



December 12, 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  
Vega 9 Federal #001  
30-015-36234

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 Vega 9 Fed #001 is located approximately twenty-seven (27) miles East of Artesia, New Mexico. The legal location for this site Unit Letter E, Section 9, Township 17 South, and Range 30 East. More specifically the latitude and longitude for this release are 32.85004003 North and -103.983473 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 Kermit-Berino fine sands with 0 to 3 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, The local surface and shallow geology is comprised of Holocene to middle Pleistocene eolian and piedmont deposits. Drainage courses in this area are normally dry. Groundwater in the project vicinity is approximately 300-feet below ground surface (bgs) according to the 2005 ChevronTexaco Ground Water Trend Map.

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

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

## Incident Description

On November 18, 2014 the gas supply to the heater treater started leaking and caught fire. The fire caused the sight glass on the heater treater to break causing a release of approximately 10bbls of oil and 20bbls of produced water. All of the fluid was contained within the berms of the heater treater battery. A roustabout crew was mobilized to scrape up the saturated soil at surface. Talon/LPE mobilized personnel to conduct a site assessment and perform soil sampling activities within the battery. The results of our 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	ND	64	ND	45
S-1	0.5	ND	112	ND	ND
S-2	0	ND	11300	ND	ND
S-2	1	ND	224	ND	ND
S-2	2	ND	784	ND	ND
S-3	0	115	12400	707	2350
S-3	1	0.465	1630	ND	30.3
S-3	2	ND	656	ND	ND
S-4	0	ND	3520	ND	ND
S-4	1	ND	32	ND	ND
S-4	2	ND	288	ND	ND
S-5	0	255	12300	1610	3610
S-5	1	ND	336	ND	ND
S-5	2	ND	928	ND	ND

(ND) Analyte Not Detected

### **Proposed Remedial Actions**

- The impacted areas within the battery in the vicinity of sample locations S-2, S-4, and S-5 will be excavated to a depth of 1-foot bgs.
- The impacted area within the battery in the vicinity of sample location S-3 will be excavated to a depth of 2-feet bgs.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavated areas will be backfill with caliche and contoured to match the surrounding terrain.

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

  
Sheldon Hitchcock  
Project Manager

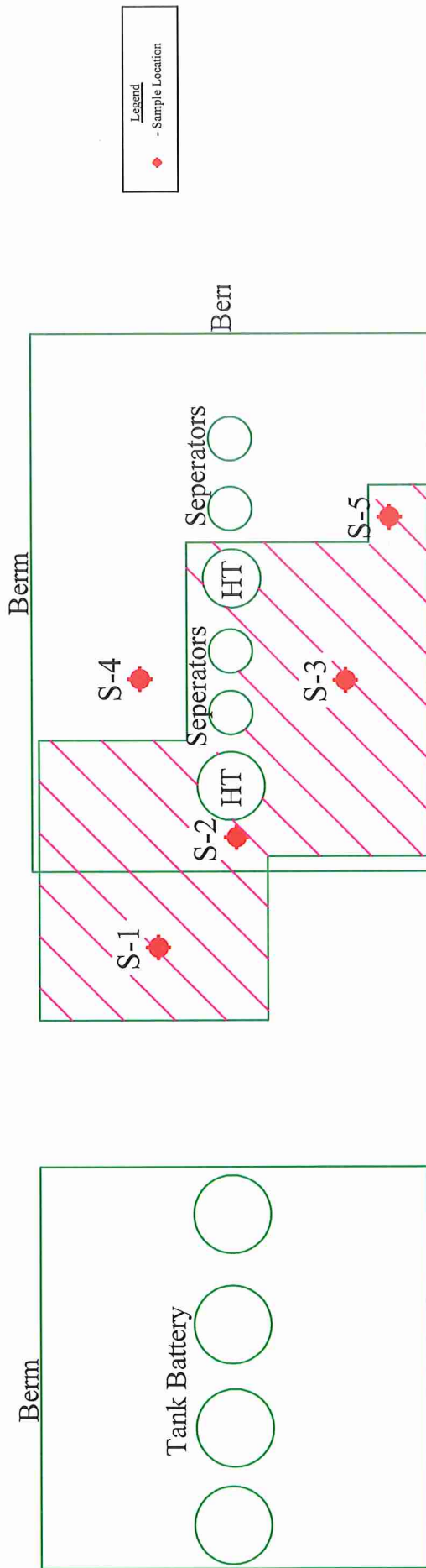
  
David J. Adkins  
District Manager

# SITE PLAN

Pump Jack 



NTS  
Scale in Feet



Date: 12/01/2014

Scale: NTS

Drawn By: TJS

Vega 9 Fed #1 Battery  
Cimarex Energy  
Eddy County, New Mexico  
Figure 1 - Site Plan

# INITIAL 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	Cimarex Energy	Contact	Christine Alderman
Address	600 N Marienfeld Ste 600 Midland TX	Telephone No.	432-853-7059
Facility Name	Vega 9 Fed battery	Facility Type	production

Surface Owner	Mineral Owner	API No.	30-015-36713
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#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	09	17S	30E	1650	N	900	W	Eddy

Latitude 32.85185 Longitude -103.982395

#### NATURE OF RELEASE

Type of Release	fire (produced water & oil)	Volume of Release	10bbls oil 20 bbls PW	Volume Recovered	0 bbls oil 0 bbls PW
Source of Release	fire	Date and Hour of Occurrence	11/18/14 9:00pm	Date and Hour of Discovery	11/18/14 9:00pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/ Sol Hughes		
By Whom?	Gloria Garza	Date and Hour	11/19/14 12:12 am		
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.\*

Gas supply to heater treater started leaking and caught fire. The fire caused the sight glass to break causing the release of fluids

Describe Area Affected and Cleanup Action Taken.\*

fluids contained within unlined berm. Talon was called to assess and develop spill plan.

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:

*Christine Alderman*

Printed Name: Christine Alderman

Approved by Environmental Specialist:

Title: ESH Supervisor

Approval Date:

Expiration Date:

E-mail Address: calderman@cimarex.com

Conditions of Approval:

Attached ☐

Date: Phone: 432-853-7059

\* Attach Additional Sheets If Necessary

# LABORATORY RESULTS



December 02, 2014

SHELDON HITCHCOCK

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: VEGA 9 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 11/21/14 14:50.

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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-1 0' (H403604-01)**

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	11/25/2014	ND	1.73	86.5	2.00	6.14	
Toluene*	<0.050	0.050	11/25/2014	ND	1.71	85.5	2.00	6.80	
Ethylbenzene*	<0.050	0.050	11/25/2014	ND	1.71	85.3	2.00	7.55	
Total Xylenes*	<0.150	0.150	11/25/2014	ND	5.19	86.4	6.00	7.82	
Total BTEX	<0.300	0.300	11/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 61-154

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	11/24/2014	ND	400	100	400	3.92	

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	11/24/2014	ND	184	91.9	200	4.85	
DRO >C10-C28	45.0	10.0	11/24/2014	ND	181	90.5	200	8.98	

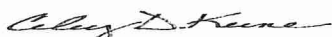
Surrogate: 1-Chlorooctane 127 % 47.2-157

Surrogate: 1-Chlorooctadecane 146 % 52.1-176

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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-1 0.5' (H403604-02)**

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	11/26/2014	ND	1.73	86.5	2.00	6.14	
Toluene*	<0.050	0.050	11/26/2014	ND	1.71	85.5	2.00	6.80	
Ethylbenzene*	<0.050	0.050	11/26/2014	ND	1.71	85.3	2.00	7.55	
Total Xylenes*	<0.150	0.150	11/26/2014	ND	5.19	86.4	6.00	7.82	
Total BTEX	<0.300	0.300	11/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/24/2014	ND	400	100	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 117 % 47.2-157

Surrogate: 1-Chlorooctadecane 130 % 52.1-176

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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-2 0' (H403604-03)**

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	11/26/2014	ND	1.73	86.5	2.00	6.14	
Toluene*	<0.050	0.050	11/26/2014	ND	1.71	85.5	2.00	6.80	
Ethylbenzene*	<0.050	0.050	11/26/2014	ND	1.71	85.3	2.00	7.55	
Total Xylenes*	<0.150	0.150	11/26/2014	ND	5.19	86.4	6.00	7.82	
Total BTX	<0.300	0.300	11/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11300	16.0	11/24/2014	ND	400	100	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 125 % 47.2-157

Surrogate: 1-Chlorooctadecane 140 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-2 1' (H403604-04)**

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	11/26/2014	ND	1.73	86.5	2.00	6.14	
Toluene*	<0.050	0.050	11/26/2014	ND	1.71	85.5	2.00	6.80	
Ethylbenzene*	<0.050	0.050	11/26/2014	ND	1.71	85.3	2.00	7.55	
Total Xylenes*	<0.150	0.150	11/26/2014	ND	5.19	86.4	6.00	7.82	
Total BTX	<0.300	0.300	11/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 61-154

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	11/24/2014	ND	400	100	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 131 % 47.2-157

Surrogate: 1-Chlorooctadecane 143 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-2 2' (H403604-05)**

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTX	<0.300	0.300	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.7 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	11/24/2014	ND	400	100	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 124 % 47.2-157

Surrogate: 1-Chlorooctadecane 134 % 52.1-176

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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-3 0' (H403604-06)**

BTEx 8021B			mg/kg		Analyzed By: CK				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.99	0.500	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	33.1	0.500	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	32.1	0.500	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	45.5	1.50	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTEx	115	3.00	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12400	16.0	11/24/2014	ND	400	100	400	3.92	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	707	50.0	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	2350	50.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 114 % 47.2-157

Surrogate: 1-Chlorooctadecane 105 % 52.1-176

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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-3 1' (H403604-07)**

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	<b>0.125</b>	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	<b>0.131</b>	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	<b>0.208</b>	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTX	<b>0.465</b>	0.300	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 99.4 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>1630</b>	16.0	11/24/2014	ND	400	100	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<b>30.3</b>	10.0	11/25/2014	ND	211	105	200	2.83	

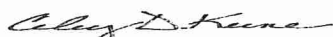
Surrogate: 1-Chlorooctane 131 % 47.2-157

Surrogate: 1-Chlorooctadecane 149 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-3 2' (H403604-08)**

BTX 8021B			mg/kg		Analyzed By: CK				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTX	<0.300	0.300	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.7 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	11/24/2014	ND	400	100	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 123 % 47.2-157

Surrogate: 1-Chlorooctadecane 138 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-4 0' (H403604-09)**

BTX 8021B			mg/kg		Analyzed By: CK				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTX	<0.300	0.300	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3520	16.0	11/24/2014	ND	416	104	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 125 % 47.2-157

Surrogate: 1-Chlorooctadecane 137 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-4 1' (H403604-10)**

BTX 8021B			mg/kg		Analyzed By: CK				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTX	<0.300	0.300	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.3 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/24/2014	ND	416	104	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

Surrogate: 1-Chlorooctane 117 % 47.2-157

Surrogate: 1-Chlorooctadecane 130 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-4 2' (H403604-11)**

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3	
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3	
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8	
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1	
Total BTX	<0.300	0.300	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.7 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	11/24/2014	ND	416	104	400	3.92	

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	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

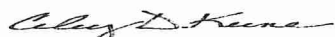
Surrogate: 1-Chlorooctane 122 % 47.2-157

Surrogate: 1-Chlorooctadecane 138 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-5 0' (H403604-12)**

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>20.8</b>	1.00	12/01/2014	ND	1.60	80.0	2.00	13.3	
<b>Toluene*</b>	<b>97.6</b>	1.00	12/01/2014	ND	1.61	80.7	2.00	12.3	
<b>Ethylbenzene*</b>	<b>61.5</b>	1.00	12/01/2014	ND	1.58	79.0	2.00	13.8	
<b>Total Xylenes*</b>	<b>75.0</b>	3.00	12/01/2014	ND	4.75	79.2	6.00	14.1	
<b>Total BTX</b>	<b>255</b>	6.00	12/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 61-154

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>12300</b>	16.0	11/24/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>1610</b>	50.0	11/25/2014	ND	202	101	200	1.12	
<b>DRO &gt;C10-C28</b>	<b>3610</b>	50.0	11/25/2014	ND	211	105	200	2.83	

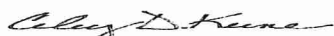
Surrogate: 1-Chlorooctane 138 % 47.2-157

Surrogate: 1-Chlorooctadecane 129 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-5 1' (H403604-13)**

BTEX 8021B			mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3		
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3		
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8		
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1		
Total BTEX	<0.300	0.300	12/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 99.2 % 61-154

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	11/24/2014	ND	416	104	400	3.92			

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	11/25/2014	ND	202	101	200	1.12			
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83			


Surrogate: 1-Chlorooctane 122 % 47.2-157

Surrogate: 1-Chlorooctadecane 141 % 52.1-176

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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: 11/21/2014  
Reported: 12/02/2014  
Project Name: VEGA 9 FED #1  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-5 2' (H403604-14)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/01/2014	ND	1.60	80.0	2.00	13.3		
Toluene*	<0.050	0.050	12/01/2014	ND	1.61	80.7	2.00	12.3		
Ethylbenzene*	<0.050	0.050	12/01/2014	ND	1.58	79.0	2.00	13.8		
Total Xylenes*	<0.150	0.150	12/01/2014	ND	4.75	79.2	6.00	14.1		
Total BTEx	<0.300	0.300	12/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 99.7 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	928	16.0	11/24/2014	ND	416	104	400	3.92		

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	11/25/2014	ND	202	101	200	1.12		
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83		

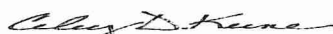
Surrogate: 1-Chlorooctane 130 % 47.2-157

Surrogate: 1-Chlorooctadecane 146 % 52.1-176

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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





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: Talon/LPE

P.O. #:

Project Manager: S. Hitchcock

Company: Talon/LPE

Address: 408 W. Texas Ave.

Attn:

City: Artesia

State: NM Zip: 88210

Address:

Phone #: 575-746-8768

Fax #: 575-746-8905

City:

Project #:

Project Owner: Cimarex

State:

Project Name: Vega 9 Fed #1

State: Zip:

Phone #:

Project Location:

Fax #:

Sampler Name: S. Hitchcock

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

14403404

5-10'

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

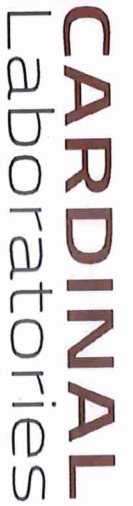
DATE

TIME

TPH

BTEX

Chlorides



PG 201-2

a: Talon/LPE

#54