



January 18, 2016

Mr. Mike Bratcher  
NMOCD District 2  
811 S. 1<sup>st</sup> Street  
Artesia, NM 88210

AMARILLO  
921 North Bivins  
Amarillo, Texas 79107  
Phone 806.467.0607  
Fax 806.467.0622

ARTESIA  
408 West Texas Ave.  
Artesia, New Mexico 88210  
Phone 575.746.8768  
Fax 575.746.8905

HOBBS  
318 East Taylor Street  
Hobbs, New Mexico 88240  
Phone 575.393.4261  
Fax 575.393.4658

MIDLAND  
2901 State Hwy 349  
Midland, Texas 79706  
Phone 432.522.2133  
Fax 432.522.2180

OKLAHOMA CITY  
7700 North Hudson Avenue  
Suite 10  
Oklahoma City, Oklahoma 73116  
Phone 405.486.7030  
Fax 806.467.0622

SAN ANTONIO  
11 Commercial Place  
Schertz, Texas 78154  
Phone 210.265.8025  
Fax 210.568.2191

Subject: **Soil Assessment and Remediation Work Plan**  
Devon Energy Corporation  
Ross Ranch 10 Federal #001 SWD  
API # 30-015-29605 2RP-3427

Dear Mr. Bratcher,

Devon Energy Corporation (Devon) has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

#### **Incident Date**

November 24, 2015

#### **Background Information**

The Devon Ross Ranch 10 Federal #1 SWD is located approximately forty-eight miles west of Jal, New Mexico. The legal location for this site is Unit Letter H, Section 10, Township 26 South and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for this release are 32.0592 North and -103.53247699 West. See site plan in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of Tonuco fine sand. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is comprised of the Ogallala Formation. Drainage courses in this area are normally dry. Ground water in the project vicinity is approximately 330-feet below ground surface (bgs) according to the New Mexico Office of the State Engineer. See [Appendix II](#) for the referenced groundwater data.

The ranking for this site is 0 based on the following:

Depth to ground water	>100'
Wellhead protection area	>1000'
Distance to surface water body	>1000'

ENVIRONMENTAL CONSULTING  
ENGINEERING  
DRILLING  
CONSTRUCTION  
SPILL MANAGEMENT  
GENERAL CONTRACTING

## Incident Description

The stainless steel fitting on the SWD pump leaked at the connection to the ball valve failed causing 10 barrels of produced water to be released. A vac truck was immediately called to location and recovered 8 barrels of fluids. All the valves on the steel line connected to the pump were immediately closed to prevent any more water from being released. The fitting on the pump was repaired and put back into service.

Talon mobilized personnel to perform an initial site assessment and soil sampling within the impacted area utilizing a hand auger.

## Laboratory Results

See [Appendix III](#) for complete report of laboratory results.

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	<0.300	816	<10	<10
	1'	<0.300	416	<10	<10
	2'	<0.300	544	<10	<10
S-2	0'	<0.300	1580	<10	<10
	1'	<0.300	256	<10	<10
	2'	<0.300	448	<10	<10

Based upon the site ranking of 0, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, and 5,000 mg/kg for TPH.

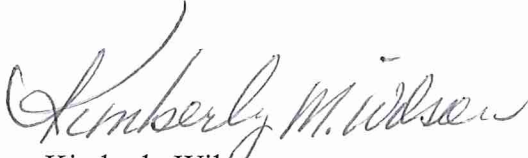
## Proposed Remedial Actions

- The impacted area in the vicinity of sample location S-2 will be excavated to a depth of 0.5-feet.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavated area will be backfilled with clean caliche and contoured to match the surrounding location.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768.

Respectfully submitted,

TALON/LPE

A handwritten signature in cursive script, appearing to read "Kimberly M. Wilson".

Kimberly Wilson  
Project Manager

A handwritten signature in cursive script, appearing to read "David J. Adkins".

David J. Adkins  
District Manager

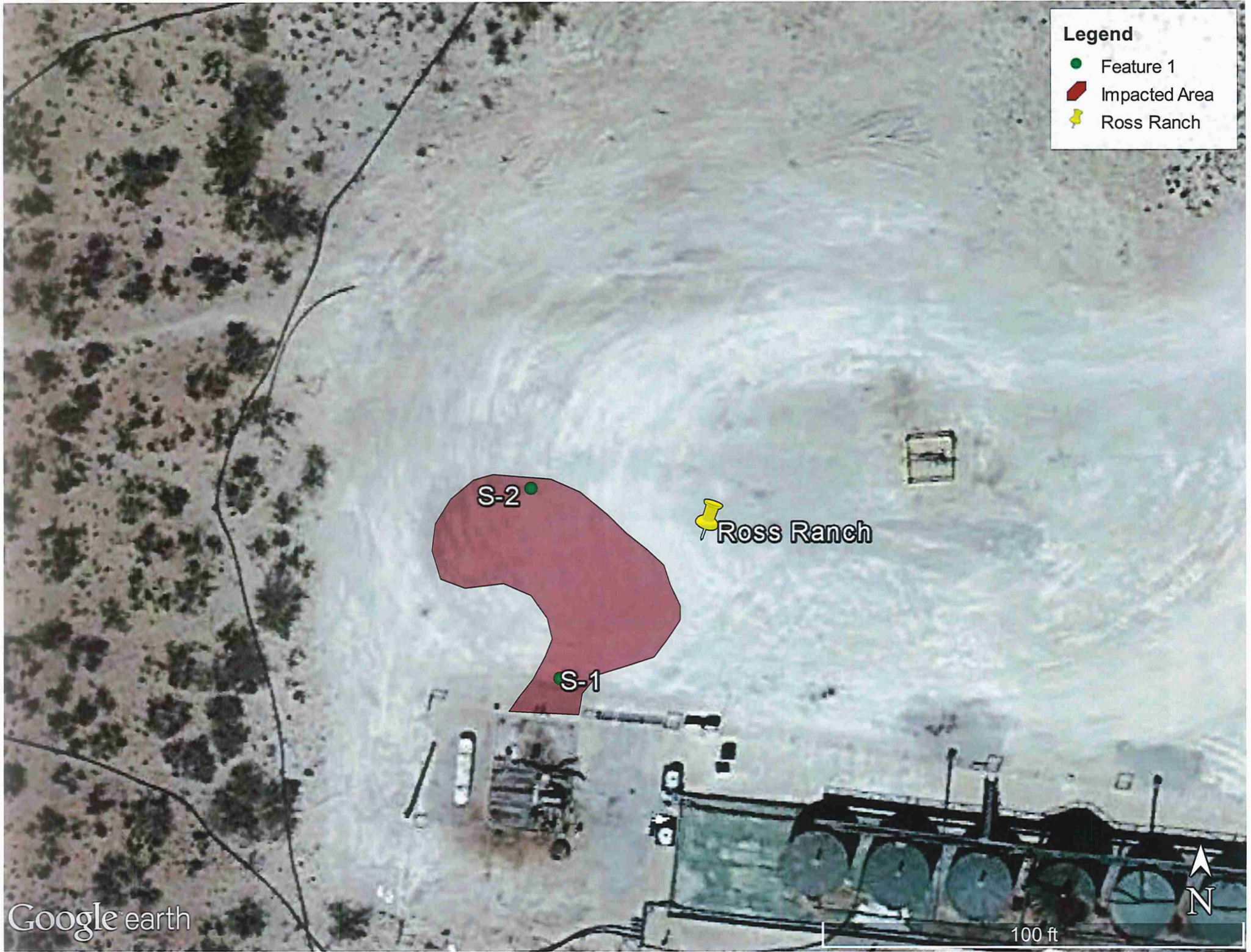
## **APPENDIX I**

### **SITE MAP**



**Legend**

- Feature 1
- Impacted Area
- 📌 Ross Ranch





# Ross Ranch 10 Fed 1 SWD

10bbl produced water release



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: Sheila Fisher

Map is current as of: 01-Dec-2015



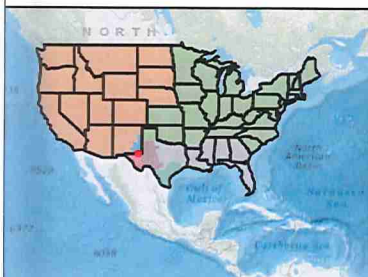
Miles

0 0.01 0.02 0.04 1:1,779

Ross Ranch 10 Fed 1 SWD

10bbl produced water release

S10 T26S R31E





**APPENDIX II**  
**GROUNDWATER DATA**  
**INITIAL C-141**



# 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	Distance	Depth Well	Depth Water	Water Column
<a href="#">C 02090</a>		ED		4	4	01	26S	31E		620329	3548533*	3189	350	335	15
<a href="#">C 03639 POD1</a>	CUB	ED		3	4	2	01	26S	31E	620168	3549279	3250	700	365	335
<a href="#">C 03554 POD1</a>	CUB	ED		2	1	4	01	26S	31E	620547	3549148	3556	630	300	330
<a href="#">C 03829 POD1</a>	CUB	LE		3	3	1	06	26S	32E	620628	3549186	3645	646	350	296
<a href="#">C 01777</a>	C	ED					08	26S	31E	613245	3547409*	3984	325	300	25

Average Depth to Water: **330 feet**

Minimum Depth: **300 feet**

Maximum Depth: **365 feet**

Record Count: 5

UTMNAD83 Radius Search (in meters):

Easting (X): 617188

Northing (Y): 3547981

Radius: 4000

\*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.



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 Production **Contact** Garry Michael, Production Foreman

**Address** 6488 Seven Rivers Hwy Artesia, NM 88220 **Telephone No.** 575-513-4895

**Facility Name** Ross Ranch 10 Fed 1 SWD **Facility Type** SWD

**Surface Owner** Federal **Mineral Owner** Federal **API No.** 30-015-29605

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	10	26S	31E	1980	North	660	East	Eddy

Latitude: 32.059235486

Longitude: -103.75905787

NATURE OF RELEASE

<b>Type of Release</b> Produced Water Release	<b>Volume of Release</b> 10bbls	<b>Volume Recovered</b> 8bbls
<b>Source of Release</b> Disposal Pump	<b>Date and Hour of Occurrence</b> November 24, 2015 1:46 PM	<b>Date and Hour of Discovery</b> November 24, 2015 1:46 PM
<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> Heather Patterson, OCD Jim Amos, BLM	
<b>By Whom?</b> David Washington, Assistant Production Foreman	<b>Date and Hour</b> Heather Patterson, OCD November 24, 2015 1:05 PM Jim Amos, BLM November 24, 2015 1:35 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

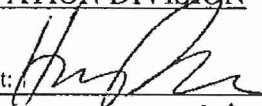
**Describe Cause of Problem and Remedial Action Taken.\***

A stainless steel fitting on the salt water disposal pump leaked at the connection to the ball valve releasing approximately 10bbls produced water. All valves on the stainless steel line connected to the pump were immediately closed to stop the release. The stainless steel fitting on the salt water disposal pump has been repaired.

**Describe Area Affected and Cleanup Action Taken.\***

The spill was approximately 10'x15' area located on the Southwest corner of the location next to the salt water disposal pump. 10bbls produced water was released and 8bbls were recovered with no fluid leaving location. 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.

<b>Signature:</b> Sheila Fisher	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Sheila Fisher	<b>Approved by Environmental Specialist:</b> 	
<b>Title:</b> Field Admin Support	<b>Approval Date:</b> 12/3/15	<b>Expiration Date:</b> N/A
<b>E-mail Address:</b> Sheila.Fisher@dvn.com	<b>Conditions of Approval:</b>	
<b>Date:</b> 12/1/15 <b>Phone:</b> 575.748.1829	<b>Remediation per O.C.D. Rules &amp; Guidelines</b> <b>SUBMIT REMEDIATION PROPOSAL NO</b> <b>LATER THAN:</b> 1/3/16	

\* Attach Additional Sheets If Necessary

DEC 02 2015

RECEIVED

2RP-3427

**APPENDIX III**  
**LABORATORY RESULTS**

December 15, 2015

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: ROSS RANCH #10 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 12/09/15 12:35.

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](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:**

 TALON LPE  
 KIMBERLY WILSON  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

Received:	12/09/2015	Sampling Date:	12/03/2015
Reported:	12/15/2015	Sampling Type:	Soil
Project Name:	ROSS RANCH #10 FED #1	Sampling Condition:	Cool & Intact
Project Number:	700794.179.01	Sample Received By:	Judy Garcia
Project Location:	LEA CTY		

**Sample ID: S-1 0' (H503209-01)**

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	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	816	16.0	12/11/2015	ND	448	112	400	3.64	

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	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	<10.0	10.0	12/11/2015	ND	195	97.6	200	0.747	

Surrogate: 1-Chlorooctane 90.5 % 35-147

Surrogate: 1-Chlorooctadecane 88.5 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 TALON LPE  
 KIMBERLY WILSON  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

 Received: 12/09/2015  
 Reported: 12/15/2015  
 Project Name: ROSS RANCH #10 FED #1  
 Project Number: 700794.179.01  
 Project Location: LEA CTY

 Sampling Date: 12/03/2015  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Judy Garcia

**Sample ID: S-1 1' (H503209-02)**

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	12/14/2015	ND	1.72	86.0	2.00	4.13		
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57		
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41		
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82		
Total BTEX	<0.300	0.300	12/14/2015	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	12/11/2015	ND	448	112	400	3.64		

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	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	<10.0	10.0	12/11/2015	ND	195	97.6	200	0.747	


Surrogate: 1-Chlorooctane 97.1 % 35-147

Surrogate: 1-Chlorooctadecane 97.4 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

TALON LPE  
KIMBERLY WILSON  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	12/09/2015	Sampling Date:	12/03/2015
Reported:	12/15/2015	Sampling Type:	Soil
Project Name:	ROSS RANCH #10 FED #1	Sampling Condition:	Cool & Intact
Project Number:	700794.179.01	Sample Received By:	Judy Garcia
Project Location:	LEA CTY		

**Sample ID: S-1 2' (H503209-03)**

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	12/14/2015	ND	1.72	86.0	2.00	4.13		
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57		
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41		
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82		
Total BTEX	<0.300	0.300	12/14/2015	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	12/11/2015	ND	448	112	400	3.64		

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	12/14/2015	ND	203	101	200	3.17	
DRO >C10-C28	<10.0	10.0	12/14/2015	ND	199	99.5	200	5.34	

Surrogate: 1-Chlorooctane 89.2 % 35-147

Surrogate: 1-Chlorooctadecane 92.3 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

TALON LPE  
KIMBERLY WILSON  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 12/09/2015  
Reported: 12/15/2015  
Project Name: ROSS RANCH #10 FED #1  
Project Number: 700794.179.01  
Project Location: LEA CTY

Sampling Date: 12/03/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Judy Garcia

**Sample ID: S-2 0' (H503209-04)**

BTX 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	12/14/2015	ND	1.72	86.0	2.00	4.13		
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57		
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41		
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82		
Total BTX	<0.300	0.300	12/14/2015	ND						

Surrogate: 4-Bromofluorobenzene (PIB) 105 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1580	16.0	12/11/2015	ND	448	112	400	3.64		

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	12/14/2015	ND	203	101	200	3.17		
DRO >C10-C28	<10.0	10.0	12/14/2015	ND	199	99.5	200	5.34		


Surrogate: 1-Chlorooctane 94.6 % 35-147

Surrogate: 1-Chlorooctadecane 97.9 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 TALON LPE  
 KIMBERLY WILSON  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

 Received: 12/09/2015  
 Reported: 12/15/2015  
 Project Name: ROSS RANCH #10 FED #1  
 Project Number: 700794.179.01  
 Project Location: LEA CTY

 Sampling Date: 12/03/2015  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Judy Garcia

**Sample ID: S-2 1' (H503209-05)**

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	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/11/2015	ND	448	112	400	3.64	

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	12/14/2015	ND	203	101	200	3.17	
DRO >C10-C28	<10.0	10.0	12/14/2015	ND	199	99.5	200	5.34	

Surrogate: 1-Chlorooctane 93.6 % 35-147

Surrogate: 1-Chlorooctadecane 95.8 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

TALON LPE  
KIMBERLY WILSON  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 12/09/2015  
Reported: 12/15/2015  
Project Name: ROSS RANCH #10 FED #1  
Project Number: 700794.179.01  
Project Location: LEA CTY

Sampling Date: 12/03/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Judy Garcia

**Sample ID: S-2 2' (H503209-06)**

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	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	12/11/2015	ND	448	112	400	3.64	

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	12/14/2015	ND	203	101	200	3.17	
DRO >C10-C28	<10.0	10.0	12/14/2015	ND	199	99.5	200	5.34	

Surrogate: 1-Chlorooctane 90.4 % 35-147

Surrogate: 1-Chlorooctadecane 90.4 % 28-171

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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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Celey D. Keene, Lab Director/Quality Manager



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† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2826