



Souder, Miller & Associates ♦ 201 S. Halagueno St. ♦ Carlsbad, NM 88220
(575) 689-7040

December 15, 2020

SMA #5E29133, BG74

NMOCD District 1
1625 N. French Dr.
Hobbs, NM 88240

**RE: LINER INSPECTION REPORT
NORTH THISTLE 2 CTB 1 (NRM2030956450)**

To Whom it May Concern:

Souder, Miller & Associates (SMA) is pleased to submit this letter report on behalf of Devon Energy Production Company (Devon) summarizing the liner inspection that occurred due to the North Thistle 2 CTB 1 release. The site is located in Unit Letter B, Section 2, T23S, R33E (N32.338575 /W-103.541150) Lea County, New Mexico, on State land.

Site Characterization

On October 14, 2020, a crude oil release from the thief hatch of the tank battery was discovered. This resulted in a release of 7 bbls of crude oil inside the lined secondary containment of the tank battery. Initial response activities were conducted by the operator and included source elimination and site stabilization, which recovered approximately 7 bbls of crude oil.

Depth to Groundwater

Based upon New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) well data, depth to groundwater in the area is estimated to be 175 feet below grade surface (bgs).

Wellhead Protection Area

There are no water sources within ½-mile of the location, according to the NMOSE and USGS water well databases (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed December 10, 2020; Appendix C).

Distance to Nearest Significant Watercourse

The nearest significant watercourse is an unnamed stream, located approximately 5,790 feet to the southeast of the North Thistle 2 CTB 1 site.

Due to a lack of supportable groundwater data, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of <50 feet bgs.

Liner Integrity

At the request of Devon, SMA conducted a liner integrity inspection per requirements of 19.15.29.11.A(5)(a) NMAC. NMOCD was notified on December 15, 2020 that the liner inspection was to occur, and the inspection was conducted on December 18, 2020. After a thorough visual inspection of the liner within the tank battery containment, the liner appeared to be intact and had the ability to contain the release in question. The location from which the release occurred was identified, and SMA

Devon Energy
North Thistle 2 CTB 1 (NRM2030956450)

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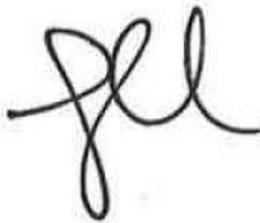
verified that the release did not occur outside of the lined containment. A photo log and field notes of the inspection is included in Appendix A.

SMA recommends no further action for this release and requests the closure of NRM2030956450.

Souder, Miller and Associates appreciates the opportunity to provide environmental services to you. If you have any questions or comments concerning this report, please feel free to call Ashley Maxwell at (505) 325-7535.

Sincerely,
Souder, Miller & Associates

Reviewed by:



Ashley Maxwell
Project Scientist

Shawna Chubbuck
Senior Scientist

Appendices

Appendix A: Liner Inspection Form, Photo Log & Field Notes
Appendix B: C141
Appendix C: Water Well Data

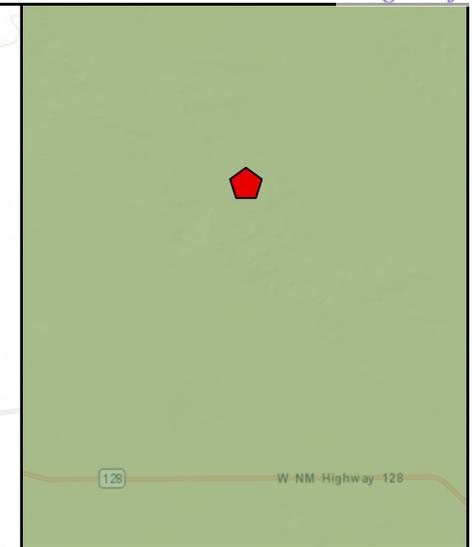
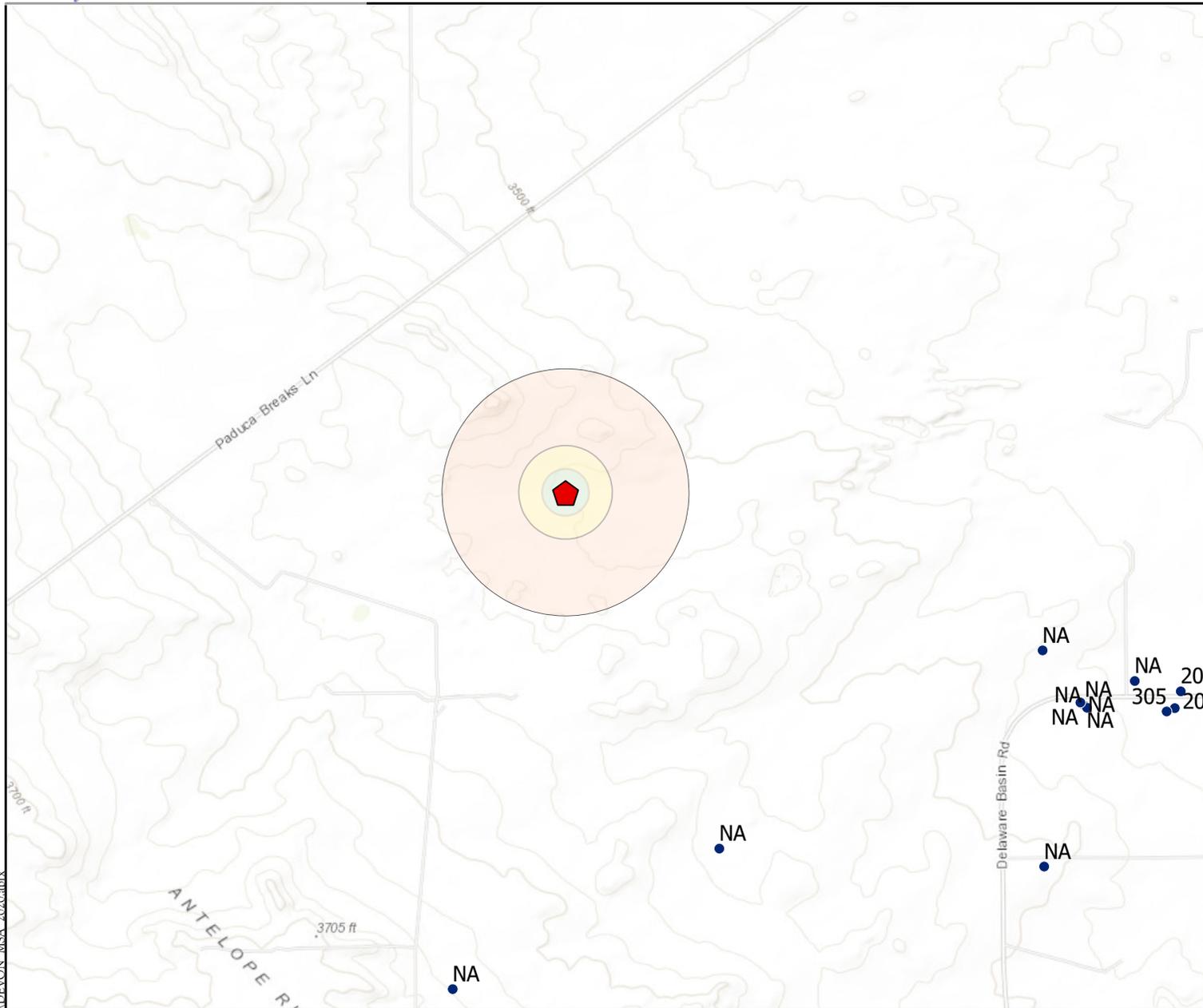
Figures

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

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FIGURES



Buffer Distance

- .5 Mile
- 1000 Feet
- 500 Feet
- OSE Depth to GW
- Point of Release

Karst Potential

- Critical
- High
- Medium
- Low

0 1,000 2,000 4,000 6,000
Feet

N
▲

Vicinity and Well Head Protection Map
 North Thistle 2 CTB 1 - Devon Energy Production Company
 UL: B S: 2 T: 23S R: 33E, Lea County, New Mexico

Figure 1

P:\5 Devon\MSA 2020\65E29133\GIS\DEVON_MSA_2020.aprx

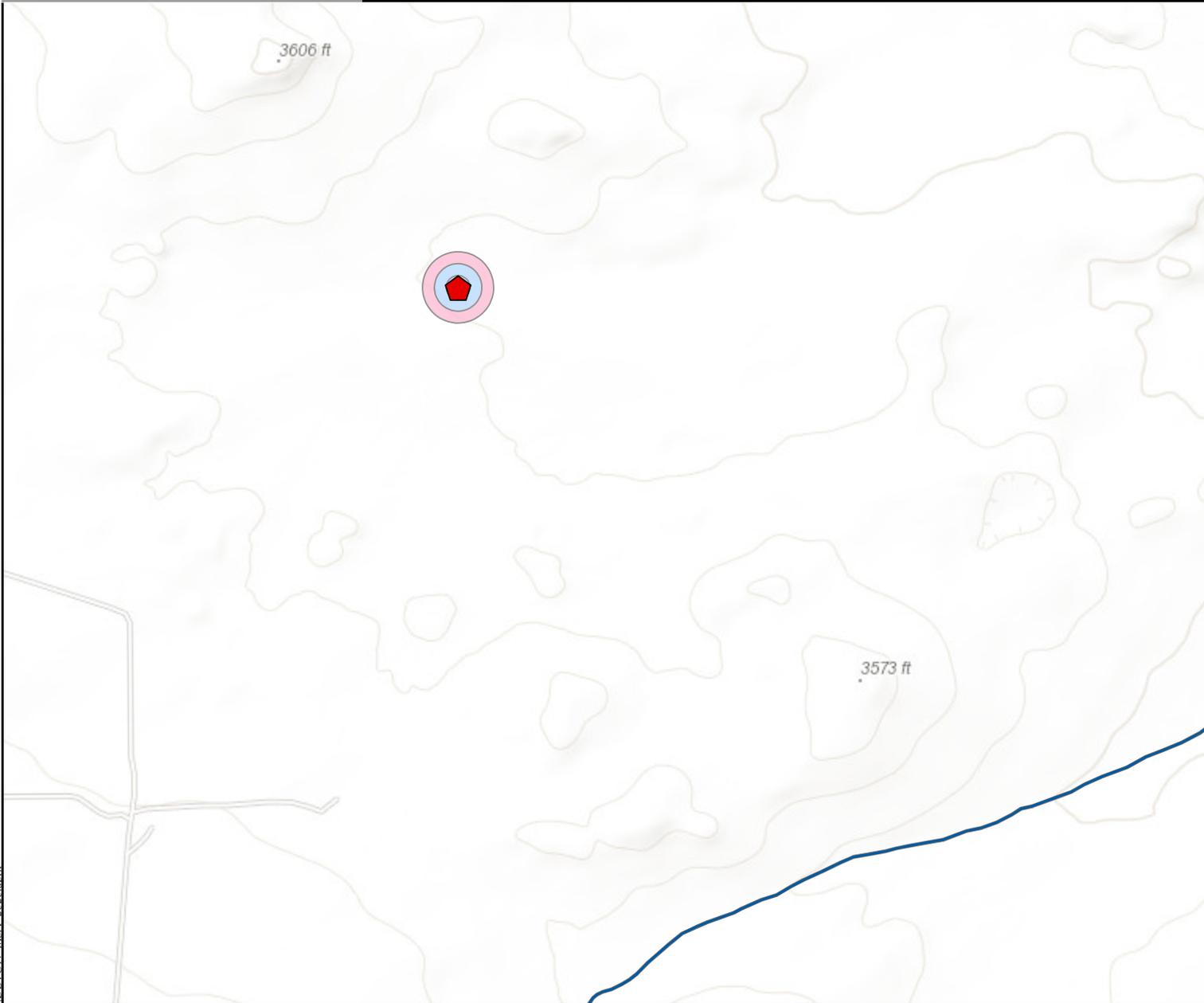
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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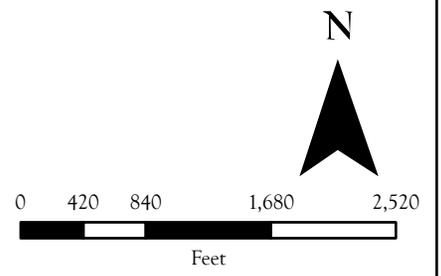
Drawn	P.R. Smith
Date	12/14/2020
Checked	_____
Approved	_____



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 (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



Surface Water Protection Map
 North Thistle 2 CTB 1- Devon Energy Production Company
 UL: B S: 2 T: 23S R: 33E, Lea County, New Mexico

Figure 2

P:\5-Devon\MSA 2020\GIS\201313\GIS\DEVON_MSA_2020.aprx

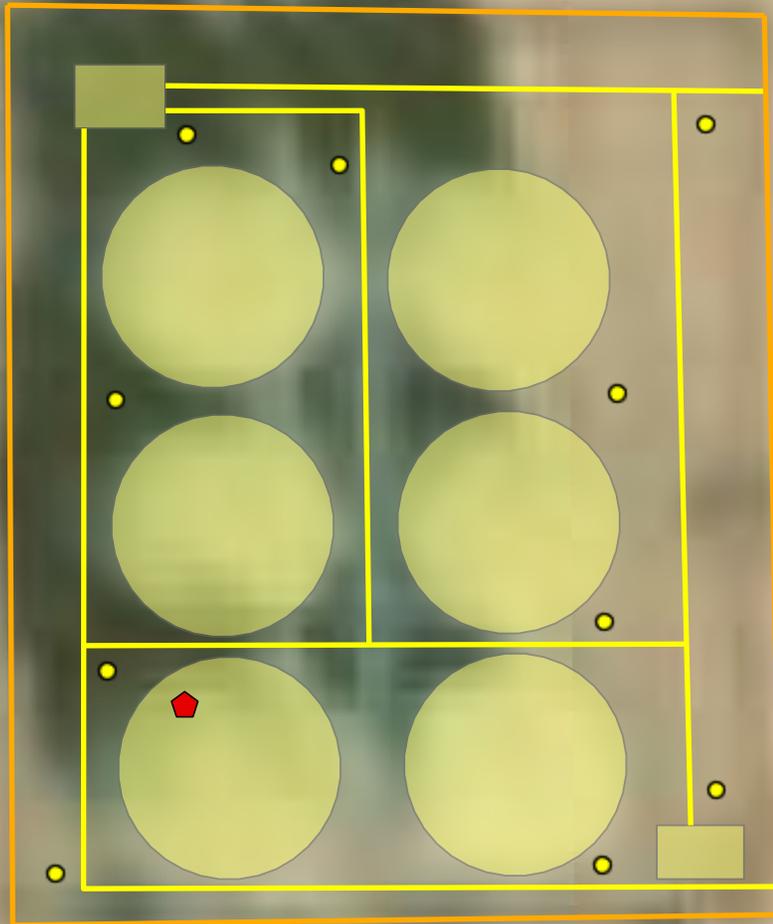
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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Drawn	P.R. Smith
Date	12/14/2020
Checked	_____
Approved	_____

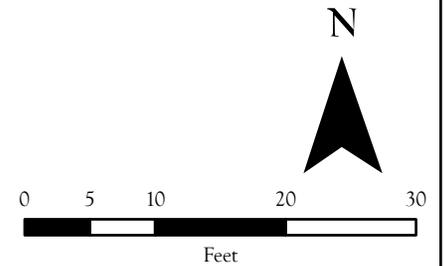


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Legend

-  Pipelines
-  Secondary Containment
-  Equipment
-  Photograph Location
-  Point of Release



Site and Photograph Location Map
 North Thistle 2 CTB 1 - Devon Energy Production Company
 UL: B S: 2 T:23S R33E, Eddy County, New Mexico

Figure 3

P:\5\Devon\MSA 2020\GIS\2013131\GIS\DEVON_MSA_2020.aprx

Date Saved: 12/16/2020

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

Drawn P.R. Smith
 Date 12/21/2020
 Checked _____
 Approved _____



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North Thistle 2 CTB 1 (NRM2030956450)

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Appendix A
LINER INSPECTION FORM, PHOTO LOG & FIELD NOTES

**Souder, Miller & Associates
Liner Inspection Form**



Project Name: North Tinshe 2 CTB1 Inspection Date: 12/18/20
Client Name: Duon Energy
Client Representative(s): Lupe Carrasco
SMA Inspector(s): R. Smith
Project Location: Rural Lee County Latitude: 32.338575 Longitude: -103.541150

Inspection Parameters as Outlined in 19.15.29.11.A(5) NMAC

PRIOR TO INSPECTION:

Two (2) Business Day Notification of Inspection to Appropriate Division Office (Y/N): Y
Date of Notice: 12/15/20

Material Covering Liner Removed by Client (Y/N): Y

Affected Areas Exposed by Client: (Y/N): Y

INSPECTION:

Liner Thoroughly Inspected for Damage (Y/N): Y

All Damaged Areas Observed Marked in **White Paint** on Liner
Photos and Field Notes Detailing Failures Attached to This Form

To Be Completed by Client Representative:

Can Responsible Party Demonstrate:
Liner Integrity Was Maintained (per SMA Inspection) (Y/N): Y
Release Was Contained to Lined Containment Area (Y/N): Y
Liner Was Able to Contain the Leak (Y/N): Y

If YES:
Certify on Form C-141 That Liner Remains Intact

If NO to Any of Above:
Responsible Party Must Delineate Horizontal & Vertical Extent
Depending on Release:
See Table 1 19.15.29.12 NMAC
See Subparagraph (e) Paragraph (5) of Subsection A 19.15.29.11 NMAC

Additional Comments:

SMA INSPECTOR SIGNATURE

CLIENT REPRESENTATIVE

R. Smith
Date: 12/18/20

Date: _____

120 150 180 210
179°S (T) 32.33837, -103.541076 ±1 m ▲ 1049 m



devon

NORTH THISTLE 2 CENTRAL TANK BATTERY 1

SL: SEC.2-T23S-R33E 890' FNL & 2032' FEL

LAT. N 32° 20' 18.610" LONG. W 103° 32' 28.271"

DEVON CORPORATE CONTACT: 800-361-3377

150 180 210 240
● 198°S (T) ● 32.338614, -103.54131 ±1 m ▲ 1048 m



240 270 300 330
☉ 282°W (T) ● 32.338618, -103.541319 ±1 m ▲ 1049 m



150 150
☉ 128°SE (T) ● 32.338609, -103.541397 ±1 m ▲ 1049 m



75°NE (T) 32.338624, -103.541467 ±1 m ▲ 1048 m



90°E (T) 32.338552, -103.54146 ±1 m ▲ 1050 m



240 270 300 330
270°W (T) ● 32.338558, -103.541335 ±1 m ▲ 1049 m



200 210 200 200
272°W (T) 32.338505, -103.541338 ±1 m ▲ 1049 m



92°E (T) 32.338507, -103.541459 ±1 m ▲ 1048 m



100°E (T) 32.338458, -103.541461 ±1 m ▲ 1048 m



241°SW (T) 32.338451, -103.541342 ±2 m ▲ 1049 m



347°NW (T) 32.338458, -103.541315 ±2 m ▲ 1050 m



SUBJECT North Thistle 2 CTB 1

PROJECT Liner Inspection PAGE

CLIENT Devon Energy

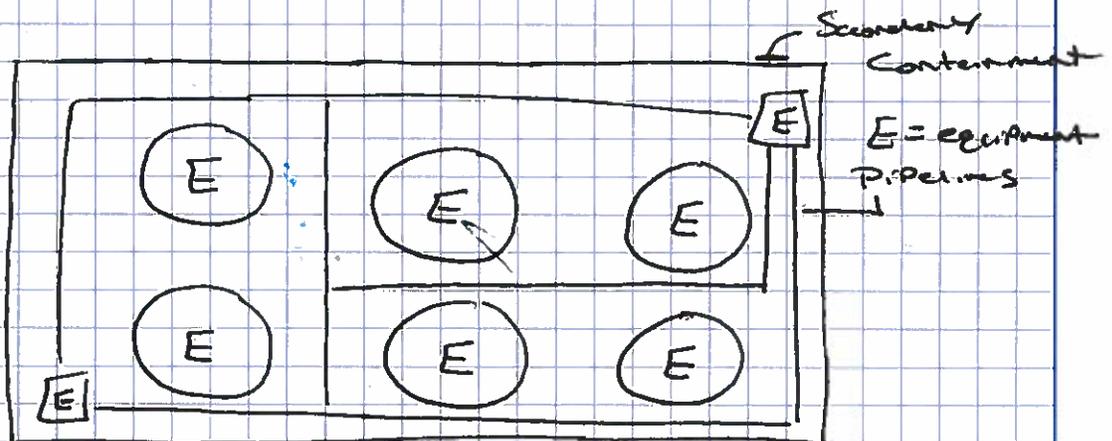
DATE 12/18/20

BY TR Smith

CHECKED

BY

- Walked to POIL and examined if release was fully contained
 - Release did stay within containment
- Searched for tears and other potential compromises throughout containment
- No failures
- Liner remained intact
- Verified that environment outside of containment was not compromised.
- Took photos of containment, mapped area and photograph locations



N →

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**APPENDIX B
C141**

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

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

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

Incident ID	NRM2030956450
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

State of New Mexico
Oil Conservation Division

Incident ID	NRM2030956450
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: _____
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>11/4/2020</u>

Incident ID	NRM2030956450
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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?	<u>175 (Estimate)</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 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

Page 4

Incident ID	NRM2030956450
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: _____ Lupe Carrasco _____ Title: _____ EHS Professional _____

Signature: _____ *Lupe Carrasco* _____ Date: _____ 1/11/21 _____

email: _____ Lupe Carrasco@dvn.com _____ Telephone: _____ 575-748-0165 _____

OCD Only

Received by: _____ Cristina Eads _____ Date: _____ 01/11/2021 _____

Incident ID	NRM2030956450
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: Lupe Carrasco Title: EHS Professional

Signature: *Lupe Carrasco* Date: 1/11/21

email: Lupe.Carrasco@dvn.com Telephone: 575-725-0787

OCD Only

Received by: Cristina Eads Date: 01/11/2021

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: 03/16/2021

Printed Name: Cristina Eads Title: Environmental Specialist

NRM2030956450

Spills In Lined Containment	
Measurements Of Standing Fluid	
Length(Ft)	66
Width(Ft)	40
Depth(in.)	0.25
Total Capacity without tank displacements (bbls)	9.80
No. of 500 bbl Tanks In Standing Fluid	4
No. of Other Tanks In Standing Fluid	
OD Of Other Tanks In Standing Fluid(feet)	
Total Volume of standing fluid accounting for tank displacement.	7.00

Devon Energy
North Thistle 2 CTB 1 (NRM2030956450)

5E28395 BG74

**APPENDIX C
WATER WELL DATA**



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03582 POD1	C	LE		4	1	1	14	23S	33E	636583	3575666	3310	590		
CP 01130 POD1	CP	LE		2	1	2	07	23S	34E	640662	3577558	3625	27		
CP 01130 POD2	CP	LE		2	1	2	07	23S	34E	640674	3577549	3640	27		
CP 00872 POD1	CP	LE		1	1	1	08	23S	34E	641225	3577504*	4171	494	305	189
CP 01075 POD1	CP	LE		1	1	1	08	23S	34E	641278	3577525	4214	430	20	410
CP 01502 POD1	CP	LE		4	3	3	05	23S	34E	641316	3577635	4216	648	200	448

Average Depth to Water: **175 feet**
 Minimum Depth: **20 feet**
 Maximum Depth: **305 feet**

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 637293.81

Northing (Y): 3578900.278

Radius: 4250

*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.

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 14368

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
DEVON ENERGY PRODUCTION COMPAN	333 West Sheridan Ave.	Oklahoma City, OK73102	6137	14368	C-141
OCD Reviewer			Condition		
ceads			None		