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Soil Assessment and Remediation Work Plan

Cotton Draw #181 SWD Battery

30-015-41649 * 2RP-3990

Prepared For:

Devon Energy Production

6488 Seven Rivers Hwy

Artesia, New Mexico 88210

Prepared By:

Kimberly M. Wilson

TALON/LPE

408 W. Texas Avenue

Artesia, New Mexico 88210

February 7, 2017

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

Subject: **Soil Assessment and Remediation Work Plan**
Cotton Draw #181 SWD Battery
* 30-015-41649 * 2RP-3990

Dear Mr. Bratcher,

Devon Corporation 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 Cotton Draw #181 SWD Transfer Line is located approximately fifty-eight (58) miles east of Carlsbad, New Mexico. The legal location for this release is Unit Letter H, Section 36, Township 24 South and Range 31 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.176734 North and - 103.726852 West. A 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 Berino complex with 0 to 3 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is Quaternary in age and is comprised of eolian sands and piedmont deposits which include silty soils underlain with a sandy clay loam and hard caliche. Drainage courses in this area are normally dry.

Ground Water and Site Ranking

The New Mexico State Engineer web site indicates that there is no known ground water in the area. See [Appendix II](#) for the referenced groundwater data.

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

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 1,000 mg/kg for total chlorides.

Incident Description and Initial Remedial Actions

On November 3, 2016 the Cotton Draw #181 SWD Battery was struck by lightning resulting in a release of 2450 barrels of fluid. A vac truck was immediately called to the location and recovered 960 barrels of fluid. The battery was immediately shut-in. A site plan is presented in [Appendix I](#) which illustrates the impacted area. See initial C-141 in [Appendix II](#). See photos [Appendix IV](#)

On November 4, 2016 Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected in the ROW and in the pasture behind the battery utilizing a hand auger to a depth of 4-foot deep.

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

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	<0.300	1440	<10	11.9
	1'	<0.300	2160	<10	<10
	2'	<0.300	2960	<10	<10
	3'	<0.300	5360	<10	<10
	4'	<0.300	7330	<10	<10
S-2	0'	<0.300	2560	13	675
	1'	<0.300	3480	<10	14.6
	2'	<0.300	4880	<10	15.2
	3'	--	8930	--	--
	4'	--	320	--	--
S-3	0'	<0.300	32	<10	<10
	1'	--	48	--	--
	2'	--	32	--	--
	3'	--	32	--	--
	4'	--	32	--	--
S-4	0'	<0.300	3280	<10	<10
	1'	--	48	--	--
	2'	--	160	--	--
	3'	--	48	--	--
	4'	--	64	--	--
S-5	0'	<0.300	4000	<10	73.6
	1'	<0.300	6000	--	--
	2'	--	7200	--	--
	3'	--	6930	--	--
	4'	--	3280	--	--

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-6	0'	<0.300	1840	<10	<10
	1'	<0.300	5460	<10	<10
	2'	--	8800	--	--
	3'	--	7330	--	--
	4'	--	1870	--	--
S-7	0'	<0.300	48	<10	<10
	1'	<0.300	48	<10	<10

--Analyte Not Tested

On January 26, 2017 Talon personnel returned to the location to obtain additional samples at greater depths utilizing an air rotary drill rig as directed by the NMOCD.

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
B-1	1'	--	3600	--	--
	2'	--	560	--	--
	3'	--	144	--	--
	4'	--	160	--	--
	6'	--	208	--	--
	10'	--	224	--	--
B-2	1'	--	560	--	--
	2'	--	48	--	--
	3'	--	48	--	--
	4'	--	48	--	--
	5'	--	48	--	--
B-3	5'	--	2560	--	--
	10'	--	4400	--	--
	15'	--	1680	--	--
	20'	--	448	--	--

--Analyte Not Tested

Proposed Remedial Actions of:**ROW**

- The impacted areas in the vicinity of sample locations **B-3/S-1**, **S-5** and **S-6** will be excavated to a depth of 4-feet deep. A 20 mil liner will be installed within the excavated areas at these locations.
- Additional vertical delineation samples will be collected from sample location **S-5** per OCD stipulations. This will be accomplished during excavation activities.
- If we are unable to safely achieve these depths due to the pipelines in this right-of-way, the NMOCD will be consulted.
- Due to site accessibility limitations, the drill rig was unable to set up at sample location **S-6**. Therefore further delineation samples could not be obtained.
- The impacted area in the vicinity of **S-2** will be excavated to a depth of 3-feet deep and the impacted area in the vicinity of **S-4** will be excavated to a depth of 0.5-feet deep.


PAD


- The impacted area on the pad in the vicinity of **B-1** will be excavated to a depth of 1.5-feet deep on the location.
- The area in the vicinity of **B-2** (the old tank battery) will be excavated 0.5-feet.
- All of the excavated material will be hauled to Lea Land LLC, a NMOCD approved disposal facility.
- The excavated area will be backfilled with new caliche, machine compacted and contoured to match the surrounding location.
- A final closure report documenting the remedial actions, a final C-141 and seeding labels will be provided to the NMOCD District II Artesia Office.

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

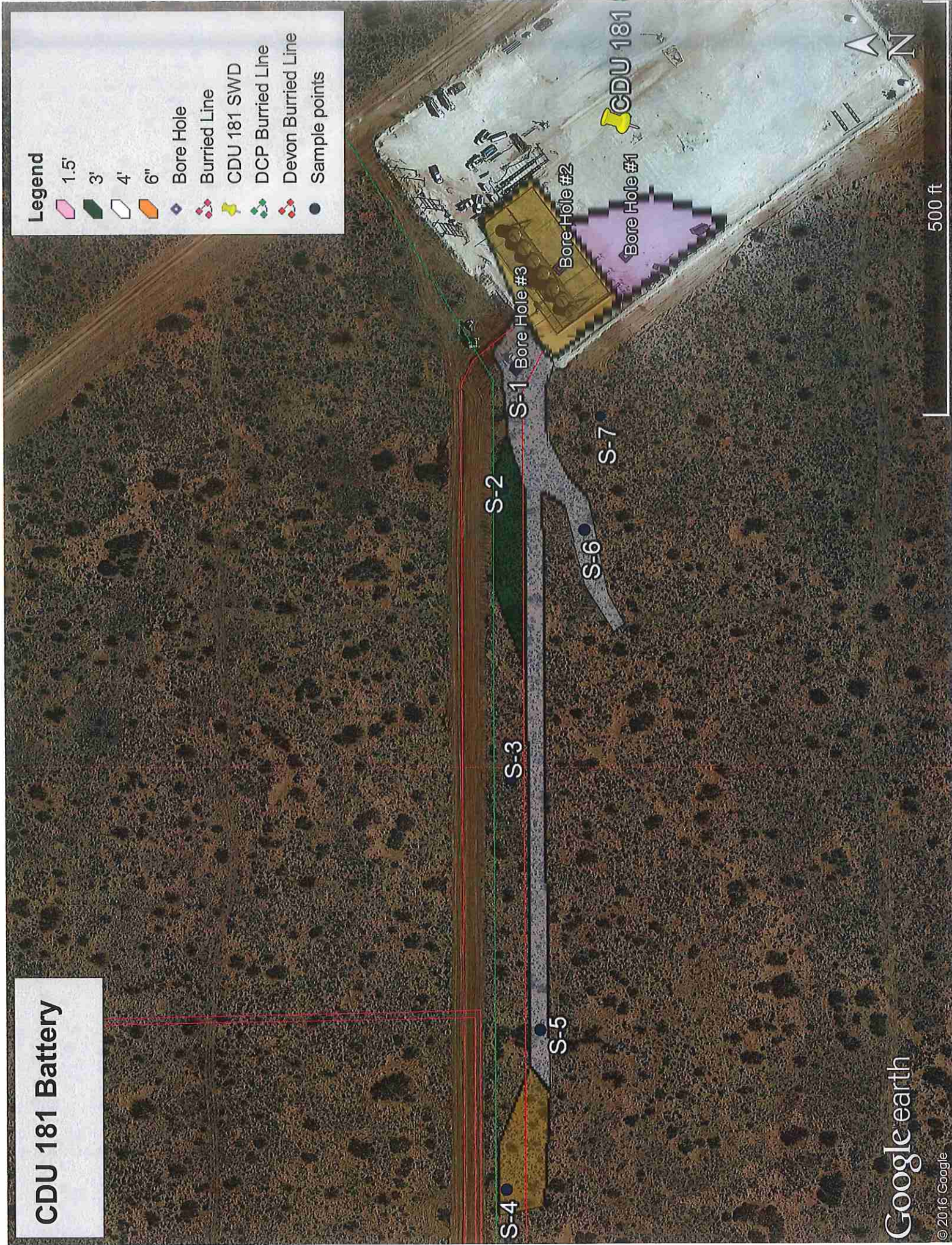
APPENDIX I

SITE MAP

CDU 181 Battery

Legend

- 1.5'
- 3'
- 4'
- 6"
- Bore Hole
- Burried Line
- CDU 181 SWD
- DCP Burried Line
- Devon Burried Line
- Sample points



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 6	Q 4	Q 16	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C 02572			ED	4	2	2	02	25S	31E	618695	3559294*	2009	852		
C 02568			ED	4	3	1	01	25S	31E	619103	3558892*	2009	1025		
C 02569			ED	4	4	2	02	25S	31E	618699	3558891*	2273	1016		
C 02573			ED	1	4	2	02	25S	31E	618499	3559091*	2288			
C 02571			ED	4	1	2	02	25S	31E	618292	3559294*	2343	860		
C 02574			ED	1	1	2	02	25S	31E	618092	3559494*	2425			
C 02570			ED	4	2	4	02	25S	31E	618704	3558489*	2572	895		
C 03830 POD1	CUB		ED	4	2	4	02	25S	31E	618632	3558432	2660	450		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count:8

UTMNAD83 Radius Search (in meters):

Easting (X): 620295

Northing (Y): 3560510

Radius: 5000

*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.

2/7/17 8:42 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

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

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

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 4137		Contact Jake Harrington, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210		Telephone No. 432-214-5175
Facility Name Cotton Draw Unit SWD 181		Facility Type Salt Water Disposal
Surface Owner State	Mineral Owner State	API No 30-015-41649

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	36	24S	31E	1568	North	1189	East	Eddy

Latitude: 32.1767349

Longitude: -103.7268524

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 2450 BBLS Produced Water	Volume Recovered 960 BBLS Produced Water
Source of Release Produced Water tanks	Date and Hour of Occurrence 11/3/2016 @ 11:45pm	Date and Hour of Discovery 11/3/2016 @ 11:45pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher, OCD	
By Whom? Jake Harrington, Production Foreman	Date and Hour November 3, 2016 @ 9:50 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.* The SWD was struck by lightning resulting in a release of 2450 BBLS produced water and a fire. The power lines to the facility were immediately turned off to prevent further release. The local Fire Department was called to ensure safety and to extinguish the fire. The facility did have lightning protection on it.		
Describe Area Affected and Cleanup Action Taken.* 2450 BBLS of produced water were released when lightning struck the SWD, causing the water tanks to rupture and start a fire. The liner was checked for holes and there were holes found due to the fire. Vacuum trucks recovered 960 BBLS of produced water. 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: Sarah Gallegos-Troublefield	OIL CONSERVATION DIVISION	
Printed Name: Sarah Gallegos-Troublefield	Approved by Environmental Specialist Signed By: [Signature]	
Title: Field Admin Support	Approval Date: 11/14/16	Expiration Date: N/A
E-mail Address: Sarah.Gallegos-Troublefield@dvn.com	Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 11/10/2016 Phone: 575.748.1864		

* Attach Additional Sheets If Necessary

2RP-3990

APPENDIX III

LABORATORY RESULTS



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

November 08, 2016

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: COTTON DRAW #181 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/07/16 13:45.

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: 11/07/2016
 Reported: 11/08/2016
 Project Name: COTTON DRAW #181 BATTERY
 Project Number: 700794.205.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-1 0 (H602507-01)

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	11/07/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/07/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/07/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/07/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PDE) 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	1440	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	11.9	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 104 % 35-147

Surrogate: 1-Chlorooctadecane 99.4 % 28-171

Cardinal Laboratories

* = Accredited Analyte

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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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-1 1 (H602507-02)

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	11/07/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/07/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/07/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/07/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/07/2016	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 99.5 % 35-147

Surrogate: 1-Chlorooctadecane 97.2 % 28-171

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*=Accredited Analyte

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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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-1 2 (H602507-03)

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	11/07/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/07/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/07/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/07/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/07/2016	ND					

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

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 88.3 % 35-147

Surrogate: 1-Chlorooctadecane 90.9 % 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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-1 3 (H602507-04)

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	11/07/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/07/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/07/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/07/2016	ND	6.63	110	6.00	0.532	
Total BTEX	<0.300	0.300	11/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 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	5360	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 89.5 % 35-147

Surrogate: 1-Chlorooctadecane 89.3 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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 Fax To: (575) 745-8905

 Received: 11/07/2016
 Reported: 11/08/2016
 Project Name: COTTON DRAW #181 BATTERY
 Project Number: 700794.205.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/03/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-1 4 (H602507-05)

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	11/07/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/07/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/07/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/07/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 73.6-140

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7330	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 98.0 % 35-147

Surrogate: 1-Chlorooctadecane 102 % 28-171

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* = Accredited Analyte

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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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-2 0 (H602507-06)

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	11/07/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/07/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/07/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/07/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 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	2560	16.0	11/08/2016	ND	400	100	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	13.0	10.0	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	675	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 88.7 % 35-147

Surrogate: 1-Chlorooctadecane 100 % 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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-2 1 (H602507-07)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	3480	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	14.6	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 85.4 % 35-147

Surrogate: 1-Chlorooctadecane 96.8 % 28-171

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Analytical Results For:

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

Received: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-2 2 (H602507-08)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTEX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	4880	16.0	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	15.2	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 91.4 % 35-147

Surrogate: 1-Chlorooctadecane 105 % 28-171

Sample ID: S-2 3 (H602507-09)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8930	16.0	11/08/2016	ND	400	100	400	0.00	QM-07

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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:	11/07/2016	Sampling Date:	11/03/2016
Reported:	11/08/2016	Sampling Type:	Soil
Project Name:	COTTON DRAW #181 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	700794.205.01	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: S-2 4 (H602507-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/08/2016	ND	400	100	400	0.00	

Sample ID: S-3 0 (H602507-11)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 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	11/08/2016	ND	400	100	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	11/07/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/07/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 95.0 % 35-147

Surrogate: 1-Chlorooctadecane 87.6 % 28-171

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Analytical Results For:

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

Received: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-3 1' (H602507-12)

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	11/08/2016	ND	400	100	400	0.00			

Sample ID: S-3 2 (H602507-13)

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	11/08/2016	ND	400	100	400	0.00			

Sample ID: S-3 3 (H602507-14)

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	11/08/2016	ND	400	100	400	0.00			

Sample ID: S-3 4 (H602507-15)

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	11/08/2016	ND	400	100	400	0.00			

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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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 0 (H602507-16)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTEx	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	3280	16.0	11/08/2016	ND	400	100	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/08/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 83.2 % 35-147

Surrogate: 1-Chlorooctadecane 90.9 % 28-171

Sample ID: S-4 1 (H602507-17)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/08/2016	ND	400	100	400	0.00	

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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:	11/07/2016	Sampling Date:	11/03/2016
Reported:	11/08/2016	Sampling Type:	Soil
Project Name:	COTTON DRAW #181 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	700794.205.01	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: S-4 2 (H602507-18)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/08/2016	ND	400	100	400	0.00	

Sample ID: S-4 3 (H602507-19)

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	11/08/2016	ND	400	100	400	0.00	

Sample ID: S-4 4 (H602507-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/08/2016	ND	400	100	400	0.00	

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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:	11/07/2016	Sampling Date:	11/03/2016
Reported:	11/08/2016	Sampling Type:	Soil
Project Name:	COTTON DRAW #181 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	700794.205.01	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: S-5 0 (H602507-21)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTEx	<0.300	0.300	11/08/2016	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	4000	16.0	11/08/2016	ND	400	100	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	73.6	10.0	11/08/2016	ND	190	95.2	200	2.96	


Surrogate: 1-Chlorooctane 105 % 35-147

Surrogate: 1-Chlorooctadecane 113 % 28-171

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Analytical Results For:

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

Received: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-5 1 (H602507-22)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTEX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 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	6000	16.0	11/08/2016	ND	400	100	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/08/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 99.4 % 35-147

Surrogate: 1-Chlorooctadecane 105 % 28-171

Sample ID: S-5 2 (H602507-23)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7200	16.0	11/08/2016	ND	400	100	400	0.00	

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*=Accredited Analyte

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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:	11/07/2016	Sampling Date:	11/03/2016
Reported:	11/08/2016	Sampling Type:	Soil
Project Name:	COTTON DRAW #181 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	700794.205.01	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: S-5 3 (H602507-24)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6930	16.0	11/08/2016	ND	400	100	400	0.00	

Sample ID: S-5 4 (H602507-25)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	11/08/2016	ND	400	100	400	0.00	

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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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-6 0 (H602507-26)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	1840	16.0	11/08/2016	ND	400	100	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/08/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 97.4 % 35-147

Surrogate: 1-Chlorooctadecane 91.3 % 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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-6 1 (H602507-27)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 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	5460	16.0	11/08/2016	ND	400	100	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/08/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 97.4 % 35-147

Surrogate: 1-Chlorooctadecane 85.5 % 28-171

Sample ID: S-6 2 (H602507-28)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8800	16.0	11/08/2016	ND	400	100	400	0.00	

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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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-6 3 (H602507-29)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7330	16.0	11/08/2016	ND	432	108	400	0.00	QM-07

Sample ID: S-6 4 (H602507-30)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1870	16.0	11/08/2016	ND	432	108	400	0.00	

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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:	11/07/2016	Sampling Date:	11/03/2016
Reported:	11/08/2016	Sampling Type:	Soil
Project Name:	COTTON DRAW #181 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	700794.205.01	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: S-7 0' (H602507-31)

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	11/08/2016	ND	2.25	113	2.00	0.355		
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03		
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00		
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532		
Total BTX	<0.300	0.300	11/08/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 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	48.0	16.0	11/08/2016	ND	432	108	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/08/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 91.8 % 35-147

Surrogate: 1-Chlorooctadecane 94.8 % 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: 11/07/2016
Reported: 11/08/2016
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 11/03/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-7 1' (H602507-32)

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	11/08/2016	ND	2.25	113	2.00	0.355	
Toluene*	<0.050	0.050	11/08/2016	ND	2.28	114	2.00	1.03	
Ethylbenzene*	<0.050	0.050	11/08/2016	ND	2.18	109	2.00	1.00	
Total Xylenes*	<0.150	0.150	11/08/2016	ND	6.63	110	6.00	0.532	
Total BTX	<0.300	0.300	11/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 110 % 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	11/08/2016	ND	432	108	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	11/08/2016	ND	196	98.1	200	2.83	
DRO >C10-C28	<10.0	10.0	11/08/2016	ND	190	95.2	200	2.96	

Surrogate: 1-Chlorooctane 98.2 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 4

ANALYSIS REQUEST

Company Name: Talon/LPE Project Manager: Kimberly Wilcox Address: 408 W. Texas Ave. City: Artesia Phone #: 575-746-8768 Fax #: 575-746-8905 State: NM zip: 88210 Project #: 100794, 205.01 Project Owner: Dutton Project Name: Cotton Drive 181 Battery Project Location: Entry 474 Sample Name: Run 101's on FOR LAB USE ONLY		P.O. #: Company: Talon/LPE Address: City: State: Zip: Phone #: Fax #:	
--	--	--	--

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
11	S-3	0	5	/	/	/	/	/	/	/	11/3/16	1:15	Chlorides
12	S-3	1	5	/	/	/	/	/	/	/	11/3/16	1:19	TPH
13	S-3	2	5	/	/	/	/	/	/	/	11/3/16	1:23	BTEX
14	S-3	3	5	/	/	/	/	/	/	/	11/3/16	1:25	
15	S-3	4	5	/	/	/	/	/	/	/	11/3/16	1:28	
16	S-4	0	5	/	/	/	/	/	/	/	11/3/16	1:45	
17	S-4	1	5	/	/	/	/	/	/	/	11/3/16	1:50	
18	S-4	2	5	/	/	/	/	/	/	/	11/3/16	1:53	
19	S-4	3	5	/	/	/	/	/	/	/	11/3/16	1:57	
20	S-4	4	5	/	/	/	/	/	/	/	11/3/16	2:00	

Relinquished By: Kim Wilcox Date: 11/7/16 Time: 0945	Received By: [Signature] Date: 11/7/16 Time: 1:45
---	--

Delivered By: (Circle One) #75 416 Sampler - UPS - Bus - Other:	Sample Condition: <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: [Signature] REMARKS: Fresh
--	---	---



Page 3 of 4

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Talon/PE
 Project Manager: Kimberly Wilson
 Address: 408 W. Texas Ave.
 City: Artesia
 State: NIM Zip: 88210
 Phone #: 575-746-8768 Fax #: 575-746-8905
 Project #: 20794, 20501 Project Owner: Devorn
 Project Name: Cotton Drive 181 Battery
 Project Location: Eddy St
 Sampler Name: Ken Wilson
 FOR LAB USE ONLY

P.O. #:
 Company: Talon/PE
 Attn:
 Address:
 City:
 State:
 Zip:
 Phone #:
 Fax #:

ANALYSIS REQUEST

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

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
H002507	0										11/3/16	2:15	Chlorides
31	S-5											2:18	TPH
22	S-5											2:23	BTEX
23	S-5											2:25	
24	S-5											2:30	
25	S-5											2:30	
26	S-6											2:56	
27	S-6											3:03	
28	S-6											3:06	
29	S-6											3:10	

Relinquished By: *Kim Wilson* Date: *11/7/16* Received By: *[Signature]*

Relinquished By: *[Signature]* Date: *11/7/16* Received By: *[Signature]*

Delivered By: (Circle One) *#75 4.12* Sample Condition: *Good* Checked By: *[Signature]*

Sampler - UPS - Bus - Other: *Other*

REMARKS: *Fluor*



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

Page 26 of 26

February 02, 2017

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: COTTON DRAW #181 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/01/17 12:00.

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:	02/01/2017	Sampling Date:	01/26/2017
Reported:	02/02/2017	Sampling Type:	Soil
Project Name:	COTTON DRAW #181 BATTERY	Sampling Condition:	** (See Notes)
Project Number:	700794.205.01	Sample Received By:	Angela Cabrera
Project Location:	EDDY COUNTY, NM		

Sample ID: B-1 1' (H700244-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3600	16.0	02/02/2017	ND	432	108	400	0.00		

Sample ID: B-1 2' (H700244-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-1 3' (H700244-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-1 4' (H700244-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	02/02/2017	ND	432	108	400	0.00	

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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: 02/01/2017
Reported: 02/02/2017
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 01/26/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Angela Cabrera

Sample ID: B-1 6' (H700244-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-1 10' (H700244-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-2 1' (H700244-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-2 2' (H700244-08)

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	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-2 3' (H700244-09)

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	02/02/2017	ND	432	108	400	0.00	

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Analytical Results For:

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

 Received: 02/01/2017
 Reported: 02/02/2017
 Project Name: COTTON DRAW #181 BATTERY
 Project Number: 700794.205.01
 Project Location: EDDY COUNTY, NM

 Sampling Date: 01/26/2017
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Angela Cabrera

Sample ID: B-2 4' (H700244-10)

Chloride, SM4500CI-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	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-2 5' (H700244-11)

Chloride, SM4500CI-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	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-3 5' (H700244-12)

Chloride, SM4500CI-B			mg/kg Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-3 10' (H700244-13)

Chloride, SM4500CI-B			mg/kg Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	02/02/2017	ND	432	108	400	0.00	

Sample ID: B-3 15' (H700244-14)

Chloride, SM4500CI-B			mg/kg Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	02/02/2017	ND	432	108	400	0.00	

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Analytical Results For:

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

Received: 02/01/2017
Reported: 02/02/2017
Project Name: COTTON DRAW #181 BATTERY
Project Number: 700794.205.01
Project Location: EDDY COUNTY, NM

Sampling Date: 01/27/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Angela Cabrera

Sample ID: B-3 20' (H700244-15)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	02/02/2017	ND	432	108	400	0.00	

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Notes and Definitions

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

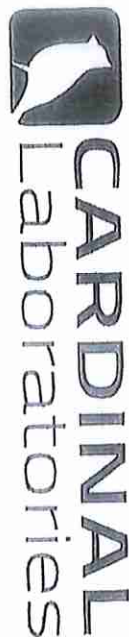
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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

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

Company Name: Talon/LPE

Project Manager: Kimberly Wilson

Address: 408 W. Texas Ave.

City: Artesia

Phone #: 575-746-8768

Project #: 700794.205.01

Project Name: Cotton Draw #181 Battery

Project Location: Eddy City

Sample Name: Kim Wilson

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H700344

1 B-1 1'

2 B-1 2'

3 B-1 3'

4 B-1 4'

5 B-1 6'

6 B-1 10'

7 B-2 1'

8 B-2 2'

9 B-2 3'

10 B-2 4'

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

DATE

TIME

1/26/17 2:35

2:38

2:44

2:50

2:55

3:00

4:00

4:04

4:10

4:14

Chlorides

ANALYSIS REQUEST

P.O. #:

Company: Talon/LPE

Attn:

Address:

City:

State:

Zip:

Phone #:

Fax #:

PRESERV

SAMPLING

Relinquished By:

Kimberly Wilson

Reinquinished By:

Kimberly Wilson

Delivered By: (Circle One)

Sampler - UPS - Bus - Other: #75 17.40

Sample Condition

Cool Intact

Yes No

Sample Condition

Cool Intact

Yes No

CHECKED BY:

(Initials)

174

REMARKS:

Phone Result: Yes No Add'l Phone #:

Fax Result: Yes No Add'l Fax #:

Kimberly Wilson

Kimberly Wilson

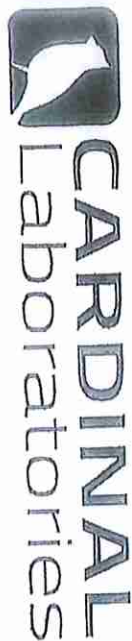
Kimberly Wilson

Kimberly Wilson

Kimberly Wilson

Kimberly Wilson

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 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		Address:													
State: NM Zip: 88210		City:													
Phone #: 575-746-8768		State:													
Fax #: 575-746-8905		Zip:													
Project #: 700794.205.51		Project Owner: Avelon													
Project Name: Cotton Draw #181 Battery		Phone #:													
Project Location: Eddy City		Fax #:													
Sampler Name: Kim Wilson		PRESERV													
FOR LAB USE ONLY		SAMPLING													
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	Chlorides
H700244	B-2 5'												1/26/17	4:30	
	B-3 5'												1/27/17	10:00	
	B-3 10'													10:11	
	B-3 15'													10:19	
	B-3 20'													11:00	
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Relinquished By: Kimberly Wilson		Date: 2/1/17		Received By: Mike Carone		Time: 12:00		Sample Condition		Cool Intact		CHECKED BY: (Initials)		REMARKS: Rush !!	
Delivered By: (Circle One)		#75		17:42		Sample Condition		Cool Intact		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Fax Result		Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	
Sampler - UPS - Bus - Other:		#75		17:42		Sample Condition		Cool Intact		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Fax Result		Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	