Souder, Miller & Associates♦201 S. Halagueno St.♦Carlsbad, NM 88220
(575) 689-8801

April 9, 2020

#5E29133-BG3

NMOCD District 2
811 S. First Street
Artesia, New Mexico 88210

SUBJECT: Remediation Closure Report for the Cotton Draw Unit #294H Release (2RP-4543), Eddy County, New Mexico

To Whom It May Concern:

On behalf of Devon Energy Production Company, Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Cotton Draw Unit #294H site. The site is in Unit Letter N, Section 36, Township 24S, Range 31E, Eddy County, New Mexico, on State/Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Cotton Draw Unit #294H	Company	Devon Energy Production Company
API Number	30-015-44105	Location	32.1667 -103.7324
Incident Number	2RP-4543		
Estimated Date of Release	December 21, 2017	Date Reported to NMOCD	December 22, 2017
Land Owner	State and Federal	Reported To	OCD, BLM, SLO
Source of Release	Bad gasket on transfer hose		
Released Volume	209 BBLS	Released Material	Produced Water
Recovered Volume	50 BBLS	Net Release	159 BBLS
NMOCD Closure Criteria	>100 feet to groundwater		
SMA Response Dates	3/14/2020		

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1.0 Background

On December 21, 2017, a release was discovered on the lease road due to a bad gasket on a transfer hose pumping produced water to Cotton Draw Unit #294H during completion operations. Initial response activities were conducted by Devon Energy Production Company, and included source elimination, containment, and site stabilization activities, which recovered approximately 50 barrels of fluid. Figure 1 illustrates the vicinity and site location, Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The release location for the Cotton Draw Unit #294H is located approximately 20 miles southeast of Malaga, New Mexico on Federal (BLM) and State land at an elevation of approximately 3472 feet above mean sea level (amsl).

Based upon New Mexico Office of the State Engineer and United States Geological Survey (Appendix B), depth to groundwater in the area is estimated to be 300 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 4/6/2020). There are three water wells with depth to groundwater (C-02569,C-02573,C-03830) data within a mile of the release. Water well C-02569 is 0.67 of a mile with an average depth to groundwater of 395 feet bgs, water well C-02573 is 0.71 of a mile with an average depth to groundwater of 429 feet bgs, C-03830 is 0.9 of a mile with depth to groundwater at 300 feet bgs. The nearest significant watercourse is an unnamed playa, located approximately 3.3 miles to the southwest. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of greater than 100 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC. In addition to meeting the Closure Criteria, the top four (4) feet of impacted areas off of the well pad meet the Reclamation requirement of 19.15.29.13(D)(1).

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization and Remediation Activities

On March 14, 2020, SMA conducted confirmation sampling of the walls and base of the excavation, which measured approximately 24 X 90 X 1 feet. The release area had been previously excavated by Devon Energy Damage Prevention/Asset Maintenance Division. NMOCD was notified on March 12, 2020 that confirmation samples would be collected in the next two business days.

Confirmation samples were comprised of five-point composites of the base (CS1-CS4) and walls (SW1-SW4).

A total of eight (8) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

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Figure 3 shows the extent of the excavation and sample locations. Laboratory results are summarized in Table 3. Analytical results indicate that closure criteria and reclamation requirements have been met.

SMA recommends no further action for this release (2RP-4543)

5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Ashley Maxwell at 505-320-8975 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Scientist

Shawna Chubbuck
Senior Scientist

Released to Imaging: 7/6/2022 11:11:03 AM

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3: Site and Sample Location Map

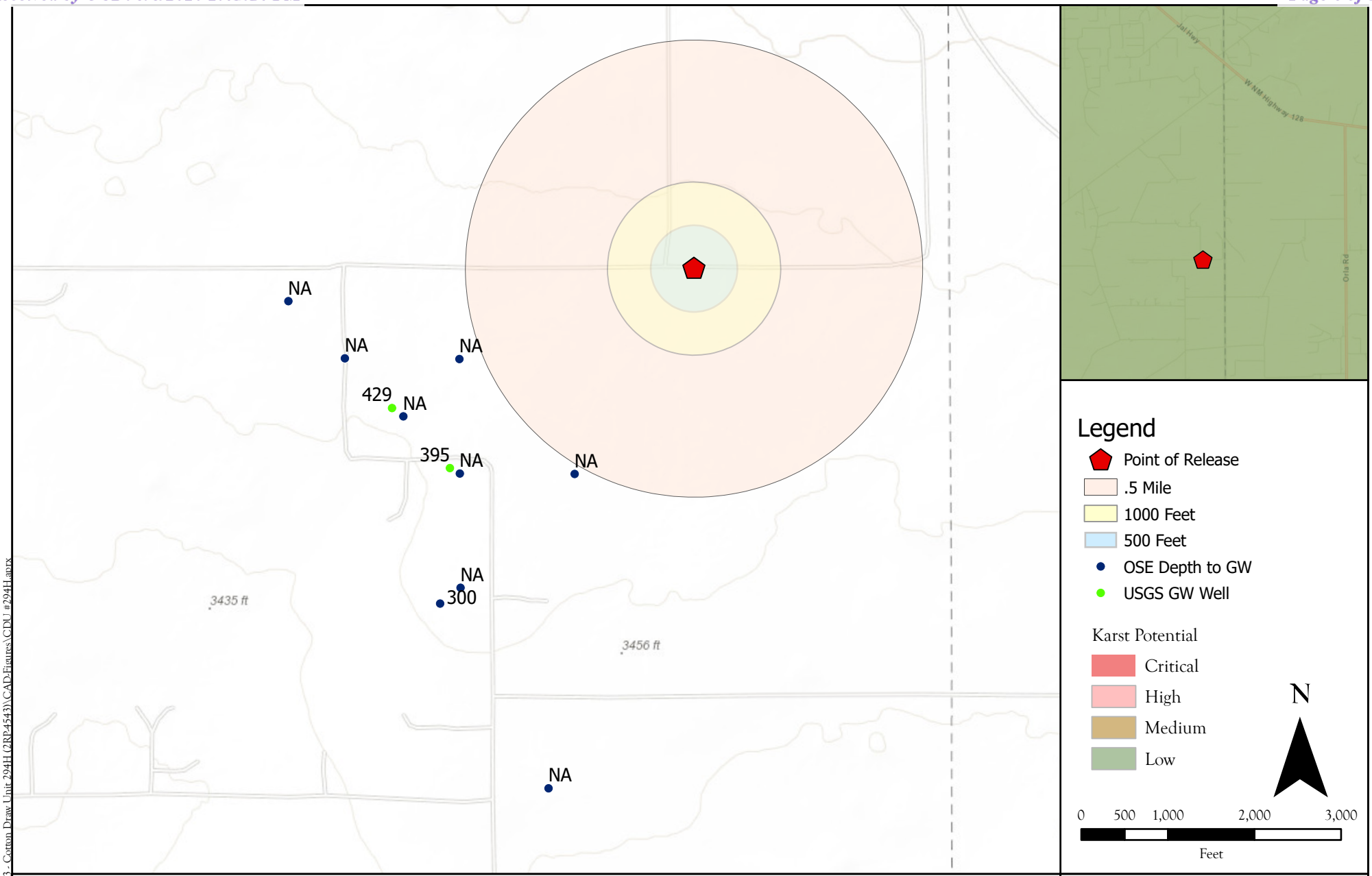
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Sampling Protocol, Field Notes & Photo Log
Appendix D: Laboratory Analytical Reports

FIGURES



Site Map
Cotton Draw Unit #294H - Devon Energy Production Company
UL: N S: 36 T: 24S R: 31E, Eddy County, New Mexico

Figure 1

P:\5-Devon MSA 2020 (5E29133)\FG3 - Cotton Draw Unit 294H (2RP4543)\CAD\Figures\CDU #294H.mxd
Date Saved: 4/7/2020

Revisions
By: _____ Date: _____ Descr: _____
By: _____ Date: _____ Descr: _____

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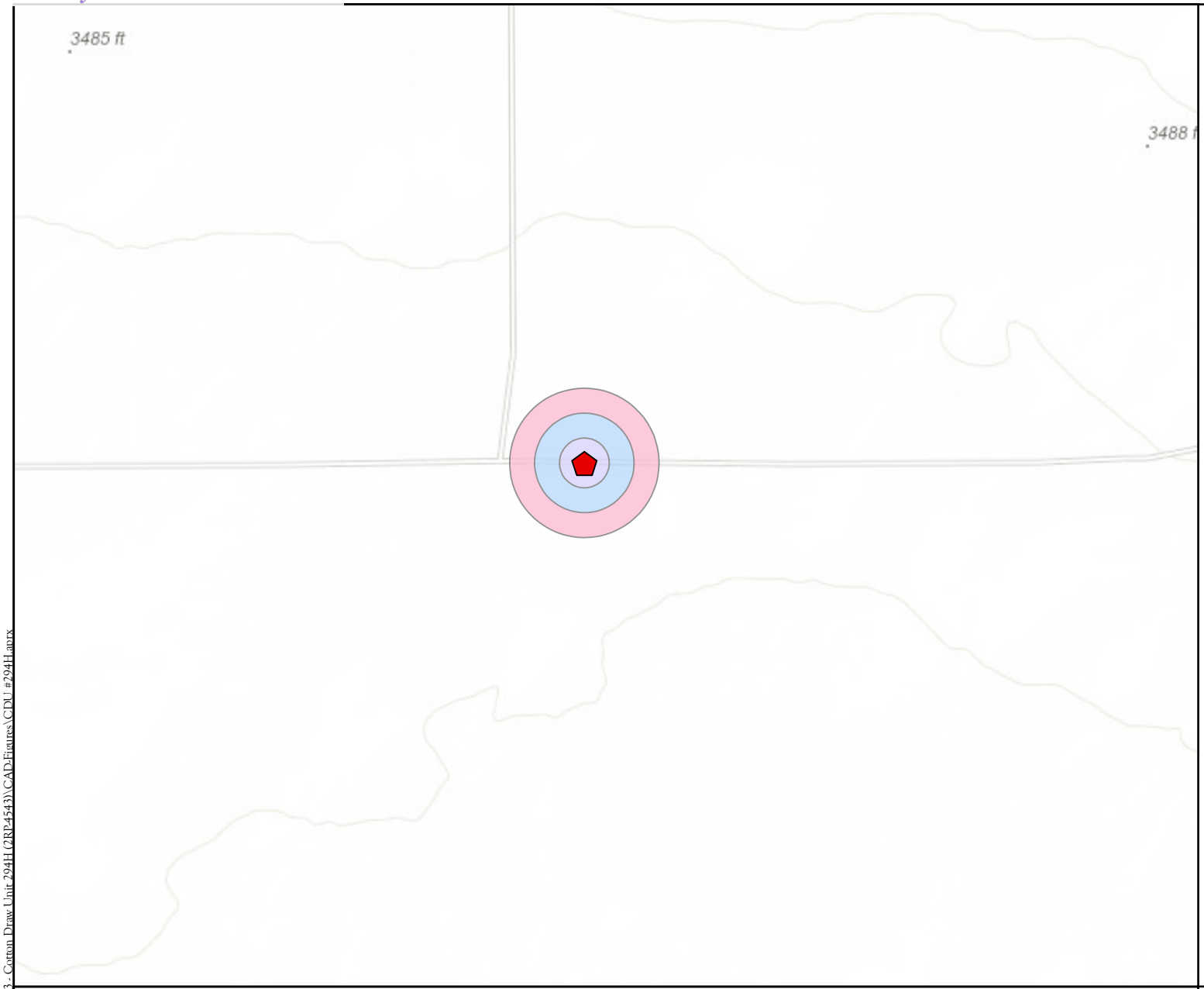
Drawn Lynn A. Acosta
Date 4/9/2020
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains



Buffer Distance
- 300 Feet
- 200 Feet
- 100 Feet
- Springs & Seeps
- Streams & Canals
- Rivers
- Flowlines SENM
- NM Wetlands
- Lakes & Playas
- FEMA Flood Zones 2011
- Point of Release

N

0 195 390 780 1,170

Feet

Surface Water Protection Map
Cotton Draw Unit #294H- Devon Energy Production Company
UL: N S: 36 T: 24S R: 31E Eddy County, New Mexico

Figure 2

Revisions
By: Date: Descr:
By: Date: Descr:

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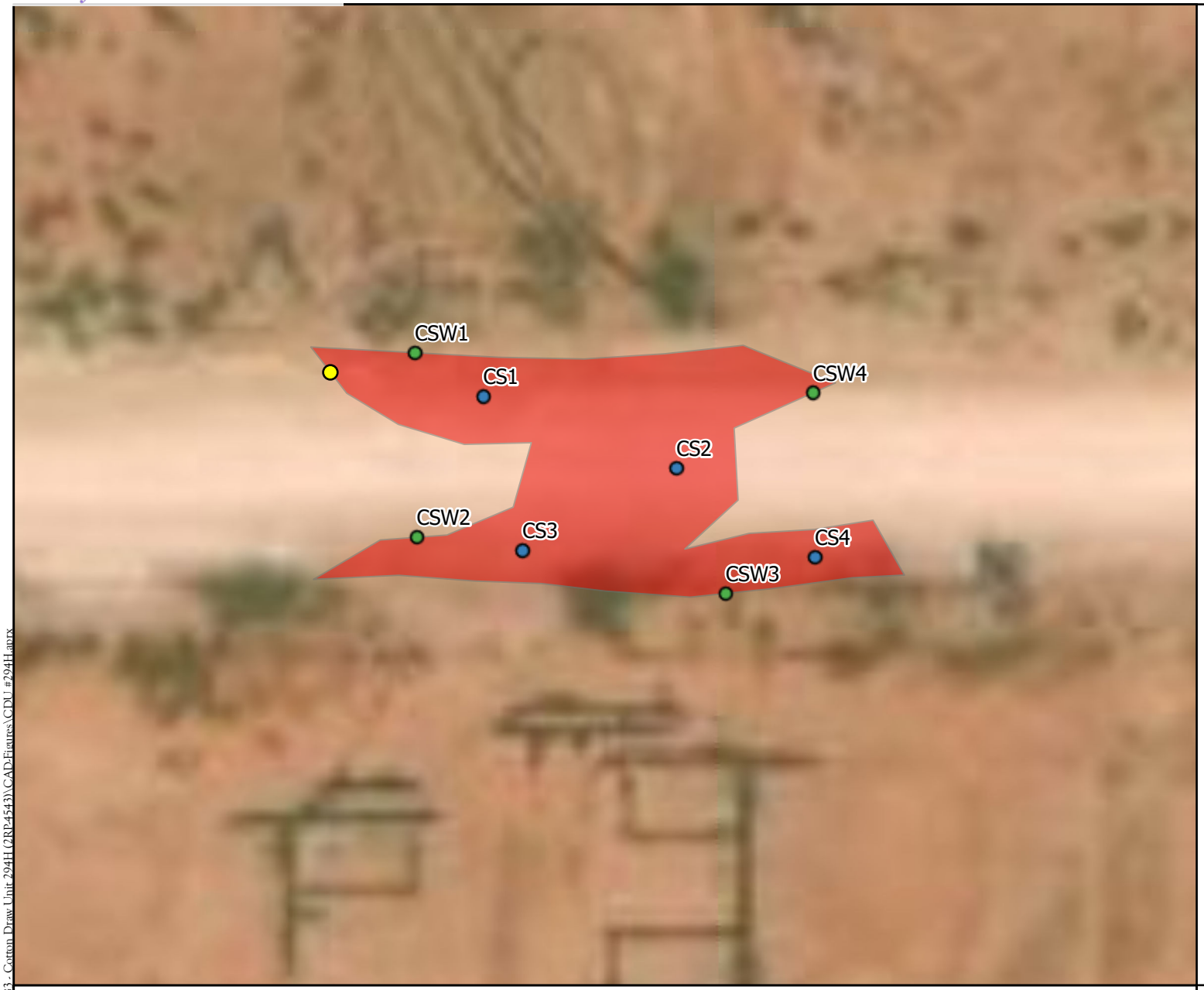

Legend

- Point of Release
- Soil Samples
- Side Wall Samples
- Release/Excavated Area

N

0 5 10 20 30

Feet

Site and Sample Location Map
Cotton Draw Unit #294H- Devon Energy Production Company
UL: N S: 36 T: 24S R: 31E Eddy County , New Mexico

Figure 3

P:\5-Devon MSA 2020 (5E29133)\FG3 - Cotton Draw Unit 294H (2RP4543)\CAD Figures\CDU #294H.mxd
Date Saved: 4/7/2020

Revisions
By: Date: Descr:
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TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy Production Company
Cotton Draw Unit #294H (2RP-4543)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	300	New Mexico Office of the State Engineer
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	NA	United States Geological Survey Topo Map
Hortizontal Distance to Nearest Significant Watercourse (ft)	17,546	United States Geological Survey Topo Map

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'	X	20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	No	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	No					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
<1000' from fresh water well or spring?	No					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	No					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No					
within a 100-year floodplain?	No					

SMA #

Table 3:
Summary of Sample Results

Devon Energy Production Company
Cotton Draw Unit #294 (2RP-4543)

Sample ID	Sample Date	Depth (feet bgs)	Proposed Action/ Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			100	600
CS1	3/14/2020	1	In-Situ	<0.222	<0.025	<4.9	<9.5	<47	<61.4	<60
CS2	3/14/2020	1	In-Situ	<0.211	<0.023	<4.7	<9.3	<46	<60	<60
CS3	3/14/2020	1	In-Situ	<0.220	<0.024	<4.9	<9.9	<46	<60.8	<60
CS4	3/14/2020	1	In-Situ	<0.213	<0.024	<4.7	<9.4	<47	<61.1	<60
SW1	3/14/2020	1	In-Situ	<0.216	<0.024	<4.8	<9.2	<46	<60	<60
SW2	3/14/2020	0-1	In-Situ	<0.216	<0.024	<4.8	<9.5	<47	<61.3	<60
SW3	3/14/2020	0-1	In-Situ	<0.224	<0.025	<5.0	<9.2	<46	<60.2	<61
SW4	3/14/2020	0-1	In-Situ	<0.208	<0.023	<4.6	<9.6	<48	<62.2	<60

"--" = Not Analyzed

SMA #

APPENDIX A
FORM C141

NM OIL CONSERVATION
ARTESIA DISTRICT
JAN 04 2018
RECEIVED

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1800555602

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 6137	Contact Stephen Richards, Devon Completions Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-252-3717
Facility Name Cotton Draw Unit 294H (near the Cotton Draw Unit 113H API# 30-015-39517)	Facility Type Oil

Surface Owner State/Federal	Mineral Owner State/Federal	API No. 30-015-44105

LOCATION OF RELEASE

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

Latitude_32.1667_ **Longitude**_103.7324_ NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 209 BBLS	Volume Recovered 50 BBLS
Source of Release Bad Gasket on Transfer Hose	Date and Hour of Occurrence 12/21/2017 @ 11:30 PM MST	Date and Hour of Discovery 12/21/2017 @ 11:30 PM MST
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OCD: Mike Bratcher/Crystal Weaver BLM: Shelly Tucker SLO: Amber Groves	
By Whom? Mike Shoemaker, EHS Professional	Date and Hour 12/22/17 @ 4:33 PM MST	
Was a Watercourse Reached? ☐ Yes ☒ 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.*
During completion operations water was being transferred to the location and a bolt on the 12" hose connection failed, which allowed the end to separate from the hose. A bad gasket was identified in contributing to the incident. The pumping operations were shut down and the hose and gasket were repaired. A vacuum truck was dispatched to recover any available fluids. The following lat/long (32.1667/103.7324) has been provided for this release and is the most easterly point of the release. Approximately 209 bbls of produced water was released and approximately 50 bbls produced water was recovered by the vacuum truck.

Describe Area Affected and Cleanup Action Taken.*
Approximately 209 barrels of produced water spilled on to the ground. A vacuum truck was dispatched and 50 barrels of produced water was recovered. The spill starts on State surface and minerals but crosses the property boundary and also has impacted Federal surface and minerals. A remediation contractor will be contacted to assist with the delineation and remediation of the impacted area.

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: *Denise Menoud* Printed Name: Denise Menoud	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Signed By	
Title: Field Admin Support	Approval Date: 1/5/18	Expiration Date: N/A
E-mail Address: Denise.Menoud@dvn.com Date: 12/27/2017 Phone: 575-746-5544	Conditions of Approval: See attached	Attached ☐ 2RP-4543

* Attach Additional Sheets If Necessary

1/4/18 AB

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 1/4/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4543 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 2 office in ARTESIA on or before 2/4/2018. 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_6 thru C_{36}), 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_6 thru C_{36}), 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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4543
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: ____Lupe Carrasco_____ Title: ___EHS Professional_____

Signature: Lupe Carrasco Date: ___4/16/20_____

email: __Lupe.Carrasco@dvn.com_____ Telephone: ___575-748-0176_____

OCD Only

Received by: _____ Date: _____

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: Jocelyn Harimon Date: 07/06/2022

Printed Name: _____ Title: Environmental Specialist

Bratcher, Mike, EMNRD

From: Menoud, Denise <Denise.Menoud@dvn.com>
Sent: Thursday, January 4, 2018 3:31 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker; agroves@slo.state.nm.us
Cc: Shoemaker, Mike; Menoud, Denise
Subject: Cotton Draw Unit 294H - Spill 12.21.17 - Initial C-141
Attachments: CDU 294H_209 bbls PW_Initial C-141_12.21.17.doc; CDU 294H Spill 12.21.17 GIS.PDF

Please see attached Initial C-141 and GIS mapping of spill that occurred on the Cotton Draw Unit 294H on 12/21/17.

Thank you.

Denise Menoud
Admin Field Support 4 / Completions
Devon Energy Production Co. LP/Artesia NM
Denise.Menoud@dvn.com
575-746-5544

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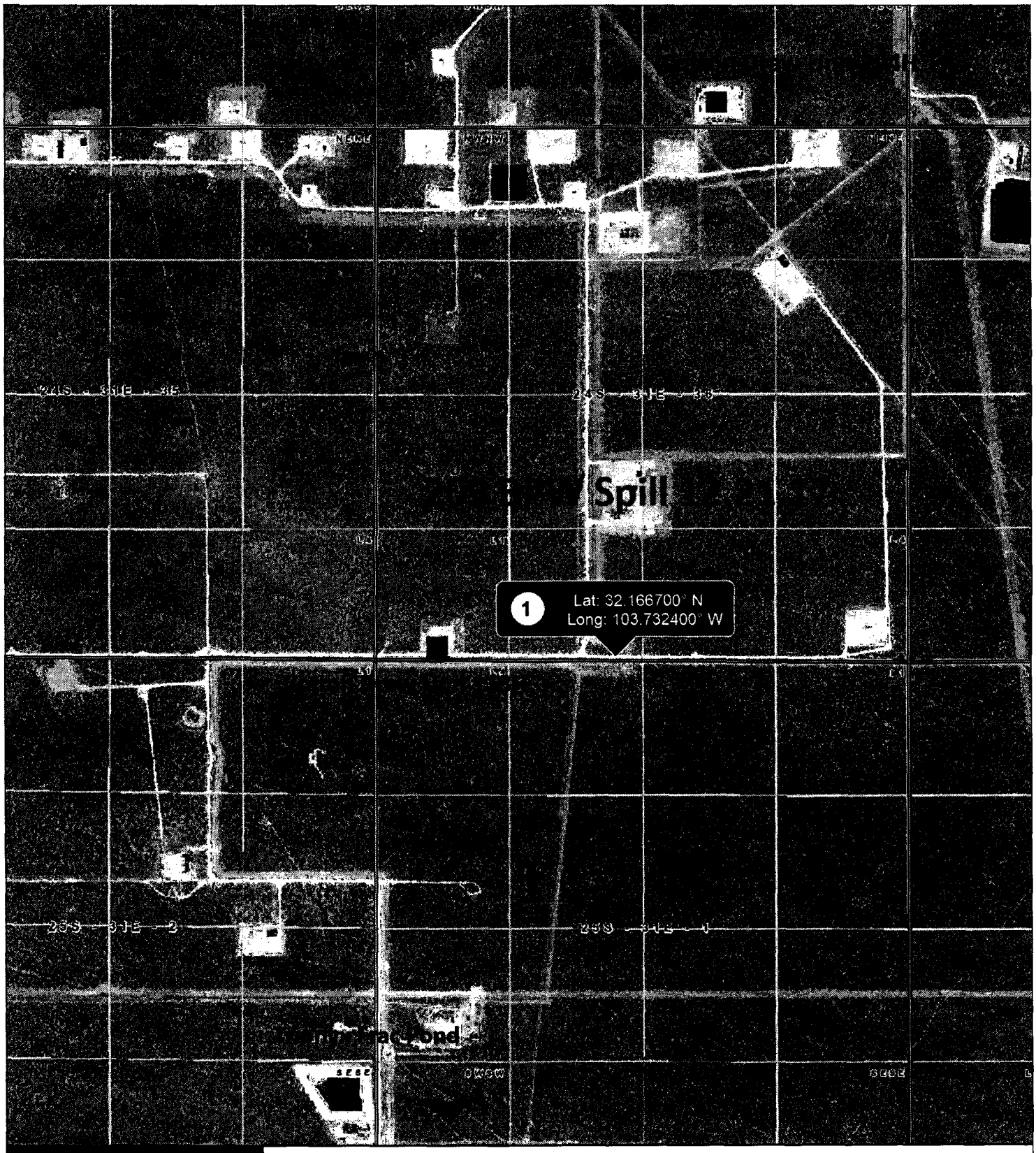

CDU 294H Spill 12.21.17

209 BPW, Rec 50 BPW

devon

This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Menoud
Map is current as of: 04-Jan-2018

N

Miles
0 0.07 0.14 0.28 1:14,228

Weaver, Crystal, EMNRD

From: Shoemaker, Mike <Mike.Shoemaker@dvn.com>
Sent: Friday, December 22, 2017 4:33 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker (stucker@blm.gov); Amber Groves (agroves@slo.state.nm.us)
Cc: Fulks, Brett
Subject: Spill notification for the Cotton Draw Unit 294H (API #30-015-44105)

Good Afternoon,

Devon had the following release occur at 11:30 PM MST on 12/21/17. The incident is described below.

1. Cotton Draw Unit 294H (API #30-015-44105)
    a. During completion operations water was being transferred to the location and a bolt on the 12" hose connection failed, which allowed the end to separate from the hose. A bad gasket was identified in contributing to the incident. The pumping operations were shut down and the hose and gasket were repaired. The following lat/long (32.1667/103.7324) has been provided for this release and is the most easterly point of the release. Approximately 209 bbls of produced water was released and approximately 50 bbls produced water was recovered.

The coordinate that is provided has this release being on State/State surface but both Federal surface and minerals are in close proximity. In turn, I have included Shelly on this notification in case it is deemed that federal surface or minerals have been impacted. This will be further clarified when the C-141 is prepared.

A C-141 will be prepared and submitted with GPS coordinates of the area affected.

Thanks,

Mike Shoemaker
EHS Representative

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, New Mexico 88210
575-746-5566 Office
575-513-5035 Mobile

devon

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APPENDIX B
NMOSE WELLS REPORT

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 64	Q 16	Q 4	Sec	Tws	Rng	X	Y		Distance	Depth Well	Depth Water	Water Column
C 02568		CUB	ED	4	3	1	01	25S	31E	619103	3558892*		835	1025		
C 02572		CUB	ED	4	2	2	02	25S	31E	618695	3559294*		884	852		
C 02569		CUB	ED	4	4	2	02	25S	31E	618699	3558891*		1094	1016		
C 02573		CUB	ED	1	4	2	02	25S	31E	618499	3559091*		1146			
C 02571		CUB	ED	4	1	2	02	25S	31E	618292	3559294*		1267	860		
C 02570		CUB	ED	4	2	4	02	25S	31E	618704	3558489*		1391	895		
C 02574		CUB	ED	1	1	2	02	25S	31E	618092	3559494*		1431			
C 03830 POD1		CUB	ED	4	2	4	02	25S	31E	618632	3558432		1478	450		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 619518 **Northing (Y):** 3559617 **Radius:** 3000

***UTM location was derived from PLSS - see Help**

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

4/6/20 10:49 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

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- **Notice** - The USGS Water Resources Mission Area's priority is to maintain the safety and well-being of our communities, including providing critical situational awareness in times of flooding in all 50 U.S. states and additional territories. Our hydrologic monitoring stations continue to send data in near real-time to NWISWeb, and we are continuing critical water monitoring activities to protect life and property on a case-by-case basis. The health and safety of the public and our employees are our highest priorities, and we continue to follow guidance from the White House, the CDC, and state and local authorities.

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 320932103443801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 320932103443801 25S.31E.02.23441

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°09'37.4", Longitude 103°44'29.6" NAD83
Land-surface elevation 3,460.00 feet above NGVD29
The depth of the well is 1,016 feet below land surface.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

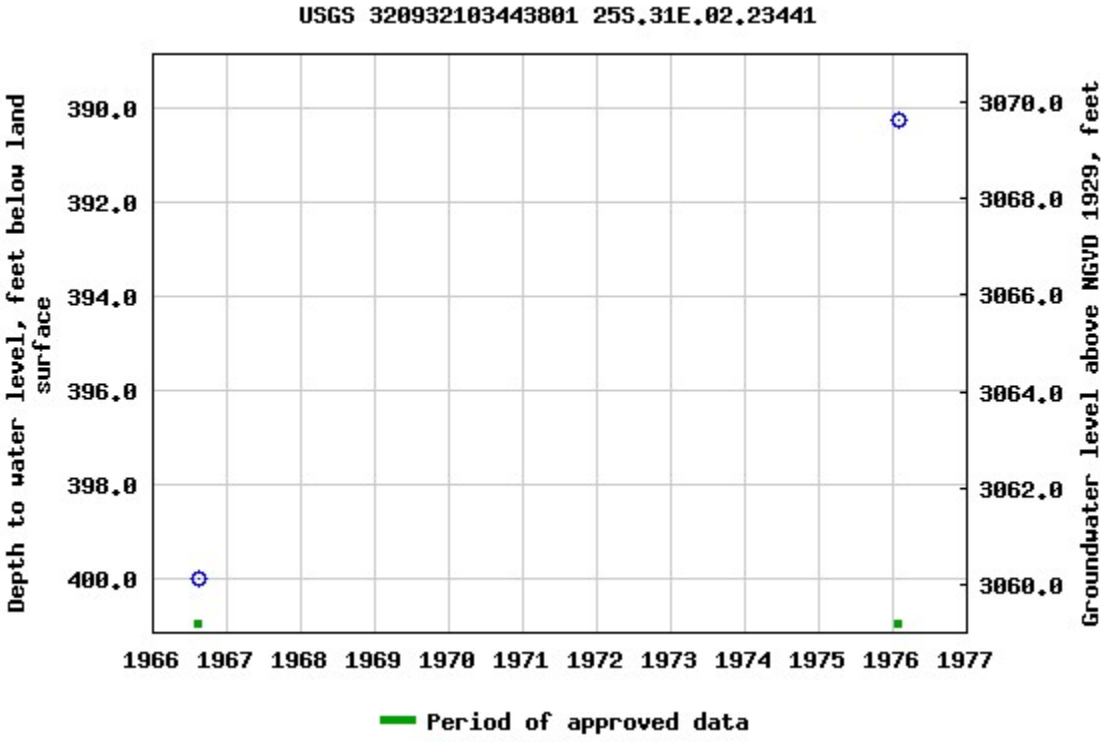
Output formats

Table of data

Tab-separated data

Graph of data

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2020-04-07 11:03:45 EDT
0.62 0.56 nadww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 320952103444401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 320952103444401 25S.31E.02.214411

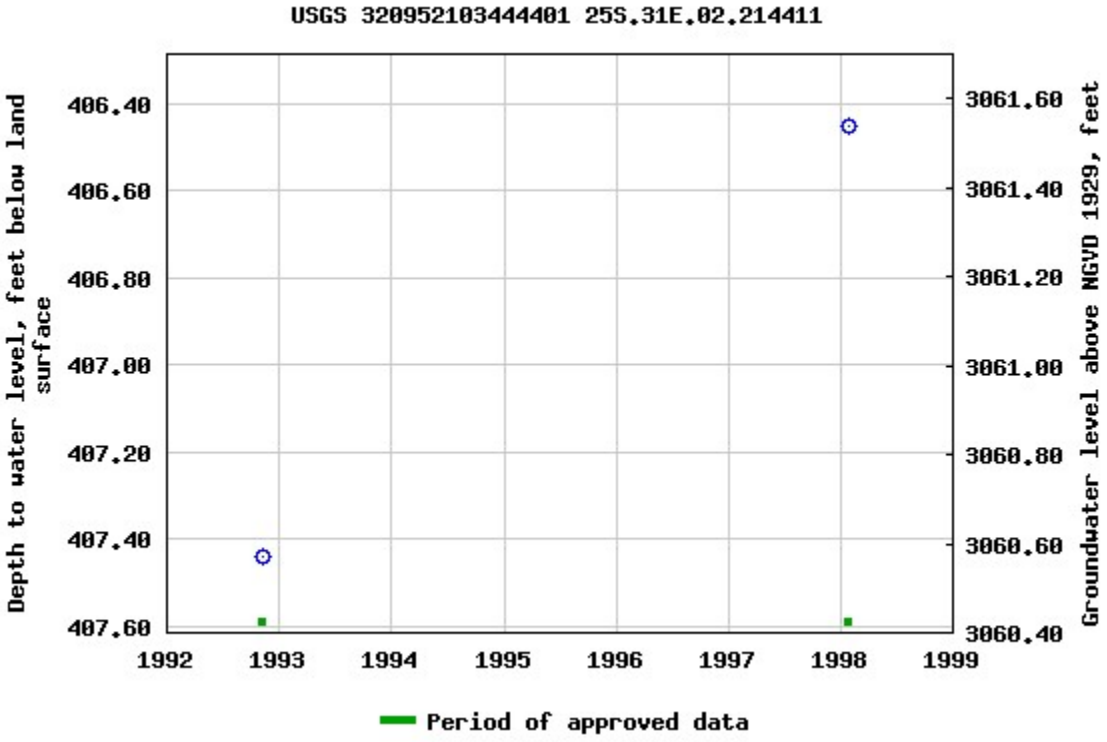
Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°09'50.0", Longitude 103°44'41.2" NAD83
Land-surface elevation 3,468.0 feet above NGVD29
This well is completed in the Azotea Tongue of Seven Rivers Formation (313AZOT) local aquifer.

Output formats

Table of data

Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
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Questions about sites/data?
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U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2020-04-07 10:59:24 EDT
0.55 0.49 nadww01

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): 1	OSE FILE NUMBER(S): C-3830
WELL OWNER NAME(S): ROCKHOUSE RANCH INC.	PHONE (OPTIONAL): 575-995-6920
WELL OWNER MAILING ADDRESS: 1108 W PIEARCE ST.	CITY: CARLSBAD STATE: NM ZIP: 88220

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	09	22	N
LONGITUDE	103	44	31	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SE 1/4,NE 1/4, SE 1/4, SECTION 2, TOWNSHIP 25S, RANGE 31E

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1607	LUIS A. (TONY) DURAN	DURAN DRILLING

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
1/28/15	2/02/15	451	450	300

COMPLETED WELL IS: ○ ARTESIAN ○ DRY HOLE ◉ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT):

DRILLING FLUID: ○ AIR ◉ MUD ADDITIVES – SPECIFY: DRILLING MUD

DRILLING METHOD: ◉ ROTARY ○ HAMMER ○ CABLE TOOL ○ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	220	12	STEEL	STEEL PERF	7	1/4	-
220	450	12	STEEL PERF	STEEL	7	1/4	1/8

STATE ENGINEER OFFICE RECEIVED FEB 13 AM 10:23

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	12	20 BGS 80 LBS CEMENT		MIXER
20	450	12	22 YARDS 1/4" GRAVEL		

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
C-3830	1	560005

25S.31E.2.424

EXPL

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1	1	TOPSOIL	○ Y ◉ N	
1	4	3	CALICHE	○ Y ◉ N	
4	16	12	SAND	○ Y ◉ N	
90	99	9	CLAY	○ Y ◉ N	
99	190	91	SAND	○ Y ◉ N	
190	250	60	BROWN CLAY	○ Y ◉ N	
250	265	15	SAND	○ Y ◉ N	
265	340	75	CLAY	○ Y ◉ N	
340	348	8	SAND	○ Y ◉ N	
348	378	30	GRAVEL	◉ Y ○ N	10
378	384	6	CALY	○ Y ◉ N	
384	448	64	SAND	◉ Y ○ N	5
448	450	2	RED BED	○ Y ◉ N	
				○ Y ◉ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ○ PUMP ○ AIR LIFT ◉ BAILER ○ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 15

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:
LUIS A. DURAN

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO FEB 23 AM 8:23

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Luis A. Duran LUIS A. DURAN
SIGNATURE OF DRILLER / PRINT SIGNEE NAME

2-02-15
DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
C-3830	/	560005

255.31E.2.424

EXPL

APPENDIX C
SAMPLING PROTOCOL,
FIELD NOTES & PHOTO LOG

Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88220
(575) 689-8801

Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on Cotton Draw Unit #294H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of eight (8) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

Sampling Analysis Field Quality Assurance Procedures

A unique sample numbering was used to identify each sample collected and designated for on-site and off-site laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers were recorded on sample labels or tags, field notes, chain-of-custody records (COC) and all other applicable documentation used during the project. Sample labels were affixed to all sample containers during sampling activities. Information was recorded on each sample container label at the time of sample collection. The information recorded on the labels were as follows: sample identification number; sample type (discrete or composite); site name and area/location number; analysis to be performed; type of chemical preservative present in container; date and time of sample collection; and sample collector's name and initials. All samples were packed in ice in an approved rigid body container, custody sealed signed and shipped to the appropriate laboratory via insured currier service.

COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met: the sample is in the sampler's possession; the sample is in the sampler's view after being in possession; the sample was in the sampler's possession and then was placed into a locked area to prevent tampering; and/or the sample is in a designated secure area. Custody was documented throughout the project field sampling activities by a chain-of custody form initiated each day during which samples are collected. Container custody seals placed on either individual samples or on the rigid body container were used to ensure that no sample tampering occurs between the time the samples are placed into the containers and the time the containers are opened for analysis at the laboratory. Container custody seals were signed and dated by the individual responsible for completing the COC form contained within the container.

Released to Imaging: 7/6/2022 11:11:03 AM

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Field Screening

Location Name: CDU 294 **Date:** 3/14/20

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
CS1	1416	0.03	19.1		(Light) Tan Gray Yellow / Dark Brown Olive Red	(Gravel) (Rock) Sand Silt Clay	(Dry) Moist Wet	Caliche lease road
CS2	1420	0.04	19.0		(Light) Tan Gray Yellow / Dark Brown Olive Red	(Gravel) (Rock) Sand Silt Clay	(Dry) Moist Wet	" "
CS3	1426	0.02	18.5		(Light) Tan Gray Yellow / Dark Brown Olive Red	(Gravel) (Rock) Sand Silt Clay	(Dry) Moist Wet	" "
CS4	1428	0.03	18.7		(Light) Tan Gray Yellow / Dark Brown Olive Red	(Gravel) (Rock) Sand Silt Clay	(Dry) Moist Wet	" "
SW 1	1430	0.02	18.6		Light Tan Gray Yellow / (Dark Brown) Olive Red	Gravel Rock (Sand) Silt Clay	Dry (Moist) Wet	Sand, N of lease road
SW 2	1433	0.03	18.9		Light Tan Gray Yellow / (Dark Brown) Olive Red	Gravel Rock (Sand) Silt Clay	Dry (Moist) Wet	Sand S of lease road
SW 3	1436	0.01	18.7		(Light) Tan Gray Yellow / Dark Brown Olive Red	(Gravel) (Rock) Sand Silt Clay	(Dry) Moist Wet	Caliche, lease road E wall sidewall
SW 4	1440	0.04	18.9		(Light) Tan Gray Yellow / Dark Brown Olive Red	(Gravel) (Rock) Sand Silt Clay	(Dry) Moist Wet	" " West sidewall
					Light Tan Gray Yellow / Dark Brown Olive Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	

Received by OCD: 5/8/2020 2:43:14 PM

Released to Imaging: 7/6/2022 11:11:03 AM

Photo #1

Facing Southwest 32.1667 -103.731

Photo #2

Facing Southwest 32.1668 -103.7321

APPENDIX D

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 24, 2020

Ashley Maxwell

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX

RE: CDU 294 OrderNo.: 2003766

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/17/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS1
Project: CDU 294
Collection Date: 3/14/2020 2:16:00 PM
Lab ID: 2003766-001 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 4:53:50 PM	51261
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/20/2020 1:46:59 AM	51188
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/20/2020 1:46:59 AM	51188
Surr: DNOP	95.3	55.1-146		%Rec	1	3/20/2020 1:46:59 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/21/2020 4:04:05 AM	51182
Surr: BFB	95.3	66.6-105		%Rec	1	3/21/2020 4:04:05 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	3/21/2020 4:04:05 AM	51182
Toluene	ND	0.049		mg/Kg	1	3/21/2020 4:04:05 AM	51182
Ethylbenzene	ND	0.049		mg/Kg	1	3/21/2020 4:04:05 AM	51182
Xylenes, Total	ND	0.099		mg/Kg	1	3/21/2020 4:04:05 AM	51182
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	3/21/2020 4:04:05 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS2
Project: CDU 294
Collection Date: 3/14/2020 2:20:00 PM
Lab ID: 2003766-002 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 5:30:54 PM	51261
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/20/2020 2:11:04 AM	51188
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/20/2020 2:11:04 AM	51188
Surr: DNOP	87.3	55.1-146		%Rec	1	3/20/2020 2:11:04 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/21/2020 4:27:31 AM	51182
Surr: BFB	95.6	66.6-105		%Rec	1	3/21/2020 4:27:31 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	3/21/2020 4:27:31 AM	51182
Toluene	ND	0.047		mg/Kg	1	3/21/2020 4:27:31 AM	51182
Ethylbenzene	ND	0.047		mg/Kg	1	3/21/2020 4:27:31 AM	51182
Xylenes, Total	ND	0.094		mg/Kg	1	3/21/2020 4:27:31 AM	51182
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	3/21/2020 4:27:31 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS3
Project: CDU 294
Collection Date: 3/14/2020 2:26:00 PM
Lab ID: 2003766-003 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 5:43:14 PM	51261
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/20/2020 2:35:02 AM	51188
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/20/2020 2:35:02 AM	51188
Surr: DNOP	88.1	55.1-146		%Rec	1	3/20/2020 2:35:02 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/21/2020 6:01:16 AM	51182
Surr: BFB	94.2	66.6-105		%Rec	1	3/21/2020 6:01:16 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/21/2020 6:01:16 AM	51182
Toluene	ND	0.049		mg/Kg	1	3/21/2020 6:01:16 AM	51182
Ethylbenzene	ND	0.049		mg/Kg	1	3/21/2020 6:01:16 AM	51182
Xylenes, Total	ND	0.098		mg/Kg	1	3/21/2020 6:01:16 AM	51182
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	3/21/2020 6:01:16 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS4
Project: CDU 294
Collection Date: 3/14/2020 2:28:00 PM
Lab ID: 2003766-004 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 5:55:36 PM	51261
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/20/2020 2:59:01 AM	51188
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/20/2020 2:59:01 AM	51188
Surr: DNOP	91.3	55.1-146		%Rec	1	3/20/2020 2:59:01 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/21/2020 6:24:44 AM	51182
Surr: BFB	94.7	66.6-105		%Rec	1	3/21/2020 6:24:44 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/21/2020 6:24:44 AM	51182
Toluene	ND	0.047		mg/Kg	1	3/21/2020 6:24:44 AM	51182
Ethylbenzene	ND	0.047		mg/Kg	1	3/21/2020 6:24:44 AM	51182
Xylenes, Total	ND	0.095		mg/Kg	1	3/21/2020 6:24:44 AM	51182
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	3/21/2020 6:24:44 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: CDU 294
Collection Date: 3/14/2020 2:30:00 PM
Lab ID: 2003766-005 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 6:57:20 PM	51270
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/20/2020 3:22:57 AM	51188
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/20/2020 3:22:57 AM	51188
Surr: DNOP	88.7	55.1-146		%Rec	1	3/20/2020 3:22:57 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/21/2020 6:48:07 AM	51182
Surr: BFB	93.4	66.6-105		%Rec	1	3/21/2020 6:48:07 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/21/2020 6:48:07 AM	51182
Toluene	ND	0.048		mg/Kg	1	3/21/2020 6:48:07 AM	51182
Ethylbenzene	ND	0.048		mg/Kg	1	3/21/2020 6:48:07 AM	51182
Xylenes, Total	ND	0.096		mg/Kg	1	3/21/2020 6:48:07 AM	51182
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	3/21/2020 6:48:07 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: CDU 294
Collection Date: 3/14/2020 2:33:00 PM
Lab ID: 2003766-006 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 7:09:41 PM	51270
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/20/2020 3:46:49 AM	51188
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/20/2020 3:46:49 AM	51188
Surr: DNOP	90.2	55.1-146		%Rec	1	3/20/2020 3:46:49 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/21/2020 7:11:29 AM	51182
Surr: BFB	93.1	66.6-105		%Rec	1	3/21/2020 7:11:29 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/21/2020 7:11:29 AM	51182
Toluene	ND	0.048		mg/Kg	1	3/21/2020 7:11:29 AM	51182
Ethylbenzene	ND	0.048		mg/Kg	1	3/21/2020 7:11:29 AM	51182
Xylenes, Total	ND	0.096		mg/Kg	1	3/21/2020 7:11:29 AM	51182
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	3/21/2020 7:11:29 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: CDU 294
Collection Date: 3/14/2020 2:36:00 PM
Lab ID: 2003766-007 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	61		mg/Kg	20	3/23/2020 7:22:03 PM	51270
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/20/2020 4:10:57 AM	51188
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/20/2020 4:10:57 AM	51188
Surr: DNOP	89.6	55.1-146		%Rec	1	3/20/2020 4:10:57 AM	51188
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/21/2020 7:34:53 AM	51182
Surr: BFB	93.2	66.6-105		%Rec	1	3/21/2020 7:34:53 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	3/21/2020 7:34:53 AM	51182
Toluene	ND	0.050		mg/Kg	1	3/21/2020 7:34:53 AM	51182
Ethylbenzene	ND	0.050		mg/Kg	1	3/21/2020 7:34:53 AM	51182
Xylenes, Total	ND	0.099		mg/Kg	1	3/21/2020 7:34:53 AM	51182
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/21/2020 7:34:53 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003766**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4
Project: CDU 294
Collection Date: 3/14/2020 2:40:00 PM
Lab ID: 2003766-008 **Matrix:** SOIL **Received Date:** 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/23/2020 7:34:23 PM	51270
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/20/2020 6:11:12 AM	51201
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/20/2020 6:11:12 AM	51201
Surr: DNOP	94.0	55.1-146		%Rec	1	3/20/2020 6:11:12 AM	51201
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/21/2020 7:58:13 AM	51182
Surr: BFB	95.7	66.6-105		%Rec	1	3/21/2020 7:58:13 AM	51182
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	3/21/2020 7:58:13 AM	51182
Toluene	ND	0.046		mg/Kg	1	3/21/2020 7:58:13 AM	51182
Ethylbenzene	ND	0.046		mg/Kg	1	3/21/2020 7:58:13 AM	51182
Xylenes, Total	ND	0.093		mg/Kg	1	3/21/2020 7:58:13 AM	51182
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	3/21/2020 7:58:13 AM	51182

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003766**

24-Mar-20

Client: Souder, Miller & Associates

Project: CDU 294

Sample ID: **MB-51261** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **51261** RunNo: **67496**

Prep Date: **3/23/2020** Analysis Date: **3/23/2020** SeqNo: **2330680** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51261** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **51261** RunNo: **67496**

Prep Date: **3/23/2020** Analysis Date: **3/23/2020** SeqNo: **2330682** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	90	110			

Sample ID: **MB-51270** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **51270** RunNo: **67496**

Prep Date: **3/23/2020** Analysis Date: **3/23/2020** SeqNo: **2330729** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51270** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **51270** RunNo: **67496**

Prep Date: **3/23/2020** Analysis Date: **3/23/2020** SeqNo: **2330730** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003766**

24-Mar-20

Client: Souder, Miller & Associates

Project: CDU 294

Sample ID: **LCS-51086**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51086**	RunNo: **67313**
Prep Date: **3/13/2020**	Analysis Date: **3/16/2020**	SeqNo: **2320643** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.2		5.000		105	55.1	146			

Sample ID: **MB-51086**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51086**	RunNo: **67313**
Prep Date: **3/13/2020**	Analysis Date: **3/16/2020**	SeqNo: **2320644** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	55.1	146			

Sample ID: **LCS-51100**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51100**	RunNo: **67313**
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321410** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.7	55.1	146			

Sample ID: **MB-51100**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51100**	RunNo: **67313**
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321412** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.4	55.1	146			

Sample ID: **LCS-51188**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51188**	RunNo: **67313**
Prep Date: **3/18/2020**	Analysis Date: **3/19/2020**	SeqNo: **2326278** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.9	70	130			
Surr: DNOP	4.0		5.000		79.7	55.1	146			

Sample ID: **LCS-51201**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51201**	RunNo: **67313**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2326279** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	70	130			
Surr: DNOP	3.9		5.000		77.7	55.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003766**
24-Mar-20

Client: Souder, Miller & Associates
Project: CDU 294

Sample ID: **MB-51188**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51188**	RunNo: **67313**							
Prep Date: **3/18/2020**	Analysis Date: **3/19/2020**	SeqNo: **2326280**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.5	55.1	146			

Sample ID: **MB-51201**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51201**	RunNo: **67313**							
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2326281**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.6		10.00		86.0	55.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003766**

24-Mar-20

Client: Souder, Miller & Associates

Project: CDU 294

Sample ID: **lcs-51182**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.0	80	120			
Surr: BFB	1100		1000		111	66.6	105			S

Sample ID: **mb-51182**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.6	66.6	105			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003766**

24-Mar-20

Client: Souder, Miller & Associates

Project: CDU 294

Sample ID: **mb-51182**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **51182**	RunNo: **67472**							
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328730**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID: **LCS-51182**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **51182**	RunNo: **67472**							
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328731**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.1	80	120			
Toluene	0.91	0.050	1.000	0	90.9	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2003766** RcptNo: **1**

Received By: **Juan Rojas** **3/17/2020 8:20:00 AM**

Completed By: **Juan Rojas** **3/17/2020 11:57:44 AM**

Reviewed By: JR 3/17/20

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑ IO
10. Were any sample containers received broken? Yes ☐ No ☑

# of preserved bottles checked for pH: 3/17/20 (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good				
2	4.5	Good				
3	1.0	Good				
4	1.8	Good				

Released to Imaging: 7/6/2022 11:11:03 AM
Received by OCD: 5/8/2020 2:43:14 PM

Chain-of-Custody Record

Client: SMA- Carlsbad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day turn

Project Name: CDU 294

Project #:

Project Manager: Ashley Maxwell

Sampler: CAM

On Ice: ☑ Yes ☐ No

# of Coolers: 4

Cooler Temp(including CF): See Remarks (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003766	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/14/20	1416	Soil	CS1	4oz		-001	X	X					X			
	1420		CS2			-002	X	X					X			
	1426		CS3			-003	X	X					X			
	1428		CS4			-004	X	X					X			
	1430		~~CS5~~ SW1			-005	X	X					X			
	1433		SW2			-006	X	X					X			
	1436		SW3			-007	X	X					X			
	1440		SW4			-008	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					3/16/20	0850
3/16/20	1900		courier		3/17/20	8:20

Remarks: Direct Bill: Devon

1.4+0.2=1.6
4.3+0.2=4.5
0.8+0.2=1.0
1.6+0.2=1.8

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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 8168

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 8168
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	Please note that, when the well or facility is plugged or abandoned, the final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.	7/6/2022