

talonlpe.com • 866.742.0742



Soil Assessment and Remediation Work Plan

Shakespeare 20 Federal Com #3 * 30-015-37193 * 2RP-3992

Talon Project No. 700794.210.01

Prepared For:

Devon Energy Production
6488 Seven Rivers Hwy
Artesia, New Mexico 88210

Prepared By:

Kimberly M. Wilson
Talon/LPE
408 West Texas
Artesia, New Mexico 88210

February 23, 2017

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

Subject: **Soil Assessment and Remediation Work Plan**
 Shakespeare 20 Federal #3
 API # 30-015-37913 * 2RP-3992

Dear Mr. Bratcher,

Devon Energy (Devon) has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

Site Information

The Shakespeare 20 Federal #3 is located approximately seventeen (17) miles southeast of Artesia, New Mexico. The legal location for this site is Unit Letter E of Section 20, Township 16 South, and Range 28 East in Eddy County, New Mexico. More specifically the latitude and longitude for the location are 32.9093819 North and -104.2042694 West. See site plan in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service (NRCS), the soil in this area is made up of the soil in this area is made up of Largo-Stony land complex soils with 0 to 25 percent slopes. The local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of older alluvial deposits of upland plains and piedmont areas which include calcareous alluvium and silty loamy soils underlain by hard caliches. Drainage courses in this area are normally dry.

Ground Water and Site Ranking

According to the New Mexico State Engineer web site there is no published groundwater information within 3500 meters of the release area. See [Appendix II](#) for the referenced groundwater data.

Depth to ground water	>100'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Based upon the site ranking of **0**, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 5,000 mg/kg for TPH and recommended guidelines for total chlorides is 1,000 mg/kg.

Incident Description

The flow line was found to be leaking due to a possible gunshot hole causing 10 barrels of produced water and 0.5 barrels oil to be released into the pasture. A vac truck was called to the location and recovered 0.5 barrels of fluid. The flow line was isolated and repaired. A site plan is presented in [Appendix I](#) which illustrates the impacted area.

On February 16, 2017 Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected utilizing a backhoe. Laboratory results are presented below.

Laboratory Results

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

February 19, 2017

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	33.5	4720	511	11800
	1'	<0.300	608	<10	39.2
	2'	<0.300	2340	<10	159
	3'	<0.300	48	<10	<10
	4'	<0.300	48	<10	<10
	5'	<0.300	32	<10	<10
S-2	0'	<0.300	32	<10	<10
	1'	<0.300	48	<10	<10
	2'	<0.300	32	<10	<10
	3'	<0.300	112	<10	<10
	4'	<0.300	96	<10	<10
	5'	<0.300	96	<10	<10
S-3	0'	<0.300	1440	<10	2540
	1'	<0.300	80	<10	97.3
	2'	<0.300	96	<10	<10
	3'	<0.300	240	<10	33.9
	4'	<0.300	304	<10	<10
	5'	<0.300	368	<10	<10

Proposed Remedial Actions

- The impacted soil in the vicinity of sample location S-1 will be excavated to a depth of 2-feet deep and the impacted soil at S-3 will be excavated to a depth of 0.5-feet deep.
- All contaminated soil will be transported to Lea Land, LLC, a NMOCD approved disposal facility.
- The excavated area will be backfilled with top soil and reseeded with the BLM recommended seed mixture utilizing a culti-pack seed drill.
- A final closure report documenting all remedial actions will be provided to the NMOCD Artesia Office along with a Final C-141 Form.

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



Kimberly M. Wilson
Project Manager



David J. Adkins
District Manager

Attachments:

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

APPENDIX I

SITE MAP

Shakespeare 20 Fed Com #3H

Legend

- Sample Points
- Impacted Area
- 📌 SHAKESPEARE 20 FEDERAL COM #003H

SHAKESPEARE 20 FEDERAL COM #003H

S-1

S-2

S-3



100 ft

APPENDIX II
GROUNDWATER DATA
INITIAL C-141



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 574308

Northing (Y): 3641858

Radius: 3500

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.

2/23/17 11:34 AM

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

NM OIL CONSERVATION
ARTESIA DISTRICT
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
NOV 10 2016
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.
RECEIVED

Release Notification and Corrective Action

NAB1631956A22 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company <u>U137</u>		Contact Matt Nettles, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210		Telephone No. 575.513.5767
Facility Name Shakespeare 20 Federal Com 3H		Facility Type Oil Well

Surface Owner Federal	Mineral Owner Federal	API No 30-015-37193
-----------------------	-----------------------	---------------------

LOCATION OF RELEASE

Unit Letter E	Section 20	Township 16S	Range 28E	Feet from the 2140	North/South Line FNL	Feet from the 660	East/West Line FWL	County Eddy
------------------	---------------	-----------------	--------------	-----------------------	-------------------------	----------------------	-----------------------	----------------

Latitude: 32.9093819

Longitude: -104.2042694

NATURE OF RELEASE

Type of Release Produced Water (PW) & Oil	Volume of Release 10BBL PW, .5BBL Oil	Volume Recovered .5BBL PW, 0BBL Oil
Source of Release Hole in flowline	Date and Hour of Occurrence 11/6/2016 @ 1:45PM	Date and Hour of Discovery 11/6/2016 @ 1:45PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM-Jim Amos OCD-Kelly Jones	
By Whom? Gilbert Sanchez, Assistant Foreman	Date and Hour BLM: 11/6/2016@1:45PM OCD: 11/6/2016@1:46PM	
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.* The flowline from the Shakespeare 20 Fed Com 3H developed a hole possibly from a gunshot. The flow line was isolated and a new clamp was installed to prevent further release. Repairs were made.		
Describe Area Affected and Cleanup Action Taken.* Approximately 10BBLs of produced water and .5BBLs oil was released from the flowline onto the lease road. The release originated on the North side of the pasture and flowed onto the lease road in a southwestern direction. The hole in the flow line also produced a spray mist that affected approximately a 40ft by 40ft area. The approximate size of the flow was 6ft by 100ft from the pasture to the lease road. .5BBLs produced water and 0BBLs oil were recovered via vacuum truck. An environmental agency will be contacted for remediation.		
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: <u>Dana DeLaRosa</u>	OIL CONSERVATION DIVISION	
Printed Name: Dana DeLaRosa	Signed By <u>[Signature]</u> Approved by Environmental Specialist:	
Title: Field Admin Support	Approval Date: <u>11/14/16</u>	Expiration Date: <u>N/A</u>
E-mail Address: <u>dana.delarosa@dmv.com</u>	Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 11/8/2016 Phone: 575.746.5594		

* Attach Additional Sheets If Necessary

2RD-3092

APPENDIX III

LABORATORY RESULTS

February 19, 2017

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: SHAKESPEARE 20 #3

Enclosed are the results of analyses for samples received by the laboratory on 02/17/17 9:30.

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.


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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-1 0' (H700414-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	0.979	0.500	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	8.80	0.500	02/18/2017	ND	1.98	99.1	2.00	0.582	QM-07
Total Xylenes*	23.7	1.50	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	33.5	3.00	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 111 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	511	50.0	02/17/2017	ND	182	90.9	200	3.52	
DRO >C10-C28	11800	50.0	02/17/2017	ND	185	92.5	200	8.68	

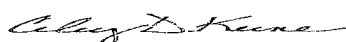
Surrogate: 1-Chlorooctane 131 % 35-147

Surrogate: 1-Chlorooctadecane 202 % 28-171

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-1 1' (H700414-02)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 73.6-140

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	182	90.9	200	3.52	
DRO >C10-C28	39.2	10.0	02/17/2017	ND	185	92.5	200	8.68	

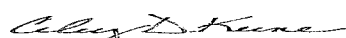
Surrogate: 1-Chlorooctane 86.8 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-1 2' (H700414-03)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	182	90.9	200	3.52	
DRO >C10-C28	159	10.0	02/17/2017	ND	185	92.5	200	8.68	

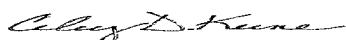
Surrogate: 1-Chlorooctane 76.7 % 35-147

Surrogate: 1-Chlorooctadecane 96.8 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-1 3' (H700414-04)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	182	90.9	200	3.52	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	185	92.5	200	8.68	

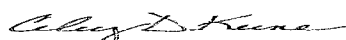
Surrogate: 1-Chlorooctane 81.8 % 35-147

Surrogate: 1-Chlorooctadecane 98.6 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-1 4' (H700414-05)

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	02/18/2017	ND	2.11	105	2.00	1.07		
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580		
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582		
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374		
Total BTEX	<0.300	0.300	02/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 99.4 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00		

TPH 8015M			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	02/17/2017	ND	182	90.9	200	3.52		
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	185	92.5	200	8.68		

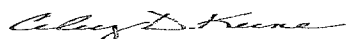
Surrogate: 1-Chlorooctane 65.7 % 35-147

Surrogate: 1-Chlorooctadecane 82.9 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-1 5' (H700414-06)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	182	90.9	200	3.52	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	185	92.5	200	8.68	

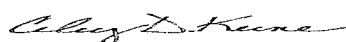
Surrogate: 1-Chlorooctane 79.8 % 35-147

Surrogate: 1-Chlorooctadecane 98.0 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 02/17/2017
 Reported: 02/19/2017
 Project Name: SHAKESPEARE 20 #3
 Project Number: 700794.210.01
 Project Location: EDDY CO.

 Sampling Date: 02/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-2 0' (H700414-07)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.7 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	196	97.8	200	6.66	

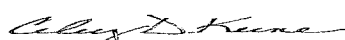
Surrogate: 1-Chlorooctane 79.2 % 35-147

Surrogate: 1-Chlorooctadecane 87.8 % 28-171

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 02/17/2017
 Reported: 02/19/2017
 Project Name: SHAKESPEARE 20 #3
 Project Number: 700794.210.01
 Project Location: EDDY CO.

 Sampling Date: 02/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-2 1' (H700414-08)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.2 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

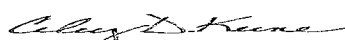
Surrogate: 1-Chlorooctane 75.5 % 35-147

Surrogate: 1-Chlorooctadecane 90.9 % 28-171

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-2 2' (H700414-09)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

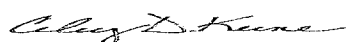
Surrogate: 1-Chlorooctane 70.7 % 35-147

Surrogate: 1-Chlorooctadecane 81.2 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-2 3' (H700414-10)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 73.6-140

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	02/19/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

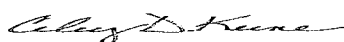
Surrogate: 1-Chlorooctane 74.7 % 35-147

Surrogate: 1-Chlorooctadecane 88.6 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-2 4' (H700414-11)

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	02/18/2017	ND	2.11	105	2.00	1.07		
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580		
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582		
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374		
Total BTX	<0.300	0.300	02/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 99.5 % 73.6-140

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	02/19/2017	ND	416	104	400	0.00		

TPH 8015M			mg/kg							Analyzed By: MS
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	02/18/2017	ND	187	93.6	200	3.41		
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66		

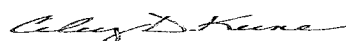
Surrogate: 1-Chlorooctane 64.4 % 35-147

Surrogate: 1-Chlorooctadecane 77.0 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-2 5' (H700414-12)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/19/2017	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

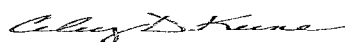
Surrogate: 1-Chlorooctane 78.1 % 35-147

Surrogate: 1-Chlorooctadecane 91.8 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 02/17/2017
Reported: 02/19/2017
Project Name: SHAKESPEARE 20 #3
Project Number: 700794.210.01
Project Location: EDDY CO.

Sampling Date: 02/16/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-3 0' (H700414-13)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.4 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1440	16.0	02/19/2017	ND	464	116	400	10.9	QM-07

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	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	2540	10.0	02/18/2017	ND	196	97.8	200	6.66	

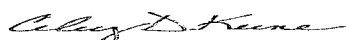
Surrogate: 1-Chlorooctane 83.8 % 35-147

Surrogate: 1-Chlorooctadecane 165 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-3 1' (H700414-14)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.8 % 73.6-140

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	02/19/2017	ND	464	116	400	10.9	

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	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	97.3	10.0	02/18/2017	ND	196	97.8	200	6.66	

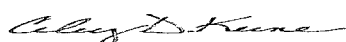
Surrogate: 1-Chlorooctane 74.2 % 35-147

Surrogate: 1-Chlorooctadecane 86.9 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-3 2' (H700414-15)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.5 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/19/2017	ND	464	116	400	10.9	

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	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

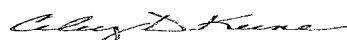
Surrogate: 1-Chlorooctane 75.1 % 35-147

Surrogate: 1-Chlorooctadecane 88.0 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-3 3' (H700414-16)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.2 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/19/2017	ND	464	116	400	10.9	

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	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	33.9	10.0	02/18/2017	ND	196	97.8	200	6.66	

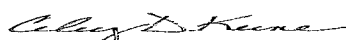
Surrogate: 1-Chlorooctane 68.4 % 35-147

Surrogate: 1-Chlorooctadecane 79.4 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-3 4' (H700414-17)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTEX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	02/19/2017	ND	464	116	400	10.9	

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	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

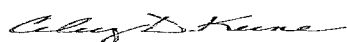
Surrogate: 1-Chlorooctane 80.6 % 35-147

Surrogate: 1-Chlorooctadecane 90.6 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/17/2017	Sampling Date:	02/16/2017
Reported:	02/19/2017	Sampling Type:	Soil
Project Name:	SHAKESPEARE 20 #3	Sampling Condition:	Cool & Intact
Project Number:	700794.210.01	Sample Received By:	Jodi Henson
Project Location:	EDDY CO.		

Sample ID: S-3 5' (H700414-18)

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	02/18/2017	ND	2.11	105	2.00	1.07	
Toluene*	<0.050	0.050	02/18/2017	ND	1.98	98.8	2.00	0.580	
Ethylbenzene*	<0.050	0.050	02/18/2017	ND	1.98	99.1	2.00	0.582	
Total Xylenes*	<0.150	0.150	02/18/2017	ND	5.66	94.4	6.00	0.374	
Total BTX	<0.300	0.300	02/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 73.6-140

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	02/19/2017	ND	464	116	400	10.9	

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	02/18/2017	ND	187	93.6	200	3.41	
DRO >C10-C28	<10.0	10.0	02/18/2017	ND	196	97.8	200	6.66	

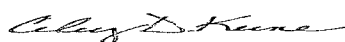
Surrogate: 1-Chlorooctane 82.6 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

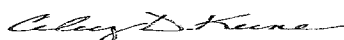
Notes and Definitions

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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

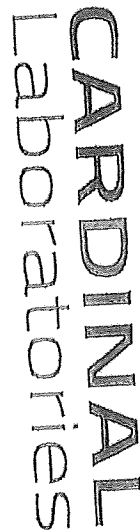
Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

Page 21 of 22

Company Name: Talon/LPE
Project Manager: Kimberly Wilson
Address: 408 W. Texas Ave.
City: Artesia
Phone #: 575-746-8768
Fax #: 575-746-8905
Project #: 700794.210.01
Project Name: Shaleogapare
Project Location: Eddy City
Sampler Name: Kim Wilson

P.O. #:
Company: Talon/LPE
Attn:
Address:
City:
State:
Zip:

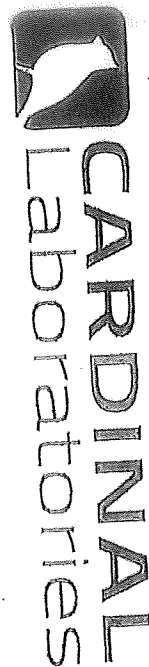
State: NM **zip:** 88210
Phone #: 575-746-8905
Fax #: 575-746-8905
Project #: 700794.210.01
Project Name: Shaleogapare
Project Location: Eddy City
Sampler Name: Kim Wilson

State: NM **zip:** 88210
Phone #: 575-746-8905
Fax #: 575-746-8905
Project #: 700794.210.01
Project Name: Shaleogapare
Project Location: Eddy City
Sampler Name: Kim Wilson

Lab I.D.	Sample I.D.	DATE	TIME	MATRIX										PRESERV.	SAMPLING	ANALYSIS REQUEST
				(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE	ICE / COOL			
H700414	S-1 0'	4/6/17	12:00	/												Chlorides
	S-1 1'	4/6/17	12:04	/												TPH
	S-1 2'	4/6/17	12:08	/												BTEX
	S-1 3'	4/6/17	12:11	/												
	S-1 4'	4/6/17	12:15	/												
	S-1 5'	4/6/17	12:17	/												
	S-2 0'	4/6/17	12:21	/												
	S-2 1'	4/6/17	12:33	/												
	S-2 2'	4/6/17	12:39	/												
	S-2 3'	4/6/17	12:43	/												

Relinquished By: Kim Wilson
Received By: Kim Wilson
Date: 4/17/17
Time: 8:00
Sample Condition: Cool, Intact
Checked By: Kim Wilson
Delivered By: (Circle One) UPS - Bns - Other: 2.92
Sampler: UPS - Bns - Other:

REMARKS:
 RUSH



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 2

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

Company Name: Talon/LPE		P.O. #:	
Project Manager: Kimberly Wilson		Company: Talon/LPE	
Address: 408 W. Texas Ave.		Attn:	
City: Artesia		Address:	
Phone #: 575-746-8768		City:	
Fax #: 575-746-8905		State: Zip:	
Project #: 700794.210.01 Project Owner: DeLeon		Phone #:	
Project Name: Shaleopsis 20 #3		Fax #:	
Project Location: Eddy City		PRESERV.	
Sampler Name: Kim Wilson		SAMPLING	
FOR LAB USE ONLY			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS
		GROUNDWATER	
		WASTEWATER	
		SOIL	
		OIL	
		SLUDGE	
		OTHER:	
		ACID/BASE:	
		ICE/COOL	
		OTHER:	
		DATE	TIME
H100414	5-2 4'	1/16/17	12:57
11	5-2 4'	1/15	1:15
12	5-2 5-1	1/19	1:19
13	5-3 0'	1/22	1:22
14	5-3 1'	1/27	1:27
15	5-3 2'	1/35	1:35
16	5-3 3'	1/40	1:40
17	5-3 4'		
18	5-3 5-1		
RECEIVED BY: Kim Wilson		RECEIVED BY: Kim Wilson	
DATE: 2/17/17		DATE: 2/17/17	
TIME: 2:00		TIME: 2:00	
DELIVERED BY: (Circle One) UPS - Bus - Other: #75 2.90		CHECKED BY: (Initials)	
SAMPLER - UPS - Bus - Other: #75 2.90		CHECKED BY: (Initials)	
REMARKS:		REMARKS:	
REMARKS:		REMARKS:	

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