

**Devon Energy Production Co LP
Cotton Draw 10 Fed 3H
Delineation Report and Work Plan**

**Unit Letter A, Section 10, T25S, R31E
Eddy County, New Mexico
2RP-2983**

August 25, 2015



Prepared for:

**Devon Energy Production Co., LP
PO Box 250
Artesia, New Mexico 88211**

By:

**Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510**

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I. Company Contacts

Representative	Company	Telephone	E-mail
Brett Fulks	Devon Energy Prod.	575-748-1844	Brett.Fulks@dvn.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Alfredo's Trucking to perform site delineation on the Cotton Draw 10 Fed 3H, concerning a produced water spill of an unknown amount. The impacted area was primarily contained on the pad area just north of the well heads and encompassed an area measuring 75'x175'. This site is situated in Eddy County, Section 10, Township 25S, and Range 31E.

According to the C-141: the cause of impact occurred at some point in time during the drilling period of this well and was discovered during the remediation efforts of an acid spill that occurred 09/10/2014 for which was reported and closed on **2RP-2626**. The C-141 for the produced water spill of an unknown amount, and addressed in this remediation plan was filed with the NMOCD on April 04, 2015 and was assigned **2RP-2983** (Appendix A).

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of the site location. According to the topography map for Eddy County the depth to ground water for Section 10, Township 25S, Range 31E is approximately 400 bgs. Further research of the New Mexico Office of the State Engineer records indicate the average depth to groundwater for the area to be 390' bgs. Thereby, posing no eminent threat or danger to life forms in the area (Appendix D).

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 1000 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	X

Sample Date 6/03/15	Chloride (mg/kg)
Depth	
AH-1 @ 1'	528
AH-1 @ 2'	3200
AH-2 @ 1'	3560
AH-2 @ 2'	9860
AH-3 @ 1'	3800
AH-3 @ 2'	11500
AH-4 @ 1'	944
AH-4 @ 2'	5460
AH-5 @ 1'	208
AH-6 @ 1'	<16.0

Due to the aforementioned results: Hobbs Anchor was consulted to further delineate the area between AH-2 and AH-4 respectively. On August 14, 2015, SESI personnel, as well as Hobbs Anchor were on site to retrieve the representative soil bore samples. There were three (3) consecutive representative samples retrieved at depths of 8' bgs., 10' bgs., and 12' bgs. The samples were properly packaged, preserved, and transported to the commercial laboratory for Chloride (Cl) analyses. The results are listed in the table below (Appendix C):

Sample Date 8/14/15	Chloride (mg/kg)
Depth	
BH-1 @ 8'	624
BH-1 @ 10'	496
BH-1 @ 12'	784

VI. Action Plan

Due to the results listed above the following action plan is proposed:

Excavate by extending the East and South walls horizontally, and to the extent that intermittent field testing of representative soil sampling indicates Chloride constituency at < 1000 mg/kg. The newly excavated area would be to a depth of 18" bgs., due to the number of electrical lines, backfilling the previously excavated area to a depth of 18" bgs. SESI personnel will conduct field testing of the representative composite soil samples for sidewalls and bottom of the excavation. All contaminated soils will be transported to an approved NMOCD facility for disposal. The representative soil samples will be taken to a commercial laboratory for final analysis and confirmation. A 20 mil. Liner will be installed in the entire excavated area, backfilling with topsoil then capping with material similar to that removed, returning to grade and esthetically restoring the area according to NMOCD guidelines.

VII. Figures & Appendices

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Appendix A – C-141

Appendix B – Photographs

Appendix C – Analytical Results

Appendix D – Groundwater

Figure 1 Vicinity Map



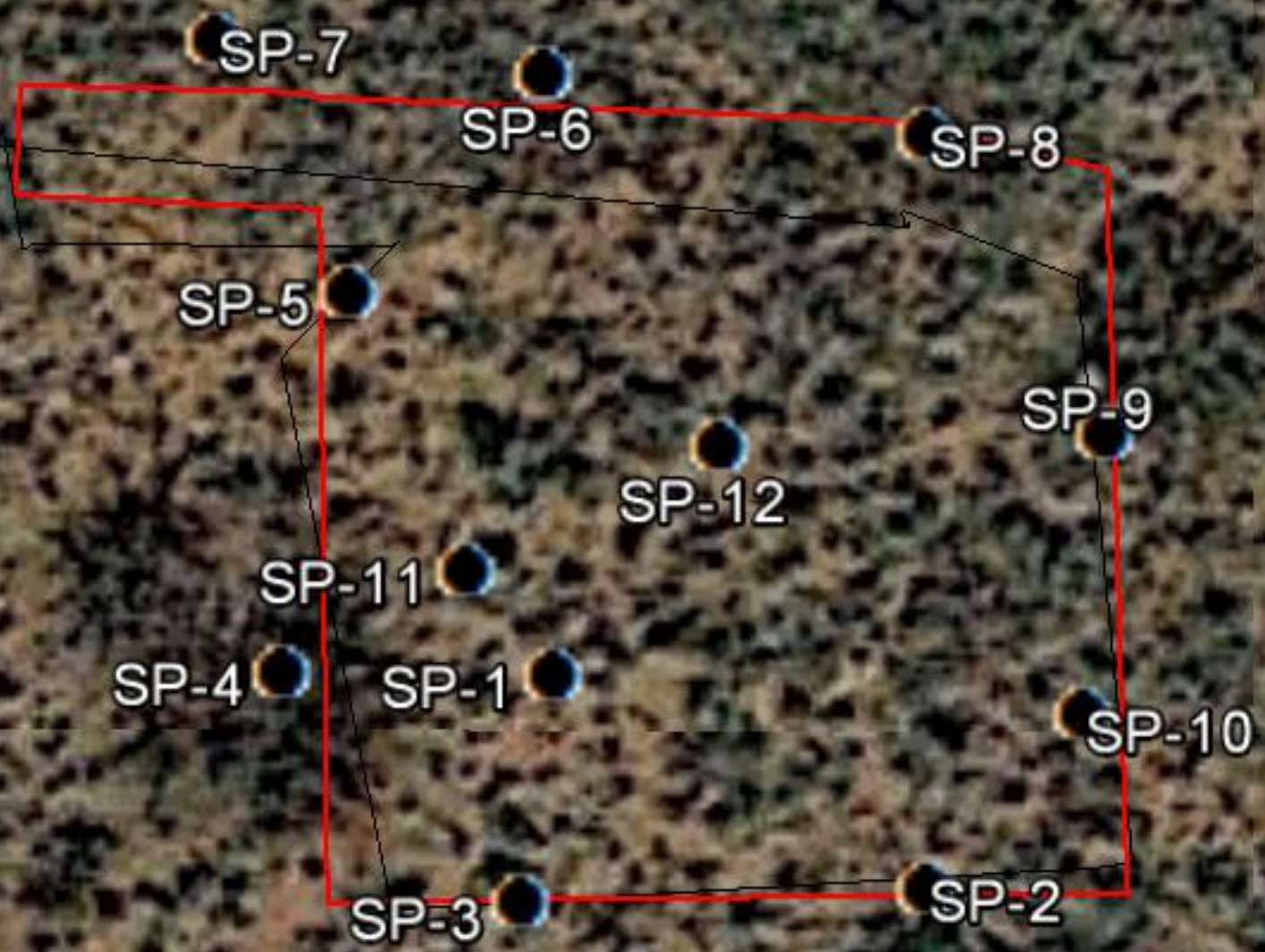
Area of Impact

Cotton Draw 10 Fed 3H

© 2015 Google

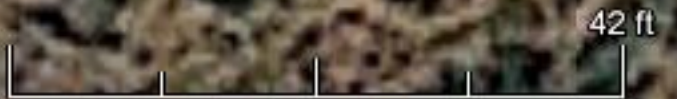
Google earth

Figure 2 Site Plan



© 2015 Google

Google earth



1996

Imagery Date: 2/13/2014 lat 32.151885° lon -103.761203° elev 3435 ft eye alt 3615 ft



AH-6

AH-1
AH-2

AH-4

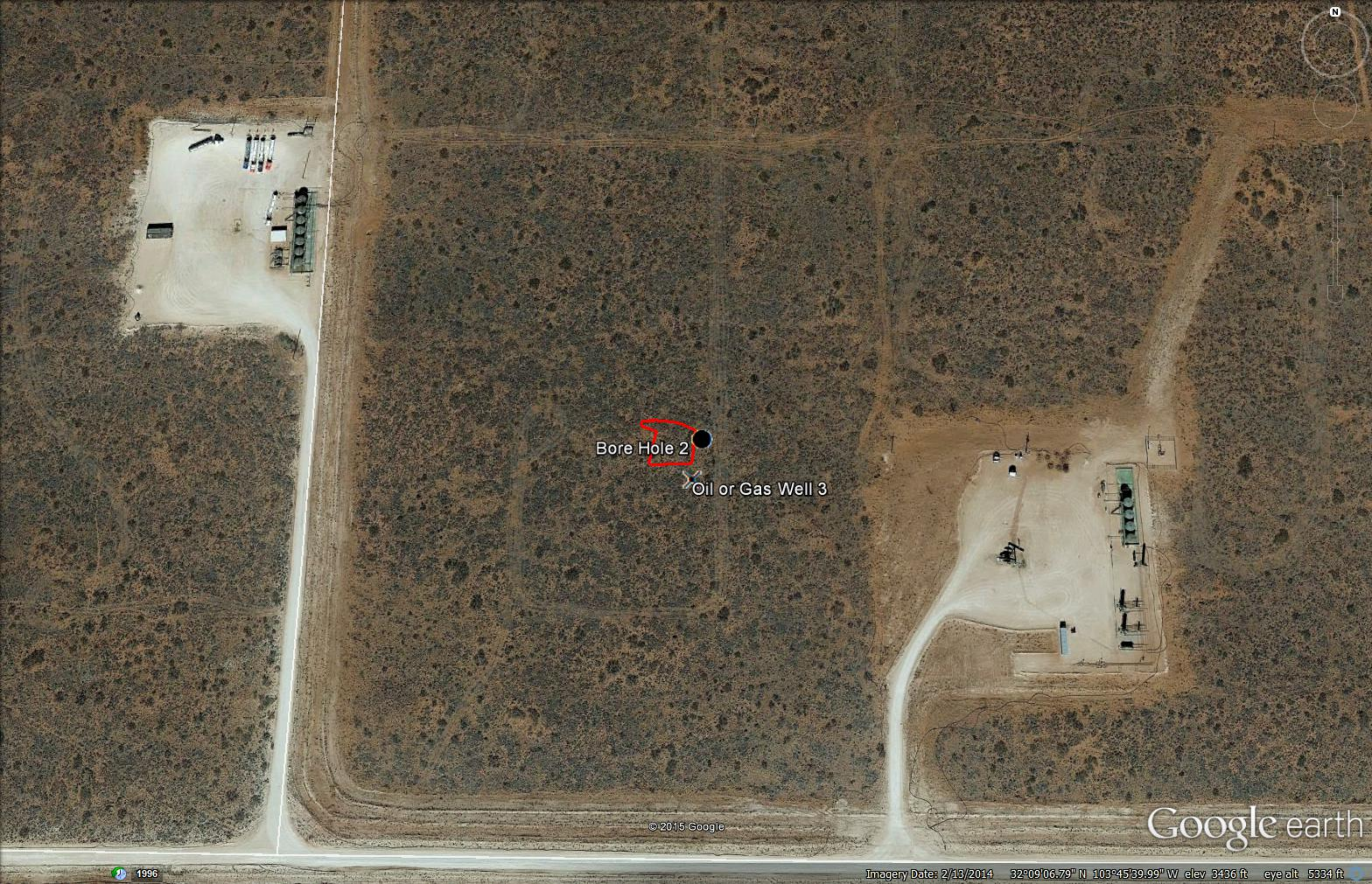
AH-5

X Oil or Gas Well 8

X Oil or Gas Well 9

© 2015 Google

Google earth



Bore Hole 2

Oil or Gas Well 3

Appendix A

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

APR 30 2015

Form C-141
Revised August 8, 2011

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

RECEIVED

Release Notification and Corrective Action

NAB1512454101

OPERATOR <input checked="" type="checkbox"/> Initial Report <input type="checkbox"/> Final Report	
Name of Company: Devon Energy Production Co LP (6137)	Contact: Martin Jimenez
Address: PO Box 250 Artesia, NM 88211	Telephone No. 575-513-5819
Facility Name: Cotton Draw 10 Fed 3H	Facility Type: Well location
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-42126	

LOCATION OF RELEASE

Unit Letter A	Section 10	Township 25S	Range 31E	Feet from the 200	North/South Line North	Feet from the 1200	East/West Line East	County Eddy
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Latitude: **32deg 9' 6.09" N** Longitude: **103deg 45' 39.944" W**

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: Unknown	Volume Recovered: 0
Source of Release: Drilling rigs (H&P 212)	Date and Hour of Occurrence Between 3/23/14 - 4/28/14	Date and Hour of Discovery April 2015
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
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.* At some time during the drilling period of this well, a produced water spill must have occurred and was found by the environmental company hired by Devon for remediation on another Completions spill of 15% acid that occurred on 9/10/2014. (Another C141 was submitted for the acid spill).		
Describe Area Affected and Cleanup Action Taken.* The drilling PW spill is estimated at 75' x 175' just north of the wellheads. A plan will be submitted to take care of the produced water spill (as well as the 9/10/2014 acid spill).		
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>D. Menoud</i>	OIL CONSERVATION DIVISION	
Printed Name: Denise Menoud	Approved by Environmental Specialist: <i>H. [Signature]</i>	
Title: Field Admin Support	Approval Date: 5/4/15	Expiration Date: N/A
E-mail Address: Denise.Menoud@dmn.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines	
Date: 4/29/2015	SUBMIT REMEDIATION PROPOSAL NO 114115	
Phone: 575-746-5544	LATER THAN: 5/4/15	

* Attach Additional Sheets If Necessary

2RP-2983

Appendix B Site Photographs

Devon Energy
Cotton Draw 10 Fed. #3H
API 30-015-42126



Site photo looking northwest to wells and excavation



Southwest corner of excavation looking east to wells



Southwest corner of excavation looking northeast



Southeast corner of excavation looking northwest



Southeast corner of excavation looking north



Northeast corner of excavation looking southwest

Devon Energy
Cotton Draw 10 Fed. #3H
API 30-015-42126



Northeast corner of excavation looking west



Northeast corner of excavation looking south to wells



Northwest excavation extension looking east



Interior of excavation looking southeast



SP-2. Sample from sand. Location 8 ft. west



SP-3 Sample from sand, south side of excavation

Devon Energy
Cotton Draw 10 Fed. #3H
API 30-015-42126



SP-4. Sample from sand, west side of excavation



SP-5 Sample from sand, west side of excavation



SP-6. Sample from sand, N side of excavation, 29.3 ft. from E end

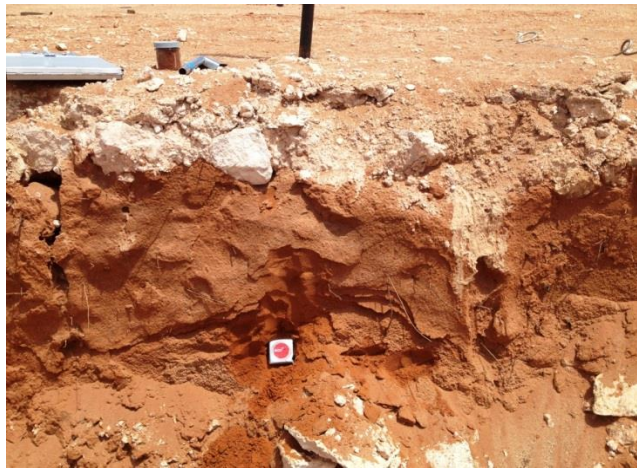


SP7 1.6' Bgs.

Devon Energy
Cotton Draw 10 Fed. #3H
API 30-015-42126



SP-9. Sample from sand, east side of excavation, 14.9 ft. south from northeast corner, 1.8 ft. below surface.



SP-10. Sample from sand, east side of excavation, 15.1 ft. north from southeast corner, 2.0 ft. below land surface.



SP 11 taken from caliche scrapings rock in bottom.

Devon Energy
Cotton Draw 10 Fed. #3H
API 30-015-42126



SP-12. Sample from approximate center of excavation, scrapings from bottom in hard caliche. Right photo looking southwest from approximate center of excavation.

Appendix C – Analytical Results

May 12, 2015

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: COTTON DRAW 10 FED COM 3H

Enclosed are the results of analyses for samples received by the laboratory on 05/05/15 16:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/05/2015	Sampling Date:	05/04/2015
Reported:	05/12/2015	Sampling Type:	Soil
Project Name:	COTTON DRAW 10 FED COM 3H	Sampling Condition:	** (See Notes)
Project Number:	ALF-15-006	Sample Received By:	Jodi Henson
Project Location:	EAST OF LOVING, NM		

Sample ID: SP-1 SOUTH SIDE (H501168-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5360	16.0	05/08/2015	ND	416	104	400	3.77	

Sample ID: SP-2 E. END S. WALL (H501168-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	05/08/2015	ND	416	104	400	3.77	

Sample ID: SP-3 W. END S. WALL (H501168-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2680	16.0	05/08/2015	ND	416	104	400	3.77	

Sample ID: SP-4 S. END W. WALL (H501168-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	19600	16.0	05/08/2015	ND	416	104	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received:	05/05/2015	Sampling Date:	05/04/2015
Reported:	05/12/2015	Sampling Type:	Soil
Project Name:	COTTON DRAW 10 FED COM 3H	Sampling Condition:	** (See Notes)
Project Number:	ALF-15-006	Sample Received By:	Jodi Henson
Project Location:	EAST OF LOVING, NM		

Sample ID: SP-5 N. END W. WALL (H501168-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	05/08/2015	ND	416	104	400	3.77		

Sample ID: SP-6 W. END N. WALL (H501168-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	05/08/2015	ND	416	104	400	3.77	

Sample ID: SP-7 CENTER N. WALL (H501168-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9060	16.0	05/08/2015	ND	416	104	400	3.77		

Sample ID: SP-8 E. END N. WALL (H501168-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18800	16.0	05/08/2015	ND	416	104	400	3.77	

Sample ID: SP-9 N. END E. WALL (H501168-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18900	16.0	05/08/2015	ND	416	104	400	3.77	

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
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 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/05/2015	Sampling Date:	05/04/2015
Reported:	05/12/2015	Sampling Type:	Soil
Project Name:	COTTON DRAW 10 FED COM 3H	Sampling Condition:	** (See Notes)
Project Number:	ALF-15-006	Sample Received By:	Jodi Henson
Project Location:	EAST OF LOVING, NM		

Sample ID: SP-10 S. END E. WALL (H501168-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5520	16.0	05/08/2015	ND	416	104	400	3.77		

Sample ID: SP-11 BOTTOM WESAT (H501168-11)

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	05/08/2015	ND	416	104	400	3.77	

Sample ID: SP-12 BOTTOM CENTER EXC (H501168-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16000	16.0	05/08/2015	ND	416	104	400	3.77		

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*=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

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

ANALYSIS REQUEST

BILL TO

Company Name: Safety & Environmental Solutions, Inc.
Project Manager: Bob Allen

Address: 703 East Clinton

City: Hobbs State: NM Zip: 88240

Phone #: 575-397-0510 Fax #: 575-393-4388

Project #: ALF-15-006 Project Owner: A/Fred's

Project Name: Cotton Branch 10 Fed Trucking

Project Location: East of Lovine Com 34

Sampler Name: David Boyer

FOR LAB USE ONLY

Lab I.D. Sample I.D.

H501b68

SP-1 South Side

SP-2 E. End S. Wall

SP-3 W. End S. Wall

SP-4 S. End W. Wall

SP-5 N. End W. Wall

SP-6 W. End N. Wall

SP-7 Center N. Wall

SP-8 E. End N. Wall

West Extension

SP-9 E. End S. Wall

SP-10 W. End S. Wall

SP-11 N. End S. Wall

SP-12 W. End S. Wall

SP-13 E. End S. Wall

SP-14 W. End S. Wall

SP-15 N. End S. Wall

P.O. #

Company: Same

Alt:

Address:

City:

State:

Zip:

Phone #:

Fax #:

Matrix

Preserv.

Sampling

Date

Time

Chlorides

SP-1

SP-2

SP-3

SP-4

SP-5

SP-6

SP-7

SP-8

SP-9

SP-10

SP-11

SP-12

SP-13

SP-14

Yes

No

Add'l Phone #:

Add'l Fax #:

Phone Result:

Fax Result:

REMARKS:

SP-1

SP-2

SP-3

SP-4

SP-5

SP-6

SP-7

SP-8

SP-9

SP-10

SP-11

SP-12

SP-13

SP-14

SP-15

SP-16

SP-17

SP-18

SP-19

SP-20

SP-21

SP-22

Yes

No

Add'l Phone #:

Add'l Fax #:

Phone Result:

Fax Result:

REMARKS:

SP-1

SP-2

SP-3

SP-4

SP-5

SP-6

SP-7

SP-8

SP-9

SP-10

SP-11

SP-12

SP-13

SP-14

SP-15

SP-16

SP-17

SP-18

SP-19

SP-20

SP-21

SP-22

Yes

No

Add'l Phone #:

Add'l Fax #:

Phone Result:

Fax Result:

REMARKS:

SP-1

SP-2

SP-3

SP-4

SP-5

SP-6

SP-7

SP-8

SP-9

SP-10

SP-11

SP-12

SP-13

SP-14

SP-15

SP-16

SP-17

SP-18

SP-19

SP-20

SP-21

SP-22

Yes

No

Add'l Phone #:

Add'l Fax #:

Phone Result:

Fax Result:

REMARKS:

SP-1

SP-2

SP-3

SP-4

SP-5

SP-6

SP-7

SP-8

SP-9

SP-10

SP-11

SP-12

SP-13

SP-14

SP-15

SP-16

SP-17

SP-18

SP-19

SP-20

SP-21

SP-22

Yes

No

Add'l Phone #:

Add'l Fax #:

Phone Result:

Fax Result:

REMARKS:

SP-1

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SP-22



101 East Marland, Hobbs, NM 88240
(505) 393-2326 Fax (505) 393-2476

Page 2 of 2

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

June 12, 2015

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: DEVON COTTON DRAW 10 FED #3H

Enclosed are the results of analyses for samples received by the laboratory on 06/05/15 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received:	06/05/2015	Sampling Date:	06/03/2015
Reported:	06/12/2015	Sampling Type:	Soil
Project Name:	DEVON COTTON DRAW 10 FED #3H	Sampling Condition:	** (See Notes)
Project Number:	AFL-15-006	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: AH-1 1' (H501460-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	06/11/2015	ND	416	104	400	0.00	

Sample ID: AH-1 2' (H501460-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	06/11/2015	ND	416	104	400	0.00	

Sample ID: AH-2 1' (H501460-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3560	16.0	06/11/2015	ND	416	104	400	0.00	

Sample ID: AH-2 2' (H501460-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9860	16.0	06/11/2015	ND	416	104	400	0.00	

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	06/05/2015	Sampling Date:	06/03/2015
Reported:	06/12/2015	Sampling Type:	Soil
Project Name:	DEVON COTTON DRAW 10 FED #3H	Sampling Condition:	** (See Notes)
Project Number:	AFL-15-006	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: AH-3 1' (H501460-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3800	16.0	06/11/2015	ND	416	104	400	3.92	

Sample ID: AH-3 2' (H501460-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11500	16.0	06/11/2015	ND	416	104	400	3.92	

Sample ID: AH-4 1' (H501460-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	06/11/2015	ND	416	104	400	3.92	

Sample ID: AH-4 2' (H501460-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5460	16.0	06/11/2015	ND	416	104	400	3.92	

Sample ID: AH-5 1' (H501460-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	06/11/2015	ND	416	104	400	3.92		

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Received:	06/05/2015	Sampling Date:	06/03/2015
Reported:	06/12/2015	Sampling Type:	Soil
Project Name:	DEVON COTTON DRAW 10 FED #3H	Sampling Condition:	** (See Notes)
Project Number:	AFL-15-006	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: AH-6 1' (H501460-10)

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	06/11/2015	ND	416	104	400	3.92		

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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

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(505) 393-2326 Fax (505) 393-2476

Page 7 of 1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

June 18, 2015

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: COTTON DRAW #10

Enclosed are the results of analyses for samples received by the laboratory on 06/15/15 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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



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

August 18, 2015

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: DEVON COTTON DRAW 10 FED #3H

Enclosed are the results of analyses for samples received by the laboratory on 08/18/15 9:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received:	08/18/2015	Sampling Date:	08/14/2015
Reported:	08/18/2015	Sampling Type:	Soil
Project Name:	DEVON COTTON DRAW 10 FED #3H	Sampling Condition:	Cool & Intact
Project Number:	ALF-15-006	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: BH-1 8' (H502151-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	08/18/2015	ND	432	108	400	7.69	

Sample ID: BH-1 12' (H502151-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	08/18/2015	ND	432	108	400	7.69	

Sample ID: BH-1 10' (H502151-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	08/18/2015	ND	432	108	400	7.69	

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Celey D. Keene, Lab Director/Quality Manager

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Appendix D Groundwater Analysis



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	Depth Well	Depth Water	Water Column
C 02250			ED	3	1	4	21	25S	31E	614912	3553620*	400	390	10
C 02568			ED	4	3	1	01	25S	31E	619103	3558892*	1025		
C 02569			ED	4	4	2	02	25S	31E	618699	3558891*	1016		
C 02570			ED	4	2	4	02	25S	31E	618704	3558489*	895		
C 02571			ED	4	1	2	02	25S	31E	618292	3559294*	860		
C 02572			ED	4	2	2	02	25S	31E	618695	3559294*	852		
C 02573			ED	1	4	2	02	25S	31E	618499	3559091*			
C 02574			ED	1	1	2	02	25S	31E	618092	3559494*			
C 03830 POD1		CUB	ED	4	2	4	02	25S	31E	618632	3558432	450		

Average Depth to Water: **390 feet**

Minimum Depth: **390 feet**

Maximum Depth: **390 feet**

Record Count: 9

PLSS Search:

Township: 25S

Range: 31E

*UTM location was derived from PLSS - see Help

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