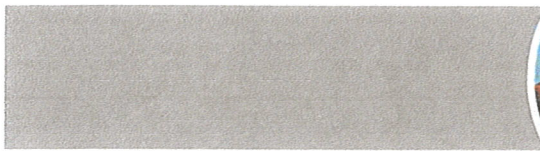


2RP-4345  
nAB1722928340



talonlpe.com • 866.742.0742



**Remediation and Closure Report:**

West Red Lake #41  
API # 30-015-28443  
Talon Project No. 701307.101.01

2RP-4345

**Prepared For:**

Lime Rock Resources II-A, L.P.  
1111 Bagby Street Suite 4600  
Houston, TX 77002

**Prepared By:**

TALON/LPE  
408 W. Texas Avenue  
Artesia, New Mexico 88210

**January 3, 2018**

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

Subject: **Remediation and Closure Report**  
West Red Lake #41  
API # 30-015-28443

Dear Mr. Bratcher,

Lime Rock Resources II-A, L.P. had 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.

#### Site Information

The Lime Rock West Red Lake Unit 41 is located approximately eleven (11) miles southeast of Artesia, New Mexico. The legal location for this release is Unit Letter B, Section 7, Township 18 South and Range 27 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.769298 North and -104.313950 West. A site map is presented in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of weathered Gypsum. The local surface and shallow geology, Paleozoic Age sedimentary deposits, is comprised of the Guadeloupian Artesia Group, Tansil and Yates formations which include silty soils underlain by gypsum and hard caliches. Drainage courses in this area are normally dry.

#### Ground Water and Site Ranking

The New Mexico State Engineer web site indicates that the nearest ground water is 8' below ground surface. See [Appendix II](#) for the referenced groundwater data.

Therefore the ranking for this site is a **20** based on the following:

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

Based upon the site ranking of **20**, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, and 100 mg/kg for TPH. The clean-up guideline for total chlorides is 600 mg/kg.

## Incident Description

On August 5, 2017, a flow line ruptured resulting in the loss of approximately 323 barrels of produced water. The fluid from the release flowed into a ravine leading to the Pecos River. No fluid entered the river. A vac truck was called to the location and recovered 40 barrels of produced water. A site map is presented in [Appendix I](#) which illustrates the impacted area.

## Remedial Actions Taken

- 8/5/17-Talon LPE constructed earthen berms to minimize impacts and prevent fluids from reaching the river. A hydroexcavator was used to excavate wet areas.
- 8/6/17-Talon constructed lined sumps in the upper and lower flow paths. The upper flow path of the draw was flushed with 520 barrels of fresh water. 218 barrels were recovered from the upper sump.
- 8/7/17- The lower flow path of the draw was flushed with 520 barrels of fresh water. 310 barrels of water was collected from the lower sump.
- 8/23/17- The upper flow path of the draw was flushed again with 1300 barrels of fresh water. 800 barrels were recovered from the upper sump.
- 8/24/17- The lower flow path of the draw was flushed with 1040 barrels of fresh water. 650 barrels of water was recovered from the lower sump.
- 11/28/17- Talon returned to the location with a backhoe and roustabout crew. Soil samples were collected and field titrated for total chlorides to guide the excavation process. The upper portion of the impacted area within the numerous flow lines present was excavated by hand to avoid damage to the lines. The remaining impacted areas and flow path leading to the draw were excavated with a backhoe to a depth of 1.5-feet below surface.
- The impacted areas within the draw were hand-excavated by roustabout crews.
- Confirmation samples were collected from locations within the draw and from the flow path between the release point and the draw. Sample locations are illustrated on the attached site plans ([Appendix I](#)) and the resulting data is summarized in the following table. The complete lab report is attached in [Appendix III](#).
- All contaminated soil was transported to Lea Land, LLC an approved NMOC disposal facility. The excavated area was backfilled with clean caliche obtained from Lea Land LLC, and machine compacted to match the surrounding location.



## Laboratory Results

See **Appendix III** for complete report of laboratory results.

Sample ID	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO	TPH (mg/kg) EXT DRO
S-1	<0.300	128	<10	<10	<10
S-2	<0.300	144	<10	<10	<10
S-3	<0.300	16	<10	<10	<10
S-4	<0.300	112	<10	<10	<10
S-5	<0.300	496	<10	10.8	<10
S-6	<0.300	80	<10	<10	<10
S-7	<0.300	144	<10	11.8	<10
S-8	<0.300	272	<10	12.1	<10
S-9	<0.300	80	<10	<10	<10
S-10	<0.300	576	<10	10.7	<10
S-11	<0.300	352	<10	<10	<10

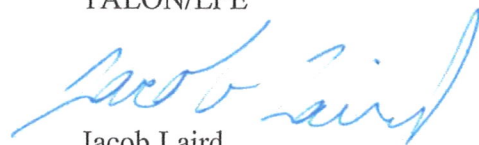
## Closure

Based upon the remedial actions described herein and the resulting analytical data from the confirmation samples, on behalf of Lime Rock Resources we respectfully request that no further action be required and that closure in respect to this incident be granted. A Final C-141 is attached in **Appendix IV**.

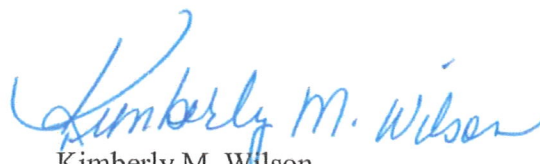
Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE



Jacob Laird  
Environmental Scientist



Kimberly M. Wilson  
Project Manager

## Attachments:

- Appendix I Site Map
- Appendix II Groundwater Data
- Appendix III Laboratory Results
- Appendix IV Final C-141



## **APPENDIX I**

### **SITE MAP**

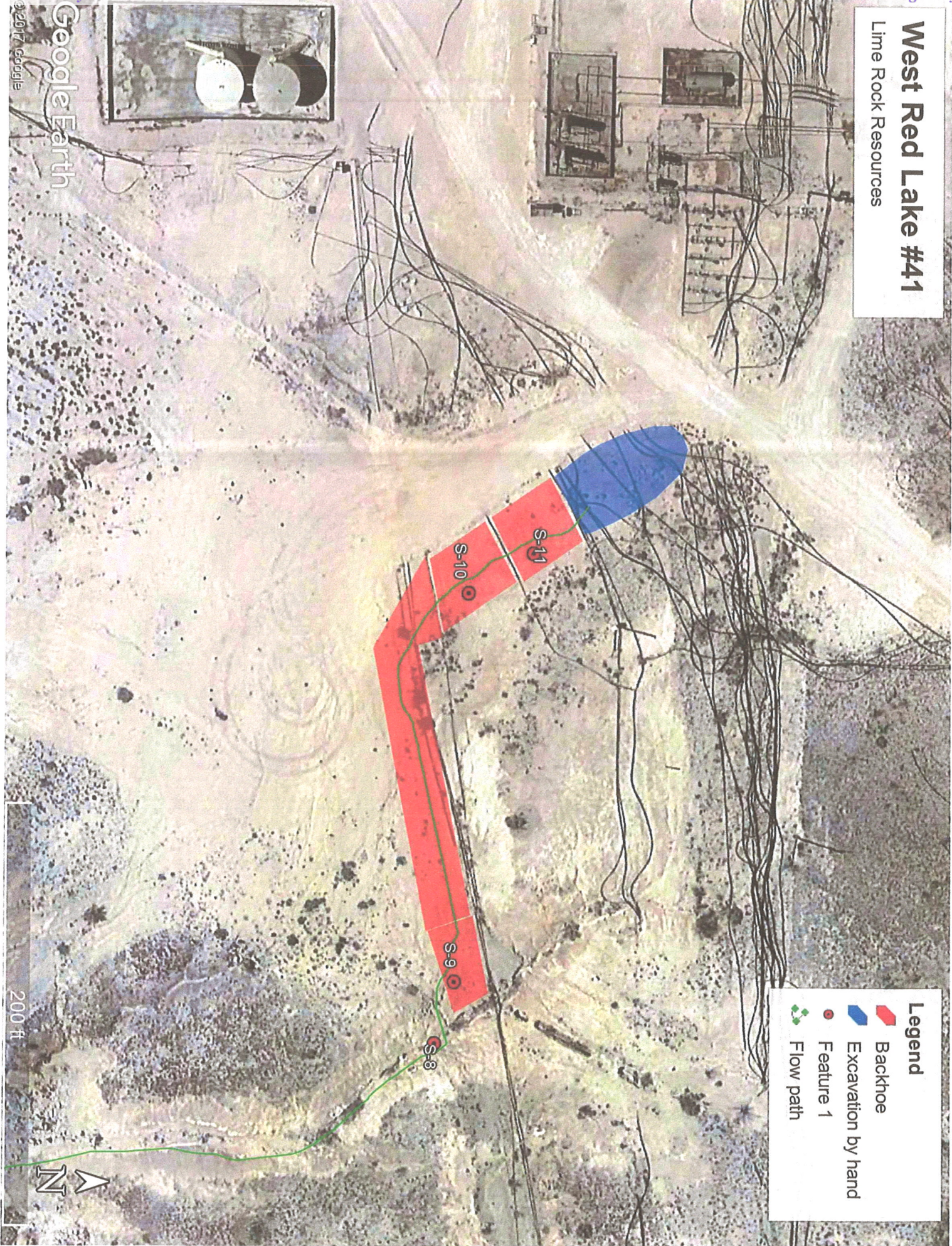


# West Red Lake #41

Lime Rock Resources

**Legend**

- Backhoe
- Excavation by hand
- Feature 1
- Flow path





# West Red Lake #41

Lime Rock Resources

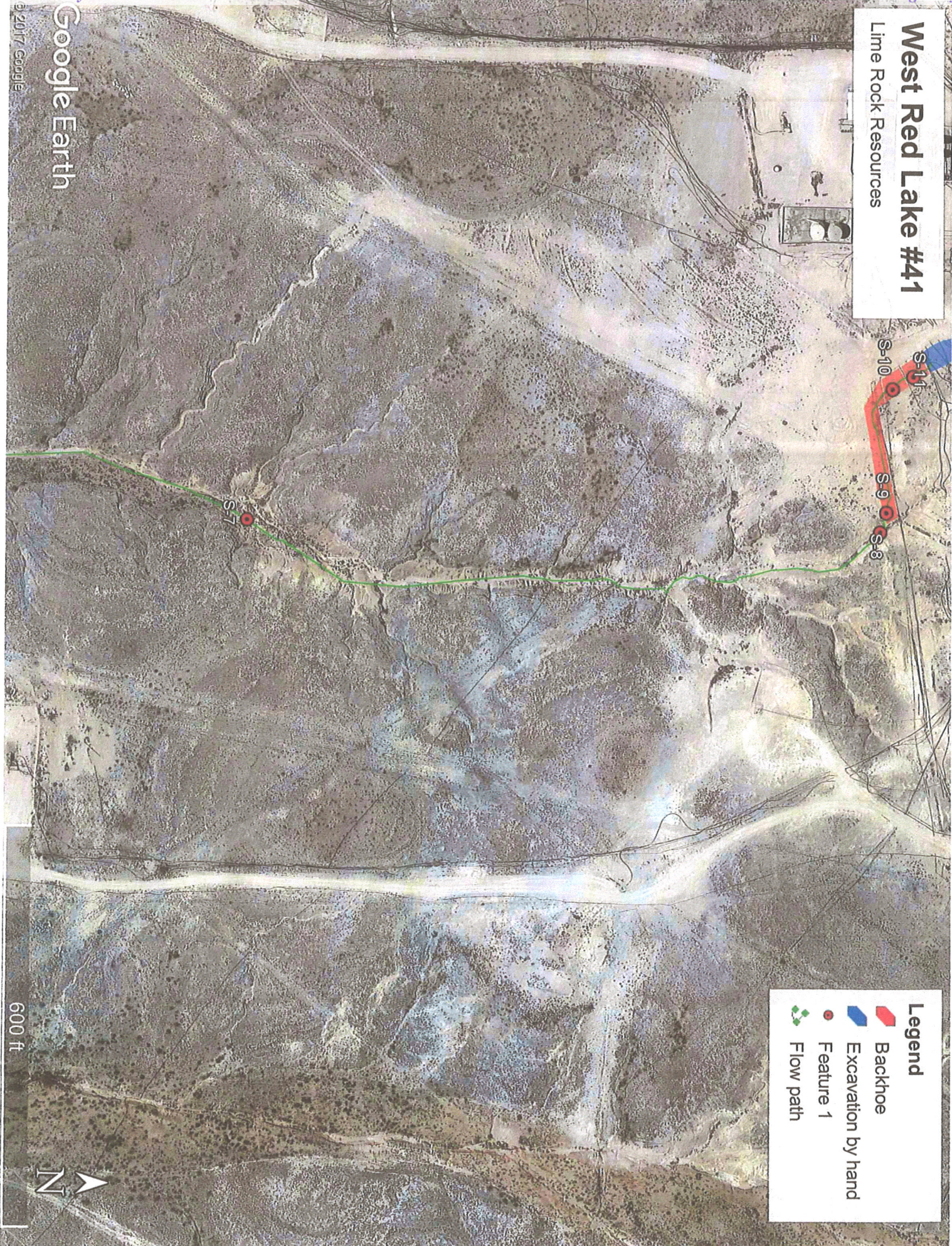
**Legend**

 Backhoe

 Excavation by hand

 Feature 1

 Flow path



Google Earth

© 2017 Google



# West Red Lake #41

Lime Rock Resources

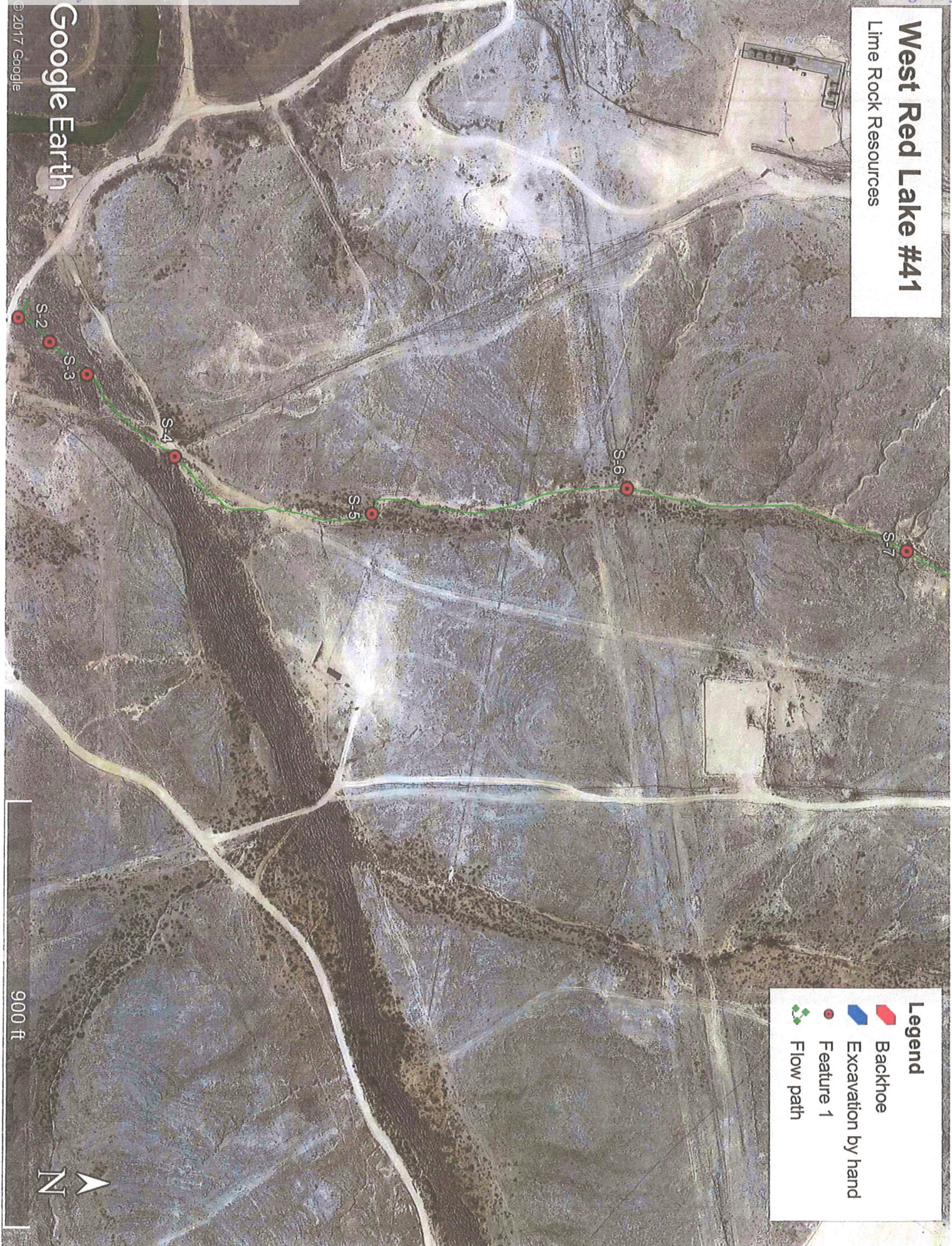
**Legend**

 Backhoe

 Excavation by hand

 Feature 1

 Flow path



Google Earth  
© 2017 Google



# West Red Lake #41

Lime Rock Resources

**Legend**

- Backhoe
- Excavation by hand
- Feature 1
- Flow path



Google Earth

© 2017 Google

400 ft





**APPENDIX II**  
**GROUNDWATER DATA**





## 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 Code	Sub-basin	County	Q	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">RA 05989</a>	ED			3	2	4	01	18S	26E		562774	3626466*	1524	72	8	64
<a href="#">RA 03714</a>	CH			4	4	2	08	18S	27E		566212	3625253*	2128	381		
<a href="#">RA 03661</a>	ED			3	2	3	32	17S	27E		565186	3628038*	2410	330	140	190
<a href="#">RA 03664</a>	CH			3	2	3	32	17S	27E		565186	3628038*	2410	400	100	300
<a href="#">RA 02432</a>	ED			2	3	1	12	18S	26E		561764	3625443*	2440	100		

Average Depth to Water: 82 feet

Minimum Depth: 8 feet

Maximum Depth: 140 feet

**Record Count:**5

**UTM NAD83 Radius Search (in meters):**

**Easting (X):** 564169.94

**Northing (Y):** 3625852.53

**Radius:** 2500

\*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.

1/2/18 7:36 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

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



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

December 09, 2017

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: WEST RED LAKE #41

Enclosed are the results of analyses for samples received by the laboratory on 12/04/17 16:17.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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





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

**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 1 (H703332-01)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14				
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12				
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625				
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698				
Total BTEX	<0.300	0.300	12/06/2017	ND								

Surrogate: 4-Bromofluorobenzene (PIL) 96.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	12/06/2017	ND	432	108	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	12/06/2017	ND	240	120	200	1.28		
DRO >C10-C28	<10.0	10.0	12/06/2017	ND	231	116	200	1.04		
EXT DRO >C28-C36	<10.0	10.0	12/06/2017	ND						

Surrogate: 1-Chlorooctane 72.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 71.0 % 34.7-157

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 2 (H703332-02)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14	
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12	
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625	
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698	
Total BTEX	<0.300	0.300	12/06/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 95.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	12/06/2017	ND	432	108	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	12/06/2017	ND	240	120	200	1.28	
DRO >C10-C28	<10.0	10.0	12/06/2017	ND	231	116	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	12/06/2017	ND					

Surrogate: 1-Chlorooctane 82.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.6 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 3 (H703332-03)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14	
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12	
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625	
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698	
Total BTEX	<0.300	0.300	12/06/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 97.5 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	12/06/2017	ND	432	108	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	12/06/2017	ND	240	120	200	1.28	
DRO >C10-C28	<10.0	10.0	12/06/2017	ND	231	116	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	12/06/2017	ND					

Surrogate: 1-Chlorooctane 76.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 4 (H703332-04)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14				
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12				
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625				
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698				
Total BTEX	<0.300	0.300	12/06/2017	ND								

Surrogate: 4-Bromofluorobenzene (PIE) 95.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/06/2017	ND	432	108	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	12/06/2017	ND	240	120	200	1.28		
DRO >C10-C28	<10.0	10.0	12/06/2017	ND	231	116	200	1.04		
EXT DRO >C28-C36	<10.0	10.0	12/06/2017	ND						

Surrogate: 1-Chlorooctane 65.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 63.4 % 34.7-157

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 5 (H703332-05)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14				
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12				
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625				
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698				
Total BTEx	<0.300	0.300	12/06/2017	ND								

Surrogate: 4-Bromofluorobenzene (PIE) 96.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	12/06/2017	ND	432	108	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	12/06/2017	ND	240	120	200	1.28		
DRO >C10-C28	10.8	10.0	12/06/2017	ND	231	116	200	1.04		
EXT DRO >C28-C36	<10.0	10.0	12/06/2017	ND						

Surrogate: 1-Chlorooctane 60.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 60.6 % 34.7-157

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 6 (H703332-06)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14			
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12			
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625			
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698			
Total BTEx	<0.300	0.300	12/06/2017	ND							

Surrogate: 4-Bromofluorobenzene (PIE) 97.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/06/2017	ND	432	108	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	12/06/2017	ND	240	120	200	1.28	
DRO >C10-C28	<10.0	10.0	12/06/2017	ND	231	116	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	12/06/2017	ND					

Surrogate: 1-Chlorooctane 64.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 66.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 7 (H703332-07)**

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	12/06/2017	ND	1.78	88.8	2.00	2.14	
Toluene*	<0.050	0.050	12/06/2017	ND	1.77	88.5	2.00	1.12	
Ethylbenzene*	<0.050	0.050	12/06/2017	ND	1.70	85.1	2.00	0.625	
Total Xylenes*	<0.150	0.150	12/06/2017	ND	5.34	89.0	6.00	0.698	
Total BTX	<0.300	0.300	12/06/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 97.1 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	12/06/2017	ND	432	108	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	12/07/2017	ND	199	99.4	200	20.6	
DRO >C10-C28	11.8	10.0	12/07/2017	ND	205	102	200	7.96	
EXT DRO >C28-C36	<10.0	10.0	12/07/2017	ND					

Surrogate: 1-Chlorooctane 101 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 8 (H703332-08)**

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	12/07/2017	ND	1.77	88.5	2.00	1.18				
Toluene*	<0.050	0.050	12/07/2017	ND	1.75	87.5	2.00	0.0440				
Ethylbenzene*	<0.050	0.050	12/07/2017	ND	1.70	84.8	2.00	1.52				
Total Xylenes*	<0.150	0.150	12/07/2017	ND	5.27	87.8	6.00	1.86				
Total BTEX	<0.300	0.300	12/07/2017	ND								

Surrogate: 4-Bromofluorobenzene (PIE) 95.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	12/06/2017	ND	432	108	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	12/07/2017	ND	199	99.4	200	20.6		
DRO >C10-C28	12.1	10.0	12/07/2017	ND	205	102	200	7.96		
EXT DRO >C28-C36	<10.0	10.0	12/07/2017	ND						

Surrogate: 1-Chlorooctane 100 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 9 (H703332-09)**

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	12/07/2017	ND	1.77	88.5	2.00	1.18		
Toluene*	<0.050	0.050	12/07/2017	ND	1.75	87.5	2.00	0.0440		
Ethylbenzene*	<0.050	0.050	12/07/2017	ND	1.70	84.8	2.00	1.52		
Total Xylenes*	<0.150	0.150	12/07/2017	ND	5.27	87.8	6.00	1.86		
Total BTEx	<0.300	0.300	12/07/2017	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 96.7 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/06/2017	ND	432	108	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	12/07/2017	ND	199	99.4	200	20.6		
DRO >C10-C28	<10.0	10.0	12/07/2017	ND	205	102	200	7.96		
EXT DRO >C28-C36	<10.0	10.0	12/07/2017	ND						

Surrogate: 1-Chlorooctane 119 % 28.3-164

Surrogate: 1-Chlorooctadecane 116 % 34.7-157

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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 10 (H703332-10)**

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	12/07/2017	ND	1.77	88.5	2.00	1.18	
Toluene*	<0.050	0.050	12/07/2017	ND	1.75	87.5	2.00	0.0440	
Ethylbenzene*	<0.050	0.050	12/07/2017	ND	1.70	84.8	2.00	1.52	
Total Xylenes*	<0.150	0.150	12/07/2017	ND	5.27	87.8	6.00	1.86	
Total BTEX	<0.300	0.300	12/07/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.3 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	12/06/2017	ND	432	108	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	12/07/2017	ND	199	99.4	200	20.6	
DRO >C10-C28	10.7	10.0	12/07/2017	ND	205	102	200	7.96	
EXT DRO >C28-C36	<10.0	10.0	12/07/2017	ND					

Surrogate: 1-Chlorooctane 102 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.4 % 34.7-157

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**Analytical Results For:**

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

Received: 12/04/2017  
Reported: 12/09/2017  
Project Name: WEST RED LAKE #41  
Project Number: 701307.101.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 12/01/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S- 11 (H703332-11)**

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	12/07/2017	ND	1.77	88.5	2.00	1.18	
Toluene*	<0.050	0.050	12/07/2017	ND	1.75	87.5	2.00	0.0440	
Ethylbenzene*	<0.050	0.050	12/07/2017	ND	1.70	84.8	2.00	1.52	
Total Xylenes*	<0.150	0.150	12/07/2017	ND	5.27	87.8	6.00	1.86	
Total BTX	<0.300	0.300	12/07/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	12/06/2017	ND	432	108	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	12/07/2017	ND	199	99.4	200	20.6	
DRO >C10-C28	<10.0	10.0	12/07/2017	ND	205	102	200	7.96	
EXT DRO >C28-C36	<10.0	10.0	12/07/2017	ND					

Surrogate: 1-Chlorooctane 86.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.8 % 34.7-157

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---

### Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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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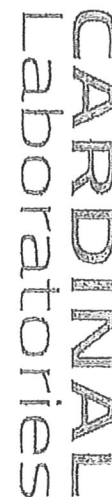
Celey D. Keene, Lab Director/Quality Manager





ANALYSIS REQUEST

Page 14 of 15



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Lot 2

101 East Maryland, Hobbs, NM 88240  
(505) 282-8898 FAX (505) 282-8770

(575) 393-2325 FAX (575) 393-2475

Page 15 of 15



**APPENDIX IV**

**FINAL 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 April 3, 2017

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: Lime Rock Resources II-A, L.P.	Contact: Mike Barrett
Address: 1111 Bagby Street Suite 4600, Houston, TX, 77002	Telephone No. 575-365-9724
Facility Name: West Red Lake Unit #41	Facility Type: Oil

Surface Owner: BLM	Mineral Owner: Federal	API No. 30-015-28443
--------------------	------------------------	----------------------

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	7	18S	27E	330	North	1800	East	Eddy

Latitude 32.7687035 Longitude -104.3148575 NAD83

#### NATURE OF RELEASE

Type of Release: Produced water	Volume of Release: 323 bbls	Volume Recovered: 40 bbls
Source of Release: Flowline	Date and Hour of Occurrence 8/5/2017 @ 10:00 a.m.	Date and Hour of Discovery 8/5/2017 @ 11:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver-NMOCD Shelly Tucker-BLM	
By Whom? Sheldon Hitchcock-Talon/LPE	Date and Hour: 8/5/2017 @ 6:17 pm	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. Approx. 250 bbls	

If a Watercourse was Impacted, Describe Fully.\*

The fluid from the release flowed into a drainage leading to the Pecos River. No fluid entered the river. The fluid was contained within earthen berms at the bottom of the flow path. Lined sumps were built in the upper and lower portion of the drainage so that any runoff could be collected utilizing a vacuum truck.

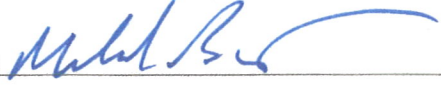
Describe Cause of Problem and Remedial Action Taken.\*

A flowline failed resulting in the release of approximately 323 bbls of produced water. A vacuum truck was utilized to recover approximately 40 bbls of produced water. The line was repaired and put back into service.

Describe Area Affected and Cleanup Action Taken.\*

The fluid from the release entered an adjacent drainage which flows into the Pecos River. No fluid entered the river. The fluid was contained at the end of the flow path with earthen berms. Lined sumps were constructed in the upper and lower of the drainage so that any fluid running down the flow path would be captured. The upper and lower portions of the draw were flushed with fresh water on two separate occasions. The water used to flush the draw was collected from the sumps utilizing a vacuum truck. The impacted areas were excavated to a depth of 1.5-feet. Conformation samples were collected from the draw and flow path. All contaminated soil was transported to Lea Land, LLC an approved NMOC disposal facility. The excavated area was backfilled with clean caliche obtained from Lea Land LLC, and machine compacted to match the surrounding location.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Mike Barrett	Approved by Environmental Specialist:	
Title: Production Superintendent	Approval Date:	Expiration Date:
E-mail Address: <a href="mailto:mbarrett@limerockresources.com">mbarrett@limerockresources.com</a>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 12/19/17	Phone: 575-365-9724	

\* Attach Additional Sheets If Necessary



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 April 3, 2017

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 Lime Rock Resources II-A, L.P.	Contact Mike Barrett
Address 1111 Bagby St. Ste. 4600, Houston, TX 77002	Telephone No. 575-365-9724
Facility Name <b>West Red Lake Unit #41</b>	Facility Type Oil
Surface Owner BLM	Mineral Owner Federal
API No. 30-015-28443	

#### LOCATION OF RELEASE

Unit Letter B	Section 7	Township 18S	Range 27E	Feet from the 330	North/South Line North	Feet from the 1800	East/West Line East	County Eddy
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Latitude 32.7687035 Longitude -104.3148575 NAD83

#### NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 323bbls	Volume Recovered 40bbls
Source of Release Flowline	Date and Hour of Occurrence 8/5/2017 @ 10:00am	Date and Hour of Discovery 8/5/2017 @ 11:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver-NMOCD Shelly Tucker-BLM	
By Whom? Sheldon Hitchcock	Date and Hour 8/5/2017 @ 6:17pm	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. Approx. 250bbls	

If a Watercourse was Impacted, Describe Fully.\*

The fluid from the release flowed into a drainage leading to the Pecos River. **No fluid entered the river.** The fluid was contained with earthen berms at the bottom of the flow path. Lined sumps were built in the upper and lower portion of the drainage so that any runoff could be collected utilizing a vacuum truck.

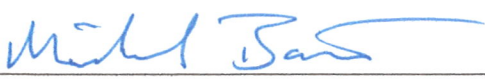
Describe Cause of Problem and Remedial Action Taken.\*

A flowline failed resulting in the release of approximately 323bbls of produced water. A vacuum truck was utilized to recover approximately 40bbls of produced water. The line was repaired and put back into service.

Describe Area Affected and Cleanup Action Taken.\*

The fluid from the release entered an adjacent drainage which flows into the Pecos River. No fluid entered the river. The fluid was contained at the end of the flow path with earthen berms. Lined sumps were constructed in the upper and lower portions of the drainage so that any fluid running down the drainage will be captured. In an effort to mitigate impacts from the release the draw was flushed with fresh water. The water was recovered from the sumps following the flush utilizing vacuum trucks. Soil samples were taken from the draw after the flush in order to determine the extent of the soil impacts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Mike Barrett	Approved by Environmental Specialist:	
Title: Production Superintendent	Approval Date:	Expiration Date:
E-mail Address: mbarrett@limerockresources.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/10/2017	Phone: 575-365-9724	

\* Attach Additional Sheets If Necessary