



February 10, 2016

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

Subject: **Soil Assessment and Remediation Work Plan**
Devon Energy Corporation
Cotton Draw Unit #135
30-015-38533 2RP-3437

Dear Mr. Bratcher,

Devon Energy 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.

Incident Date

The date of release was November 30, 2015

Background Information

The Cotton Draw Unit #135 is located approximately forty-five (45) miles southeast of Carlsbad, New Mexico. The legal location for this site is Unit Letter N, Section 2, Township 25 South and Range 31 East in Eddy County, New Mexico. More Specifically the latitude and longitude for the release are 32.15270 North and - 103.75207 West. The site plan is presented in **Appendix I**.

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of the Berino complex with 0 to 3 percent slopes, eroded. Drainage courses in this area are normally dry. Ground water in the project vicinity is approximately 860-feet below ground surface (bgs) according to the New Mexico Office of the State Engineer. See **Appendix II** for the referenced groundwater data.

The ranking for this site is **0** based on the following:

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

Incident Description

On November 30, 2015 the pump housing on the LACT unit malfunctioned causing 110 barrels of oil to be released from the tanks. All fluids remained on location north of the LACT unit. The valves on the oil tanks were shut in to prevent further oil to be released. A vac truck was immediately called to the location and recovered 100 barrels of oil. The pump was repaired on the LACT unit and put back into service.

Actions Taken

On February 3, 2015 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 hand auger to depths from surface to 4-feet below ground surface. Laboratory results from the soil sampling event are summarized in the table below and the sample locations are shown on the attached site plan.

All soil samples were collected by Talon personnel wearing clean nitrile gloves. The soil samples were placed in laboratory provided sample containers, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for TPH (Total Petroleum Hydrocarbons) using EPA Method 8015M, and volatile organics (BTEX) using EPA Method 8021B. The chloride samples were analyzed per Method SM4500Cl-B.

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

February 5, 2016

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	321	80	4580	13600
	1'	1.55	32	42.2	257
	2'	36.8	48	459	2220
	3'	<0.300	192	13.4	149
	4'	0.545	176	35.3	259
S-2	0'	211	48	3050	5820
	1'	<0.300	48	<10	68.7
	2'	0.578	112	<10	44.3
S-3	0'	2.82	96	23.5	1440
	1'	<0.300	48	<10	<10
	2'	<0.300	48	<10	12.1
S-4	0'	298	<16	4170	15200
	1'	2.54	<16	56.8	313
	2'	3.69	<16	76.1	321
	3'	1.23	<16	<10	38.5

Based upon the site ranking of 0, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, and 5,000 mg/kg for TPH. The chloride standard is considered to be 1,000 mg/kg.


Proposed Remedial Actions


- The impacted areas will be treated with high nitrogen fertilizer and mircoblaze (a bioremediation agent). Confirmation samples will be collected after 60 to 90 days to verify effectiveness of treatment. Multiple applications may be needed depending on the analytical results.
- Upon NMOCD and BLM approval of the confirmation samples, the impacted area will be seeded with the recommended seed mix for the area.
- A final closure report documenting all remedial actions and analytical results will be provided to the BLM and 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,

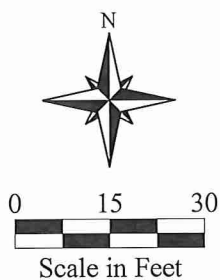
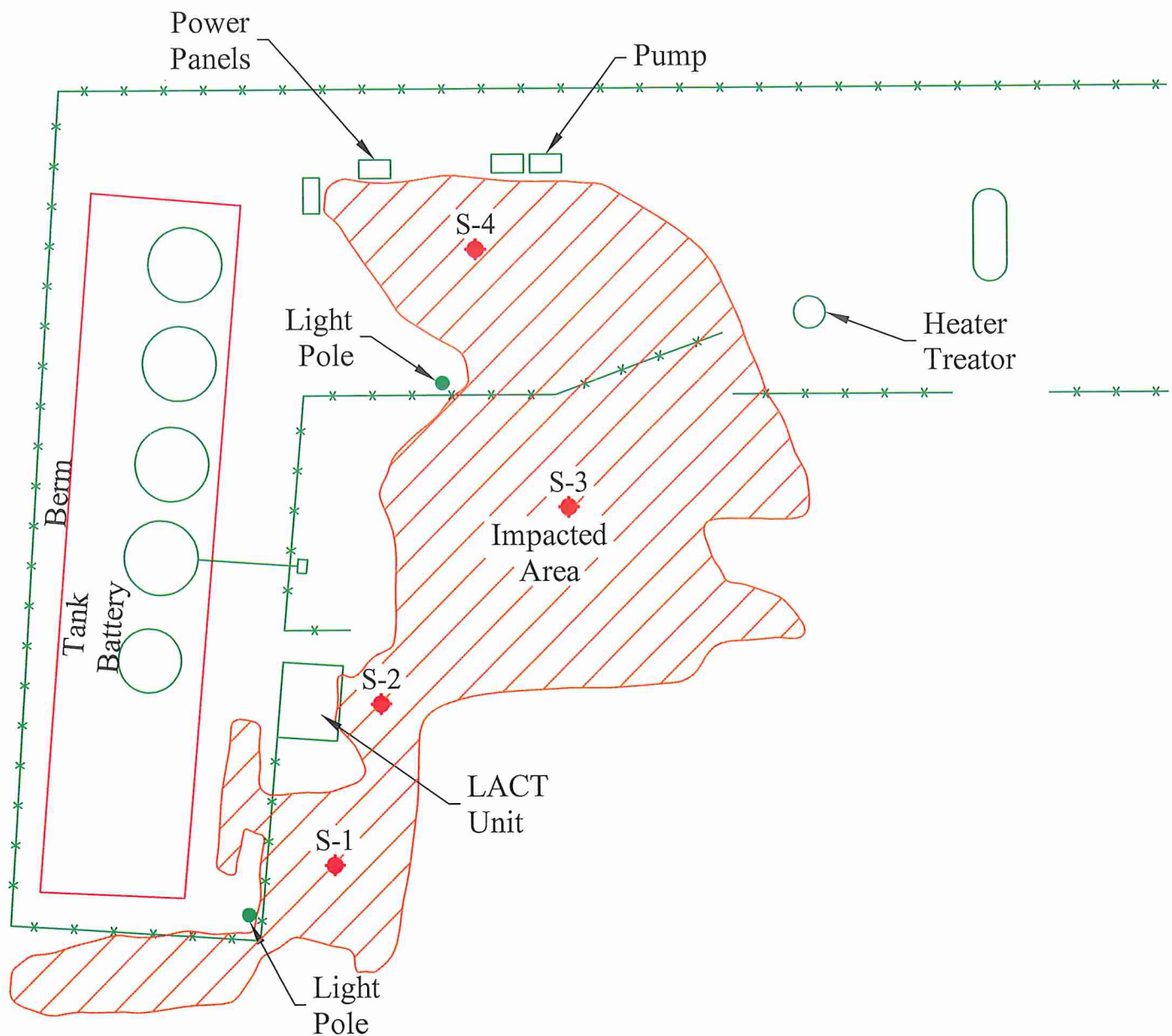
TALON/LPE


Kimberly M. Wilson
Project Manager


David J. Adkins
District Manager

APPENDIX I

SITE MAP



Legend	
◆	- Sample Location
—x—	- Fence Line



Date: 01/21/2016

Scale: 1" = 30'

Drawn By: TJS

Cotton Draw #135
Devon Energy Corporation
Eddy County, New Mexico
Figure 1 - Site Plan

APPENDIX II
GROUNDWATER DATA
INITIAL C-141



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

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

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

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02574			ED	1	1	2	02	25S	31E	618092	3559494*	853			
C 02571			ED	4	1	2	02	25S	31E	618292	3559294*	898	860		
C 02573			ED	1	4	2	02	25S	31E	618499	3559091*	1029			
C 02569			ED	4	4	2	02	25S	31E	618699	3558891*	1210	1016		
C 03830 POD1	CUB		ED	4	2	4	02	25S	31E	618632	3558432	1231	450		
C 02572			ED	4	2	2	02	25S	31E	618695	3559294*	1271	852		
C 02570			ED	4	2	4	02	25S	31E	618704	3558489*	1279	895		
C 02568			ED	4	3	1	01	25S	31E	619103	3558892*	1614	1025		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 617489

Northing (Y): 3558890

Radius: 3000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 08 2015

Form C-141
Revised August 8, 2011

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

RECEIVED

Release Notification and Corrective Action

NAB1534451906

OPERATOR		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company Devon Energy Production Company 6137		Contact Garry Michael, Production Foreman	
Address 6488 Seven Rivers Hwy Artesia, NM 88210		Telephone No. 575-513-4895	
Facility Name Cotton Draw Unit 135H		Facility Type Oil	
Surface Owner Federal		Mineral Owner State	API No 30-015-38533

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	2	25S	31E	200	South	1600	West	Eddy

Latitude: N 32°15'27.67"

Longitude: W -103°75'20.49"

NATURE OF RELEASE

Type of Release Spill Oil	Volume of Release 110bbls	Volume Recovered 100bbls
Source of Release Pump housing on LACT unit split in two	Date and Hour of Occurrence November 30, 2015 10:17 AM	Date and Hour of Discovery November 30, 2015 10:17 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Kellie Jones, OCD Jim Amos, BLM	
By Whom? Matt Nettles, Assistant Production Foreman	Date and Hour Kellie Jones, OCD December 1, 2015 10:15 AM Jim Amos, BLM December 1, 2015 10:17 AM	
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.*

Pump housing on the LACT unit had split in two causing the oil from oil tanks to spill over. This caused a 110bbl oil release. The valve on the oil tank was shut in to prevent any further release. The pump was repaired.

Describe Area Affected and Cleanup Action Taken.*

110bbls of oil was released on the North, North West side of the facility. 100bbls of oil was recovered via vacuum truck. The affected area was 100'x200'. All released fluid remained on location. Environmental agency to 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 NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Corina Moya	OIL CONSERVATION DIVISION	
Printed Name: Corina Moya	Signed By Mika Escamilla	
Title: Field Admin Support	Approved by Environmental Specialist:	
E-mail Address: corina.moya@dyn.com	Approval Date: 12/10/15	Expiration Date: N/A
Date: 12.3.2015 Phone: 575.746.5587	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO	

* Attach Additional Sheets If Necessary

LATER THAN: **11/5/16**

2RP-3437

APPENDIX III
LABORATORY RESULTS



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

February 05, 2016

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: COTTON DRAW #135

Enclosed are the results of analyses for samples received by the laboratory on 02/04/16 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-1 0' (H600250-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	18.5	2.00	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	117	2.00	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	28.7	2.00	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	157	6.00	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	321	12.0	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 109 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/05/2016	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	4580	100	02/04/2016	ND	195	97.5	200	3.79		
DRO >C10-C28	13600	100	02/04/2016	ND	199	99.3	200	2.63		

Surrogate: 1-Chlorooctane 191 % 35-147

Surrogate: 1-Chlorooctadecane 287 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

 Received: 02/04/2016
 Reported: 02/05/2016
 Project Name: COTTON DRAW #135
 Project Number: 700794.177.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 02/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-1 1' (H600250-02)

BTEx 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.108	0.050	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.437	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.175	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	0.827	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTEx	1.55	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 73.6-140

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/05/2016	ND	416	104	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	42.2	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	257	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 87.6 % 35-147

Surrogate: 1-Chlorooctadecane 92.8 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

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

 Received: 02/04/2016
 Reported: 02/05/2016
 Project Name: COTTON DRAW #135
 Project Number: 700794.177.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 02/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-1 2' (H600250-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.678	0.200	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	9.37	0.200	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	4.23	0.200	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	22.5	0.600	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	36.8	1.20	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 123 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/05/2016	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	459	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	2220	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 108 % 35-147

Surrogate: 1-Chlorooctadecane 105 % 28-171

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

 Received: 02/04/2016
 Reported: 02/05/2016
 Project Name: COTTON DRAW #135
 Project Number: 700794.177.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 02/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-1 3' (H600250-04)

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.065	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	<0.050	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	<0.150	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	<0.300	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/05/2016	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	13.4	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	149	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 77.2 % 35-147

Surrogate: 1-Chlorooctadecane 79.9 % 28-171

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*—Accredited Analyte

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

 Received: 02/04/2016
 Reported: 02/05/2016
 Project Name: COTTON DRAW #135
 Project Number: 700794.177.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 02/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-1 4' (H600250-05)

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	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.092	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.065	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	0.388	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	0.545	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 73.6-140

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	02/05/2016	ND	416	104	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	35.3	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	259	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 78.3 % 35-147

Surrogate: 1-Chlorooctadecane 83.2 % 28-171

Cardinal Laboratories

*—Accredited Analyte

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Coley 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: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-2 0' (H600250-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	7.95	2.00	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	66.0	2.00	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	21.4	2.00	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	116	6.00	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	211	12.0	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/05/2016	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3050	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	5820	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 132 % 35-147

Surrogate: 1-Chlorooctadecane 128 % 28-171

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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: 02/04/2016
 Reported: 02/05/2016
 Project Name: COTTON DRAW #135
 Project Number: 700794.177.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 02/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-2 1' (H600250-07)

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	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.110	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	<0.050	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	<0.150	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	<0.300	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/05/2016	ND	448	112	400	7.41	

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	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	68.7	10.0	02/04/2016	ND	199	99.3	200	2.63	

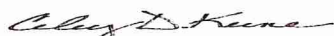
Surrogate: 1-Chlorooctane 72.6 % 35-147

Surrogate: 1-Chlorooctadecane 78.2 % 28-171

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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: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-2 2' (H600250-08)

BTEx 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.165	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.091	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	0.323	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTEx	0.578	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/05/2016	ND	448	112	400	7.41	

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	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	44.3	10.0	02/04/2016	ND	199	99.3	200	2.63	


Surrogate: 1-Chlorooctane 78.2 % 35-147

Surrogate: 1-Chlorooctadecane 76.7 % 28-171

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Analytical Results For:

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Received: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-3 0' (H600250-09)

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	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.881	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.282	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	1.65	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	2.82	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 106 % 73.6-140

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/05/2016	ND	448	112	400	7.41	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	23.5	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	1440	10.0	02/04/2016	ND	199	99.3	200	2.63	

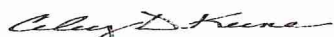
Surrogate: 1-Chlorooctane 79.7 % 35-147

Surrogate: 1-Chlorooctadecane 98.7 % 28-171

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TALON LPE
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Fax To: (575) 745-8905

Received: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-3 1' (H600250-10)

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	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.076	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	<0.050	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	<0.150	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	<0.300	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/05/2016	ND	448	112	400	7.41	

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	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	<10.0	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 69.8 % 35-147

Surrogate: 1-Chlorooctadecane 74.9 % 28-171

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Received: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-3 2' (H600250-11)

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	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	<0.050	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	<0.050	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	<0.150	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	<0.300	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/05/2016	ND	448	112	400	7.41	

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	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	12.1	10.0	02/04/2016	ND	199	99.3	200	2.63	


Surrogate: 1-Chlorooctane 71.1 % 35-147

Surrogate: 1-Chlorooctadecane 72.2 % 28-171

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Analytical Results For:

TALON LPE
KIMBERLY WILSON
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ARTESIA NM, 88210
Fax To: (575) 745-8905

Received: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 0' (H600250-12)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	19.2	2.00	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	114	2.00	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	25.8	2.00	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	140	6.00	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	298	12.0	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/05/2016	ND	448	112	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	4170	100	02/04/2016	ND	195	97.5	200	3.79		
DRO >C10-C28	15200	100	02/04/2016	ND	199	99.3	200	2.63		

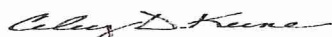
Surrogate: 1-Chlorooctane 161 % 35-147

Surrogate: 1-Chlorooctadecane 356 % 28-171

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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: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 1' (H600250-13)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.140	0.050	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.659	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.269	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	1.47	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	2.54	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 109 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/05/2016	ND	448	112	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	56.8	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	313	10.0	02/04/2016	ND	199	99.3	200	2.63	


Surrogate: 1-Chlorooctane 80.5 % 35-147

Surrogate: 1-Chlorooctadecane 86.0 % 28-171

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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: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 2' (H600250-14)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.122	0.050	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.935	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.397	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	2.24	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	3.69	0.300	02/05/2016	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/05/2016	ND	448	112	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	76.1	10.0	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	321	10.0	02/04/2016	ND	199	99.3	200	2.63	

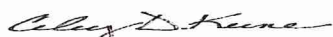
Surrogate: 1-Chlorooctane 75.8 % 35-147

Surrogate: 1-Chlorooctadecane 74.2 % 28-171

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

Received: 02/04/2016
Reported: 02/05/2016
Project Name: COTTON DRAW #135
Project Number: 700794.177.01
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 3' (H600250-15)

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	02/05/2016	ND	2.05	102	2.00	6.13	
Toluene*	0.238	0.050	02/05/2016	ND	2.01	100	2.00	6.19	
Ethylbenzene*	0.160	0.050	02/05/2016	ND	1.83	91.6	2.00	6.05	
Total Xylenes*	0.827	0.150	02/05/2016	ND	5.54	92.3	6.00	5.65	
Total BTX	1.23	0.300	02/05/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 109 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/05/2016	ND	448	112	400	7.41	
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	02/04/2016	ND	195	97.5	200	3.79	
DRO >C10-C28	38.5	10.0	02/04/2016	ND	199	99.3	200	2.63	

Surrogate: 1-Chlorooctane 70.1 % 35-147

Surrogate: 1-Chlorooctadecane 68.8 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celest 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.
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

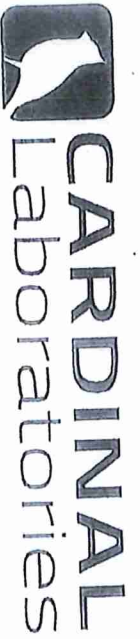
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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 1 of 2

ANALYSIS REQUEST

Company Name: Talon/PE		P.O. #:							
Project Manager: Kimberly Wilson		Company: Talon/PE							
Address: 408 W. Texas Ave.		Attn:							
City: Artesia		State: NM Zip: 88210							
Phone #: 575-746-8768		Fax #: 575-746-8905							
Project #: 700794/17701		Project Owner: Debra							
Project Name: Cotton Dams 135		City:							
Project Location: Eddy City		State:							
Sample Name: Kim Wilson		Phone #:							
FOR LAB USE ONLY		Fax #:							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	ANALYSIS REQUEST
H1008250	S-1 0'			GROUNDWATER			11/15	11:15	Chloride
1	S-1 1'			WASTEWATER			11:17	11:17	TPH
2	S-1 2'			SOIL			11:21	11:21	BTEX
3	S-1 3'			OIL			11:23	11:23	
4	S-2 4'			SLUDGE			11:27	11:27	
5	S-2 0			OTHER:			11:29	11:29	
6	S-2 1'			ACID/BASE:			11:31	11:31	
7	S-2 2'			ICE / COOL			11:33	11:33	
8	S-2 3'			OTHER:					
9	S-3 0'								
10	S-3 1'								

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Relinquished By: Kim Wilson Date: 11/16 Received By: Debra Menden Date: 11/16 Time: 10:40

Delivered By: (Circle One) 5.60 Sample Condition Cool Intact Yes ☒ No ☐ Sample Name: UPS - Bus - Other: #54

REMARKS: RUSH



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

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

ANALYSIS REQUEST

Company Name: Talon/LPE

P.O. #:

Project Manager: Kimberly Wilson

Company: Talon/LPE

Address: 408 W. Texas Ave.

Attn:

City: Artesia

State: NM Zip: 88210

Address:

Phone #: 575-746-8768

Fax #: 575-746-8905

City:

Project #: 700794.197.01

Project Owner: Devon

State:

Zip:

Project Name: Cotton Draw 135

Phone #:

Project Location: Folly Pt

Fax #:

Sample Name: Kimberly Wilson

MATRIX

PRESERV

SAMPLING

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H600250

(G)RAB OR (C)OMP.
CONTAINERS
GROUNDWATER
WASTEWATER
SOIL
OIL
SLUDGE
OTHER:
ACID/BASE:
ICE / COOL
OTHER:

DATE

TIME

Chlorides
TPH
BTEX

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Relinquished By:

Date:

Received By:

Phone Result:

Fax Result:

Yes

No

Add'l Phone #:

Add'l Fax #:

Relinquished By:

Date:

Received By:

Phone Result:

Fax Result:

Yes

No

Add'l Phone #:

Add'l Fax #:

Delivered By: (Circle One)

5.62

Sample Condition

CHECKED BY:

Initials

Yes

No

Add'l Phone #:

Add'l Fax #:

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