

**Devon Energy Production Co LP
Bilbrey 27A Federal 1**

Closure Report

**Unit Letter F, Section 27, T21S, R32E
Lea County, New Mexico**

30-025-31095

March 20, 2017



Prepared for:

**Devon Energy Production Co., LP
6488 Seven Rivers Hwy
Artesia, New Mexico 88211**

By:

**Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510**

TABLE OF CONTENTS

I. COMPANY CONTACTS.....	1
II. BACKGROUND.....	1
III. SURFACE AND GROUND WATER.....	1
IV. CHARACTERIZATION.....	1
V. WORK PERFORMED.....	2
VI. REQUEST FOR CLOSURE.....	3
VII. FIGURES & APPENDICES.....	3
Figure 1 – Vicinity Map.....	5
Figure 2 – Site Plan.....	6
Appendix A – C-141.....	9
Appendix B – Groundwater.....	19
Appendix C – Analytical Results.....	12
Appendix D – Photo Documentation.....	123

I. Company Contacts

Representative	Company	Telephone	E-mail
Brett Fulks	Devon Energy Prod.	575-748-1844	Brett.Fulks@dvn.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Devon Energy to perform site remediation on the Bilbrey 27 A Federal 1, concerning a forty five (45) bbl. release comprising of produced water. This site is situated in Eddy County, Section 27, Township 21S, and Range 32E.

According to the C-141: A water hauler backed into the water load line, broke the fiber glass collar, and 45 bbl. of produced water released from the water load line. The well was immediately shut in and all dump lines were closed going to the tank to prevent further release. The water released into an unlined bermed secondary containment. The approximate area affected was 25ft X 20ft within the bermed containment. All 45 bbl. of the produced water released remained in the bermed containment. None of the released fluid left location. A vacuum truck recovered approximately 40 bbl. of the released produced water. The trucking company contacted SESI to assess the area for remediation. The NMOCD and BLM were notified on February 15, 2016.

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of the site location. According to the New Mexico Office of the State Engineer records, the average depth to groundwater for the surrounding area is 200' bgs.

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	X
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			0

V. Work Performed

On November 7, 2016 SESI was onsite to photograph, observe, and map the spill area. Brett Fulks (Devon) was contacted to ask if release went outside the bermed area. Brett said there was no mention on the report that it went outside. Only the berm area was mapped. One call should be 150' all sides of the berm and fenced area.

On November 23, 2016, Jerry SESI is onsite at the Bilbrey 27A Fed.#1 to install auger holes to determine vertical extent of contamination. Auger hole one was installed to the depth of three feet and soil samples were obtained at surface, one, two and three feet. The samples were field tested for Chlorides, and the three foot sample result was less than 124 ppm. Auger hole two was installed to the depth of three feet and samples were obtained at surface, one, two, and three feet. Field test results for the three foot sample was less than 124 ppm. Auger hole three was installed to the depth of two foot, and samples were obtained at surface, one and two feet. Field test results were 192 ppm at one foot and less than 124 ppm at two feet. Auger hole four was installed on the south end of the location outside the berm to see if the release reached the berm. Field test results at one foot was less than 124 ppm. The auger hole locations were photographed and mapped using the Juno 3B. All soil samples were properly packaged, preserved and transported to Cardinal Laboratories, Hobbs New Mexico and analyzed for Chloride (Cl⁻) (Method SM 4500Cl-B). The results of the analysis are presented in the table below (Appendix C):

Soil Sample Results Cardinal Laboratories: 11/28/16	
Sample ID	Chloride (mg/kg)
AH-1 Surface	<16.0
AH-1 1'	272
AH-1 2'	896
AH-1 3'	96.0
AH-2 Surface	80.0
AH-2 1'	1150
AH-2 2'	384
AH-2 3'	80.0
AH-3 Surface	48.0
AH-3 1'	192
AH-3 2'	96.0

Between February 28, 2017 and March 1, 2017, Jerry SESI was onsite with Tex Mex Backhoe operator and three laborers to begin remediation of the release area. The area to be hand excavated was marked using white pin flags and instructions given to the laborers. The three laborers begin hand digging the release area and moving the spoils with a wheel barrow and dumping them into the bucket of the backhoe. The wind began to blow hard and very dusty. Field testing was not performed due to the wind and dust blowing away the equipment. Excavation continued another day inside the bermed area. The crew continues to hand dig the release area. Soil sampling and field testing of the excavation bottom and walls is performed. Field test results on all the obtained soil samples are under the 1000 ppm. All soil samples were properly packaged, preserved and transported to Cardinal Laboratories, Hobbs New Mexico and analyzed for Chloride (Cl⁻) (Method SM 4500Cl-B). The results of the analysis are presented in the table below

Devon Energy Bilbrey 27A Federal 1 Cardinal Laboratories Results: 3-6-2017								
SAMPLE ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO	TPH DRO
SP-1 Bottom 1'	<0.050	<0.050	<0.050	<0.150	<0.300	240	<10.0	<10.0
SP-2 West Wall	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	<10.0	<10.0
SP-3 East Wall	<0.050	<0.050	<0.050	<0.150	<0.300	48.0	<10.0	<10.0
SP-4 Bottom 1'	<0.050	<0.050	<0.050	<0.150	<0.300	464	<10.0	<10.0
SP-5 West Wall	<0.050	<0.050	<0.050	<0.150	<0.300	64.0	<10.0	<10.0
SP-6 Bottom 1'	<0.050	<0.050	<0.050	<0.150	<0.300	448	<10.0	<10.0
SP-7 North Wall	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	<10.0	<10.0
SP-8 Bottom 1'	<0.050	<0.050	<0.050	<0.150	<0.300	224	<10.0	<10.0
SP-9 East Wall	<0.050	<0.050	<0.050	<0.150	<0.300	96.0	<10.0	16.9
SP-10 West Wall	<0.050	<0.050	<0.050	<0.150	<0.300	48.0	<10.0	<10.0
SP-11 East Wall	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	<10.0	<10.0
SP-12 Bottom 1'	<0.050	<0.050	<0.050	<0.150	<0.300	208	<10.0	<10.0

VI. Request for Closure

The results of the confirmation sampling indicate that all soils impacted above 1000 ppm TPH and 1000 ppm Chlorides were removed and transported to an approved NMOCD facility for disposal. The area was backfilled with similar material and returned to grade. Devon Energy Production respectfully submits this closure report for your consideration, and requests that no further action be required.

VII. Figures & Appendices

- Figure 1 – Vicinity Map
- Figure 2 – Site Plan
- Appendix A – C-141
- Appendix B – Groundwater
- Appendix C – Analytical Results
- Appendix D – Photo Documentation

Figure 1
Vicinity Map

Bilbrey 27 A Federal #1

45 BBLs PW 2-15-16



This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Sarah
Map is current as of 02/15/2016



S27, T21S, R32E

45 BBLs PW



Figure 2
Site Plan



Bilbrey 27 A Federal #1

AH-1

AH-3

AH-2

AH-4

Survey

Google Earth

Imagery Date: 2/13/2014 32°27'05.12" N 103°39'52.28" W elev 3707 ft eye alt 4080 ft

1996

Appendix A

C-141

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

Form C-141
Revised August 8, 2011

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

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 Devon Energy Production Company	Contact Randall Gladden, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-513-9463
Facility Name Bilbrey 27 A Federal #1	Facility Type Gas

Surface Owner Federal	Mineral Owner Federal	API No 30-025-31095
------------------------------	------------------------------	----------------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	27	21S	32E	1980	North	1980	West	Lea

Latitude: N 32.4515839 **Longitude:** W 103.6647949

NATURE OF RELEASE

Type of Release Spill Produced water	Volume of Release 45 BBLS	Volume Recovered 40 BBLS
Source of Release Water load line	Date and Hour of Occurrence 2/15/2016 @ 4:06pm	Date and Hour of Discovery 2/15/2016 @ 4:06pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD-Mike Bratcher BLM-Jim Amos	
By Whom? Santiago (Jim) Huerta, Assistant Foreman	Date and Hour OCD- 2/15/2016 @ 4:35pm BLM- 2/15/2016 @ 4:30pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse N/A	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*

Water hauler backed into the water load line breaking the fiber glass collar resulting in a release from the water load line. The well was immediately shut in and all dump lines were closed going to the tank to prevent further release.

Describe Area Affected and Cleanup Action Taken.*

45 BBLS of produced water was released from the water load line into unlined bermed secondary containment. The approximate area affected was 25ft x 20ft within the bermed containment. All 45 BBLS produced water released remained in bermed containment. None of the released fluid left location. Vacuum truck recovered approximately 40 BBLS of the released produced water. The Trucking company has contacted an Environmental Agency for remediation.

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: <i>Sarah Gallegos-Troublefield</i>	OIL CONSERVATION DIVISION	
Printed Name: Sarah Gallegos-Troublefield	Approved by Environmental Specialist:	
Title: Field Admin Support	Approval Date:	Expiration Date:
E-mail Address: Sarah.Gallegos-Troublefield@dvn.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 2/17/2016 Phone: 575.748.1864		

* Attach Additional Sheets If Necessary

Appendix B

Groundwater



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced,
 O=orphaned,
 C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE)
 (quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 03151			ED	4	1	4	07	21S	32E	621119	3595526*	1352		
CP 00793			LE	1	1	2	01	21S	32E	628932	3598270*	1000		

Average Depth to Water: --
 Minimum Depth: --
 Maximum Depth: --

Record Count: 2

PLSS Search:

Township: 21S **Range:** 32E

*UTM location was derived from PLSS - see Help

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

Appendix C – Analytical Results

November 30, 2016

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: DEV-16-016

Enclosed are the results of analyses for samples received by the laboratory on 11/28/16 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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 accredited 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

Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	11/28/2016	Sampling Date:	11/23/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: AH-1 SURFACE (H602638-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-1 1' (H602638-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-1 2' (H602638-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-1 3' (H602638-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/29/2016	ND	416	104	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	11/28/2016	Sampling Date:	11/23/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: AH-2 SURFACE (H602638-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-2 1' (H602638-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1150	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-2 2' (H602638-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-2 3' (H602638-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-3 SURFACE (H602638-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/29/2016	ND	416	104	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	11/28/2016	Sampling Date:	11/23/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: AH-3 1' (H602638-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	11/29/2016	ND	416	104	400	0.00	

Sample ID: AH-3 2' (H602638-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/29/2016	ND	416	104	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

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
(575) 393-2326 FAX (575) 393-2476

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions
Project Manager: Bob Allen
Address: 703 East Clinton, PO Box 1613
City: Hobbs State: NM Zip: 88240
Phone #: 575 397-0510 Fax #: 575 393-4388

P.O. #: _____
Company: Same
Attn: _____
Address: _____
City: _____
State: _____ Zip: _____
Phone #: _____
Fax #: _____

Project #: DEV-16-016 Project Owner: _____
Project Name: _____
Project Location: _____

Sampler Name: _____
FOR LAB USE ONLY

Lab I.D. Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV	SAMPLING	DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H001638	AK-1	Surface	1								11/23	1010	Chloride	
	AK-1	1st	1									1015		
	AK-1	2nd	1									1030		
	AK-1	3rd	1									1050		
	AK-2	Surface	1									1110		
	AK-2	1st	1									1115		
	AK-2	2nd	1									1135		
	AK-2	3rd	1									1155		
	AK-3	Surface	1									1200		
	AK-3	1st	1									1113		
	AK-3	2nd	1									1120		

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *Son Jerry* Date: 11/23/16
Received By: *Spadic Henderson*

Relinquished By: _____ Date: _____
Received By: _____

Delivered By: (Circle One) UPS Bus Other: #75 4:30

Sample Condition: Intact Cool Yes No

CHECKED BY: *[Signature]*

Phone Result: Yes No Add'l Phone #: _____
Fax Result: Yes No Add'l Fax #: _____
REMARKS:



CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions
Project Manager: Bob Allen

P.O. #:

Company: Same

Address: 703 East Clinton, PO Box 1613
City: Hobbs State: NM Zip: 88240

Attn:

Phone #: 575 397-0510 Fax #: 575 393-4388

Address:

Project #: Project Owner:

City:

Project Name:

State:

Project Location:

Phone #:

Sampler Name:

Fax #:

FOR LAB USE ONLY

MATRIX

PRESERV

SAMPLING

Lab I.D. Sample I.D.

H1002638
11 AHT-3 255

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER
WASTEWATER
SOIL
OIL
SLUDGE

OTHER:
ACID/BASE:
ICE / COOL
OTHER:

DATE TIME
11/23 1745

X Chlorides

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:

Soss Jerry

Date: 11/28/00

Received By:

Medi Henderson

Date:

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

#75 4:30

Sample Condition
Cool Intact
Yes No

CHECKED BY:
(Initials)

Phone Result: Yes No
Fax Result: Yes No
Add'l Phone #:
Add'l Fax #:

REMARKS:



March 13, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: DEV-16-016

Enclosed are the results of analyses for samples received by the laboratory on 03/06/17 8:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 03/06/2017
 Reported: 03/13/2017
 Project Name: DEV-16-016
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/01/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP-1 BOTTOM 1' (H700558-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2017	ND	2.05	103	2.00	2.94	
Toluene*	<0.050	0.050	03/09/2017	ND	1.92	96.2	2.00	3.02	
Ethylbenzene*	<0.050	0.050	03/09/2017	ND	1.93	96.6	2.00	2.92	
Total Xylenes*	<0.150	0.150	03/09/2017	ND	5.54	92.3	6.00	2.99	
Total BTEX	<0.300	0.300	03/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	03/08/2017	ND	464	116	400	3.51	

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	03/08/2017	ND	195	97.7	200	1.17	
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43	

Surrogate: 1-Chlorooctane 96.9 % 25.1-158
Surrogate: 1-Chlorooctadecane 84.9 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/01/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-2 WEST WALL (H700558-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2017	ND	2.05	103	2.00	2.94	
Toluene*	<0.050	0.050	03/09/2017	ND	1.92	96.2	2.00	3.02	
Ethylbenzene*	<0.050	0.050	03/09/2017	ND	1.93	96.6	2.00	2.92	
Total Xylenes*	<0.150	0.150	03/09/2017	ND	5.54	92.3	6.00	2.99	
Total BTEX	<0.300	0.300	03/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/08/2017	ND	464	116	400	3.51	

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	03/08/2017	ND	195	97.7	200	1.17	
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43	

Surrogate: 1-Chlorooctane 91.3 % 25.1-158
Surrogate: 1-Chlorooctadecane 84.3 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/01/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-3 EAST WALL (H700558-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/09/2017	ND	2.05	103	2.00	2.94		
Toluene*	<0.050	0.050	03/09/2017	ND	1.92	96.2	2.00	3.02		
Ethylbenzene*	<0.050	0.050	03/09/2017	ND	1.93	96.6	2.00	2.92		
Total Xylenes*	<0.150	0.150	03/09/2017	ND	5.54	92.3	6.00	2.99		
Total BTEX	<0.300	0.300	03/09/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	03/08/2017	ND	448	112	400	0.00		

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	03/08/2017	ND	195	97.7	200	1.17		
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43		

Surrogate: 1-Chlorooctane 94.9 % 25.1-158

Surrogate: 1-Chlorooctadecane 81.2 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/01/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-4 BOTTOM 1' (H700558-04)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94		
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02		
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92		
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99		
Total BTEX	<0.300	0.300	03/10/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	03/08/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	03/08/2017	ND	195	97.7	200	1.17		
DRO >C10-C28	<50.0	50.0	03/08/2017	ND	205	102	200	4.43		

Surrogate: 1-Chlorooctane 83.3 % 25.1-158

Surrogate: 1-Chlorooctadecane 84.3 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/01/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-5 WEST WALL (H700558-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94		
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02		
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92		
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99		
Total BTEX	<0.300	0.300	03/10/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	03/08/2017	ND	448	112	400	0.00		

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	03/08/2017	ND	195	97.7	200	1.17		
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43		

Surrogate: 1-Chlorooctane 86.2 % 25.1-158

Surrogate: 1-Chlorooctadecane 78.7 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 03/06/2017
 Reported: 03/13/2017
 Project Name: DEV-16-016
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/03/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP-6 BOTTOM 1' (H700558-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94		
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02		
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92		
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99		
Total BTEX	<0.300	0.300	03/10/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	03/08/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	03/08/2017	ND	195	97.7	200	1.17		
DRO >C10-C28	<50.0	50.0	03/08/2017	ND	205	102	200	4.43		

Surrogate: 1-Chlorooctane 74.8 % 25.1-158

Surrogate: 1-Chlorooctadecane 77.9 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 03/06/2017
 Reported: 03/13/2017
 Project Name: DEV-16-016
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/03/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP-7 NORTH WALL (H700558-07)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94		
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02		
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92		
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99		
Total BTEX	<0.300	0.300	03/10/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/08/2017	ND	448	112	400	0.00		

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	03/08/2017	ND	195	97.7	200	1.17		
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43		

Surrogate: 1-Chlorooctane 83.5 % 25.1-158

Surrogate: 1-Chlorooctadecane 71.3 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 03/06/2017
 Reported: 03/13/2017
 Project Name: DEV-16-016
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/03/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP-8 BOTTOM 1' (H700558-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94	
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02	
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92	
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99	
Total BTEX	<0.300	0.300	03/10/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	03/08/2017	ND	448	112	400	0.00	

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	03/08/2017	ND	195	97.7	200	1.17	
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43	

Surrogate: 1-Chlorooctane 95.8 % 25.1-158

Surrogate: 1-Chlorooctadecane 84.0 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/03/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-9 EAST WALL (H700558-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94	
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02	
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92	
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99	
Total BTEX	<0.300	0.300	03/10/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	03/08/2017	ND	448	112	400	0.00	

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	03/08/2017	ND	195	97.7	200	1.17	
DRO >C10-C28	16.9	10.0	03/08/2017	ND	205	102	200	4.43	

Surrogate: 1-Chlorooctane 88.1 % 25.1-158
Surrogate: 1-Chlorooctadecane 82.8 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 03/06/2017
 Reported: 03/13/2017
 Project Name: DEV-16-016
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/03/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP-10 WEST WALL (H700558-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94	
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02	
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92	
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99	
Total BTEX	<0.300	0.300	03/10/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/08/2017	ND	448	112	400	0.00	

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	03/08/2017	ND	195	97.7	200	1.17	
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43	

Surrogate: 1-Chlorooctane 98.3 % 25.1-158

Surrogate: 1-Chlorooctadecane 87.3 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/03/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-11 EAST WALL (H700558-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94		
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02		
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92		
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99		
Total BTEX	<0.300	0.300	03/10/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/08/2017	ND	448	112	400	0.00		

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	03/08/2017	ND	195	97.7	200	1.17		
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43		

Surrogate: 1-Chlorooctane 94.3 % 25.1-158

Surrogate: 1-Chlorooctadecane 89.1 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	03/06/2017	Sampling Date:	03/03/2017
Reported:	03/13/2017	Sampling Type:	Soil
Project Name:	DEV-16-016	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP-12 BOTTOM 1' (H700558-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/10/2017	ND	2.05	103	2.00	2.94	
Toluene*	<0.050	0.050	03/10/2017	ND	1.92	96.2	2.00	3.02	
Ethylbenzene*	<0.050	0.050	03/10/2017	ND	1.93	96.6	2.00	2.92	
Total Xylenes*	<0.150	0.150	03/10/2017	ND	5.54	92.3	6.00	2.99	
Total BTEX	<0.300	0.300	03/10/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	03/08/2017	ND	448	112	400	0.00	

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	03/08/2017	ND	195	97.7	200	1.17	
DRO >C10-C28	<10.0	10.0	03/08/2017	ND	205	102	200	4.43	

Surrogate: 1-Chlorooctane 93.8 % 25.1-158
Surrogate: 1-Chlorooctadecane 75.3 % 26.8-170

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions
 Project Manager: Bob Allen
 Address: 703 East Clinton, PO Box 1613
 City: Hobbs State: NM Zip: 88240
 Phone #: 575 397-0510 Fax #: 575 393-4388
 Project #: DEV-16-016 Project Owner:
 Project Name:
 Project Location:
 Sampler Name:
 P.O. #: Company: Same
 Attn: Address:
 City: State: Zip:
 Phone #: Fax #:
 Matrix: GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER:
 Preserv: ACID/BASE, ICE / COOL, OTHER:
 Sampling:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	ANALYSIS
<u>H700558</u>	SP-1 BOTTOM LF	g	1	X			03/01	0900	TPH (8015)
	SP-2 WESTMAN	g	1	X			03/01	0920	BTEX
	SP-3 EASTMAN	g	1	X			03/01	1000	Chlordex
	SP-4 BOTTOM LF	g	1	X			03/01	1025	
	SP-5 WESTMAN	g	1	X			03/01	1025	
	SP-6 BOTTOM LF	g	1	X			03/03	0830	
	SP-7 NORTHWALL	g	1	X			03/03	0845	
	SP-8 BOTTOM LF	g	1	X			03/03	0905	
	SP-9 EASTMAN	g	1	X			03/03	1000	
	SP-10 WESTMAN	g	1	X			03/03	1035	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: gss Date: 03/06/17 Time: 0800
 Received By: Jamona Date: 03-17 Time: 8:40
 Delivered By: (Circle One) UPS Sample Condition: Intact
 Cooler: Yes No Yes No
 Checked By: JD (Initials)
 Phone Result: Yes No Add'l Phone #:
 Add'l Fax #: 70-445
 REMARKS:

Appendix D

Site Photographs

Billbrey 27A Federal Tank Battery

Photo Page



North end of the battery



Area South of the battery



Fitting on the tank



East side of the battery



West side of the battery

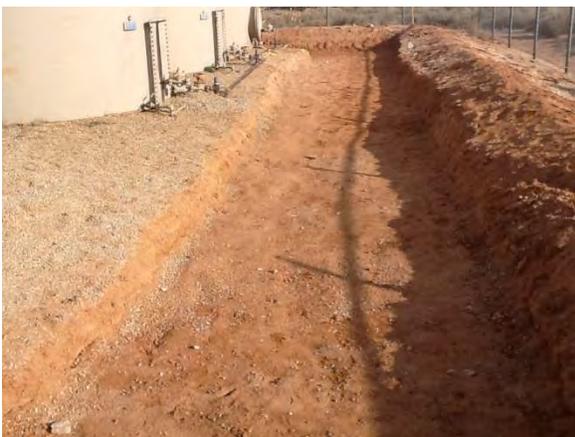


West side of the battery

Devon Energy Production

Bilbrey 27A Federal 1

Excavation Photos



Backfill Photos

