

# **Devon Energy Production Co LP**

**ORE IDA 14 Federal 1**

## **Delineation Report and Work Plan**

**Unit Letter D, Section 14, T24S, R29E  
Eddy County, New Mexico**

**30-015-28956**

**February 19, 2016**



**Prepared for:**

**Devon Energy Production Co., LP  
PO Box 250  
Artesia, New Mexico 88211**

**By:**

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

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**I. Company Contacts**

Representative	Company	Telephone	E-mail
Brett Fulks	Devon Energy Prod.	575-748-1844	<a href="mailto:Brett.Fulks@dvn.com">Brett.Fulks@dvn.com</a>
Bob Allen	SESI	575-397-0510	<a href="mailto:ballen@sesi-nm.com">ballen@sesi-nm.com</a>

**II. Background**

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Devon Energy to perform site delineation on the ORE IDA 14 Federal 1, concerning a Seventy Five (5) bbl. release comprising of produced water. This site is situated in Eddy County, Section 14, Township 24S, and Range 29E.

According to the C-141: A surface Polyline flowline was struck resulting in an approximate 5 Bbl release of produced water onto the lease road located to the east side of the ORE IDA 14 Federal 1. The line was shut in to prevent further impact. The line was exposed and fused back together. A vacuum truck was utilized to recover approximately 2 bbls of fluid. The spill area was mapped, using a Trimble Juno 3B. Whereby, the total area of impact was estimated to be 4,296 sq. ft. The NMOCD and BLM were notified on January 22, 2016 and the C-141 filed and stamped by the same on January 26, 2016 assigning this event number **2RP-3515** (Appendix A).

**III. Surface and Ground Water**

There is no record of groundwater in the immediate vicinity of the site location. According to the topography map for Eddy County the depth to ground water for Section 14, Township 24S, Range 29E is approximately 100' bgs. Further research of the New Mexico Office of the State Engineer records indicate the average depth to groundwater for the area to be 21' bgs. The approximate distance to surface water of the Pecos River is approximately 6,526'. Thereby, posing no eminent threat or danger to life forms in the area.

**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.

<b>Depth to Ground Water:</b>			
(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	<b>X</b>
<b>Wellhead Protection Area:</b>			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	<b>X</b>
	No	0 points	
<b>Distance to Surface Water:</b>			

(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	<b>X</b>
<b>RANKING SCORE (TOTAL POINTS)</b>			<b>20</b>

**V. Work Performed**

On January 29, 2016 SESI was onsite to photograph, assess and map the spill area. Auger holes were advanced at an attempt to determine vertical extent. The first auger hole was advanced on the north end of the leak. Auger hole two was advanced to 5' bgs., where auger refusal was encountered. Auger hole three was installed at the area where the fluid appeared to have settled causing the greatest impact, and auger refusal was encountered at 5' bgs.

SESI personnel returned to the site, together with personnel from Custom Welding of Hobbs, in order to complete the vertical delineation of the impacted area. Whereby, it was determined that two (2) Test Trenches should be excavated in order to properly ascertain the vertical extent of the impact. Representative soil samples were properly packaged, preserved and transported to Cardinal Laboratories, Hobbs New Mexico and analyzed for Chloride (Cl<sup>-</sup>) (Method SM 4500Cl-B). The results of the analysis are presented in the table below:

Sample Date 01/29/16	Depth	Chloride (mg/kg)
Sample ID		
AH-1	Surface	5840
AH-1	1'	144
AH-1	2'	176
TT-1	Surface	11900
TT-1	1'	720
TT-1	2'	1620
TT-1	3'	1880
TT-1	4'	976
TT-1	5'	480
TT-1	6'	704
TT-1	7'	352
TT-1	8'	32
TT-2	Surface	12700
TT-2	2'	4800
TT-2	4'	3080
TT-2	5'	1760
TT-2	6'	1010
TT-2	7'	736
TT-2	8'	400
TT-2	9'	336
TT-2	10'	32

**VI. Action Plan**

Due to the results listed above the following action plan is proposed:

Excavate impacted soil to a depth of 4' bgs., excluding the lease road area. Discrete samples will be taken from the sides and bottom of the excavation area. The representative soil samples will be taken to a commercial laboratory for final analysis and confirmation. The excavated area will be lined with 20 mil. Liner, backfilled, and seeded restoring the pasture area according to BLM guidelines.

Upon completion of all approved remediation activity; SESI will submit complete final closure documentation regarding this incident, on behalf of Devon Energy to all parties of concern.

**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**



Ore Ida 14 Federal #001  Ore Ida 14 Federal #001

© 2016 Google

Google earth

**Figure 2**  
**Site Plan**



Release Point Sample Point 2

Sample Point 3

© 2016 Google

Google earth

1997

Imagery Date: 2/13/2014 32°13'19.85" N 103°57'45.55" W elev 2939 ft eye alt 3249 ft

**Appendix A**  
**C-141**

**NM OIL CONSERVATION**

ARTESIA DISTRICT

Form C-141

Revised August 8, 2011

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

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

JAN 25 2016

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

**RECEIVED**

**Release Notification and Corrective Action**

*NAB1602635193*

**OPERATOR**

Initial Report  Final Report

<b>Name of Company</b> Devon Energy Production Company <i>6137</i>		<b>Contact</b> Wendell Barrett – Assistant Construction Foreman	
<b>Address</b> 6488 Seven Rivers Hwy Artesia, NM 88210		<b>Telephone No.</b> 505-529-1843	
<b>Facility Name</b> ORE IDA 14 Federal 1		<b>Facility Type</b> Oil Well	
<b>Surface Owner</b> Federal		<b>Mineral Owner</b> Federal	
		<b>API No</b> 3001528956	

**LOCATION OF RELEASE**

Unit Letter <b>D</b>	Section <b>14</b>	Township <b>24S</b>	Range <b>29E</b>	Feet from the <b>660</b>	North/South Line <b>N</b>	Feet from the <b>480</b>	East/West Line <b>W</b>	County <b>Eddy</b>
-------------------------	----------------------	------------------------	---------------------	-----------------------------	------------------------------	-----------------------------	----------------------------	-----------------------

Latitude: 32.22289

Longitude: 103.961726

**NATURE OF RELEASE**

<b>Type of Release</b> Produced Water	<b>Volume of Release</b> 5 BBLs	<b>Volume Recovered</b> 2BBLs
<b>Source of Release</b> Polyline - Flowline	<b>Date and Hour of Occurrence</b> 1/21/2016 9:30 A.M.	<b>Date and Hour of Discovery</b> 1/21/2016 9:30 A.M.
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> BLM: Jim Amos OCD: Mike Bratcher	
<b>By Whom?</b> Wendell Barrett – Assistant Construction Foreman	<b>Date and Hour</b> BLM: January 22, 2016 2:25 PM OCD: January 22, 2016 2:30 PM	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse</b> N/A	

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

**Describe Cause of Problem and Remedial Action Taken.\***  
Surface polyline/flowline was struck resulting in release. Line was shut off to prevent further release. The line was uncovered and fused back together.

**Describe Area Affected and Cleanup Action Taken.\***  
Approximately 5 BBLs of Produced water was released from surface polyline/flowline on the lease road on the east side of ORE IDA 14 Federal 1. Approximate size of the affected area is 10' x 10'. 2 BBLs produced water was recovered by Vacuum Truck. Environmental agency will be contacted 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>Nicole Wedman</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Nicole Wedman</b>	Signed By <i>Mike Bratcher</i>	
Title: <b>Field Admin Support</b>	Approved by Environmental Specialist:	
E-mail Address: <b>nicole.wedman@dvn.com</b>	Approval Date: <i>1/26/16</i>	Expiration Date: <i>N/A</i>
Date: <b>1/25/2016</b> Phone: <b>575.748.1820</b>	Conditions of Approval: <b>Remediation per O.C.D. Rules &amp; Guidelines</b> attached <input type="checkbox"/>	

**SUBMIT REMEDIATION PROPOSAL NO**  
**LATER THAN:** *2/2/16*

\* Attach Additional Sheets If Necessary

*2RP-5515*

# **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
<a href="#">C 00349</a>	C	CUB	ED	1	3	18	24S	29E		591401	3564773*	2734		
<a href="#">C 00381</a>	C	C	ED	3	2	3	07	24S	29E	591682	3566297*	2797		
<a href="#">C 00463</a>		C	ED	4	4	4	17	24S	29E	594332	3564282*	260	4	256
<a href="#">C 00856</a>			ED	1	2	4	30	24S	29E	592538	3561644*	380		
<a href="#">C 00857</a>			ED	3	1	4	30	24S	29E	592135	3561440*	306		
<a href="#">C 00862</a>			ED	1	2	4	30	24S	29E	592538	3561644*	155		
<a href="#">C 00863</a>			ED	3	3	1	16	24S	29E	594524	3565091*	220		
<a href="#">C 00863 CLW199506</a>	O		ED	3	3	1	16	24S	29E	594524	3565091*	220		
<a href="#">C 02713</a>		C	ED	4	4	1	16	24S	29E	591633	3565944	230	18	212
<a href="#">C 03615 POD1</a>		CUB	ED	1	3	2	06	24S	29E	591964	3568500	60	36	24
<a href="#">C 03615 POD2</a>		CUB	ED	4	2	4	06	24S	29E	592661	3568013	60	26	34

Average Depth to Water: **21 feet**  
Minimum Depth: **4 feet**  
Maximum Depth: **36 feet**

**Record Count:** 11

**Basin/County Search:**

**County:** Eddy

**PLSS Search:**

**Township:** 24S      **Range:** 29E

\*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**

February 08, 2016

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: DEVON OREIDA 14-1

Enclosed are the results of analyses for samples received by the laboratory on 02/05/16 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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](http://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: 02/05/2016  
 Reported: 02/08/2016  
 Project Name: DEVON OREIDA 14-1  
 Project Number: DEV-16-002  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 01/29/2016  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Celey D. Keene

**Sample ID: AH-1 SURFACE (H600261-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>5840</b>	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: AH-1 1FT (H600261-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>144</b>	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: AH-1 2FT (H600261-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>176</b>	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: TT-1 SURFACE (H600261-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>11900</b>	16.0	02/08/2016	ND	400	100	400	7.69	

Cardinal Laboratories

\* = Accredited Analyte

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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:	02/05/2016	Sampling Date:	02/04/2016
Reported:	02/08/2016	Sampling Type:	Soil
Project Name:	DEVON OREIDA 14-1	Sampling Condition:	** (See Notes)
Project Number:	DEV-16-002	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

**Sample ID: TT-1 1FT (H600261-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: TT-1 2FT (H600261-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1620	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: TT-1 3FT (H600261-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: TT-1 4FT (H600261-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: TT-1 5FT (H600261-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	02/08/2016	ND	400	100	400	7.69	

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\*=Accredited Analyte

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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:	02/05/2016	Sampling Date:	02/04/2016
Reported:	02/08/2016	Sampling Type:	Soil
Project Name:	DEVON OREIDA 14-1	Sampling Condition:	** (See Notes)
Project Number:	DEV-16-002	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

**Sample ID: TT-1 6FT (H600261-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>704</b>	16.0	02/08/2016	ND	400	100	400	7.69	

**Sample ID: TT-1 7FT (H600261-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>352</b>	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-1 8FT (H600261-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>32.0</b>	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 SURFACE (H600261-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>12700</b>	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 2FT (H600261-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>4800</b>	16.0	02/08/2016	ND	416	104	400	3.77	

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\*=Accredited Analyte

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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:	02/05/2016	Sampling Date:	02/04/2016
Reported:	02/08/2016	Sampling Type:	Soil
Project Name:	DEVON OREIDA 14-1	Sampling Condition:	** (See Notes)
Project Number:	DEV-16-002	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

**Sample ID: TT-2 4FT (H600261-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3080	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 5FT (H600261-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1760	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 6FT (H600261-17)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 7FT (H600261-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 8FT (H600261-19)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	02/08/2016	ND	416	104	400	3.77	

Cardinal Laboratories

\* = Accredited Analyte

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 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 02/05/2016  
 Reported: 02/08/2016  
 Project Name: DEVON OREIDA 14-1  
 Project Number: DEV-16-002  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 02/04/2016  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Celey D. Keene

**Sample ID: TT-2 9FT (H600261-20)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>336</b>	16.0	02/08/2016	ND	416	104	400	3.77	

**Sample ID: TT-2 10FT (H600261-21)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	02/08/2016	ND	416	104	400	3.77	

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

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# ARDINAL LABORATORIES, INC.

2111 Beechwood, Athens, TX 79803 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

### ANALYSIS REQUEST

### BILL TO

Company Name: SAFETY & ENVIRONMENTAL SOLUTIONS  
 Project Manager: P.O. #:  
 Address: 703 E. CLINTON, #102 Company: SAME  
 City: HOBBS State: NM Zip: 88240  
 Phone #: (505) 397-0510 Fax #: (505) 393-4388  
 Project #: DEV-16-002 Project Owner: DEVON  
 Project Name: DEIDA 14-1  
 Project Location: CDDY CO  
 Sampler Name: SOSE, JERRY  
 FOR LAB USE ONLY  
 Lab I.D. Sample I.D.  
 H600261-

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL			
01	AH-1 Surface	G	1	X							01/29/16	1000		
02	AH-1 1 FT	G	1	X							01/29/16	1045		
03	AH-1 2 FT	G	1	X							01/29/16	1055		
04	11-1 Surface	G	1	X							02/04/16	1125		
05	11-1 1 FT	G	1	X							02/04/16	1130		
06	11-1 2 FT	G	1	X							02/04/16	1145		
07	11-1 3 FT	G	1	X							02/04/16	1200		
08	11-1 4 FT	G	1	X							02/04/16	1215		
09	11-1 5 FT	G	1	X							02/04/16	1025		
10	11-1 6 FT	G	1	X							02/04/16	1055		

PLEASE NOTE: Laboratory and Designer, Cardinal's liability and client's franchise 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 other claims 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 analysis. In no event shall Cardinal be liable for liability or consequential damages, including without limitation, business interruption, loss of use, or loss of profits, incurred by client, its subsidiaries, affiliates or successors, liability or not, or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated provisions or otherwise.

Sampler Acquired By: [Signature] Date: 02/05/16  
 Sampler Relinquished By: [Signature] Date: 0800  
 Received By: [Signature]  
 Delivered By: (Circle One) Sample Condition: Temp. °C Inlet?  Yes  No  
 Sampler - UPS - Bus - Other: 7.6°C Checked By: [Signature] (Initials) CDE #54  
 Phone Result:  Yes  No  
 Fax Result:  Yes  No

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



# CARDINAL LABORATORIES, INC.

2111 Beachwood, Abilene, TX 79803 101 East Martland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 2

**Company Name:** SAFETY & ENVIRONMENTAL SOLUTIONS  
**Project Manager:** P.O. #:  
**Address:** 703 E. CLINTON, #102 Company: SAME  
**City:** HOBBS Altitude: 88240  
**Phone #:** (505) 397-0510 State: NM Zip: 88240  
**Project #:** DEV-16-002 Fax #: (505) 393-4388  
**Project Name:** DYEING 14-1 Project Owner: Devlon  
**Project Location:** CDDY Country  
**Sampler Name:** Bossa Jerry  
**FOR LAB USE ONLY**

Lab I.D.	Sample I.D.	(G)RAB OR (C)CMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	SIL	SLUDGE	OTHER :			
H00261-												
11	TT-1		1						02/04/16	1100		
12	TT-1		1						02/04/16	1130		
13	TT-2		1						02/04/16	1215		
14	TT-2		1						02/04/16	1230		
15	TT-2		1						02/04/16	1245		
16	TT-2		1						02/04/16	1300		
17	TT-2		1						02/04/16	1315		
18	TT-2		1						02/04/16	1330		
19	TT-2		1						02/04/16	1340		
20	TT-2		1						02/04/16	1400		

**PLEASE NOTE:** Laboratory and Client's signature (stamp) for any clean and/or non-hazardous material must be retained in contact with the sample and returned to the amount paid for the client for the analysis.  
 All data including most for negligence and any other cause whatsoever that is deemed to be the responsibility of the client must be retained in contact with the sample and returned to the amount paid for the client for the analysis.  
 It is the responsibility of the client to ensure that the sample is properly labeled and that the sample is properly stored and that the sample is properly handled and that the sample is properly analyzed and that the sample is properly reported.  
 It is the responsibility of the client to ensure that the sample is properly labeled and that the sample is properly stored and that the sample is properly handled and that the sample is properly analyzed and that the sample is properly reported.  
 It is the responsibility of the client to ensure that the sample is properly labeled and that the sample is properly stored and that the sample is properly handled and that the sample is properly analyzed and that the sample is properly reported.

**Sampler Requisitioned:** Date: 02/05/16 Time: 0900  
 Requisitioned By: [Signature]  
 Received By: [Signature]  
 Date: [Blank] Time: [Blank]

**Delivered By:** (Circle One)  
 Sampler - UPS - Bus - Other: [Blank]

**Sample Condition:** Temp. °C: 70°C  
 Yes  No  
 Yes  No  
 Checked By: [Signature] (Initials) Col #559

**Phone Result:**  Yes  No  
**Fax Result:**  Yes  No

**REMARKS:**

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



# **Appendix D**

## **Site Photographs**

**Devon Energy  
Ore IDA 14 Federal I  
30-015-28956**



Lease Rd



Leak Source Sample Point



Pasture Sample Point



Surface Chlorides



Test Trench



Test Trench restored to grade