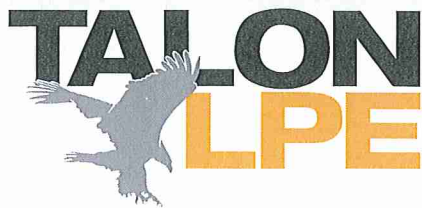


talonlpe.com • 866.742.0742



## **Soil Assessment and Remediation Work Plan**

Cotton Draw Unit 122H  
API #30-015-38453 \* **2RP-4169**  
Talon Project No. :700794.242.01

### **Prepared For:**

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

### **Prepared By:**

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

**April 3, 2018**

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

Subject: **Soil Assessment and Remediation Work Plan**  
Cotton Draw Unit 122H  
API # 30-015-38453 \* **2RP-4169**

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 Unit 122H is located approximately forty-six (46) miles southeast of Carlsbad, New Mexico. The legal location for this release is Unit Letter C, Section 35, Township 24 South and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.1805916 North and -103.7527771 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 Holocene to Pleistocene in age and is comprised of eolian sands and piedmont deposits which include silty soils underlain with hard caliche.

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

The New Mexico State Engineer web site indicates that there are 4 wells in the vicinity and they all appear to be dry. The Chevron/Texaco Water Trend Map has the ground water in this area to be greater than 300-feet below ground surface. See [Appendix III](#) 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 and 5,000 mg/kg for TPH. The recommended guidelines for total chlorides is 600 mg/kg.

### Incident Description and Initial Remedial Actions

On April 5, 2017, the packing on the blender began leaking during well completion operations. 16.1 barrels of produced water were lost on location near the wellhead. A vac truck recovered 7 barrels of water. All lost fluids stayed on the location pad. A site plan is presented in [Appendix I](#) which illustrates the impacted area. See initial C-141 in [Appendix II](#).

On December 5, 2017, Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected from around the impacted area utilizing a hand auger.

On March 22, 2018, Talon personnel returned to the location to perform further vertical delineation with the assistance of a backhoe.

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

Sample ID	Depth (feet)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH EXT (mg/kg)	BTEX (mg/kg)	Chlorides (mg/kg)
S-1	0'	-	-	-	-	3680
	1'	-	-	-	-	784
	2'	-	-	-	-	272
	3'	-	-	-	-	64
	4'	-	-	-	-	176
S-2	0'	-	-	-	-	64
	1'	-	-	-	-	64
	2'	-	-	-	-	320
	3'	-	-	-	-	720
	4'	-	-	-	-	848
	5'	-	-	-	-	912
	7'	-	-	-	-	32
S-3	0'	-	-	-	-	1480
	1	-	-	-	-	48
S-4	0'	-	-	-	-	48
	1'	-	-	-	-	16
	2'	-	-	-	-	48
	3'	-	-	-	-	16
	4'	-	-	-	-	<16.0
S-5	0'	-	-	-	-	80
S-6	0'	-	-	-	-	64
	0.5'	-	-	-	-	160

--Analyte Not Tested



## Proposed Remedial Actions

- The impacted soil in the vicinity of S-1 will be excavated to a depth of 2-feet deep. A sidewall confirmation sample will be collected from the eastern portion of the excavation to verify all impacted material has been removed.
- The produced water impacts in the vicinity of S-2 will be managed as follows: The soil from 0 - 2.5 feet deep (below RRAL's) will be excavated and stockpiled on location. The impacted material from 2.5 - 6 feet deep will be excavated and transported for disposal. The stockpiled material will then be returned to the open excavation.
- The impacted soil in the vicinity of S-3 be excavated to depth of 1-foot deep.
- All contaminated soil will be transported to Lea Land, LLC, a NMOCD approved disposal facility.
- The excavated area will be backfilled with new caliche. Once the backfilling activities are complete the work area will be machine compacted and contoured to match the surrounding location.
- A final closure report documenting all remedial actions will be provided to the NMOCD Artesia Office along with a Final C-141 Form.

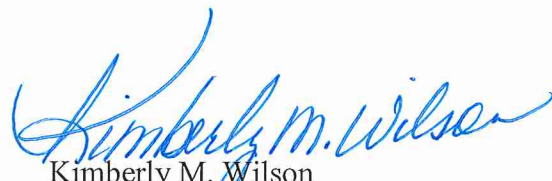
Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE



Jacob Laird  
Environmental Scientist



Kimberly M. Wilson  
Project Manager

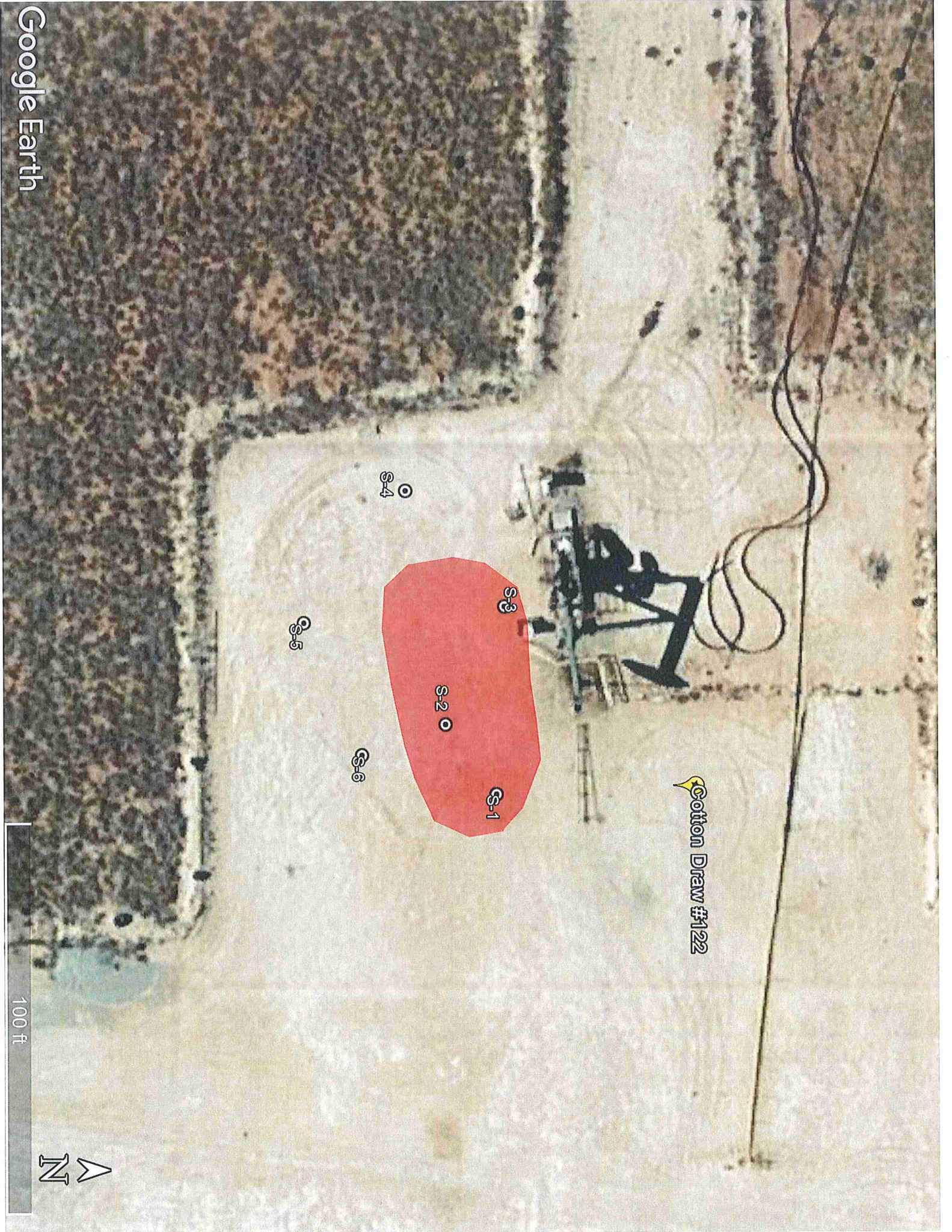
### Attachments:

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

**APPENDIX I**

**SITE MAP**





Cotton Draw #1222



100 ft



**APPENDIX II**

**INITIAL C-141**

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

**NM OIL CONSERVATION** State of New Mexico  
ARTESIA DISTRICT Energy Minerals and Natural Resources

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

Form C-141  
Revised August 8, 2011

APR 17 2017

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

APR 17 2017

Submit copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

RECEIVED

**Release Notification and Corrective Action**

*NAB1710851677*

**OPERATOR**

Initial Report  Final Report

Name of Company: <b>Devon Energy Production Co LP (6137)</b>	Contact: <b>Kelly Whitehead Completions Foreman / Devon</b>
Address: <b>PO Box 250 Artesia, NM 88211</b>	Telephone No. <b>575-748-3371</b>
Facility Name: <b>Cotton Draw Unit 122H</b>	Facility Type: <b>Oil Well</b>
Surface Owner: <b>Federal</b>	Mineral Owner: <b>Federal</b>
API No. <b>30-015-38453</b>	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	35	24S	31E	160	NORTH	1345	WEST	EDDY

Latitude: 32.1805916 Longitude: -103.7527771

**NATURE OF RELEASE**

Type of Release: <b>Produced Water</b>	Volume of Release: <b>16.1 BBLs</b>	Volume Recovered: <b>7.0 BBLs</b>
Source of Release: <b>Packing leak on blender</b>	Date and Hour of Occurrence: <b>4/5/2017; 1:58 PM</b>	Date and Hour of Discovery: <b>4/5/2017; 1:58 PM</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Shelly Tucker / BLM</b>	
By Whom? <b>Mike Shoemaker, EHS Professional</b>	Date and Hour: <b>4/11/2017; 12:40 PM</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>N/A</b>	
If a Watercourse was Impacted, Describe Fully.* <b>N/A</b>		

Describe Cause of Problem and Remedial Action Taken.\*  
**During completions operations, the packing on the blender started leaking produced water. The blender was shut down and a berm was built to contain the release and prevent any further migration of the release. The packing was replaced.**

Describe Area Affected and Cleanup Action Taken.\*  
**16.1 barrels of produced water was spilled to the ground in an uncontained area near the wellhead. A vacuum truck was dispatched and 7.0 barrels of produced water was recovered. All water stayed on the pad location. A remediation contractor will be contacted to assist with delineation and remediation efforts.**

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: <i>Denise Menoud</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Denise Menoud</b>	Approved by Environmental Specialist: <i>Angel Weir</i>	
Title: <b>Field Admin Support</b>	Approval Date: <b>4/18/17</b>	Expiration Date: <b>N/A</b>
E-mail Address: <b>Denise.Menoud@dvn.com</b>	Conditions of Approval: <i>see attached</i>	Attached <input checked="" type="checkbox"/>
Date: <b>4/11/2017</b> Phone: <b>575-746-5544</b>		

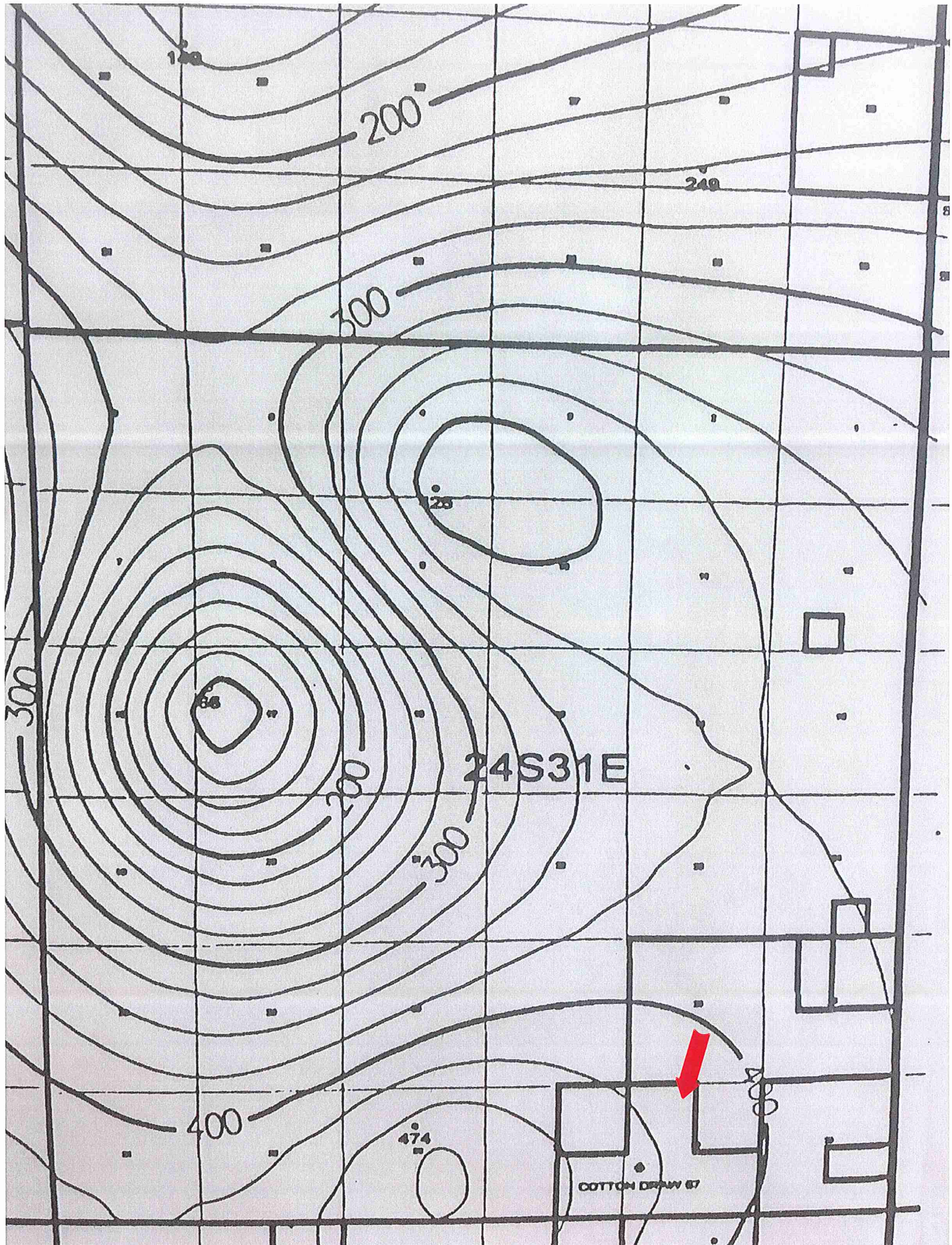
\* Attach Additional Sheets If Necessary

*2RP-4169*



**APPENDIX III**  
**GROUNDWATER DATA**





100

200

240

300

125

300

400

474

24S31E

COTTON DRAW 87



**APPENDIX IV**  
**LABORATORY RESULTS**





March 29, 2018

KIMBERLY WILSON  
TALON LPE  
408 W. TEXAS AVE.  
ARTESIA, NM 88210

RE: COTTON DRAW #122

Enclosed are the results of analyses for samples received by the laboratory on 03/26/18 13:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Celey D. Keene".

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: 03/26/2018  
 Reported: 03/29/2018  
 Project Name: COTTON DRAW #122  
 Project Number: 700794.242.01  
 Project Location: DEVON- EDDY CO NM

 Sampling Date: 03/22/2018  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: S-2 5.0 (H800857-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	03/27/2018	ND	448	112	400	0.00	

**Sample ID: S-2 7.0 (H800857-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/27/2018	ND	448	112	400	0.00	

**Sample ID: S-3 1.0 (H800857-05)**

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	03/27/2018	ND	448	112	400	0.00	

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

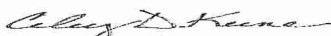
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



# CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

ANALYSIS REQUEST

Company Name: Talon/PE		P.O. #:									
Project Manager: Kimberly Wilson		Company: Talon/PE									
Address: 408 W. Texas Ave.		Address:									
City: Artesia		State: NM Zip: 88210									
Phone #: 575-746-8768		Fax #: 575-746-8905									
Project #: 7007942420		Project Owner: Dexton									
Project Name: Cotton Opus 12A		City:									
Project Location: Edou City		State:									
Sampler Name: Kim Wilson		Phone #:									
FOR LAB USE ONLY		Fax #:									
Lab I.D. H800857	Sample I.D.	<input checked="" type="checkbox"/> (C)GRAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE/COOL OTHER:	DATE	TIME	MATRIX PRESERV SAMPLING	REMARKS Chlorides					
							1 S-2 3.0				
							2 S-2 7.0				
							3 S-2 9.0				
							4 S-2 R 11.0				
							5 S-3 1.0				
							6 S-3 2.0				
							7 S-3 3.0				
							8 S-3 4.0				
							9 S-3 5.0				
10 S-3 7.0											

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Relinquished By: *Kim Wilson* Received By: *Kim Wilson*  
 Date: *5/16/13* Time: *11:25*  
 Relinquished By: *Kim Wilson* Received By: *Kim Wilson*  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

Delivered By: (Circle One) *1.9°C / 1.85°C*  
 Sampler - UPS - Bus - Other: \_\_\_\_\_  
 Sample Condition:  Copi  Intact  Yes  No  
 Checked By: *[Signature]*

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



# CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Highland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2475

Page 2 of 2

ANALYSIS REQUEST

FILE TO

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 #: 700744 372.01	Project Owner: Debra	State:	
Project Name: Cotton Draw 123		Phone #:	
Project Location: Eddy City		Fax #:	
Sampler Name: Kim Wilson		PRESERV:	
FOR LAB USE ONLY		SAMPLING	

Lab I.D.	Sample I.D.	GRAB OR (C)OMP.	# CONTAINERS	MATRIX					DATE/TIME	REMARKS	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE			
HSD0857	11 S-3	Q.D. R	9							3/2/18	Chlorides

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 1909 7.85c	Sample Condition <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Checked By: <i>[Signature]</i>
Rainquished By: <i>[Signature]</i>	Received By: <i>[Signature]</i>	REMARKS: Step test @ 250 total chloride

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



December 09, 2017

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: COTTON DRAW #122

Enclosed are the results of analyses for samples received by the laboratory on 12/06/17 16:00.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	12/06/2017	Sampling Date:	12/05/2017
Reported:	12/09/2017	Sampling Type:	Soil
Project Name:	COTTON DRAW #122	Sampling Condition:	Cool & Intact
Project Number:	700794.242.01	Sample Received By:	Tamara Oldaker
Project Location:	DEVON- EDDY CO NM		

**Sample ID: S-1 0' (H703365-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3680	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-1 1' (H703365-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-1 2' (H703365-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-1 3' (H703365-04)**

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	12/08/2017	ND	448	112	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:	12/06/2017	Sampling Date:	12/05/2017
Reported:	12/09/2017	Sampling Type:	Soil
Project Name:	COTTON DRAW #122	Sampling Condition:	Cool & Intact
Project Number:	700794.242.01	Sample Received By:	Tamara Oldaker
Project Location:	DEVON- EDDY CO NM		

**Sample ID: S-1 4' (H703365-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-2 0' (H703365-06)**

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	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-2 1' (H703365-07)**

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	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-2 2' (H703365-08)**

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	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-2 3' (H703365-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	12/08/2017	ND	448	112	400	0.00		

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:	12/06/2017	Sampling Date:	12/05/2017
Reported:	12/09/2017	Sampling Type:	Soil
Project Name:	COTTON DRAW #122	Sampling Condition:	Cool & Intact
Project Number:	700794.242.01	Sample Received By:	Tamara Oldaker
Project Location:	DEVON- EDDY CO NM		

**Sample ID: S-2 4' (H703365-10)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-3 0' R (H703365-11)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1480	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-4 0' (H703365-12)**

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	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-4 1' (H703365-13)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-4 2' (H703365-14)**

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	12/08/2017	ND	448	112	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:	12/06/2017	Sampling Date:	12/05/2017
Reported:	12/09/2017	Sampling Type:	Soil
Project Name:	COTTON DRAW #122	Sampling Condition:	Cool & Intact
Project Number:	700794.242.01	Sample Received By:	Tamara Oldaker
Project Location:	DEVON- EDDY CO NM		

**Sample ID: S-4 3' (H703365-15)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-4 4' (H703365-16)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/08/2017	ND	448	112	400	0.00		

**Sample ID: S-5 0' R (H703365-17)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/08/2017	ND	448	112	400	3.64		

**Sample ID: S-6 0' (H703365-18)**

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	12/08/2017	ND	448	112	400	3.64		

**Sample ID: S-6 0.25' R (H703365-19)**

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	12/08/2017	ND	448	112	400	3.64		

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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



# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 1 of 2

### BILL TO

### ANALYSIS REQUEST

Company Name: Talon/LPE

Project Manager: Kimberly M. Wilson

Address: 408 W. Texas Ave.

City: Artesia

Phone #: 575-746-8768

Project #: 700794.242 Q1

Project Name: Cotton Band #102

Project Location: Eddy City

Sampler Name: Kevin Wilson

FOR LAB USE ONLY

P.O. #:

Company: Talon/LPE

Attn:

Address:

City:

State:

Phone #:

Fax #:

PRESERV

SAMPLING

Lab I.D. Sample I.D.

103365

1 5-1 0'

2 5-1 1'

3 5-1 2'

4 5-1 3'

5 5-1 4'

6 5-2 0'

7 5-2 1'

8 5-2 2'

9 5-2 3'

10 5-2 4'

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

DATE

TIME

12/5/17

Chlorides

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Relinquished By:

Date: 12/6/17

Received By:

Phone Result:  Yes  No

Fax Result:  Yes  No

Add'l Phone #:

Add'l Fax #:

Relinquished By: Kimberly M. Wilson

Date: 12/1/17

Received By: [Signature]

Sample Condition:  Intact  Cool  Yes  No

CHECKED BY: [Signature]

Delivered By: (Circle One) 1, 3c

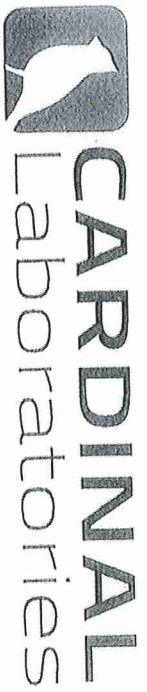
Sampler - UPS - Bus - Other: 1, 53c correct

PD #115

REMARKS:

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





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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 3

**BIELTO** ANALYSIS REQUEST

Company Name: Talon/LPE		P.O. #:
Project Manager: Kimberly M. 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 #: 7007944242051	Project Owner: Debra	State:
Project Name: Cotton Head #102		Zip:
Project Location: Eddy City		Phone #:
Sampler Name: Kim Wilson		Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV			
11	S-3 O'R	G	1								12/5/17		Chlorides
12	S-4 O'	G	1										
13	S-4 1'	G	1										
14	S-4 2'	G	1										
15	S-4 3'	G	1										
16	S-4 4'	G	1										
17	S-5 O'R	G	1										
18	S-6 O'	G	1										
19	S-6 0.25 R	G	1										

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Relinquished By: *Kimberly M. Wilson* Date: *12/6/17* Time: *11:30* Received By: *Michelle S. [Signature]* Date: *12/6/17* Time: *4:00*

Delivered By: (Circle One) *1, 3 &* Sampler - UPS - Bus - Other: *1.55°C core of*

Sample Condition:  Intact  Cool  Yes  No  Yes  No

CHECKED BY: *[Signature]* (Initials) *CS #175*

REMARKS: