

**HRL**  
**COMPLIANCE**  
**SOLUTIONS**P.O. Box 1708 • Artesia, NM 88211  
[www.hrlcomp.com](http://www.hrlcomp.com)

February 28, 2020

Ms. Amanda Davis  
Devon Energy Production Company  
6488 Seven Rivers Highway  
Artesia, New Mexico 88210  
Email: [Amanda.davis@dvn.com](mailto:Amanda.davis@dvn.com)

**Subject: Liner Inspection and Closure Report**  
**Ichabod 7 Federal #001H**  
**Lea County, New Mexico**

Dear Ms. Davis:

Devon Energy Production Company (Devon) (Client) retained HRL Compliance Solutions, Inc. (HRL) to conduct a liner inspection and prepare this closure report for the release at the Ichabod 7 Federal #001H well pad (Site). The Site is located in Eddy County, New Mexico (Figure 1).

### Release Summary and Initial Response

On July 11, 2019, a release of 80 barrels (bbls) of oil and 10 barrels of produced water was observed at the Site. The release was due to a gasket leak on an 18 inch poly line. The oil and produced water impacted the entire area within the lined steel containment. Initial response activities included stopping the source of the release, securing the impacted area, containing the released materials, and removing free liquids within the secondary containment. On July 11, 2019 the C-141 (Attachment A) was submitted to the New Mexico Oil Conservation Division (NMOCD).

Item	Discussion
Site Name	Ichabod 7 Federal #001H
Latitude	32.0511932
Longitude	-103.5014954
Township/Range/Section	Township 26 South/ Range 34 East/ Section 07
Date Release Discovered	July 11, 2019
Cause of Release	Gasket leak on an 18 inch poly line
Type of Material Released	Oil and Produced Water
Volume Release	90 barrels



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## Liner Inspection

On February 5, 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 precipitation. Based on this inspection, HRL has determined that the liner remains intact and had the ability to contain 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*

Based on research from the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS), the depth to groundwater is estimated to range from 51 to 100 feet below ground surface (bgs) (Figure 2).

### *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.

### *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.

### *Additional Site Characterization Criteria*

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

Additional Site Characterization Criteria	Response/Discussion
Is the Site within 300 feet of a continuously flowing water or other significant watercourse?	No



Ms. Amanda Davis

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Additional Site Characterization Criteria	Response/Discussion
Is the Site within 200 feet of a lakebed, sinkhole, or playa lake?	No
Is the Site within 300 feet of an occupied permanent residence, school, hospital institution, or church?	No
Is the Site 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
Is the Site within 1,000 feet of any fresh water well or spring?	No
Is the Site within 300 feet of a wetland?	No
Is the Site within the area overlying a subsurface mine?	No
Is the Site within an unstable area?	No
Is the Site within the 100-year floodplain?	No

### Conclusions and Recommendations

The July 11, 2019 release of 80 barrels of oil and 10 barrels of produced water at the Site remained within the lined containment area. HRL has determined that the liner integrity remains intact and had the ability to contain the release; therefore, additional characterization of the soil and/or groundwater at the Site is not necessary. HRL recommends closure of this release.

### 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 Annie McCawley at (970) 259-0926 Ext. 414 or via email at amccawley@hrlcomp.com.

Sincerely,

**HRL Compliance Solutions, Inc.**

Annie McCawley  
Environmental Scientist

Copy: Julie Linn, PG, RG, HRL Compliance Solutions, Inc.

Ms. Amanda Davis  
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**Figures:**

Figure 1: Site Location Map

Figure 2: Depth to Groundwater Map

**Attachments:**

Attachment A: NMOCD Form C-141

Attachment B: Photographs

Attachment C: Liner Inspection Field Form




## Figures





**Ichabod 7 Federal #001H**  
32.0511932, -103.5014954  
Section 07, Township 26 South, Range 34 East

**Mapped Features**

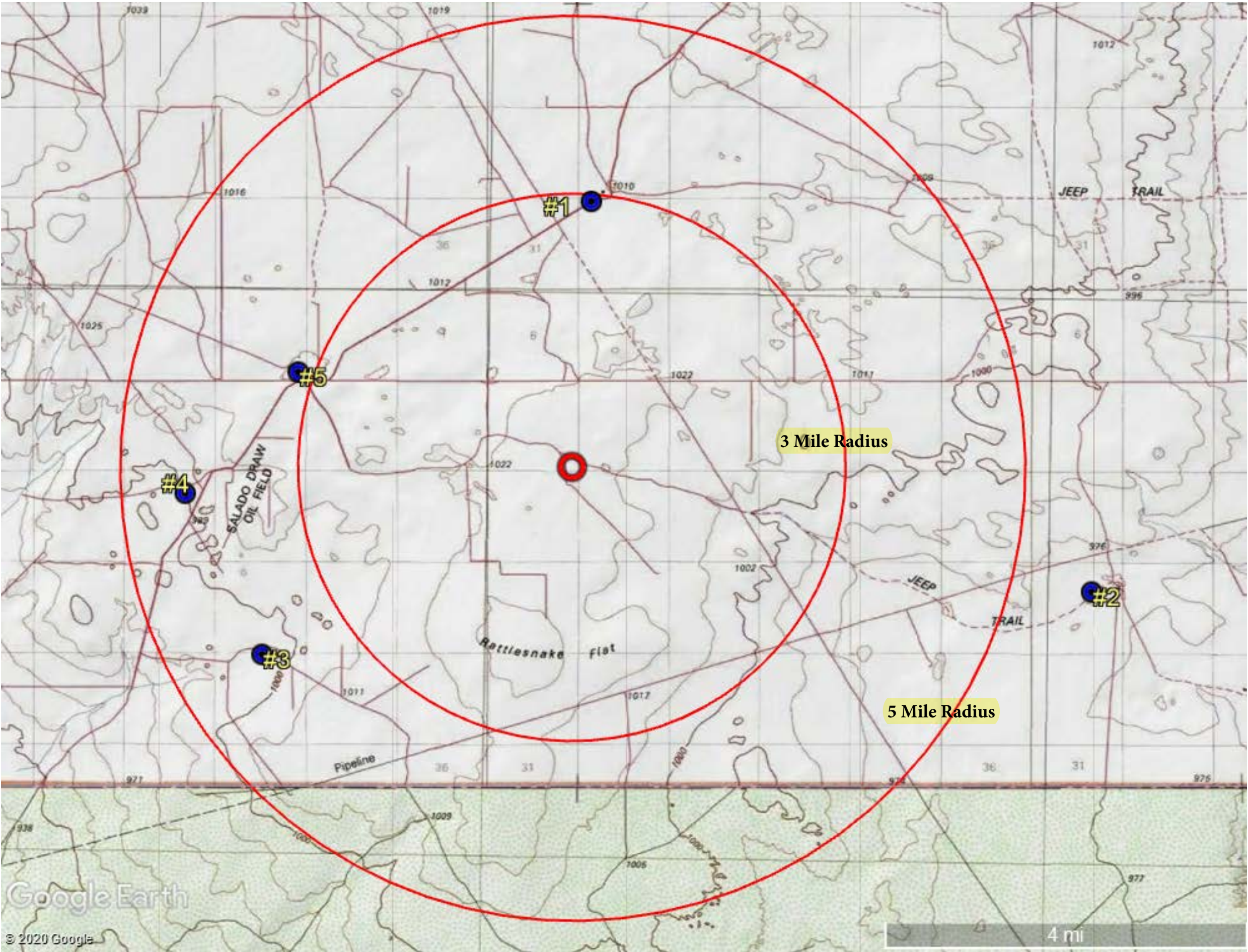
 Ichabod 7 Federal #001H



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. McCawley  
Rev: 0  
Date: 2/26/2020










**Figure 2: Groundwater Map**

**Ichabod 7 Federal #001H**

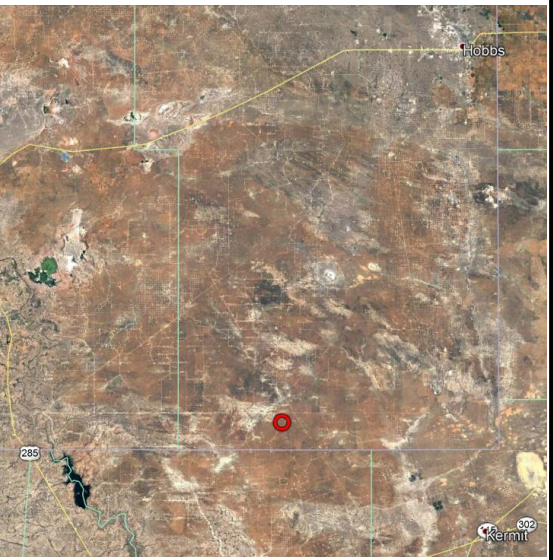
32.0511932, -103.5014954  
Section 07, Township 26 South, Range 34 East

**Mapped Features**

-  Ichabod 7 Federal #001H
-  Water Well Location
-  Radius From Release

Well Number	Well Name	Depth to Water (ft)	Depth of Well (ft)
#1	02316	50	100
#2	320150103235501	198	Not Reported
#3	320059103333501	77	200
#4	320249103342101	106	Not Reported
#5	320407103331001	103	180

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Author: A. McCawley  
Rev: 0  
Date: 2/26/2020





**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 Department

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

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

### Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

## Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

### Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
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: _____	Title: _____
Signature: <u>Kendra DeHoyos</u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____





## **Attachment B**

### **Photographs**



View of standing water between the tanks in the secondary containment.



View of standing water and ice in the corner of the secondary containment.







View of standing water and ice within the secondary containment.



View of frozen standing water in the corner of the secondary containment.





## **Attachment C**

### **Liner Inspection Field Form**



**HRL**  
**COMPLIANCE**  
**SOLUTIONS****Liner Inspection Form**

Client Devon Energy

Date of Inspection 2/5/20

Site Name 1CHABOD 7 Fed IH

Latitude 32.051257

Longitude -103.501414

Observations	Yes	No	Comments
Is the liner present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the liner torn?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are there visible holes in the liner?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the liner retaining any liquids?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Does it appear the liner had the ability to contain the leak?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Type of Liner: Poly Earthen Metal Other (describe below):

**Other Concerns or Observations:**

Metal Secondary Containment

Standing water up to 2 inches on north end to the center

ice in secondary containment

Photos 50-69

Inspector Name Anna McCauley

Inspector Signature Anna McCauley

District I  
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State of New Mexico  
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1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	NRM1933738026
District RP	1RP-5788
Facility ID	
Application ID	pRM1933738084

## 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?	<u>51-100</u> (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 <b>not</b> 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

## Oil Conservation Division

Incident ID	NRM1933738026
District RP	1RP-5788
Facility ID	
Application ID	pRM1933738084

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.

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: 2/28/2020

email: tom.bynum@dvn.com Telephone: 575-616-1688

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Incident ID	NRM1933738026
District RP	1RP-5788
Facility ID	
Application ID	pRM1933738084

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: 2/28/2020

email: tom.bynum@dvn.com Telephone: 575-616-1688

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NRM1933738026
District RP	1RP-5788
Facility ID	
Application ID	pRM1933738084

## 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: 2/28/2020

email: tom.bynum@dvn.com Telephone: 575-616-1688

**OCD Only**

Received by: Cristina Eads Date: 04/15/2020

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: Cristina Eads Date: 05/12/2020

Printed Name: Cristina Eads Title: Environmental Specialist