



P.O. Box 1708 • Artesia, NM 88211
www.hrlcomp.com

September 25, 2020

Mr. Tom Bynum
 Devon Energy Production Company
 6488 Seven Rivers Highway
 Artesia, New Mexico 88210
 Email: tom.bynum@dvn.com

**Subject: Liner Inspection and Closure Report
 Rattlesnake 16 SWD#001 (October 2017)
 nOY1727954743
 Lea County, New Mexico**

Dear Mr. Bynum:

Devon Energy Production Company (Devon) (Client) retained HRL Compliance Solutions, Inc. (HRL) to conduct a liner inspection and prepare this closure report for the September 24, 2017 release at the Rattlesnake 16 SWD #001 facility (Site). The Site is in Lea County, New Mexico (Figure 1).

Release Summary and Initial Response

On September 24, 2017, a release of 200 barrels of produced water was observed at the Site. The release occurred when a power outage caused the produced water tanks to overflow. Initial response activities included stopping the source of the release, securing the impacted area, and removing free liquids within the secondary containment. 200 barrels of produced water were recovered. On October 6, 2017, the C-141 (Attachment A) was submitted to the New Mexico Oil Conservation Division (NMOCD).

Item	Discussion
Site Name	Rattlesnake 16 SWD 1
Latitude	32.0441688
Longitude	-103.4826937
Unit/Section/Township/Range	Unit E/Section 16/Township 26 South/ Range 34 East
Release Number	nOY1727954743
Date Release Discovered	September 24, 2017
Cause of Release	Power failure resulting in tank overflow
Type of Material Released	Produced Water
Volume Release	200 barrels

INNOVATIVE SOLUTIONS DELIVERED



Mr. Tom Bynum

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Item	Discussion
Volume Recovered	200 barrels

Liner Inspection

On August 16, 2020, after the released fluid was removed, HRL conducted an inspection to evaluate the integrity of the liner (Attachment B, Photographs). No tears or holes were observed in the liner and the liner was retaining a small amount of water and oil. Based on this inspection, HRL has determined that the liner remains intact and fully contained the release (Attachment C, Inspection Form).

New Mexico Administrative Code (NMAC) Site Characterization Criteria

Title 19, Chapter 15, Part 29, Section 11 of the New Mexico Administrative Code (NMAC) provides requirements for release characterization once the free liquids and recoverable materials have been removed from the Site.

Site Map

A scaled diagram depicting the site and nearby significant features has been prepared (Figure 1).

Depth to Groundwater

Depth to groundwater at the release was estimated by evaluating data from the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) (Figure 2). The nearest groundwater well was approximately 2.3 miles from the Site; the depth to water in this well was 123 feet below ground surface (bgs).

Wellhead Protection Area

There are no sources of water, including springs, wells, or other sources of fresh water, within one-half mile of the release (Figure 2).

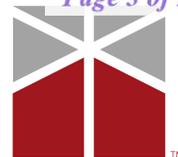
Distance to Nearest Significant Watercourse

A significant watercourse is defined as "...a watercourse with a defined bed and bank either named or identified by a dashed blue line on a USGS 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank" (19.15.17.7 NMAC). There are no significant watercourses within one-half mile of the Site (Figure 2).

Additional Site Characterization Criteria

The following additional site characterization criteria were evaluated for the release.

Rattlesnake 16 SWD 1 (October 2017)
September 25, 2020



Mr. Tom Bynum

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Site Characterization	Response/Discussion
What is the shallowest depth to groundwater beneath the area affected by the release?	Greater than 100 feet
Did the release impact groundwater or surface water?	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or other significant watercourse?	No
Are the lateral extents of the release within 200 feet of a lakebed, sinkhole, or playa lake?	No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital institution, or church?	No
Are the lateral extents of the release within 500 feet of a spring or private, domestic fresh water well used by less than five households for domestic or stock watering purposes?	No
Are the lateral extents of the release within 1,000 feet of any fresh water well or spring?	No
Are the lateral extents of the release within any incorporated municipal boundaries?	No
Are the lateral extents of the release within a defined municipal fresh water well field?	No
Are the lateral extents of the release within 300 feet of a wetland?	No
Are the lateral extents of the release overlying a subsurface mine?	No
Are the lateral extents of the release overlying an unstable area such as karst geology?	The Site is in an area of low potential for karst topography
Are the lateral extents of the release within the 100-year floodplain?	No
Did the release impact areas not on an exploration, development, production, or storage site?	No

Conclusions and Recommendations

The September 24, 2017 release of 200 barrels of produced at the Site was completely contained within the lined containment structure. HRL has determined that the liner integrity was good and completely contained the release; therefore, additional characterization of the soil and/or groundwater at the Site is not necessary. HRL recommends closure of this release.

Rattlesnake 16 SWD 1 (October 2017)
September 25, 2020



Mr. Tom Bynum
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Scope and Limitations

The scope of HRL's services consists of performing a liner integrity inspection and preparation of 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.

If you have any questions or concerns, please do not hesitate to contact me at (970) 243-3271 or via email at jlinn@hrlcomp.com.

Sincerely,

HRL Compliance Solutions, Inc.

Julie Linn, PG, RG
Project Manager

Figures:

Figure 1: Site Location

Figure 2: Depth to Groundwater

Attachments:

Attachment A: NMOCD Form C-141

Attachment B: Photographs

Attachment C: Liner Inspection Field Form

Rattlesnake 16 SWD 1 (October 2017)
September 25, 2020



Figures



Rattlesnake 16 SWD #001

0 1,250 2,500 Feet

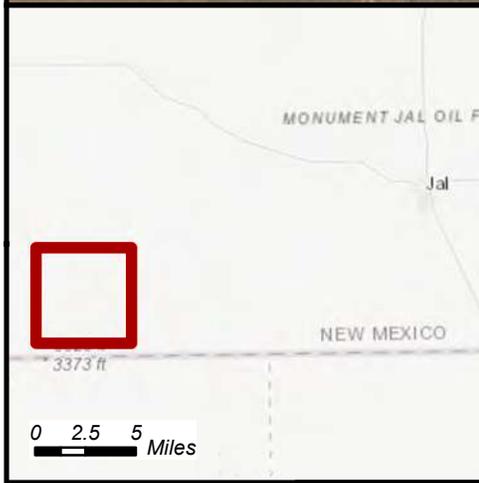


Figure 1: Site Location Map
 Rattlesnake 16 SWD #001
 October 2017 Release
 32.0441688, -103.4826937
 Section 16, Township 26 South, Range 34 East

NOTES / COMMENTS:

Mapped Features

- Facility Location

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.

Author: A. Asay
 Revision: 0
 Date: 8/31/2020

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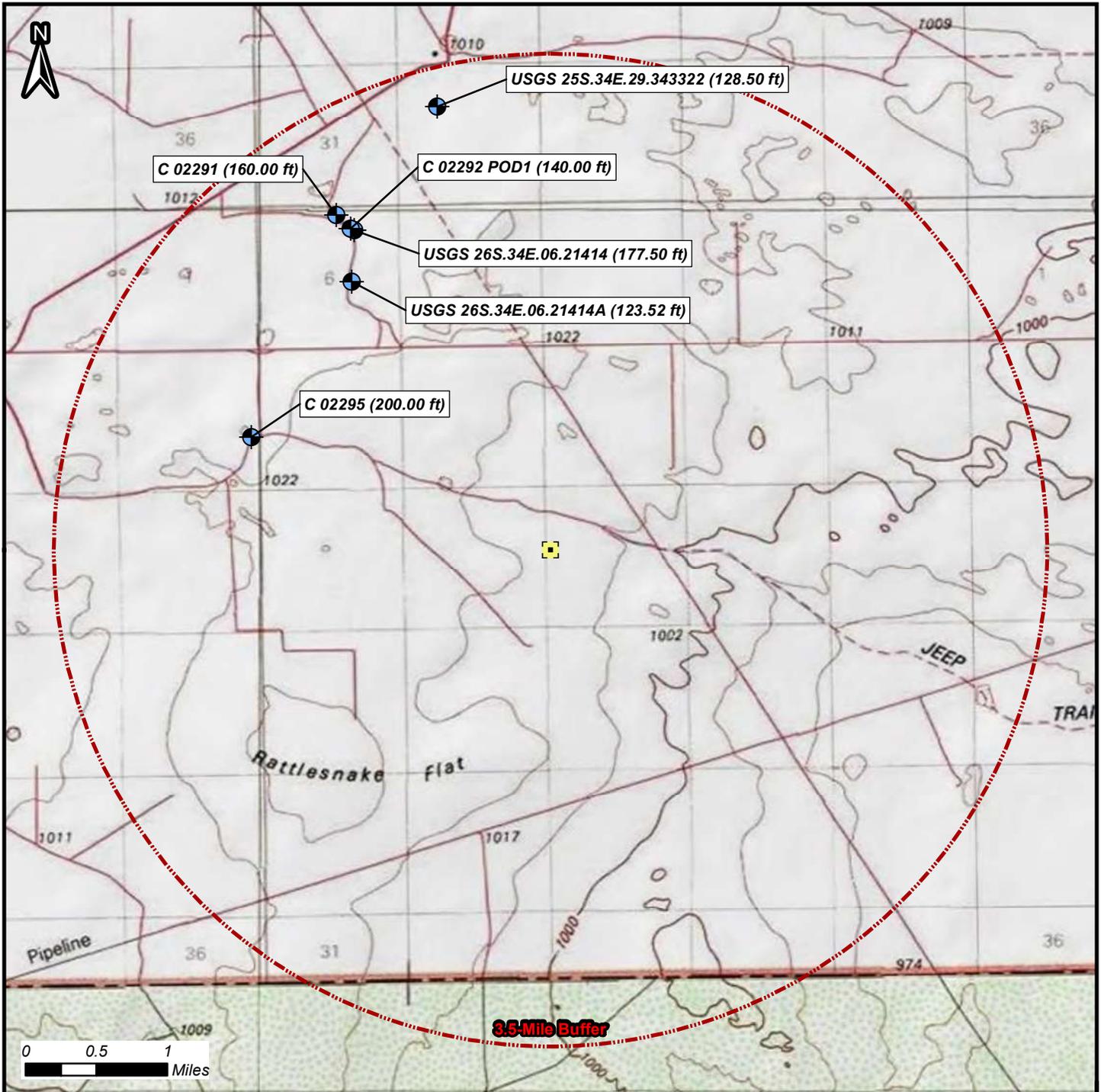


Figure 2: Depth to Groundwater Map

Rattlesnake 16 SWD #001

October 2017 Release

32.0441688, -103.4826937

Section 16, Township 26 South, Range 34 East



Mapped Features

- Point of Release
- Groundwater Well
- 3.5-Mile Buffer

Well Number	Water Level Below Ground Surface (ft)	Distance from Source (mi)
USGS 26S.34E.06.21414A	123.52	2.36
USGS 26S.34E.06.21414	177.50	2.65
C 02295	200.00	2.25
C 02292 POD1	140.00	2.67
C 02291	160.00	2.80
USGS 25S.34E.29.343322	128.50	3.23

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Author: A. Asay

Revision: 0

Date: 8/31/2020



T:\CLIENTS\DEVON ENERGY\2020\Rattlesnake 16 SWD #001\Maps\Rattlesnake 16 SWD #001 DTGW Map (October 2017 Spill) 083120.mxd



Attachment A
NMOCD Form C-141

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

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 August 8, 2011

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

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company Devon Energy Production Company	Contact Aaron Kidd; Foreman Technical Services
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-513-1770
Facility Name Rattlesnake 16 SWD 1	Facility Type Salt Water Disposal
Surface Owner State	Mineral Owner State
API No 30-025-42355	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	16	26S	34E	2375	North	210	West	Lea

Latitude: 32.0441688

Longitude: -103.4826937

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 200BBLS	Volume Recovered 200BBLS
Source of Release produced water storage tank	Date and Hour of Occurrence 9/24/2017 5:30PM	Date and Hour of Discovery 9/24/2017 5:30PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD: Olivia Yu BLM: Shelly Tucker	
By Whom? Aaron Kidd; Foreman technical Services	Date and Hour OCD: 9/25/17 7:56 AM BLM: 9/25/17 8:02 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse N/A	

RECEIVED
By Olivia Yu at 10:25 am, Oct 06, 2017

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Local storms caused the Rattlesnake 16 SWD 1 facility to lose power. Once the facility lost power the inlet emergency shut off device (ESD) failed to close as designed. This resulted in the produced water release as the facilities that feed water to this facility still had power and the produced water storage tanks overflowed into the surrounding lined containment. Upon discovery of the release the inlet ESD was immediately closed manually to prevent further release. The cause of this release has been reviewed and electronics have been reprogrammed. Additional equipment designed to provide back up to prevent this type of release from occurring again has been purchased and will be installed.

Describe Area Affected and Cleanup Action Taken.*
200 BBLS of produced water was released from the water storage tanks on the east side of the pad into the lined containment. 200 BBLS of produced water was recovered via vacuum truck. No released fluid escaped the lined containment. Once fluids were removed the liner was visually inspected by Devon field staff for any pinholes or punctures and none were found. Based on this inspection there is no evidence that the spill fluids left containment and no further action is necessary.

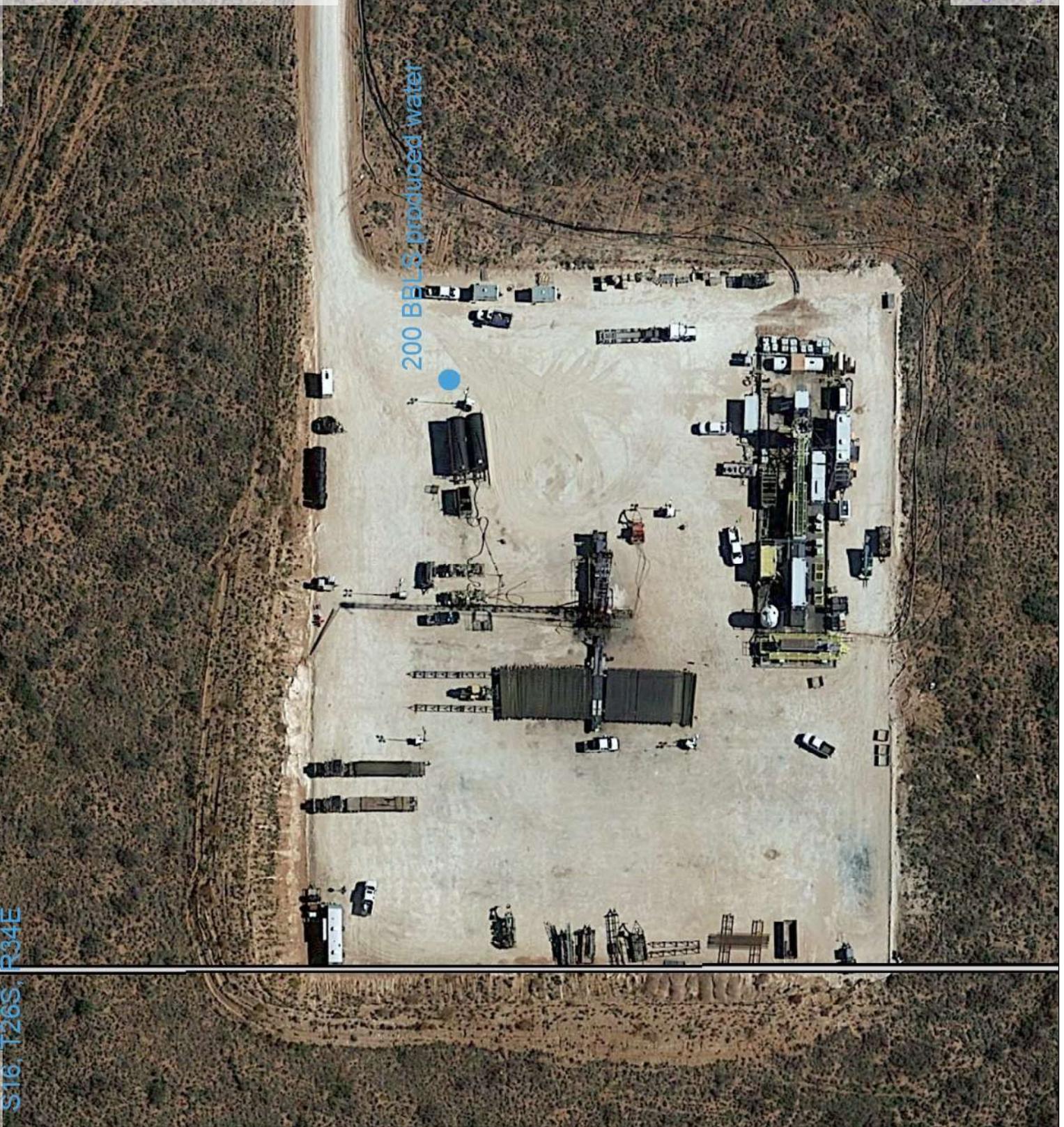
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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>Sandy Scrogum</i>	OIL CONSERVATION DIVISION	
Printed Name: Sandra Scrogum	Approved by Environmental Specialist: 	
Title: Field Admin Support	Approval Date: 10/6/2017	Expiration Date:
E-mail Address: sandy.scrogum@dv.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/5/2017 Phone: 575.746.5587	Please inspect liner in question. Provide NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids.	

nOY1727954743

* Attach Additional Sheets If Necessary

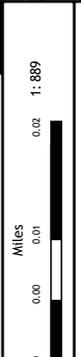
S16, T26S, R34E



Rattlesnake 16 SWD 1
200 BBLs PW_9.24.17

This map is for illustrative purposes only and is neither a legally recorded map nor survey and should not be used as a basis for any legal proceedings or warranty. The user assumes all responsibility of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
 Prepared by: Sandra Scroggum
 Map is current as of: 05-Oct-2017



- Central Tank Battery
- AS BUILT/AFTER (DWN)
- BUILT
- CONSTRUCTION
- PROPOSED
- Corner (DWN)
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Excess Cut Stock Pile
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Frac Pond (DWN)
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Multi Well Pad (DWN)
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Reserve Pit
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Single Well Pad (DWN)
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Surface Site (DWN)
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Top Soil (DWN)
- AS BUILT/AFTER BUILT
- CONSTRUCTION PROPOSED
- Devon_Google_Maps_Imagery

Incident ID	NOY1727954743
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	NOY1727954743
District RP	
Facility ID	
Application ID	

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.

Printed Name: Tom Bynum Title: EHS Consultant

Signature: *Tom Bynum* Date: 9/28/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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Incident ID	NOY1727954743
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: Tom Bynum Title: EHS Consultant
 Signature: *Tom Bynum* Date: 9/28/2020
 email: tom.bynum@dvn.com Telephone: 575-748-2663

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: *Brittany Hall* Date: 9/20/2022
 Printed Name: Brittany Hall Title: Environmental Specialist



Attachment B

Photographs



Interior of the secondary containment



Interior of the secondary containment





Interior of the secondary containment



Exterior of the secondary containment





Interior of the secondary containment



Exterior of the secondary containment





Interior of the
secondary
containment





Attachment C
Liner Inspection Field Form



HRL
COMPLIANCE
SOLUTIONS

Liner Inspection Form

Client Devon Energy
 Site Name Rattlesnake 16 SWD #001
 Latitude 32.0441688
 Longitude -103.4826937
 Date of Release Sept. 24, 2017
 NMOCD Incident Number NOY 1727954743
 2-Day Notification sent to NMOCD 8-4-2020 and 8-12-2020
 Date of Inspection 8-16-2020

Observations	Yes	No	Comments
Is the liner present?	✓		
Is the liner torn?		✓	
Are there visible holes in the liner?		✓	
Is the liner retaining any liquids?	✓		mix rainwater & minor oil
Does it appear the liner had the ability to contain the leak?	✓		

Type of Liner: PolyStar Earthen with liner Earthen no liner
 Metal with Poly Lining Metal with Spray Epoxy Lining

Other (describe here): _____

Other Concerns or Observations:

Inspector Name Julie Linn
 Inspector Signature Julie Linn

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 10755

CONDITIONS

Operator: Pima Environmental Services, LLC 5614 N Lovington Hwy Hobbs, NM 88240	OGRID: 329999
	Action Number: 10755
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	9/20/2022