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## **Soil Assessment, Remediation and Closure Report**

Logan Transfer Line  
API # 30-015-32179  
Talon Project No. 701307.110.01

### **Prepared For:**

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

### **Prepared By:**

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

**July 19, 2018**

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

Subject:       **Soil Assessment and Remediation Work Plan**  
                    Logan Transfer Line  
                    API # 30-015-32179

Dear Mr. Bratcher,

Lime Rock Resources has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment, remediation activities and closure request are submitted herein.

### **Site Information**

The Logan Transfer Line is located approximately 10 miles E of Artesia, New Mexico. The legal location for this release is Unit Letter G, Section 2, Township 18 South and Range 27 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.7824554 North and -104.2548904 West. A site plan 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 Reeves Gypsum complex with 0 to 3 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is loam and comprised of clay loam and gypsiferous formations. These are made up of loamy soils under lain by hard weathered gypsum rock and caliches. Drainage courses in this area are well drained.

### **Ground Water and Site Ranking**

The New Mexico State Engineer web site indicates the nearest groundwater is 50' below ground surface (BGS). See [Appendix II](#) for the referenced groundwater data.

Therefore the ranking for this site is a 10 based on the following:

Depth to ground water	50-99'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Based upon the site ranking of 10, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene and 1,000 mg/kg for TPH. The recommended guidelines for total chlorides are 600 mg/kg.

## Incident Description and Initial Remedial Actions

On May 5, 2018, the 4-inch poly produced water transfer line split resulting in a release of mixed fluids, estimating 35 bbls of PW and 2 bbls oil. The pump was shut down and a repair clamp was installed to stop the leak. A vac truck was dispatched to pick up standing fluids but no fluids were recovered. Talon mobilized personnel to the location for the initial site assessment and soil sample collection. A site plan is presented in [Appendix I](#) which illustrates the impacted area. The initial and final C-141 is provided in [Appendix II](#).

On June 5, 2018, Talon personnel and equipment mobilized to the site to carry out an initial site assessment. Soil samples were collected and field titrated for total chlorides. A backhoe was used to push up and stockpile contaminated soil that was transported to Lea Land, LLC, a NMOC approved solid waste facility.

On June 20, 2018, Talon personnel mobilized to the site to carry out additional soil sampling. Soil samples were collected utilizing a hand auger to depths at which refusal (rock) was encountered. Refusal was encountered at depths of 1.0 foot BGS at all sample locations. Based on the laboratory results, further delineation was completed vertically and horizontally utilizing a backhoe. Aerial pictures of the excavated site are provided in [Appendix III](#).

On July 17, 2018, Talon personnel mobilized to the site to carry out confirmation soil sampling upon completion of remedial actions. Soil samples were collected utilizing a hand auger. Analytical results for all soil samples collected are presented in the following data tables.

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

June 20, 2018 Samples				
Sample ID	Depth (feet)	Chlorides (mg/kg)	BTEX (mg/kg)	TPH (mg/kg)
S-1	1.0	32	--	--
N. Sidewall	0	48	--	--
S. Sidewall	0	1200	--	--
S-2	1.0	48	--	--
N. Sidewall	0	--	--	--
S. Sidewall	0	80	--	--
S-3	1.0	23,200	--	--
S. Sidewall	0	8,960	--	--
S-4	1.0	2,400	--	--
N. Sidewall	0	9,200	--	--



<b>S-5</b>	1.0	368	--	--
<b>N. Sidewall</b>	0	6,720	--	--
<b>S. Sidewall</b>	0	14,500	--	--
<b>BG-1</b>	0	--	--	--
<b>BG-2</b>	0	48	--	--
<b>BG-3</b>	0	32	--	--
<b>BG-4</b>	0	48	--	--
<b>BG-5</b>	0	32	--	--

<b>June 17, 2018 Confirmation Soil Samples</b>				
<b>Sample ID</b>	<b>Depth (feet)</b>	<b>Chlorides (mg/kg)</b>	<b>BTEX (mg/kg)</b>	<b>TPH (mg/kg)</b>
<b>S-1 South Sidewall</b>	1.0	176	--	--
<b>S-3 South Sidewall</b>	1.0	32	--	--
<b>S-3</b>	1.5	32	--	--
<b>S-4</b>	1.5	48	--	--
<b>S-4 North Sidewall</b>	1.5	144	--	--
<b>S-5 South Sidewall</b>	1.0	112	--	--
<b>S-5 North Sidewall</b>	1.0	416	--	--

--Analyte Not Tested



**Remedial Actions Taken:**

- The impacted soil from the area of S-1 to S-5 was initially excavated to a depth of 1.0 foot BGS.
- Once the initial lab data was analyzed, further delineation was needed vertically and horizontally.
- The impacted areas at S-3 and S-4 were subsequently excavated to a depth of 1.5 feet BGS.
- Horizontal sidewall excavation continued until all sample analysis was below NMOCD RRAL's.
- All of the excavated material was hauled to Lea Land LLC, a NMOCD approved disposal facility.
- The excavated areas were backfilled with new sand, contoured to match the surrounding terrain and will be seeded with BLM seed mixture #4.

**Closure**

On behalf of Lime Rock Resources we respectfully request that no further actions be required at this site and that closure with regard to this incident be granted.

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

Chris Jones  
Project Manager



David J. Adkins  
District Manager

**Attachments:**

- Appendix I Site Plan
- Appendix II Groundwater Data & Initial C-141
- Appendix III Aerial Photos
- Appendix IV Laboratory Results

## APPENDIX I

### SITE PLAN

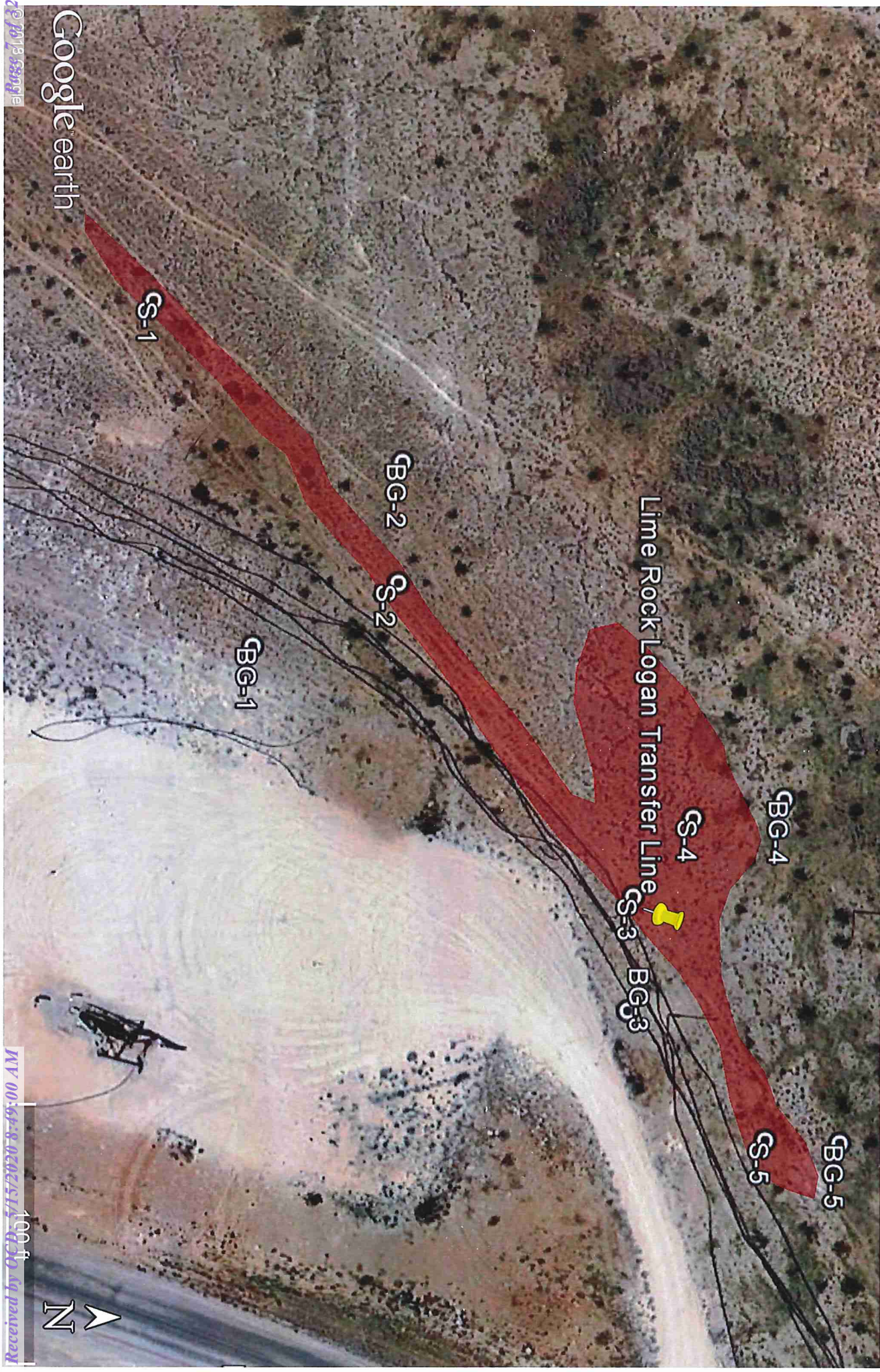


# Lime Rock

Logan Transfer line

**Legend**

- Impacted area
- Lime Rock Logan Transfer Line
- Sample Locations





## APPENDIX II

### GROUNDWATER DATA

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	Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
RA 03917			LE	4	1	2	10	18S	27E	569019	3625660*	1911	130	50	80

Average Depth to Water: 50 feet

Minimum Depth: 50 feet

Maximum Depth: 50 feet

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 569776.32 Northing (Y): 3627414.8 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.

7/9/18 12:35 PM WATER COLUMN/ AVERAGE DEPTH TO WATER

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: Logan 35 Water Transfer Line	Facility Type: Transfer Line
Surface Owner: BLM	Mineral Owner: Federal
API No. 30-015-	

#### LOCATION OF RELEASE

Unit Letter G	Section 2	Township 18S	Range 27E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	--------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude 32.7824554 Longitude -104.2548904 NAD83

#### NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 35 bbls	Volume Recovered: 2 bbls
Source of Release: 4" Poly line split	Date and Hour of Occurrence 5/30/2018	Date and Hour of Discovery: 5/30/2018 @ 4:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher-NMOCD	
By Whom? Kimberly M. Wilson -Talon/LPE	Date and Hour: 5/31/2018	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* A 4-inch poly line split north of Apache MJ State #2 location in the pasture. The pump to the Logan Transfer line was shut down and the poly line was repaired. A vac truck was immediately called to the location but due to high temps the spray dried quickly. Talon/LPE was contracted to do site assessment, remediation and sampling activities.		
Describe Area Affected and Cleanup Action Taken.* At the release point the impacted area measures approximately 60' x 50' feet. To the west and east the fluid ran down a cow trail measuring 1' x 90' on each side. Excavation activities are in progress and soil samples will be obtained.		
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: 	OIL CONSERVATION DIVISION	
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: 6/7/18 Phone: 575-365-9724		

\* Attach Additional Sheets If Necessary



District I  
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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.  
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Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

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☐ 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: <b>Logan 35 Water Transfer Line</b>	Facility Type: Transfer Line

Surface Owner: Private	Mineral Owner: Federal	API No. 30-015-32179
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#### LOCATION OF RELEASE

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Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher-NMOCD	
By Whom? Kimberly M. Wilson -Talon/LPE	Date and Hour: 5/31/2018	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		

Describe Cause of Problem and Remedial Action Taken.\* A 4-inch poly line split north of Apache MJ State #2 location in the pasture (API # above). The pump to the Logan Transfer line was shut down and the poly line was repaired. A vac truck was immediately called to the location but due to high temps the spray dried quickly. No fluids recovered. Talon/LPE was contracted to do site assessment and remediation activities.

Describe Area Affected and Cleanup Action Taken.\* At the release point the impacted area measures approximately 60' x 50' feet. To the west and east the fluid ran down a cow trail measuring 1' x 90' on each side. Excavation activities are completed and confirmation bottom and sidewall samples are in compliance with NMOCD RRAL's. A formal site characterization and closure report is attached. Lime Rock is respectfully requesting closure for this incident.

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

#### OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist:		
Printed Name: Mike Barrett	Approval Date:		
Title: Production Superintendent	Expiration Date:		Attached <input type="checkbox"/>
E-mail Address: mbarrett@limerockresources.com	Conditions of Approval:		
Date: 7/19/18 Phone: 575-365-9724			

\* Attach Additional Sheets If Necessary

## APPENDIX III

### Aerial Pictures of Excavation



2

# Logan Transfer Line





Logan

4





9

Logan





2

Logan





## APPENDIX IV

### LABORATORY DATA



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

June 27, 2018

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: LOGAN TRANSFER LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/20/18 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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: 06/20/2018  
 Reported: 06/27/2018  
 Project Name: LOGAN TRANSFER LINE  
 Project Number: 701307.110.01  
 Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 06/19/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S- 1 1' (H801686-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/21/2018	ND	400	100	400	3.92	

**Sample ID: S- 1 NORTH SIDEWALL (H801686-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/21/2018	ND	400	100	400	3.92	

**Sample ID: S- 1 SOUTH SIDEWALL (H801686-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	06/21/2018	ND	400	100	400	3.92	

**Sample ID: S- 2 1' (H801686-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/21/2018	ND	400	100	400	3.92	

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:	06/20/2018	Sampling Date:	06/19/2018
Reported:	06/27/2018	Sampling Type:	Soil
Project Name:	LOGAN TRANSFER LINE	Sampling Condition:	Cool & Intact
Project Number:	701307.110.01	Sample Received By:	Tamara Oldaker
Project Location:	LIMEROCK - EDDY CO NM		

**Sample ID: S- 2 NORTH SIDEWALL (H801686-05)**

Chloride, SM4500CI-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	06/21/2018	ND	400	100	400	3.92	

**Sample ID: S- 2 SOUTH SIDEWALL (H801686-06)**

Chloride, SM4500CI-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	06/21/2018	ND	400	100	400	3.92	

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ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 06/20/2018  
Reported: 06/27/2018  
Project Name: LOGAN TRANSFER LINE  
Project Number: 701307.110.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 06/19/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S- 3 1' (H801686-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2018	ND	1.83	91.6	2.00	4.05	
Toluene*	<0.050	0.050	06/22/2018	ND	1.83	91.3	2.00	3.38	
Ethylbenzene*	<0.050	0.050	06/22/2018	ND	1.81	90.6	2.00	3.64	
Total Xylenes*	<0.150	0.150	06/22/2018	ND	5.66	94.3	6.00	3.06	
Total BTEX	<0.300	0.300	06/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PII) 117 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	23200	16.0	06/21/2018	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	06/21/2018	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	06/21/2018	ND	215	108	200	5.85	
EXT DRO >C28-C36	<10.0	10.0	06/21/2018	ND					

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 76.9 % 37.6-147

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Reported: 06/27/2018  
Project Name: LOGAN TRANSFER LINE  
Project Number: 701307.110.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 06/19/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S- 3 SOUTH SIDEWALL (H801686-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2018	ND	1.83	91.6	2.00	4.05	
Toluene*	<0.050	0.050	06/22/2018	ND	1.83	91.3	2.00	3.38	
Ethylbenzene*	<0.050	0.050	06/22/2018	ND	1.81	90.6	2.00	3.64	
Total Xylenes*	<0.150	0.150	06/22/2018	ND	5.66	94.3	6.00	3.06	
Total BTX	<0.300	0.300	06/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 114 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8960	16.0	06/21/2018	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	06/21/2018	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	06/21/2018	ND	215	108	200	5.85	
EXT DRO >C28-C36	<10.0	10.0	06/21/2018	ND					

Surrogate: 1-Chlorooctane 81.0 % 41-142

Surrogate: 1-Chlorooctadecane 79.3 % 37.6-147

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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: 06/20/2018  
Reported: 06/27/2018  
Project Name: LOGAN TRANSFER LINE  
Project Number: 701307.110.01  
Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 06/19/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S- 4 1' (H801686-09)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	06/21/2018	ND	400	100	400	3.92		

**Sample ID: S- 4 NORTH SIDEWALL (H801686-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	06/21/2018	ND	400	100	400	3.92	

**Sample ID: S- 5 1' (H801686-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	06/21/2018	ND	432	108	400	3.77		

**Sample ID: S- 5 NORTH SIDEWALL (H801686-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6720	16.0	06/21/2018	ND	432	108	400	3.77	

**Sample ID: S- 5 SOUTH SIDEWALL (H801686-13)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	14500	16.0	06/21/2018	ND	432	108	400	3.77		

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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: 06/20/2018  
 Reported: 06/27/2018  
 Project Name: LOGAN TRANSFER LINE  
 Project Number: 701307.110.01  
 Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 06/19/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BG - 1 (H801686-14)**

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	06/21/2018	ND	432	108	400	3.77	

**Sample ID: BG - 2 (H801686-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/21/2018	ND	432	108	400	3.77	

**Sample ID: BG - 3 (H801686-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/21/2018	ND	432	108	400	3.77	

**Sample ID: BG - 4 (H801686-17)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/21/2018	ND	432	108	400	3.77	

**Sample ID: BG - 5 (H801686-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/21/2018	ND	432	108	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

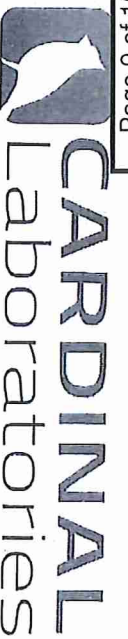
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

Company Name: <b>TALVO/LPE</b>		P.O. #: <b>701307.110.01</b>		ANALYSIS REQUEST	
Project Manager: <b>DAVID ADKINS</b>		Company: <b>TALVO/LPE</b>			
Address: <b>408 W Texas Ave</b>		Attn:			
City: <b>Artesia</b>		Address:			
State: <b>NM</b> Zip: <b>88210</b>		City:			
Phone #:		Address:			
Fax #:		City:			
Project #: <b>701307.110.01</b> Project Owner: <b>Line Rock</b>		State:			
Project Name: <b>Logan Transfer Line</b>		Zip:			
Project Location: <b>addy Co, NM</b>		Phone #:			
Sample Name: <b>Carlos Tamarillo</b>		Fax #:			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H801684	S-1	1'	1							6/19/18		TOTAL CHLORIDES
	S-1	N. sidewall	1									BTEX
	S-1	S. sidewall	1									TPH EXT.
	S-2	1'	1									
	S-2	N. sidewall	1									
	S-2	S. sidewall	1									
	S-3	1'	1									
	S-3	S. sidewall	1									
	S-4	1'	1									
	S-4	N. sidewall	1									

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Relinquished By: **CL Adkins** Date: **6-20-18** Time: **11:40**

Received By: **Guillermo Velazquez** Date: **6-20-18** Time: **11:40**

Delivered By: (Circle One) **3.12** Sample Condition: ☒ Cool ☐ Intact ☐ Yes ☐ No

Sampler - UPS - Bus - Other: **Preserved 3.05C** ☐ Yes ☐ No

CHECKED BY: **VE. HJS**

REMARKS: **P. 1 of 2**

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326





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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

July 18, 2018

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: LOGAN TRANSFER LINE

Enclosed are the results of analyses for samples received by the laboratory on 07/17/18 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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





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**Analytical Results For:**

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

Received: 07/17/2018  
 Reported: 07/18/2018  
 Project Name: LOGAN TRANSFER LINE  
 Project Number: 701307.110.01  
 Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 07/16/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S- 1 SOUTH SIDEWALL 1' (H801940-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	07/17/2018	ND	432	108	400	0.00	

**Sample ID: S- 3 SOUTH SIDEWALL 1' (H801940-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/17/2018	ND	432	108	400	0.00	

**Sample ID: S- 4 1.5' (H801940-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/17/2018	ND	432	108	400	0.00	

**Sample ID: S- 4 NORTH SIDEWALL 1.5' (H801940-04)**

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	07/17/2018	ND	432	108	400	0.00	

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**Analytical Results For:**

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

Received: 07/17/2018  
 Reported: 07/18/2018  
 Project Name: LOGAN TRANSFER LINE  
 Project Number: 701307.110.01  
 Project Location: LIMEROCK - EDDY CO NM

Sampling Date: 07/16/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S- 5 NORTH SIDEWALL 1' (H801940-05)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	07/17/2018	ND	432	108	400	0.00	

**Sample ID: S- 5 SOUTH SIDEWALL 1' (H801940-06)**

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	07/17/2018	ND	432	108	400	0.00	

**Sample ID: S- 3 1.5' (H801940-07)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/17/2018	ND	432	108	400	0.00	

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### 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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