ConocoPhillips

CONOCOPHILLIPS

P.O. Box 2197
Houston, TX 77252-2197
Phone 281.293.1000

EVGSAU 0546-002

Corrective Action Plan

approved
IRP-10-12-2859
Jeffrey Lekins
Environmental Specialist
NMOCD - DIST I
12/18/13

API 300252693200

Release Date: October 23rd, 2012

Unit Letter G, Section 5, Township 18S, Range 35E

Rice Environmental Consulting & Safety
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

December 16th, 2013

Geoffrey Leking
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau – District 1
1625 N. French Dr.
Hobbs, NM 88240-9273

RE: **Corrective Action Plan**
ConocoPhillips EVGSAU 0546-002
UL/G sec. 5 T18S R35E
API No. 300252693200

Mr. Leking:

ConocoPhillips (CoP) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

Background and Previous Work

The site is located approximately 2.3 miles southeast of Buckeye, New Mexico at UL/G&H sec. 5 T18S R35E. NM OSE and BLM records indicate that groundwater will likely be encountered at a depth of approximately 67 +/- feet.

On October 23rd, 2012, a 1 inch wellhead steel injection line developed a hole due to corrosion and released 17 barrels of produced water over 12,915 square feet of lease pad and pasture land. None of the released fluid was recovered. An initial C-141 was signed by CoP on October 23rd, 2012 and sent to NMOCD for their approval (Appendix A).

On November 5th, 2013, RECS personnel were on site to assess the release. Soil samples were taken at the surface of the release and with depth. The samples were field tested for chlorides and for organic vapors with a PID meter (Figure 1). Representative samples were sent to a commercial laboratory for analysis. Pt. 1 returned elevated chloride readings until 14 ft bgs where the laboratory chloride reading returned a result of 224 mg/kg. Pt. 2 was sampled only at the surface a returned a laboratory chloride reading of 3,200 mg/kg. Pt. 3 was sampled to 15 ft bgs and did not return laboratory chloride readings below 250 mg/kg throughout the entire vertical (Appendix B). Gasoline Range Organics (GRO) readings and Diesel Range Organics (DRO) readings for all laboratory sample points returned results of at or near non-detect.

In order to determine the vertical extent of chloride contamination at Pt. 3, a soil bore was installed on November 26th, 2013 (Figure 2). As the bore was advanced, samples were taken every 3 ft and field tested for chlorides and for organic vapors. Representative samples from the bore were taken to a commercial laboratory for analysis. Laboratory

chloride readings returned results below 250 mg/kg beginning at 18 ft bgs (Appendix C). GRO and DRO readings throughout the bore were non-detect.

Photo documentation of these activities can be found in Appendix D.

Corrective Action Plan

The release over the lease pad will be scraped to a depth of 1 ft bgs and the release area in the pasture will be excavated to a depth of 4 ft bgs. Per a Plains Pipeline Request, the excavation in the pasture will remain 20 ft away from their pipeline. At 4 ft bgs, grab samples from the walls of the pasture excavation will be taken to confirm that laboratory chloride readings are below 250 mg/kg. The excavated soil will be taken to a NMOCD approved facility for disposal. At the base of the pasture excavation, a 20-mil reinforced poly liner will be installed and properly seated. The excavation will be backfilled with clean, imported soil in the pasture and clean, imported caliche on the lease pad. The pasture area will have soil amendments added as necessary and then the area will be seeded.

Once the corrective actions have been completed, a Termination Request will be submitted to NMOCD asking for 'remediation termination' and site closure.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Soil Bore Installation
- Figure 3 – Proposed Excavations and Liner Installation
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Lab
- Appendix C – Soil Installation Documentation
- Appendix D – Photo Documentation

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

Initial Sampling Data

Point #1

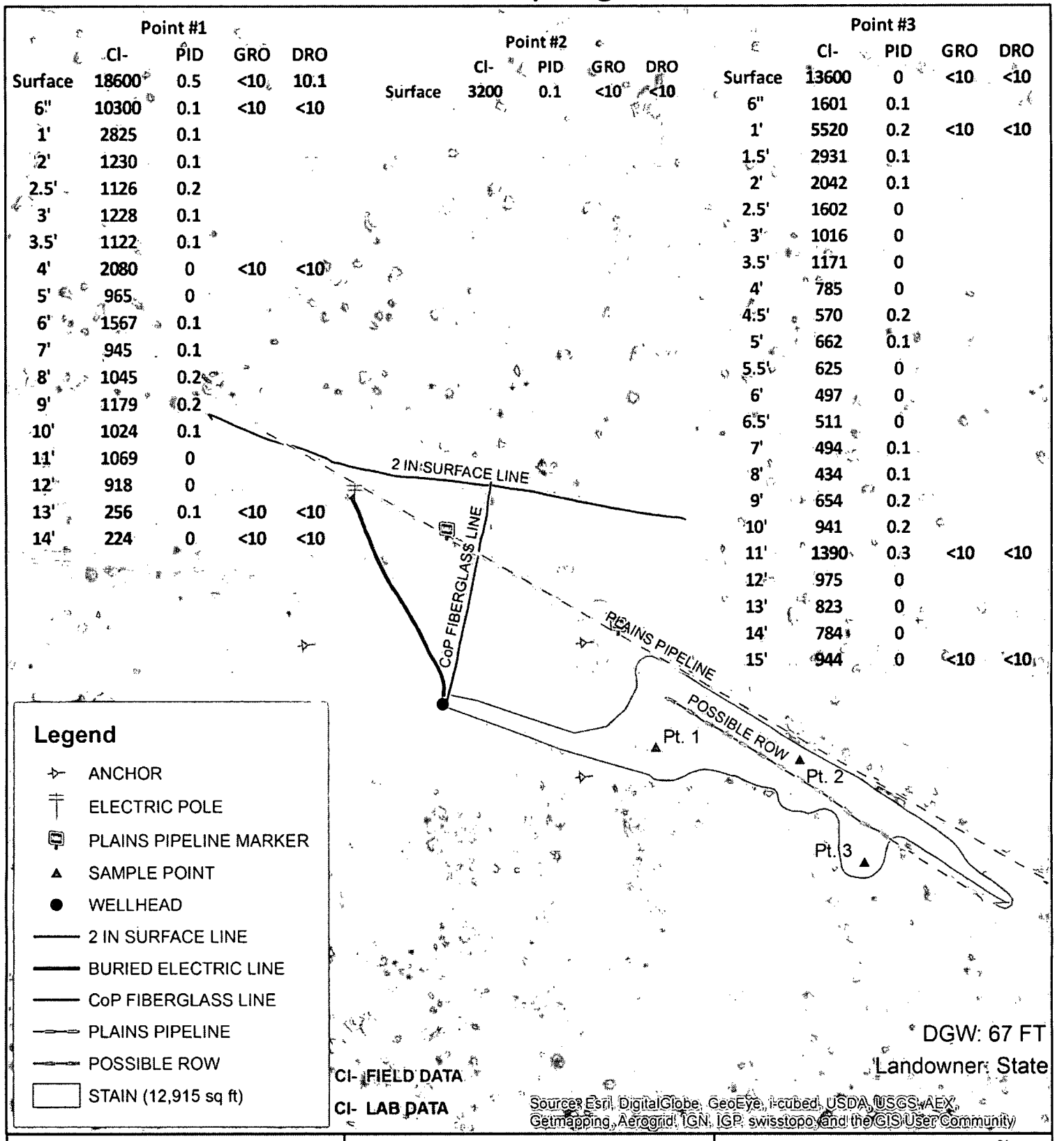
	Cl-	PID	GRO	DRO
Surface	18600	0.5	<10	10.1
6"	10300	0.1	<10	<10
1'	2825	0.1		
2'	1230	0.1		
2.5'	1126	0.2		
3'	1228	0.1		
3.5'	1122	0.1		
4'	2080	0	<10	<10
5'	965	0		
6'	1567	0.1		
7'	945	0.1		
8'	1045	0.2		
9'	1179	0.2		
10'	1024	0.1		
11'	1069	0		
12'	918	0		
13'	256	0.1	<10	<10
14'	224	0	<10	<10

Point #2

	Cl-	PID	GRO	DRO
Surface	3200	0.1	<10	<10

Point #3

	Cl-	PID	GRO	DRO
Surface	13600	0	<10	<10
6"	1601	0.1		
1'	5520	0.2	<10	<10
1.5'	2931	0.1		
2'	2042	0.1		
2.5'	1602	0		
3'	1016	0		
3.5'	1171	0		
4'	785	0		
4.5'	570	0.2		
5'	662	0.1		
5.5'	625	0		
6'	497	0		
6.5'	511	0		
7'	494	0.1		
8'	434	0.1		
9'	654	0.2		
10'	941	0.2		
11'	1390	0.3	<10	<10
12'	975	0		
13'	823	0		
14'	784	0		
15'	944	0	<10	<10



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

CONOCOPHILLIPS EVGSAU 0546-002

LEGALS: UL/G&H sec. 5
T-18-S R-35-E
LEA COUNTY, NM

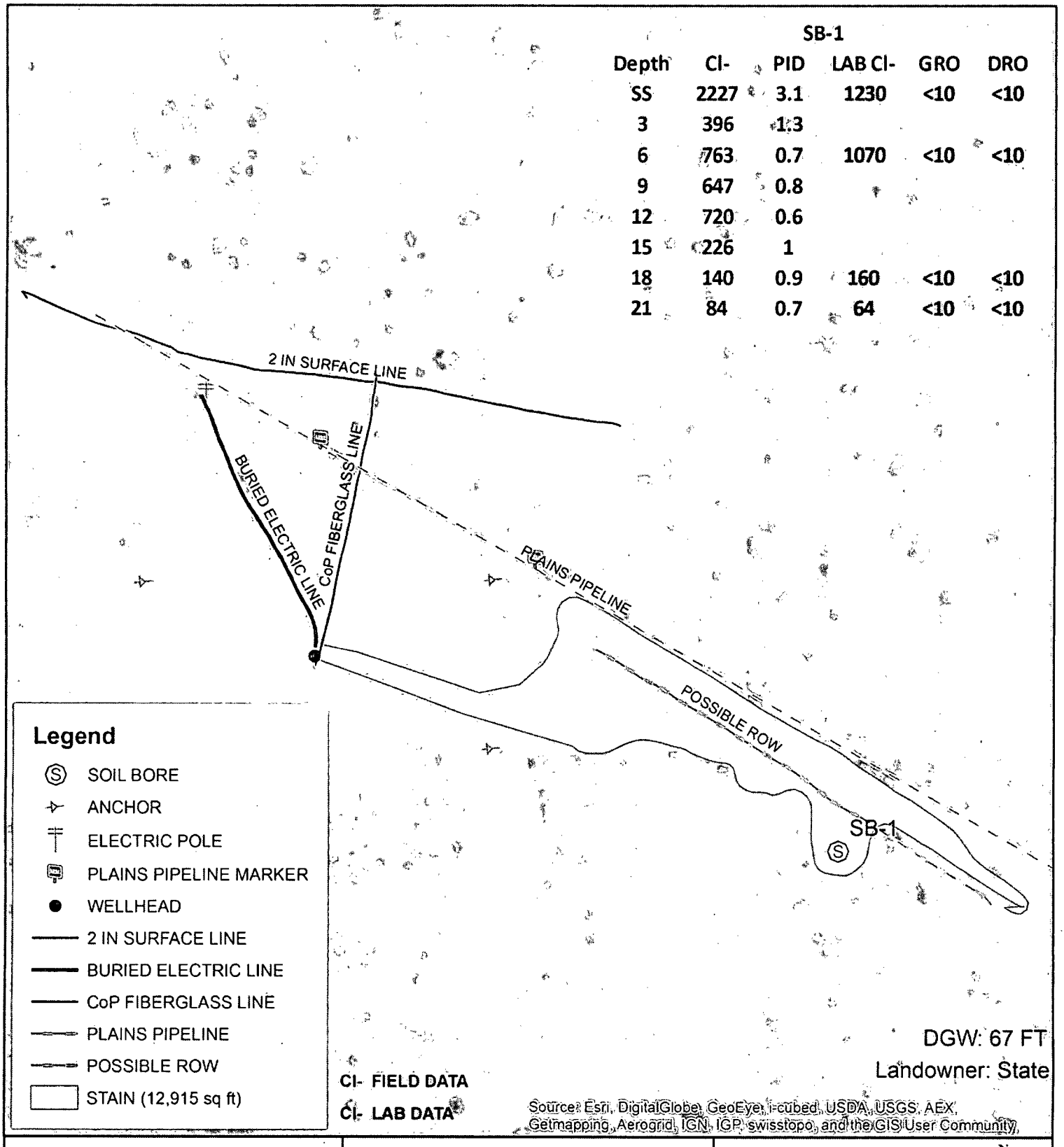
Figure 1

N W E S

0 50 100 Feet

GPS date: 11/5/13 KN
Drawing date: 11/14/13
Drafted by: L. Weinheimer

Soil Bore Installation



SB-1

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	2227	3.1	1230	<10	<10
3	396	1.3			
6	763	0.7	1070	<10	<10
9	647	0.8			
12	720	0.6			
15	226	1			
18	140	0.9	160	<10	<10
21	84	0.7	64	<10	<10

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

CONOCOPHILLIPS
EVGSAU 0546-002

LEGALS: UL/G&H sec. 5
T-18-S R-35-E
LEA COUNTY, NM

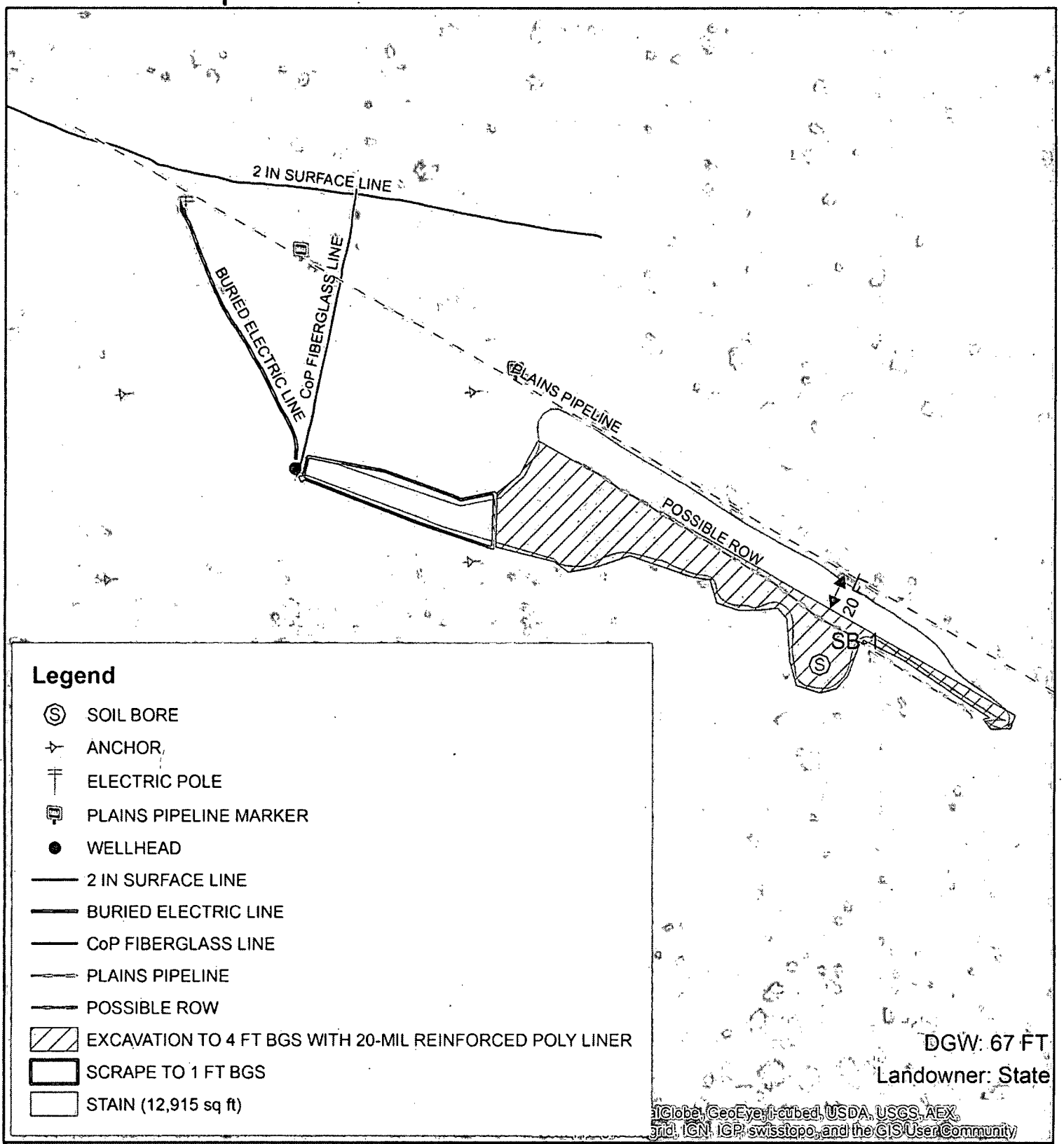
Figure 2

N W E S

0 40 80
Feet

GPS date: 11/26/13 KN
Drawing date: 12/6/13
Drafted by: L. Weinheimer

Proposed Excavations and Liner Installation



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

CONOCOPHILLIPS
EVGSAU 0546-002

LEGALS: UL/G&H sec. 5
T-18-S R-35-E
LEA COUNTY, NM

Figure 3

N
W E
S

0 40 80
Feet

GPS date: 11/26/13 KN
Drawing date: 12/16/13
Drafted by: L. Weinheimer

Appendix A
Initial C-141

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company ConocoPhillips Company	Contact John W. Gates
Address 3300 North A St. Bldg 6, Midland, TX 79705-5406	Telephone No. 505.391.3158
Facility Name EVGSAU 0546-002	Facility Type Oil and Gas

Surface Owner State Of New Mexico	Mineral Owner State Of New Mexico	Lease No 300252693200

LOCATION OF RELEASE

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

Latitude N 32 46.671 Longitude W 103 28.596

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 17bbl (0oil, 17water)	Volume Recovered (0oil, 0water)
Source of Release 1 inch well head steel injection line	Date and Hour of Occurrence 10/23/12 ~0430	Date and Hour of Discovery 10/23/12 0900
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.*
Hole in a 1 inch steel buried injection line due to suspected corrosion. Well was shut in and water turned off. Vacuum truck was called but by the time the truck arrived all fluids had soaked into the ground.

Describe Area Affected and Cleanup Action Taken.*
The affected area is a 400' X 45' X 1" area od caliche well pad and grassy pasture land. No fluids could be recovered. The spill site will be delineated/remediated in accordance with an agreement with NMOCD.

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: John W. Gates	OIL CONSERVATION DIVISION
Printed Name: John W. Gates	Approved by District Supervisor:
Title: HSER Lead	Approval Date: / Expiration Date:
E-mail Address: John.W.Gates@conocophillips.com	Conditions of Approval: / Attached ☐
Date: 10/24/12 Phone: 505.391.3158	

- Attach Additional Sheets If Necessary

Appendix B
Initial Sampling Lab

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 14, 2013

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: EVGSAU 0546-002

Enclosed are the results of analyses for samples received by the laboratory on 11/08/13 14:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/08/2013	Sampling Date:	11/05/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 1 SURFACE (H302736-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**18600**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	**10.1**	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*65.7 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*74.9 %*	*63.6-154*

Sample ID: PT. 2 SURFACE (H302736-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3200**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*90.6 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*103 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/08/2013	Sampling Date:	11/05/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 3 SURFACE (H302736-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**13600**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*91.1 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*102 %*	*63.6-154*

Sample ID: PT. 1 @ 6" (H302736-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10300**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*90.7 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*99.1 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/08/2013	Sampling Date:	11/08/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 1 @ 4' (H302736-05)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2080**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*98.2 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*104 %*	*63.6-154*

Sample ID: PT. 1 @ 13' (H302736-06)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*92.7 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*103 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/08/2013	Sampling Date:	11/08/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 1 @ 14' (H302736-07)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*96.5 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*106 %*	*63.6-154*

Sample ID: PT. 3 @ 1' (H302736-08)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5520**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/11/2013	ND	170	84.9	200	11.6	
DRO >C10-C28	<10.0	10.0	11/11/2013	ND	169	84.5	200	6.55	

Surrogate: 1-Chlorooctane	*80.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*94.4 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/08/2013	Sampling Date:	11/08/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 3 @ 11' (H302736-09)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1390**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

Surrogate: 1-Chlorooctane	*106 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*112 %*	*63.6-154*

Sample ID: PT. 3 @ 15' (H302736-10)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**944**	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

Surrogate: 1-Chlorooctane	*89.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*101 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

		BILL TO	
Company Name:	RECS	P.O. #:	
Project Manager:	Kyle Norman	Company:	
Address:		Attn:	
City: Hobbs	State: NM Zip: 88240	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	Conoco Phillips	Phone #:	
Project Location:	Eunice - 0546 - 002	Fax #:	
Sampler Name:	J Kamplain		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS					
H302736																									
1	Pit 1 surface	G	1			✓							11-5-13	1:50	✓	✓									
2	Pit 2 surface	G	1			✓							"	1:55	✓	✓									
3	Pit 3 surface	G	1			✓							"	1:50	✓	✓									
4	Pit 1 @ 6"	G	1			✓							11-8-13	9:00	✓	✓									
5	Pit 1 @ 4'	G	1			✓							"	9:10	✓	✓									
6	Pit 1 @ 13'	G	1			✓							"	9:15	✓	✓									
7	Pit 1 @ 14'	G	1			✓							"	9:20	✓	✓									
8	Pit 3 @ 1'	G	1			✓							"	10:10	✓	✓									
9	Pit 3 @ 11'	G	1			✓							"	10:15	✓	✓									
10	Pit 3 @ 15'	G	1			✓							"	10:20	✓	✓									

Relinquished By:	Date: 11-8-13	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 7:33		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results
	Time:		All

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Sample Condition: Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

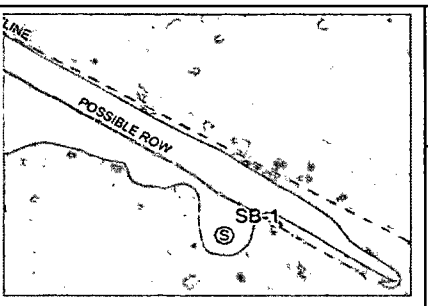
† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54

Appendix C

Soil Bore Installation Documentation

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

Logger:	Kyle Norman		**Project Name:** ConocoPhillps EVGSAU 0546-002 **Well ID:** SB-1
Driller:	White's Drilling		
Drilling Method:	Air Rotary		
Start Date:	11/26/2013		
End Date:	11/26/2013		

Comments: All samples were from cuttings.

DRAFTED BY: L. Weinheimer

TD = 21 ft GW = 67 ft

Location: UL/G sec. 5 T18S R35E

Lat: 32°46'39.234"N **Long:** 103°28'32.45"W **County**: Lea **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	2227	Cl- 1230	3.1	
		GRO <10		Caliche Sandstone Mix
		DRO <10		
3 ft	396		1.3	
6 ft	763	Cl- 1070	0.7	
		GRO <10		
		DRO <10		
9 ft	647		0.8	
12 ft	720		0.6	
15 ft	226		1	
18 ft	140	Cl- 160	0.9	
		GRO <10		
		DRO <10		
21 ft	84	Cl- 64	0.7	
		GRO <10		
		DRO <10		

Lithology

Well Construction: bentonite seal

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 05, 2013

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: EVGSAU 0546-002

Enclosed are the results of analyses for samples received by the laboratory on 11/26/13 13:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/26/2013	Sampling Date:	11/26/2013
Reported:	12/05/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 1 @ SURFACE (H302899-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1230**	16.0	12/04/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/27/2013	ND	205	102	200	10.5	
DRO >C10-C28	<10.0	10.0	11/27/2013	ND	202	101	200	13.7	

Surrogate: 1-Chlorooctane	*110 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*110 %*	*63.6-154*

Sample ID: SB 1 @ 6' (H302899-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1070**	16.0	12/04/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/27/2013	ND	205	102	200	10.5	
DRO >C10-C28	<10.0	10.0	11/27/2013	ND	202	101	200	13.7	

Surrogate: 1-Chlorooctane	*109 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*111 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	11/26/2013	Sampling Date:	11/26/2013
Reported:	12/05/2013	Sampling Type:	Soil
Project Name:	EVGSAU 0546-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 1 @ 18' (H302899-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	12/04/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/27/2013	ND	205	102	200	10.5	
DRO >C10-C28	<10.0	10.0	11/27/2013	ND	202	101	200	13.7	

Surrogate: 1-Chlorooctane	*111 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*109 %*	*63.6-154*

Sample ID: SB 1 @ 21' (H302899-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	12/04/2013	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/27/2013	ND	205	102	200	10.5	
DRO >C10-C28	<10.0	10.0	11/27/2013	ND	202	101	200	13.7	

Surrogate: 1-Chlorooctane	*105 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*103 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES

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101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

Company Name:	RECS	BILL TO	
Project Manager:	Hack Conder	P.O. #:	
Address:		Company:	
City:	Hobbs	State: NM Zip: 88240	Attn:
Phone #:		Fax #:	Address:
Project #:		Project Owner:	City:
Project Name:	Conoco Phillips		State: Zip:
Project Location:	EUGSAU 0546-002		Phone #:
Sampler Name:	Kyle Norman		Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS					
H3025899																									
1	SB1@ Surface	G	1			✓					✓		11-26-B	9:30	✓	✓									
2	SB1@ 6'	G	1			✓					✓		11	9:40	✓	✓									
3	SB1@ 18'	G	1			✓					✓		11	9:50	✓	✓									
4	SB1@ 21'	G	1			✓					✓		11	10:15	✓	✓									

Relinquished By:	Date: 11-26-13	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 1:30	Jodi Henson	Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		email results: zconder@rice-ecs.com Knorman@rice-ecs.com; lpena@riceswd.com Kjones@riceswd.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54

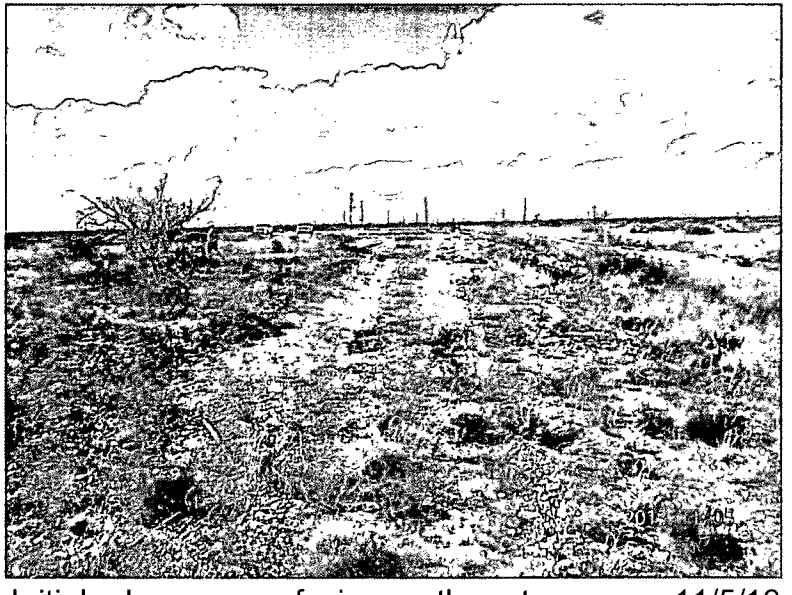
Appendix D
Photo Documentation

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

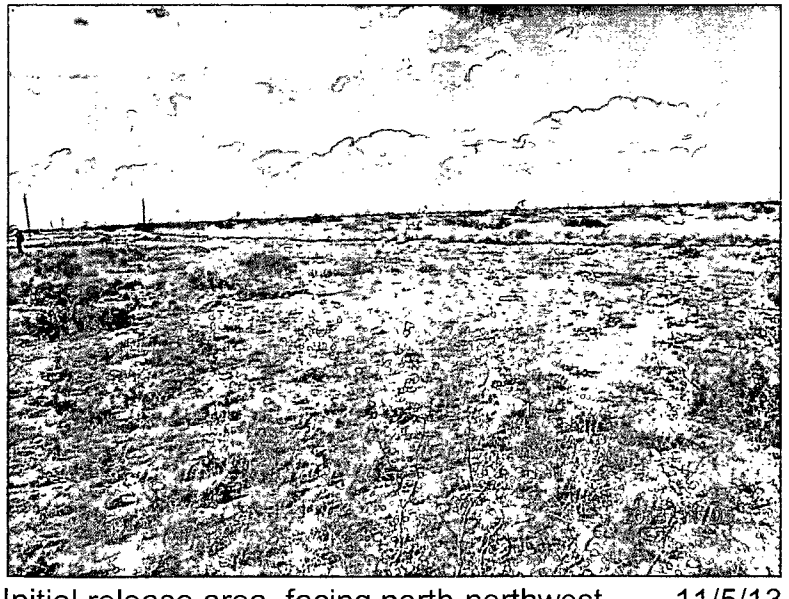
ConocoPhillips EVGSAU 0546-002

Unit Letter G&H, Section 5, T18S, R35E

Collecting surface sample, facing northwest 11/5/13

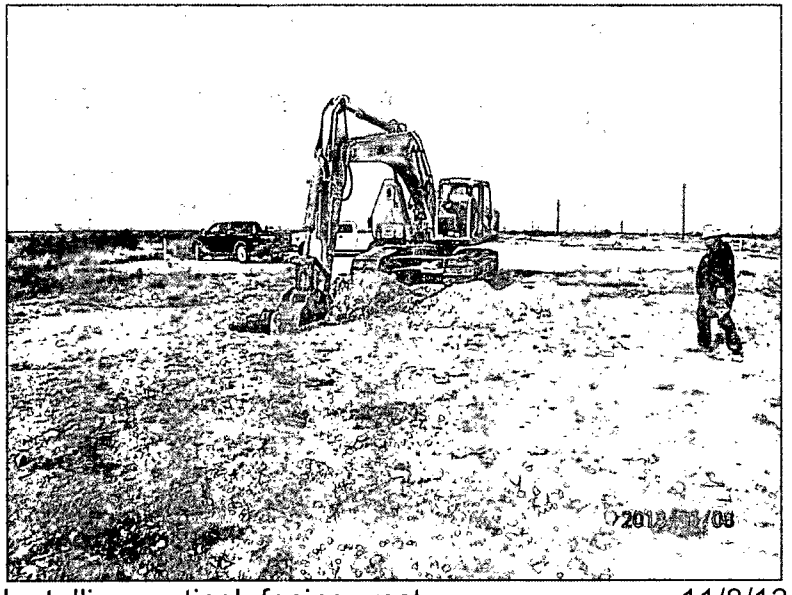


Initial release area, facing northwest 11/5/13

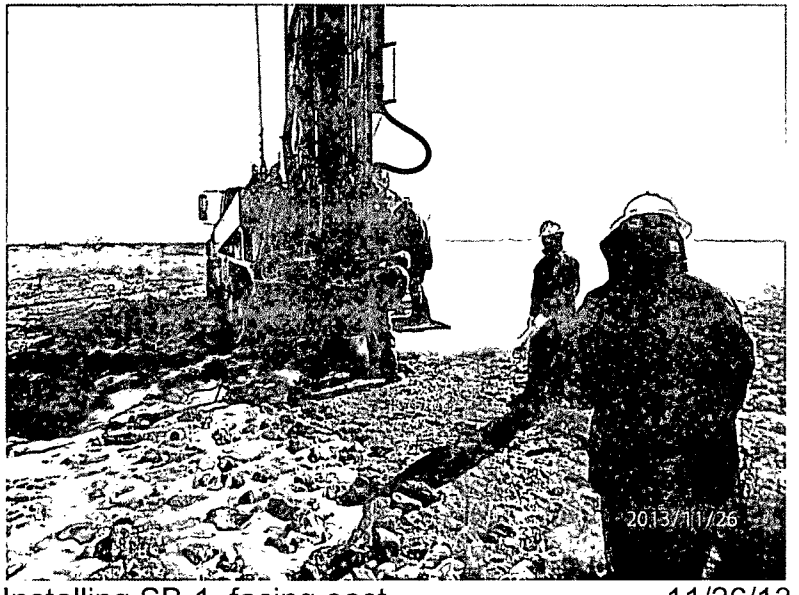


Initial release area, facing north-northwest 11/5/13

Initial site photo, facing east 11/5/13

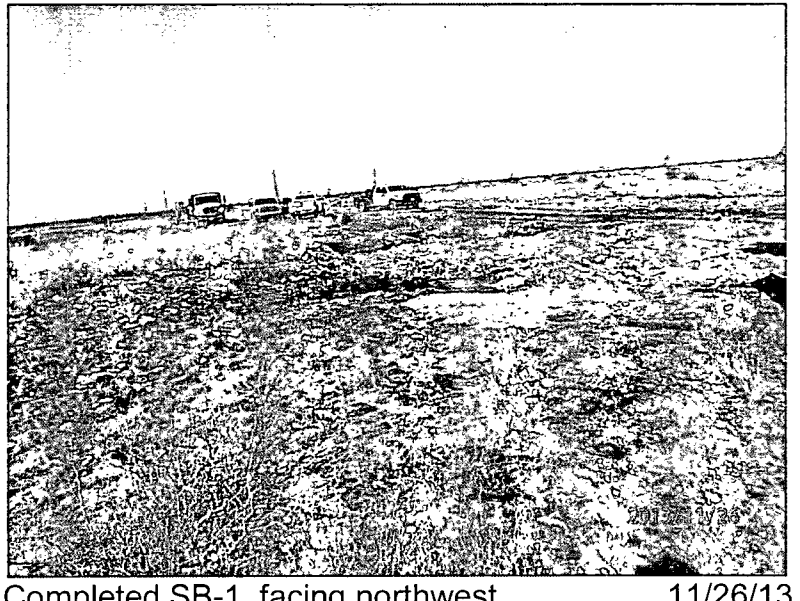


Installing vertical, facing west 11/8/13



Installing SB-1, facing east 11/26/13

Plugging SB-1 in total with bentonite, facing northwest
11/26/13



Completed SB-1, facing northwest 11/26/13