



June 26, 2014

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  
13111 Lookout Way  
San Antonio, Texas 78233  
Phone 210.265.8025  
Fax 210.568.2191

Subject: **Soil Assessment and Remediation Work Plan**  
Cimarex Energy  
Arkansas 23 Fee #3  
30-015-40192

Dear Mr. Bratcher

Cimarex Energy (Cimarex) 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.

### **Background Information**

The Arkansas 23 Fee #3 is located approximately 17 miles south of Artesia, New Mexico. The legal location for this site is Unit Letter H, Section 23, Township 19 South, and Range 35 East. More specifically the latitude and longitude for the release are 32.64745 North and -104.46072 West. A site plan is presented 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 the Reagan-Upton association with 0 to 9 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is comprised of Holocene to lower Pleistocene piedmont alluvial deposits. Drainage courses in this area are normally dry. Groundwater in the project vicinity is approximately 80-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 **10** 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

Toll Free: 866.742.0742  
[www.talonlpe.com](http://www.talonlpe.com)

## Incident Description

A buried flow line leaked due to corrosion and released approximately 25bbls of oil and 90bbls of produced water. All of the fluid was contained to the location. Approximately 10bbls of oil and 80bbls of produced water were recovered. The steel flow line was excavated and replaced with a poly flow line. Talon mobilized personnel to conduct a site assessment and soil sampling of the flow line trench and the surrounding location. The results of or soil sampling activities are summarized in the table below.

## 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	1.74	8960	ND	710
S-1	1	ND	224	ND	ND
S-1	2	--	688	--	--
S-1	3	--	ND	--	--
S-2	0	ND	26000	ND	2600
S-2	1	ND	96	ND	ND
S-2	2	--	48	--	--
S-2	3	--	48	--	--
S-3	5	ND	704	ND	112
S-3	7	--	336	ND	16.3

(--) Analyte Not Tested

(ND) Analyte Not Detected


## Proposed Remedial Actions

- The impacted area in the vicinity of sample locations S-1 and S-2 will be excavated to a depth of 1-foot bgs. All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The area in the vicinity of S-3 has already been excavated to a depth of 5-feet bgs to facilitate repair of the flow line. No further remediation is warranted in this area. All of the material excavated from this trench will be hauled to an NMOCD approved solid waste disposal facility.
- The excavated areas will be backfilled with caliche and contoured to match the surrounding location.

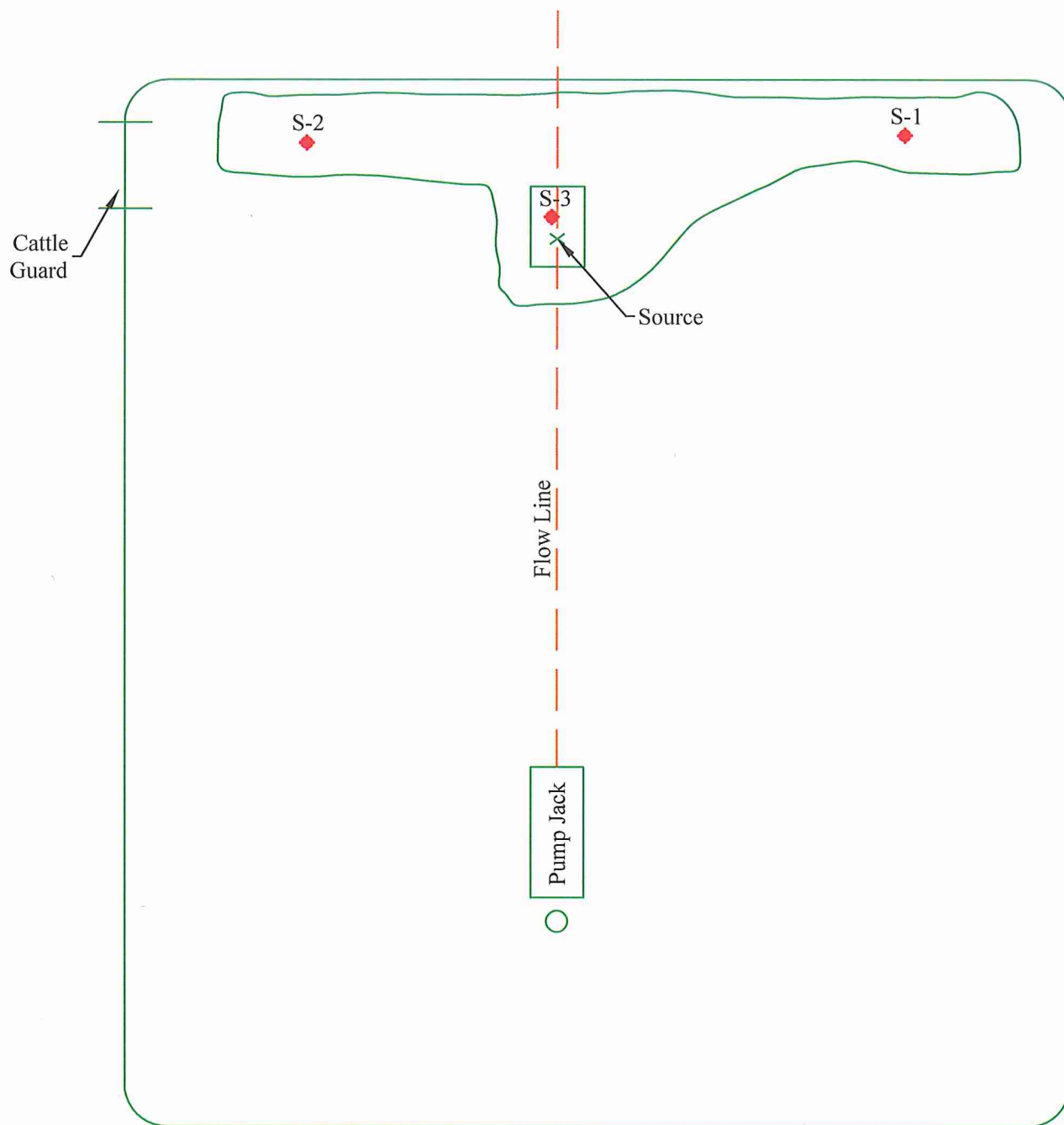
Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768.

Respectfully submitted,

  
Sheldon Hitchcock  
Project Manager

  
David J. Adkins  
District Manager

# SITE PLAN



0 15 30  
Scale in Feet

Legend

◆ - Sample Location



Date: 06/24/2014

Scale: 1" = 30'

Drawn By: TJS

Arkansas 23 Fee #3  
Cimarex Energy  
Eddy County, New Mexico  
Figure 1 - Site Plan

**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="#">RA 05450</a>		CH	4	2	15	19S	25E		550057	3614015*	1352	204	80	124
<a href="#">RA 02909</a>		ED	1	3	22	19S	25E		548864	3611989*	1660	188	130	58
<a href="#">RA 08986</a>		ED	1	3	3	22	19S	25E	548825	3611507	1947	320	220	100
<a href="#">RA 03304</a>		ED		1	27	19S	25E		549081	3610973*	2151	130	60	70
<a href="#">RA 05900</a>		ED	2	2	16	19S	25E		548442	3614424*	2584	185	95	90
<a href="#">RA 09295</a>		ED	4	3	4	13	19S	25E	552979	3613115*	2646	250	85	165
<a href="#">RA 09293</a>		ED	3	4	4	13	19S	25E	553180	3613114*	2844	250	60	190
<a href="#">RA 09294</a>		ED	3	4	4	13	19S	25E	553180	3613114*	2844	194	76	118

Average Depth to Water: **100 feet**

Minimum Depth: **60 feet**

Maximum Depth: **220 feet**

Record Count: 8

UTMNAD83 Radius Search (in meters):

**Easting (X):** 550366

**Northing (Y):** 3612698

**Radius:** 3000

\*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: Cimarex Energy Company	Contact: Johnny Titsworth
Address: 600 N. Marienfield, Suite 600, Midland, TX 79701	Telephone No. (432)250-2059
Facility Name: Arkansas 23 Fee 3	Facility Type: Tank Battery

Surface Owner: Private	Mineral Owner:	API No. 30-015-40192
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**LOCATION OF RELEASE**

Unit Letter E	Section 23	Township 19	Range 25	Feet from the 2235	North/South Line FNL	Feet from the 990	East/West Line FWL	County Eddy
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Latitude: 32.64745 Longitude: -104.46072

**NATURE OF RELEASE**

Type of Release: Oil and PW	Volume of Release: 25/90	Volume Recovered: 10/80
Source of Release: flow line	Date & Hour of Occurrence: 6/2/14 0100	Date & Hour of Discovery: 6/2/14 0800
Was Immediate Notice Given? X Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher	
By Whom? Johnny Titsworth	Date and Hour: 6/2/14 1600	
Was a Watercourse Reached? <input type="checkbox"/> Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*


Buried flow line corroded and leaked oil & pw on location. Emergency one-call was performed and flow line was exposed and clamped. The well is shut in until flow line can be replaced

Describe Area Affected and Cleanup Action Taken.\*

Pumper arrived to find leak on east side of location, Talon was called to collect samples. Once analytical is collected a work plan will be submitted.

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.

**OIL CONSERVATION DIVISION**

Signature: 	Approved by Environmental Specialist:		
Printed Name: Johnny Titsworth			
Title: Environmental Compliance Coordinator	Approval Date:	Expiration Date:	
E-mail Address: jtitsworth@cimarex.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 6/9/14 Phone: (432)-250-2059			

\* Attach Additional Sheets If Necessary



# LABORATORY RESULTS

June 12, 2014

SHELDON HITCHCOCK

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: ARKANSAS 23 FEE #23

Enclosed are the results of analyses for samples received by the laboratory on 06/06/14 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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  
SHELDON HITCHCOCK  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 06/06/2014  
Reported: 06/12/2014  
Project Name: ARKANSAS 23 FEE #23  
Project Number: 701162.059.01  
Project Location: NOT GIVEN

Sampling Date: 06/06/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-1 0' (H401729-01)**

BTEX 8021B			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	0.098	0.050	06/11/2014	ND	2.00	99.9	2.00	2.96		
Toluene*	0.302	0.050	06/11/2014	ND	2.15	107	2.00	3.33		
Ethylbenzene*	0.416	0.050	06/11/2014	ND	1.92	96.2	2.00	3.37		
Total Xylenes*	0.920	0.150	06/11/2014	ND	5.97	99.5	6.00	3.41		
Total BTEX	1.74	0.300	06/11/2014	ND						

Surrogate: 4-Bromofluorobenzene (PII) 117 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8960	16.0	06/12/2014	ND	416	104	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	06/12/2014	ND	202	101	200	3.93		
DRO >C10-C28	710	10.0	06/12/2014	ND	205	103	200	10.0		

Surrogate: 1-Chlorooctane 115 % 65.2-140

Surrogate: 1-Chlorooctadecane 127 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 06/06/2014  
Reported: 06/12/2014  
Project Name: ARKANSAS 23 FEE #23  
Project Number: 701162.059.01  
Project Location: NOT GIVEN

Sampling Date: 06/06/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-1 1' (H401729-02)**

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	06/11/2014	ND	2.00	99.9	2.00	2.96	
Toluene*	<0.050	0.050	06/11/2014	ND	2.15	107	2.00	3.33	
Ethylbenzene*	<0.050	0.050	06/11/2014	ND	1.92	96.2	2.00	3.37	
Total Xylenes*	<0.150	0.150	06/11/2014	ND	5.97	99.5	6.00	3.41	
Total BTEX	<0.300	0.300	06/11/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	06/12/2014	ND	416	104	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	06/12/2014	ND	202	101	200	3.93	
DRO >C10-C28	<10.0	10.0	06/12/2014	ND	205	103	200	10.0	

Surrogate: 1-Chlorooctane 102 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

**Sample ID: S-1 2' (H401729-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	06/12/2014	ND	416	104	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/06/2014	Sampling Date:	06/06/2014
Reported:	06/12/2014	Sampling Type:	Soil
Project Name:	ARKANSAS 23 FEE #23	Sampling Condition:	Cool & Intact
Project Number:	701162.059.01	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S-1 3' (H401729-04)**

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/12/2014	ND	416	104	400	0.00	

**Sample ID: S-2 0' (H401729-05)**

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	06/11/2014	ND	2.00	99.9	2.00	2.96	
Toluene*	<0.050	0.050	06/11/2014	ND	2.15	107	2.00	3.33	
Ethylbenzene*	<b>0.061</b>	0.050	06/11/2014	ND	1.92	96.2	2.00	3.37	
Total Xylenes*	<0.150	0.150	06/11/2014	ND	5.97	99.5	6.00	3.41	
Total BTEX	<0.300	0.300	06/11/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 117 % 89.4-126

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>26000</b>	16.0	06/12/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS							S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	06/12/2014	ND	202	101	200	3.93		
DRO >C10-C28	<b>2600</b>	50.0	06/12/2014	ND	205	103	200	10.0		

Surrogate: 1-Chlorooctane 127 % 65.2-140

Surrogate: 1-Chlorooctadecane 186 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 06/06/2014  
 Reported: 06/12/2014  
 Project Name: ARKANSAS 23 FEE #23  
 Project Number: 701162.059.01  
 Project Location: NOT GIVEN

 Sampling Date: 06/06/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2 1' (H401729-06)**

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	06/11/2014	ND	2.00	99.9	2.00	2.96	
Toluene*	<0.050	0.050	06/11/2014	ND	2.15	107	2.00	3.33	
Ethylbenzene*	<0.050	0.050	06/11/2014	ND	1.92	96.2	2.00	3.37	
Total Xylenes*	<0.150	0.150	06/11/2014	ND	5.97	99.5	6.00	3.41	
Total BTX	<0.300	0.300	06/11/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	06/12/2014	ND	416	104	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	06/12/2014	ND	202	101	200	3.93	
DRO >C10-C28	<10.0	10.0	06/12/2014	ND	205	103	200	10.0	

Surrogate: 1-Chlorooctane 109 % 65.2-140

Surrogate: 1-Chlorooctadecane 119 % 63.6-154

**Sample ID: S-2 2' (H401729-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/12/2014	ND	416	104	400	0.00	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 06/06/2014  
Reported: 06/12/2014  
Project Name: ARKANSAS 23 FEE #23  
Project Number: 701162.059.01  
Project Location: NOT GIVEN

Sampling Date: 06/06/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-2 3' (H401729-08)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	06/12/2014	ND	416	104	400	0.00	

**Sample ID: S-3 5' (H401729-09)**

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	06/11/2014	ND	2.04	102	2.00	0.302	
Toluene*	<0.050	0.050	06/11/2014	ND	2.23	112	2.00	0.275	
Ethylbenzene*	<0.050	0.050	06/11/2014	ND	2.03	101	2.00	0.768	
Total Xylenes*	<0.150	0.150	06/11/2014	ND	6.27	104	6.00	0.506	
Total BTEX	<0.300	0.300	06/11/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 89.4-126

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>704</b>	16.0	06/12/2014	ND	416	104	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	06/12/2014	ND	202	101	200	3.93	
<b>DRO &gt;C10-C28</b>	<b>112</b>	10.0	06/12/2014	ND	205	103	200	10.0	

Surrogate: 1-Chlorooctane 117 % 65.2-140

Surrogate: 1-Chlorooctadecane 127 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 06/06/2014  
Reported: 06/12/2014  
Project Name: ARKANSAS 23 FEE #23  
Project Number: 701162.059.01  
Project Location: NOT GIVEN

Sampling Date: 06/06/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-3 7' (H401729-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	06/12/2014	ND	416	104	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	06/12/2014	ND	202	101	200	3.93	
DRO >C10-C28	16.3	10.0	06/12/2014	ND	205	103	200	10.0	

Surrogate: 1-Chlorooctane 113 % 65.2-140

Surrogate: 1-Chlorooctadecane 119 % 63.6-154

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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

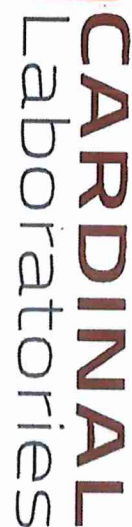
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Celey D. Keene, Lab Director/Quality Manager





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