



August 4, 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  
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MIDLAND  
2901 State Hwy 349  
Midland, Texas 79706  
Phone 432.522.2133  
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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  
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Toll Free: 866.742.0742  
www.talonlpe.com

Subject: **Remedial Activities and Closure Report**  
Oxy Permian, LTD  
Yeso Viking CTB  
30-015-41340

Dear Mr. Bratcher,

Oxy Permian (Oxy) has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The incident description, soil sampling results, remediation activities and closure request are submitted herein.

#### **Incident Date**

The release was discovered by Oxy Personnel on April 13, 2014

#### **Background Information**

The Oxy Yeso Viking Central Tank Battery (CTB) is located approximately ten miles East of Artesia, New Mexico. The legal location for the site is Unit Letter K, Section 23, Township 17 South, Range 27 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.818613 North and -104.252451 West.

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 Reeves-Gypsum land complex with 0 to 3 percent slopes. Drainage courses in this area are normally dry. Ground water in the project vicinity is approximately 40-feet below ground surface (bgs) according to the New Mexico Office of the State Engineer. The referenced groundwater data is presented in Appendix II.

The ranking for this site is 20 based on the following:

Depth to ground water	<50'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

## Incident Description

A valve malfunctioned causing a release of 3bbls of oil and 12bbls of produced water. A vacuum truck was immediately called to the location and 3bbls of oil and 5bbls of produced water were recovered. Talon/LPE was contracted to perform an initial site assessment and soil sampling activities. Once analytical results from the initial sampling (S) event were received it was evident that further delineation would be required at this location. An air rotary drilling rig was used to vertically delineate three bore holes (BH) within the impacted areas of the site. The analytical results from the above referenced sampling activities are summarized in the table below. A site plan is also provided for reference.

## 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	19.6	30400	328	11400
S-2	0	17.3	14000	203	9350
S-3	0	3.31	16800	76.5	3650
S-4	0	ND	20000	ND	67.5
S-4	1	ND	704	ND	ND
S-4	2	ND	368	ND	ND
S-5 overspray	0	2.47	7680	57.2	7630
BH-1	5	--	304	ND	ND
BH-1	10	--	304	--	--
BH-1	15	--	384	--	--
BH-1	20	--	96	--	--
BH-2	5	--	1630	ND	ND
BH-2	10	--	400	--	--
BH-2	15	--	352	--	--
BH-3	5	--	96	ND	ND
BH-3	10	--	160	--	--

(--) Analyte Not Tested

(ND) Analyte Not Detected

Based upon the site ranking of **20**, NMOCD Recommended Remedial Action Levels (RRAL's) are 50 mg/kg for BTEX, 10 mg for Benzene, and 100 mg/kg for TPH.

## Proposed Remedial Actions

- The impacted areas in the vicinity of sample locations BH-1 (S-1), BH-2 (S-2), and BH-3 (S-3) will be excavated to a depth of 2-feet bgs.
- Confirmation soil samples will be taken at these sample locations within the excavated area to insure that all of the impacted material was removed. Field titration testing for chlorides will be done continuously on site to monitor excavation activities. Should field data warrant, the excavation will be extended.
- The overspray area in the vicinity of S-5 will be excavated to a depth of 0.5-feet bgs. A confirmation soil sample will be obtained in this excavated area to insure that all of the impacted material was removed.
- All of the excavated material will be hauled to an NMOCD solid waste disposal facility.
- The excavated area 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

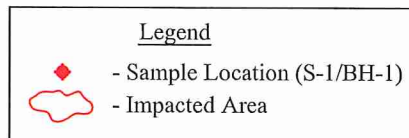
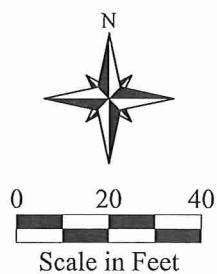
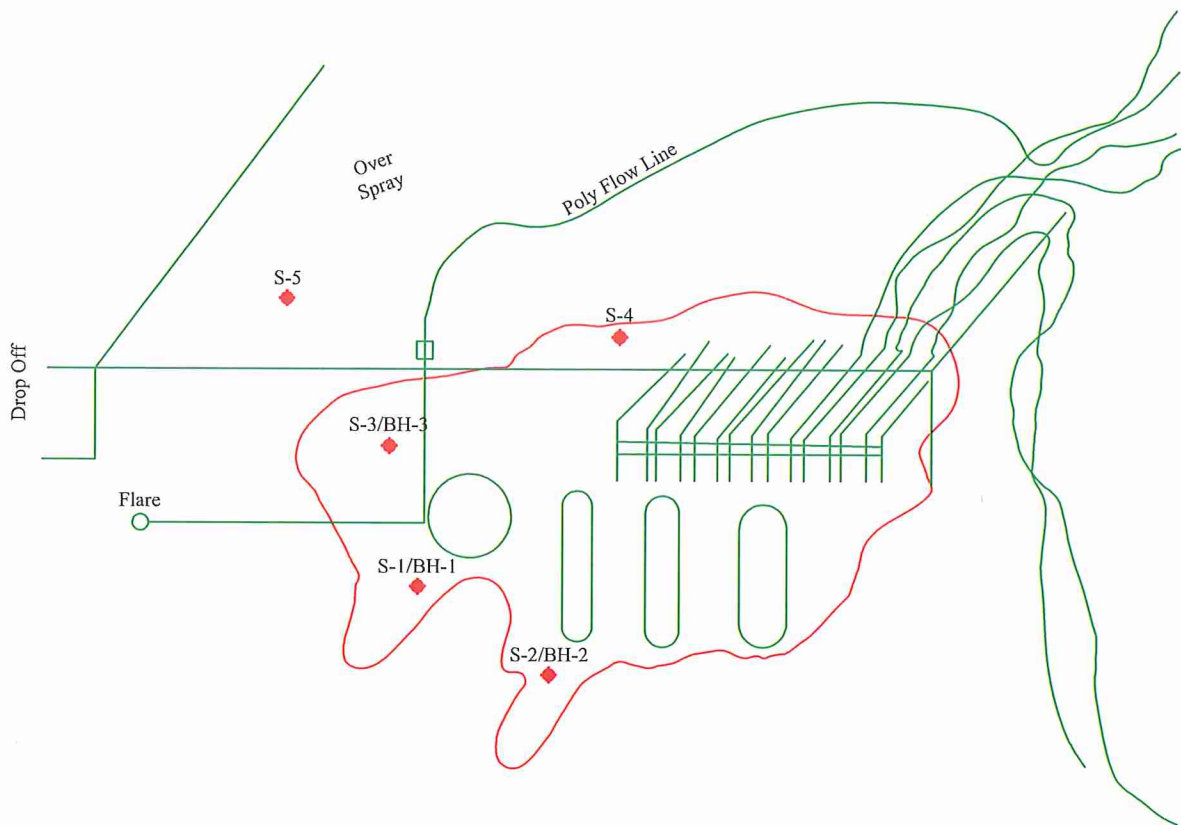
Respectfully submitted,

  
Sheldon Hitchcock  
Project Manager



David J. Adkins  
District Manager

# SITE PLAN



Date: 08/05/2014

Scale: 1" = 40'

Drawn By: TJS

Yeso Viking CTB  
Oxy - NM - South  
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 04554</a>			ED			1	23	17S	27E	569859	3631947*	905	220	40	180
<a href="#">RA 01493</a>			ED			2	1	27	17S	27E	568468	3630529*	1391	876	
<a href="#">RA 04561</a>			ED			4	2	26	17S	27E	570871	3630142*	1433	250	

Average Depth to Water: 40 feet

Minimum Depth: 40 feet

Maximum Depth: 40 feet

Record Count: 3

### UTMNAD83 Radius Search (in meters):

Easting (X): 569759

Northing (Y): 3631047

Radius: 2000

\*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: <b>OXY USA Limited Partnership</b>	Contact: <b>Chris Jones</b>
Address: <b>102 S. Main St. Carlsbad, NM 88220</b>	Telephone No.: <b>575-628-4121</b>
Facility Name: <b>YESO VIKING CTB</b>	Facility Type: <b>Battery</b>

Surface Owner: <b>Federal</b>	Mineral Owner:	API No.: Lease #: <b>30-015-41340</b>
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### LOCATION OF RELEASE

Unit Letter <b>K</b>	Section <b>23</b>	Township <b>17S</b>	Range <b>27E</b>	Feet from the <b>2240'</b>	North/South Line <b>South</b>	Feet from the <b>1680'</b>	East/West Line <b>West</b>	County <b>Eddy</b>
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Latitude **32.818613 N** Longitude **-104.252451 W**

### NATURE OF RELEASE

Type of Release: <b>Produced Fluids</b>	Volume of Release: <b>3 bbls Oil &amp; 12 bbls PW</b>	Volume Recovered: <b>3 bbls Oil &amp; 5 bbls PW</b>
Source of Release: <b>Valve Malfunction</b>	Date and Hour of Occurrence <b>4/13/14</b>	Date and Hour of Discovery <b>4/13/14</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Mike Bratcher @ NMOCD - email</b> <b>Jennifer Van Curen @ BLM - email</b>	
By Whom? <b>Chris Jones</b>	Date and Hour: <b>4/14/2014 4:20 pm</b>	
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.\* A valve malfunctioned causing 3 barrels of oil and 12 barrels of produced water to be released. The facility was shut-in, the valve repaired and put back into service. A vacuum truck was immediately called to the location and 3 barrels of oil and 5 barrels of produced water was recovered. Talon/LPE was contracted to perform an initial site assessment and soil sampling.

Describe Area Affected and Cleanup Action Taken.\*

The affected area is approximately 15' x 25'. This release was isolated on location only.

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: <b>Chris Jones</b>	Approved by Environmental Specialist:	
Printed Name: <b>Chris Jones</b>	Approval Date:	Expiration Date:
Title: <b>HES Specialist</b>	Conditions of Approval:	
E-mail Address: <b>Christopher.Jones@oxy.com</b>	Attached <input type="checkbox"/>	
Date: <b>4/16/2014</b>	Phone: <b>575-628-4121</b>	

\* Attach Additional Sheets If Necessary



# LABORATORY RESULTS



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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April 28, 2014

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: YESO VIKING CTB

Enclosed are the results of analyses for samples received by the laboratory on 04/21/14 11:38.

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  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	04/21/2014	Sampling Date:	04/16/2014
Reported:	04/28/2014	Sampling Type:	Soil
Project Name:	YESO VIKING CTB	Sampling Condition:	Cool & Intact
Project Number:	70060836001	Sample Received By:	Celey D. Keene
Project Location:	EDDY		

**Sample ID: S-1 0' (H401181-01)**

BTEX 8021B		mg/kg		Analyzed By: CK				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.320	0.200	04/22/2014	ND	2.29	115	2.00	2.53	
Toluene*	3.74	0.200	04/22/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	6.01	0.200	04/22/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	9.55	0.600	04/22/2014	ND	6.22	104	6.00	1.49	
Total BTEX	19.6	1.20	04/22/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 160 % 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	30400	16.0	04/22/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	328	100	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	11400	100	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 168 % 65.2-140

Surrogate: 1-Chlorooctadecane 319 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/21/2014	Sampling Date:	04/16/2014
Reported:	04/28/2014	Sampling Type:	Soil
Project Name:	YESO VIKING CTB	Sampling Condition:	Cool & Intact
Project Number:	70060836001	Sample Received By:	Celey D. Keene
Project Location:	EDDY		

**Sample ID: S-2 0' (H401181-02)**

BTX 8021B		mg/kg	Analyzed By: CK					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	04/22/2014	ND	2.29	115	2.00	2.53	
Toluene*	1.43	0.200	04/22/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	5.59	0.200	04/22/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	10.3	0.600	04/22/2014	ND	6.22	104	6.00	1.49	
Total BTX	17.3	1.20	04/22/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 179 % 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	14000	16.0	04/22/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: CK					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	203	50.0	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	9350	50.0	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 158 % 65.2-140

Surrogate: 1-Chlorooctadecane 253 % 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  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	04/21/2014	Sampling Date:	04/16/2014
Reported:	04/28/2014	Sampling Type:	Soil
Project Name:	YESO VIKING CTB	Sampling Condition:	Cool & Intact
Project Number:	70060836001	Sample Received By:	Celey D. Keene
Project Location:	EDDY		

**Sample ID: S-3 0' (H401181-03)**

BTX 8021B		mg/kg		Analyzed By: CK				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/22/2014	ND	2.29	115	2.00	2.53	
Toluene*	0.113	0.050	04/22/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	0.834	0.050	04/22/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	2.36	0.150	04/22/2014	ND	6.22	104	6.00	1.49	
Total BTX	3.31	0.300	04/22/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 229 % 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	16800	16.0	04/22/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	76.5	50.0	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	3650	50.0	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 123 % 65.2-140

Surrogate: 1-Chlorooctadecane 151 % 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  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	04/21/2014	Sampling Date:	04/16/2014
Reported:	04/28/2014	Sampling Type:	Soil
Project Name:	YESO VIKING CTB	Sampling Condition:	Cool & Intact
Project Number:	70060836001	Sample Received By:	Celey D. Keene
Project Location:	EDDY		

**Sample ID: S-4 0' (H401181-04)**

BTX 8021B		mg/kg		Analyzed By: CK		S-04			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/22/2014	ND	2.29	115	2.00	2.53	
Toluene*	<0.050	0.050	04/22/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	<0.050	0.050	04/22/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	<0.150	0.150	04/22/2014	ND	6.22	104	6.00	1.49	
Total BTX	<0.300	0.300	04/22/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 129 % 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	20000	16.0	04/22/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	67.5	10.0	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 109 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 04/21/2014  
Reported: 04/28/2014  
Project Name: YESO VIKING CTB  
Project Number: 70060836001  
Project Location: EDDY

Sampling Date: 04/16/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: S-4 1' (H401181-05)**

BTX 8021B		mg/kg	Analyzed By: CK					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/22/2014	ND	2.29	115	2.00	2.53	
Toluene*	<0.050	0.050	04/22/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	<0.050	0.050	04/22/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	<0.150	0.150	04/22/2014	ND	6.22	104	6.00	1.49	
Total BTX	<0.300	0.300	04/22/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 127 % 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	704	16.0	04/22/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	<10.0	10.0	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 100 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/21/2014	Sampling Date:	04/16/2014
Reported:	04/28/2014	Sampling Type:	Soil
Project Name:	YESO VIKING CTB	Sampling Condition:	Cool & Intact
Project Number:	70060836001	Sample Received By:	Celey D. Keene
Project Location:	EDDY		

**Sample ID: S-4 2' (H401181-06)**

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	04/22/2014	ND	2.29	115	2.00	2.53	
Toluene*	<0.050	0.050	04/22/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	<0.050	0.050	04/22/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	<0.150	0.150	04/22/2014	ND	6.22	104	6.00	1.49	
Total BTEX	<0.300	0.300	04/22/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 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	368	16.0	04/22/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	<10.0	10.0	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

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

Received: 04/21/2014  
Reported: 04/28/2014  
Project Name: YESO VIKING CTB  
Project Number: 70060836001  
Project Location: EDDY

Sampling Date: 04/16/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

### Sample ID: S-5 0' OVERSPRAY (H401181-07)

BTEX 8021B		mg/kg	Analyzed By: CK					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/23/2014	ND	2.29	115	2.00	2.53	
Toluene*	0.080	0.050	04/23/2014	ND	2.16	108	2.00	2.19	
Ethylbenzene*	0.661	0.050	04/23/2014	ND	2.14	107	2.00	2.07	
Total Xylenes*	1.73	0.150	04/23/2014	ND	6.22	104	6.00	1.49	
Total BTEX	2.47	0.300	04/23/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 202 % 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	7680	16.0	04/22/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: CK					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	57.2	50.0	04/22/2014	ND	184	91.9	200	5.44	
DRO >C10-C28	7630	50.0	04/22/2014	ND	195	97.7	200	3.58	

Surrogate: 1-Chlorooctane 123 % 65.2-140

Surrogate: 1-Chlorooctadecane 234 % 63.6-154

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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.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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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Celest D. Keene, Lab Director/Quality Manager





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

#54



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

July 08, 2014

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: YESO VIKING CTB

Enclosed are the results of analyses for samples received by the laboratory on 07/01/14 15:40.

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  
 DAVID ADKINS  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

Received:	07/01/2014	Sampling Date:	06/26/2014
Reported:	07/08/2014	Sampling Type:	Soil
Project Name:	YESO VIKING CTB	Sampling Condition:	Cool & Intact
Project Number:	700608.360.01	Sample Received By:	Jodi Henson
Project Location:	EDDY		

**Sample ID: BH 1 5' (H402004-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	07/08/2014	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	07/03/2014	ND	184	91.8	200	0.423	
DRO >C10-C28	<10.0	10.0	07/03/2014	ND	195	97.5	200	0.786	
Surrogate: 1-Chlorooctane	111 %	65.2-140							
Surrogate: 1-Chlorooctadecane	116 %	63.6-154							

**Sample ID: BH 1 10' (H402004-02)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>304</b>	16.0	07/08/2014	ND	416	104	400	3.92	


**Sample ID: BH 1 15' (H402004-03)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>384</b>	16.0	07/08/2014	ND	416	104	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 07/01/2014  
 Reported: 07/08/2014  
 Project Name: YESO VIKING CTB  
 Project Number: 700608.360.01  
 Project Location: EDDY

 Sampling Date: 06/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH 1 20' (H402004-04)**

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	07/08/2014	ND	416	104	400	3.92		

**Sample ID: BH 2 5' (H402004-05)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1630	16.0	07/08/2014	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	07/03/2014	ND	184	91.8	200	0.423	
DRO >C10-C28	<10.0	10.0	07/03/2014	ND	195	97.5	200	0.786	

Surrogate: 1-Chlorooctane 115 % 65.2-140

Surrogate: 1-Chlorooctadecane 121 % 63.6-154

**Sample ID: BH 2 10' (H402004-06)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	07/08/2014	ND	416	104	400	3.92		

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/01/2014  
Reported: 07/08/2014  
Project Name: YESO VIKING CTB  
Project Number: 700608.360.01  
Project Location: EDDY

Sampling Date: 06/26/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH 2 15' (H402004-07)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	07/08/2014	ND	416	104	400	3.92	

**Sample ID: BH 3 5' (H402004-08)**

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	07/08/2014	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	07/03/2014	ND	184	91.8	200	0.423	
DRO >C10-C28	<10.0	10.0	07/03/2014	ND	195	97.5	200	0.786	

Surrogate: 1-Chlorooctane 114 % 65.2-140

Surrogate: 1-Chlorooctadecane 124 % 63.6-154

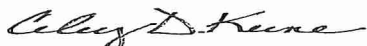
**Sample ID: BH 3 10' (H402004-09)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/08/2014	ND	416	104	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

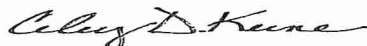
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager





# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476



### ANALYSIS REQUEST

**BILL TO**

Company Name: Talon/LPE		P.O. #:	
Project Manager: D. Perkins		Company: Talon/LPE	
Address: 408 W. Texas Ave.		Attn: <b>OKY</b>	
City: Artesia		Address:	
State: NM Zip: 88210		City:	
Phone #: 575-746-8768 Fax #: 575-746-8905		State: Zip:	
Project #: 70560836001 Project Owner: Gxy		Phone #:	
Project Name: Vessel King CTR		Fax #:	
Project Location: Sully G. Boeza		PRESERV/ SAMPLING	
Sample Name:			
FOR LAB USE ONLY			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS
Matrix	GROUNDWATER	WASTEWATER	SOIL
	OIL	SLUDGE	OTHER:
	ACID/BASE:	ICE / COOL	OTHER:
	DATE	TIME	
1	BH 1 S	6:36:14	PH
2	BH 1 10"		Total Chlorides
3	BH 1 15"		
4	BH 1 20"		
5	BH 2 S		
6	BH 2 10"		
7	BH 2 15"		
8	BH 3 S		
9	BH 3 10"		

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Relinquished By: *[Signature]* Date: *[Blank]* Received By: *[Signature]* Date: *[Blank]*

Relinquished By: *[Signature]* Date: *[Blank]* Received By: *[Signature]* Date: *[Blank]*

Delivered By: (Circle One) *[Signature]* Sample Condition: ☒ Yes ☐ No ☐ Intact ☐ Broken

Sampler - UPS - Bus - Other: *[Blank]* Checked By: *[Signature]*

Phone Result: ☐ Yes ☐ No Add'l Phone #: *[Blank]*

Fax Result: ☐ Yes ☐ No Add'l Fax #: *[Blank]*

REMARKS: *[Blank]*