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## **Remediation and Closure Report:**

Cotton Draw Unit #255H  
30-015-43739 \* 2RP-4106  
Talon Project No. 700794.212.01

## **Prepared For:**

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

## **Prepared By:**

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

**October 5, 2017**

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

Subject: **Remediation and Closure Report**  
Cotton Draw Unit #225H  
30-015-43739 \* 2RP-4106  
Talon Project #700794.212.01

Dear Mr. Bratcher,

Devon Energy Corporation has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The incident description, soil sampling results, remediation activities and closure request are submitted herein.

### Site Information

The Cotton Draw #255 is located approximately fifty-eight (58) miles east of Carlsbad, New Mexico. The legal location for this release is Unit Letter A, Section 13, Township 25 South and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.1370258 North and -103.7250735 West. A site map 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, and 5,000 mg/kg for TPH. The clean-up criteria for total chlorides is considered to be 1,000 mg/kg.

## Incident Description

On January 20, 2017 a contractor released 5 barrels of fluid from the frac blender. A vac truck was called to the location and recovered 4 barrels of fluid. A site map is presented in [Appendix I](#) which illustrates the impacted area.

## Remedial Actions Taken

The remediation activities were completed pursuant to the work plan approved by the NMOCD. See attached NMOCD stipulations/conditions in [Appendix II](#). On September 20, 2017, field titration data was approved by the NMOCD and the excavation was backfilled.

The area surrounding S-1, S-2, S-3, S-5 and S-6 was excavated to a depth of 1-foot deep. The area initially measured 40-feet long by 40-feet wide. The excavation was extended from 1-3 feet to the East, West, and South until acceptable chloride results were obtained. Our data is provided below.

## Field Titration Results

September 20, 2017

Sample ID	Depth (feet)	Chlorides (mg/kg) 1	Chlorides (mg/kg) 2	Chlorides (mg/kg) 3
S-1 Bottom	1'	141		
S-1 W. Sidewall		283.6		
S-1 N. Sidewall		70		
S-1 E. Sidewall		283.6		
S-2 Bottom	1'	177		
S-3 N Sidewall		1772	355	
S-3 S Sidewall		779	3119	141
S-5 N. Sidewall		2198	283	
S-5 S. Sidewall		1276	354	
S-6 Bottom	1'	355		
S-6 W. Sidewall		1064		141
S-6 E. Sidewall		284		

All contaminated soil was transported to Lea Land, LLC, a NMOCD approved disposal facility. The excavated areas were backfilled with new caliche and the work area was contoured to match the surrounding location.

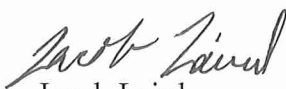
## Closure

On behalf of Devon Energy we respectfully request that no further actions be required and that closure with respect to this release be granted. A Final C-141 is also attached. See [Appendix III](#).

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



David J. Adkins  
District Manager

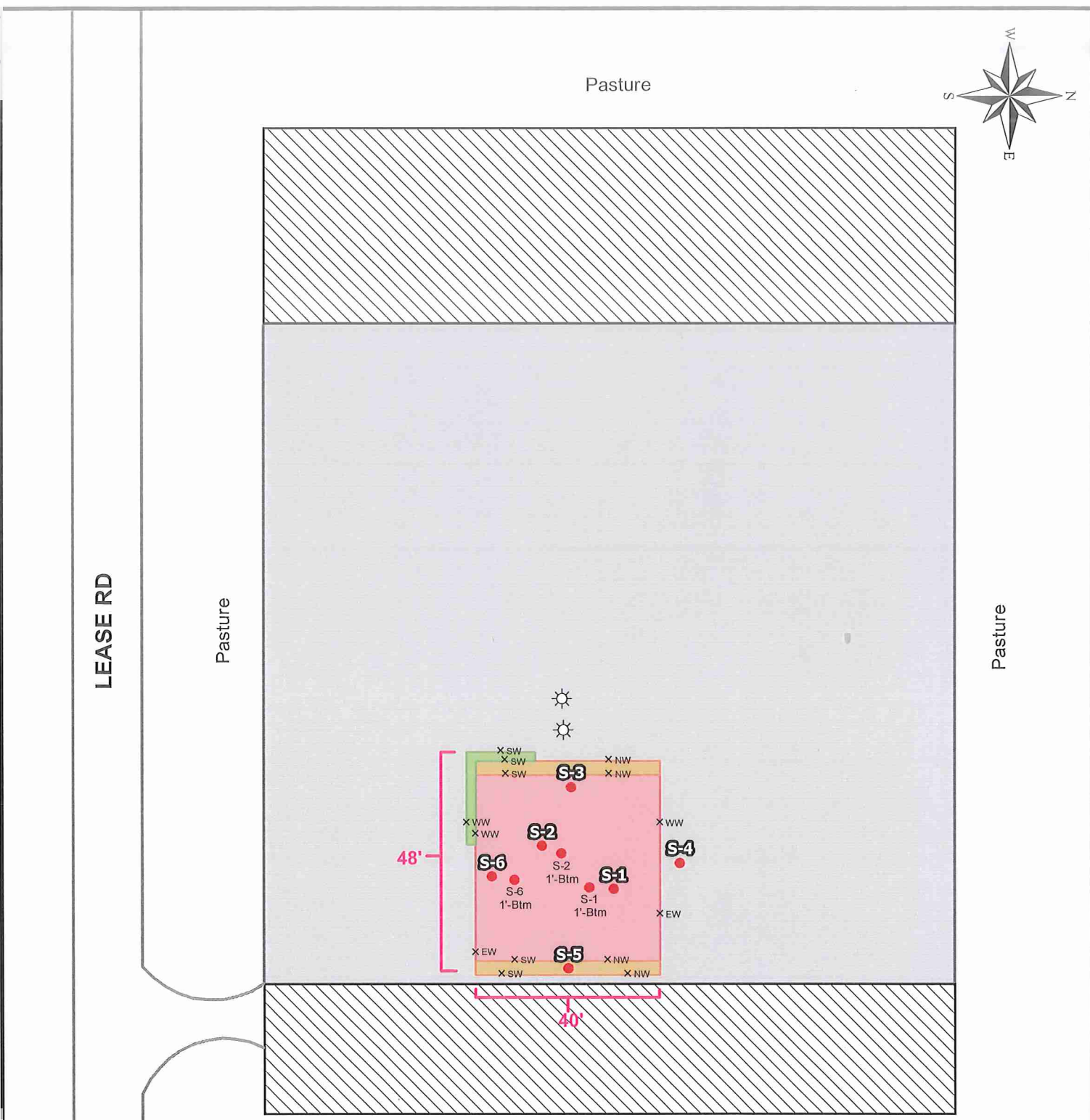
## Attachments:

Appendix I Site Map  
Appendix II Regulatory Stipulations and Groundwater Data  
Appendix III Final C-141

## APPENDIX I

### SITE PLAN





Drafted: 10/27/2017  
Map Not to Scale  
Drafted By: IJM

Cotton Draw #255  
Devon Energy  
Eddy County, NM  
Site Plan

**APPENDIX II**  
**GROUNDWATER DATA**  
**REGULATORY STIPULATIONS**



# 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	Code	POD Sub-basin	County	Q 6	Q 4	Q 16	Sec 4	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C 03830 POD1</a>		CUB	ED	4	2	4	02	25S	31E	618632	3558432	2743	450		
<a href="#">C 02570</a>			ED	4	2	4	02	25S	31E	618704	3558489*	2744	895		
<a href="#">C 02568</a>			ED	4	3	1	01	25S	31E	619103	3558892*	2884	1025		
<a href="#">C 02569</a>			ED	4	4	2	02	25S	31E	618699	3558891*	3078	1016		
<a href="#">C 02573</a>			ED	1	4	2	02	25S	31E	618499	3559091*	3355			
<a href="#">C 02572</a>			ED	4	2	2	02	25S	31E	618695	3559294*	3428	852		
<a href="#">C 02571</a>			ED	4	1	2	02	25S	31E	618292	3559294*	3639	860		
<a href="#">C 02574</a>			ED	1	1	2	02	25S	31E	618092	3559494*	3917			

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count:8

UTMNAD83 Radius Search (in meters):

Easting (X): 620345

Northing (Y): 3556289

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.

1/24/17 3:05 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



E: Cotton Draw Unit #255 \* 30-015-43739 \* DOR: 1-20-2017 \* 2RP-4106

Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

Fri 5/26/2017 11:53 AM

To: Kimberly M. Wilson <kwilson@talonlpe.com>; Shelly Tucker <stucker@blm.gov>;

Cc: Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; Mike Shoemaker <mike.shoemaker@dvn.com>; David Adkins <dadkins@talonlpe.com>; Brett Fulks <brett.fulks@dvn.com>;

RE: Devon Energy \* Cotton Draw Ut 255H \* 2RP-4106 \* DOR: 1/20/17

Greetings,

The Talon remediation proposal for the above referenced release is approved. It is OCD's understanding that samples will be obtained during excavation activities to confirm lateral definition of chloride impact, and that field screens will be utilized for this determination. Please include that data in the closure report, and, advise once remedial activities have been scheduled. Federal sites will require like approval from BLM.

If you have any questions or concerns, and for notification, please contact me.

Mike Bratcher  
NMOCD District 2  
811 S. First St.  
Artesia NM 88210  
575-748-1283 Ext 108  
mike.bratcher@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

**From:** Kimberly M. Wilson [mailto:kwilson@talonlpe.com]

**Sent:** Thursday, May 25, 2017 3:42 PM

**To:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Shelly Tucker <stucker@blm.gov>

;; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; Mike Shoemaker <mike.shoemaker@dvn.com>; David Adkins <dadkins@talonlpe.com>; Brett Fulks <brett.fulks@dvn.com>

**Subject:** Cotton Draw Unit #255 \* 30-015-43739 \* DOR: 1-20-2017 \* 2RP-4106

E: Devon Energy \* Cotton Draw Unit #255 \* 30-015-43739 \* DOR: 1-20-2017 \* 2RP-4106

Good afternoon everyone,

## APPENDIX III

### FINAL C-141

Incident ID	NAB1703949379
District RP	
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Dale Woodall Title: Env. Professional  
Signature: Dale Woodall Date: 12/6/2022  
email: dale.woodall@dvn.com Telephone: 575-748-1838

**OCD Only**

Received by: OCD Date: 12/06/2022

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Ashley Maxwell Date: 2/02/2023  
Printed Name: Ashley Maxwell Title: Environmental Specialist

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

ARTESIA DISTRICT

FEB 6 1 2017

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

NAB1703949379

## OPERATOR

☒ Initial Report ☒ Final Report

Name of Company: <b>Devon Energy Production Co LP</b> (6137) <i>10137</i>	Contact: <b>Brett Fulks, EHS Professional</b>
Address: <b>PO Box 250 Artesia, NM 88211</b>	Telephone No. <b>432-301-3223</b>
Facility Name: <b>Cotton Draw Unit 255H</b>	Facility Type: <b>Oil Well</b>
Surface Owner: <b>Federal</b>	Mineral Owner: <b>Federal</b> API No. <b>30-015-43739</b>

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	13	25S	31E	200	North	640	East	Eddy

Latitude: 32.1370258 Longitude: -103.7250735

## NATURE OF RELEASE

Type of Release: <b>Produced Treated Water</b>	Volume of Release: <b>5 BBLS</b>	Volume Recovered: <b>4 BBLS</b>
Source of Release: <b>Blender</b>	Date and Hour of Occurrence: <b>1/20/2017, 12:30 AM</b>	Date and Hour of Discovery: <b>1/20/2017, 12:30 AM</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? <b>NA, spill was under 25 barrels and not required</b>	
By Whom? <b>NA</b>	Date and Hour: <b>NA, spill was under 25 barrels and not required</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.\*  
**N/A**

Describe Cause of Problem and Remedial Action Taken.\* A contractor released 5 bbls from the frac blender into the blender's secondary containment, and then proceeded to drive the blender over the containment before having a vacuum truck remove the fluid.

Describe Area Affected and Cleanup Action Taken.\* 5 barrels of produced treated water was released onto the ground approximately 90 feet north of the wellhead. The spill was contained to the location pad and covered an approximate 10,000 square feet area. The 5 barrel release mixed with the rain water already on the pad. A vacuum truck was called to location and recovered 4 bbls of the produced treated water. A remediation contractor will be contacted.

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>Crystal Wees</i>	
Title: <b>Field Admin Support</b>	Approval Date: <i>2/7/17</i>	Expiration Date: <b>N/A</b>
E-mail Address: <b>Denise.Menoud@dmv.com</b>	Conditions of Approval: <i>COAs attached</i>	Attached <input checked="" type="checkbox"/>
Date: <b>2/1/2017</b> Phone: <b>575-746-5544</b>		

\* Attach Additional Sheets If Necessary

2RP-4106

Please see attached closure report.

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **2/1/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 200-4106 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 3/17/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted



for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us

**Weaver, Crystal, EMNRD**

---

**From:** Menoud, Denise <Denise.Menoud@dvn.com>  
**Sent:** Wednesday, February 1, 2017 10:18 AM  
**To:** Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD  
**Cc:** Shoemaker, Mike; Fulks, Brett; Menoud, Denise  
**Subject:** Cotton Draw Unit 255H Spill 1/30/17 - Initial C-141  
**Attachments:** C-141 Initial - CDU 255H Spill 1.23.17.doc; CDU 255H GIS map\_Spill 1.30.17.pdf

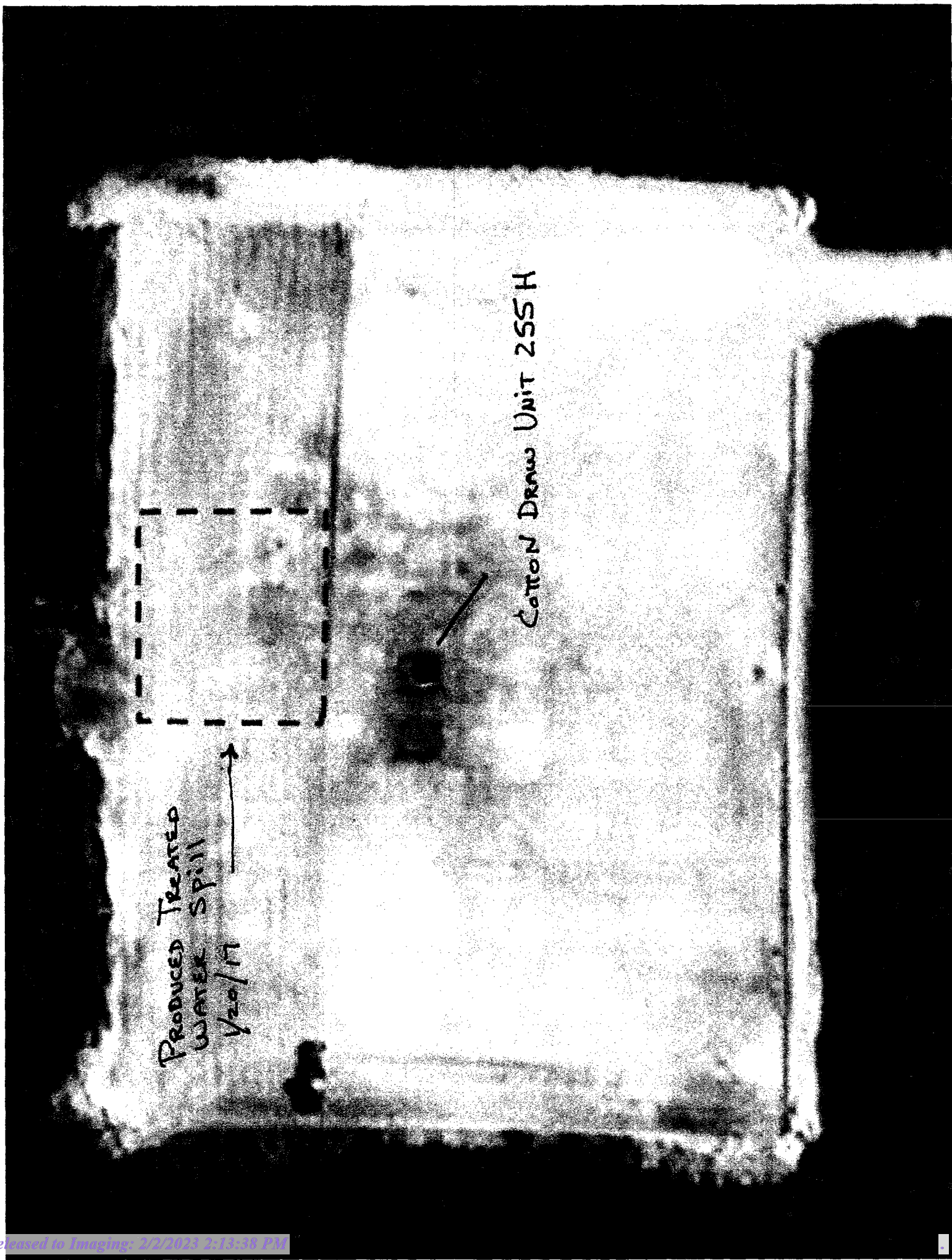
Please see attached Initial C-141 for the Cotton Draw Unit 255H spill that occurred on 1/30/17.

Thank you.

***Denise Menoud***

Admin Field Support 4 / Completions  
Devon Energy Production Co. LP/Artesia NM  
[Denise.Menoud@dvn.com](mailto:Denise.Menoud@dvn.com)  
575-746-5544

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.



PRODUCED TREATED  
WATER SPILL  
1/20/17

Cotton Draw Unit 255 H

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 164396

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 164396
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	2/2/2023