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 3.0
Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: Sandy Loam 12-17" PZ (R077DY047TX)
Hydric soil rating: No

Minor Components

Kenhill

Percent of map unit: 12 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Clay Loam 12-17" PZ (R077DY038TX)
Hydric soil rating: No

Douro

Percent of map unit: 12 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Sandy Loam 12-17" PZ (R077DY047TX)
Other vegetative classification: Unnamed (G077DH000TX)
Hydric soil rating: No

Spraberry

Percent of map unit: 6 percent
Landform: Plains, playa rims
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: Very Shallow 12-17" PZ (R077DY049TX)
Other vegetative classification: Unnamed (G077DH000TX)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 14, Sep 10, 2017

SHALLOW (SH) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sideoats grama	Vaughn, El Reno	4.0	F
Blue grama	Lovington, Hachita	3.0	D
Little bluestem	Pastura, Cimmaron	1.5	F
Green sprangletop	VNS, Southern	1.0	D
Plains bristlegrass	VNS, Southern	1.0	D
Forbs:			
Firewheel (*Gaillardia*)	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
	Total PLS/acre	13.0	

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.