

Devon Energy Production Co LP
Todd 36 State 1
Delineation Report and Work Plan

Unit Letter K, Section 36, T23S, R31E
Eddy County, New Mexico

30-015-20341

(Revised)

January 15, 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	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 delineation on the Todd 36 State 1, concerning a Seventy Five (75) bbl. release comprising of produced water. This site is situated in Eddy County, Section 36, Township 23S, and Range 31E.

According to the C-141: The lease operator noticed a hole approximately 5' from the bottom of the tank. The containment was overflowing onto the location. SB Transportation was dispatched to the location in order to vacuum the spill area. Approximately Fifty (50 bbl.) of fluid were removed.

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 36, Township 23S, Range 31E is approximately 300' bgs. Further research of the New Mexico Office of the State Engineer records indicate the average depth to groundwater for the area to be 232' bgs. 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.

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 October 12, 2015, SESI was onsite to photograph, assess and map the spill area.

SESI personnel visited the site to conduct a vertical and horizontal delineation of the impacted area. Whereby, it was determined that Two (2) sample point positions would be sufficient given the dynamics and outlay of the area. The Two Bore Holes were augured to depths of 6' and 7' bgs., respectively. Representative 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:

Sample Date 10/12/2015	Chloride (mg/kg)
Depth	
BH-1 1'	64.0
BH-1 3'	976
BH-1 4'	5200
BH-1 6'	672
BH-1 7'	480
BH-2 2'	1400
BH-2 4'	2560
BH-2 5'	3880
BH-2 6'	3680

On December 11, 2015 SESI personnel returned to the site with Custom Welding personnel for installation of two (2) test trenches. Representative soil samples were collected at 1' and 1.5' bgs., intervals respectively. Utilizing a backhoe, the test trenches were sampled to a depth of 15' bgs., whereby refusal was encountered. The following table represents the field analytical for Chloride soil constituents:

Sample Date 12/03/15	Chloride (mg/kg)
Depth	
TT-1 @ 1'	<124
TT-1 @ 2'	<124
TT-1 @ 3'	1948
TT-1 @ 4'	4244
TT-1 @ 5'	2276
TT-1 @ 6'	2472
TT-1 @ 7.5'	1364
TT-1 @ 9.5'	880
TT-1 @ 11.5'	748
TT-1 @ 12.5'	632
TT-2 @ 1'	<124

VI. Action Plan

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

Excavate and remove 2' bgs., of the impacted soils and transport to an approved NMOCD facility for disposal. Composite 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 with material similar to that removed, returned to grade and esthetically restore the area.

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

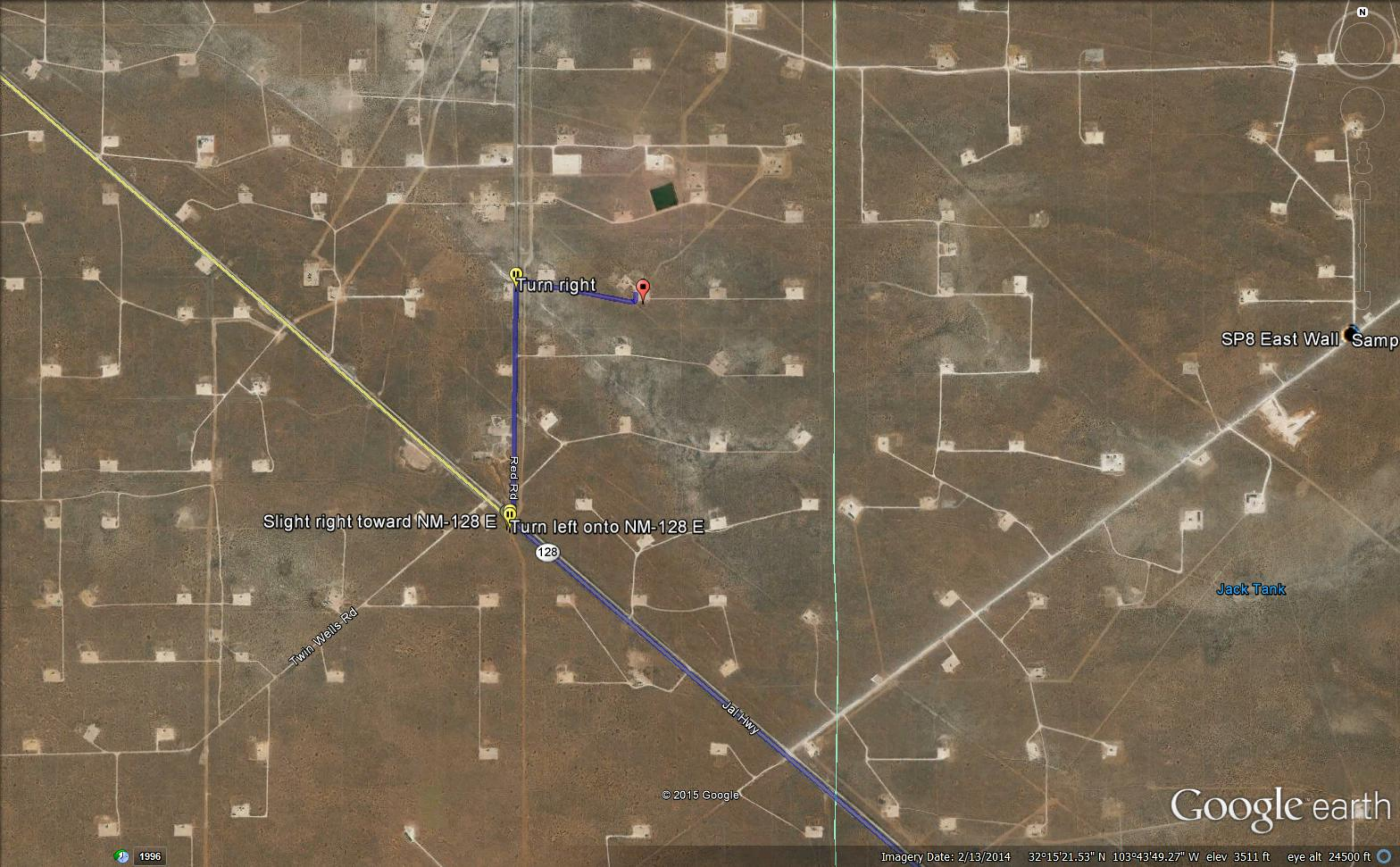
Figure 2 – Site Plan

Appendix A – C-141

Appendix B – Photographs

Appendix C – Analytical Results

Figure 1 Vicinity Map



Turn right

SP8 East Wall Samp

Slight right toward NM-128 E

Turn left onto NM-128 E

128

Twin Wells Rd

Red Rd

Jal Hwy

Jack Tank

© 2015 Google

Google earth

1996

Imagery Date: 2/13/2014 32°15'21.53" N 103°43'49.27" W elev 3511 ft eye alt 24500 ft

**Figure 2
Site Plan**



© 2015 Google

Google earth



Imagery Date: 2/13/2014 32°15'45.48" N 103°44'00.99" W elev 3512 ft eye alt 4265 ft

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy	Contact Kevin Phillips
Address PO Box 250 Artesia, NM 88211	Telephone No. 575- 748-3371
Facility Name Todd 36 1	Facility Type SWD

Surface Owner State	Mineral Owner State	API No. 30-015-20341
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LOCATION OF RELEASE

Unit Letter K	Section 36	Township 23S	Range 31E	Feet from the 1980	North/South Line WEST	Feet from the 1980	East/West Line NORTH	County EDDY
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Latitude: 32.2626871870239 Longitude: 103.733599857938

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 75 BBL	Volume Recovered 50 BBL
Source of Release Water tank leak	Date and Hour of Occurrence 1/21/15 2:00PM	Date and Hour of Discovery 1/21/15 2:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM- Jeff Robertson OCD- Mike Bratcher	
By Whom? Kevin Phillips	Date and Hour 1/22/15 10:15 PM BLM 1/22/15 1:00 PM OCD	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Hole in water tank.

Describe Area Affected and Cleanup Action Taken.*
Lease operator noticed a hole about 5' from the bottom of the tank. The containment was full and overflowing onto the location. 75 BBL total spill with 50 BBL recovered. Called SB Transportation for a vacuum truck to pick up water. Planning the cleanup with Enviro Clean.

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>Jeanette Barron</i>	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Jeanette Barron			
Title: Field Admin Support	Approved by Environmental Specialist:	Approval Date:	
E-mail Address: Jeanette.barron@dmn.com	Conditions of Approval:	Expiration Date:	
Date: 1.23.15 Phone: 575-748-1813		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

Appendix B

Site Photographs

Devon Energy
Todd 36 State 1
API 30-015-20341



Sign marking location 10-14-15



Looking Northeast



Appendix C – Analytical Results

October 16, 2015

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: TODD 36 STATE-01

Enclosed are the results of analyses for samples received by the laboratory on 10/13/15 8:00.

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 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: 10/13/2015
 Reported: 10/16/2015
 Project Name: TODD 36 STATE-01
 Project Number: DEV-15-002
 Project Location: LEA COUNTY

 Sampling Date: 10/12/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH-1 1' (H502672-01)

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	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-1 3' (H502672-02)

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	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-1 4' (H502672-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-1 6' (H502672-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	10/14/2015	ND	416	104	400	3.77	

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: 10/13/2015
 Reported: 10/16/2015
 Project Name: TODD 36 STATE-01
 Project Number: DEV-15-002
 Project Location: LEA COUNTY

Sampling Date: 10/12/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH-1 7' (H502672-05)

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	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-2 2' (H502672-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1400	16.0	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-2 3' (H502672-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-2 4' (H502672-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	10/14/2015	ND	416	104	400	3.77	

Sample ID: BH-2 5' (H502672-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3880	16.0	10/14/2015	ND	416	104	400	3.77	

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Received: 10/13/2015
Reported: 10/16/2015
Project Name: TODD 36 STATE-01
Project Number: DEV-15-002
Project Location: LEA COUNTY

Sampling Date: 10/12/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BH-2 6' (H502672-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3680	16.0	10/14/2015	ND	416	104	400	3.77		

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*=Accredited Analyte

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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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