



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

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October 13, 2020

SMA #5E29133, BG67

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

**RE: LINER INSPECTION REPORT  
BILLIKEN CENTRAL TANK BATTERY (NRM2026543414)**

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 Billiken Central Tank Battery site. The site is located in Unit letter M, Section 6, T26S, R35E (N32.0658564 /W-103.41413200) Lea County, New Mexico, on Federal land.

**Site Characterization**

On September 5, 2020, there was a release of 39 bbls of produced water due to a leak from the gun-barrel within the facility. All fluid was contained within the lined secondary containment structure surrounding the storage tanks. Initial response activities were conducted by the operator and included source elimination and site stabilization, which recovered approximately 39 bbls of produced water.

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 300 feet (bgs). 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/](https://gis.ose.state.nm.us/gisapps/ose_pod_locations/); accessed October 13, 2020; Appendix C). The nearest significant watercourse is an unnamed spring located approximately 3,952 feet to the northwest of the Billiken Central Tank Battery.

Due to a lack of supportable groundwater data, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 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 September 8, 2020 that the liner inspection was to occur, and the inspection was conducted on October 13, 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 leak in question. The location where the release occurred was identified, and SMA verified that the release did not occur outside of the lined containment. A photo log of the inspection is included in Appendix A.

SMA recommends no further action for this release and requests the closure of NRM2026543414.

Devon Energy Production Company  
Billiken Central Tank Battery (NRM2026543414)

5E29133 BG67

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

## Attachments:

### Figures

- Figure 1: Site Map
- Figure 2: Surface Water Protection Map
- Figure 3: Site and Sample Location Map

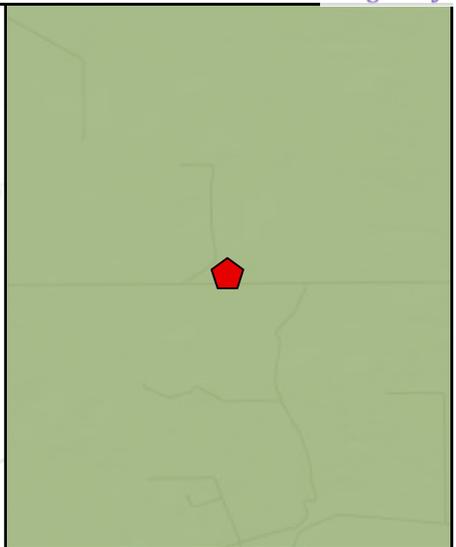
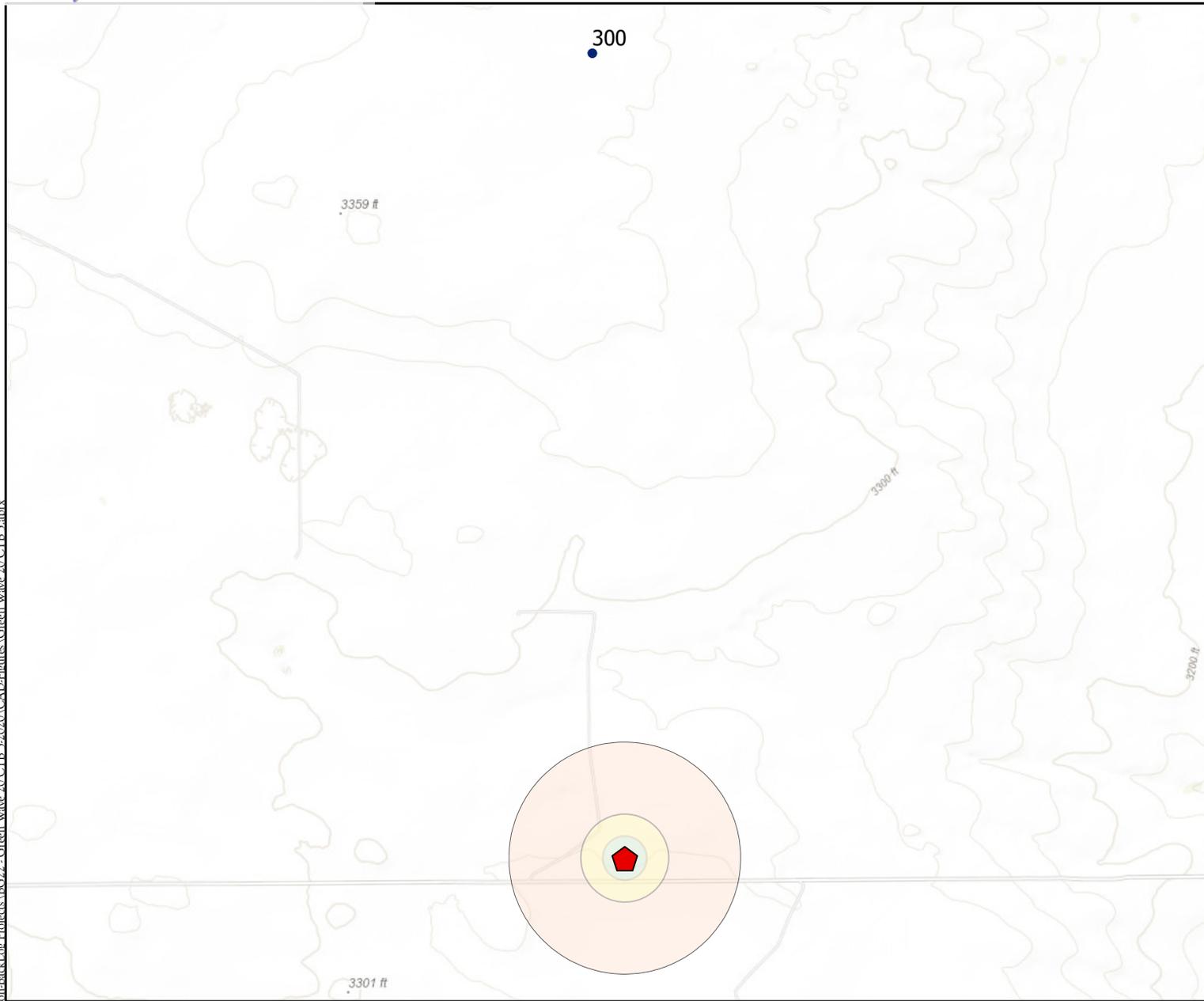
### Appendices

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

Devon Energy Production Company  
Billiken Central Tank Battery (NRM2026543414)

5E29133 BG67

## FIGURES



**Buffer Distance**

- .5 Mile
- 1000 Feet
- 500 Feet

**Depth to GW**

- USGS Depth to GW
- OSE Depth to GW

**Point of Release**

- 

**Karst Potential**

- Critical
- High
- Medium
- Low

**Scale**

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

**North Arrow**

N

**Site Map**  
 Billiken Central Tank Battery - Devon Energy Production Company  
 32.0658564, -103.41413200, Lea County, New Mexico

Figure 1

P:\5 Devon MSA 2020\5E291331\Devon-Backlog-Projects\RG22 - Green Wave 20 CTR 3-2020\CAD\Figures\Green Wave 20 CTR 3.aprx

Date Saved: 10/14/2020

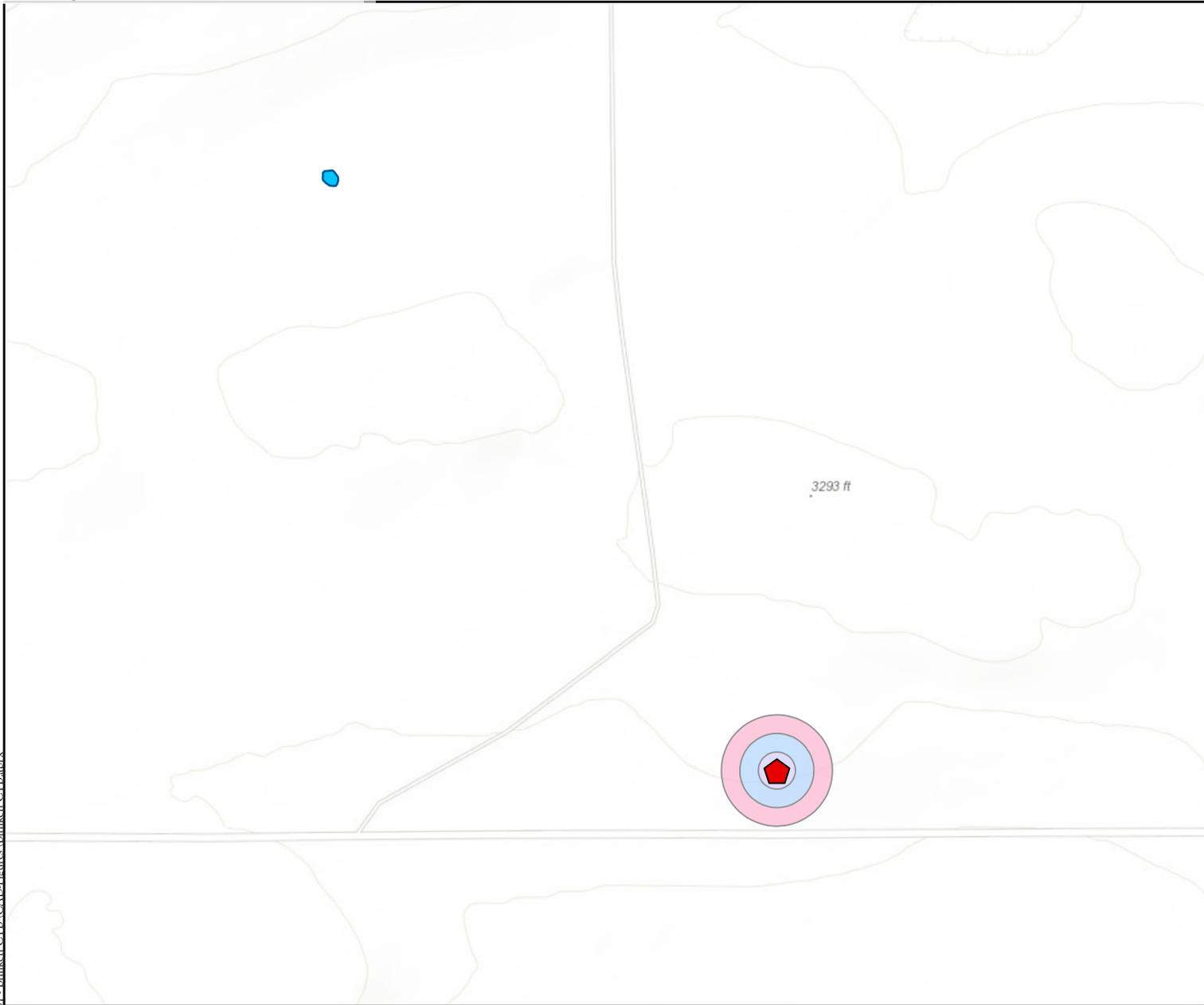
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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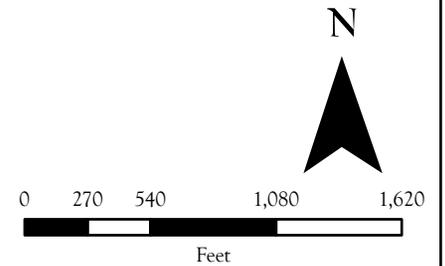
Drawn	P.R. Smith
Date	10/14/2020
Checked	_____
Approved	_____



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



Surface Water Protection Map  
 Billiken Central Tank Battery - Devon Energy Production Company  
 UL: M S: 6 T: 26S R: 35E, Lea County, New Mexico

Figure 2

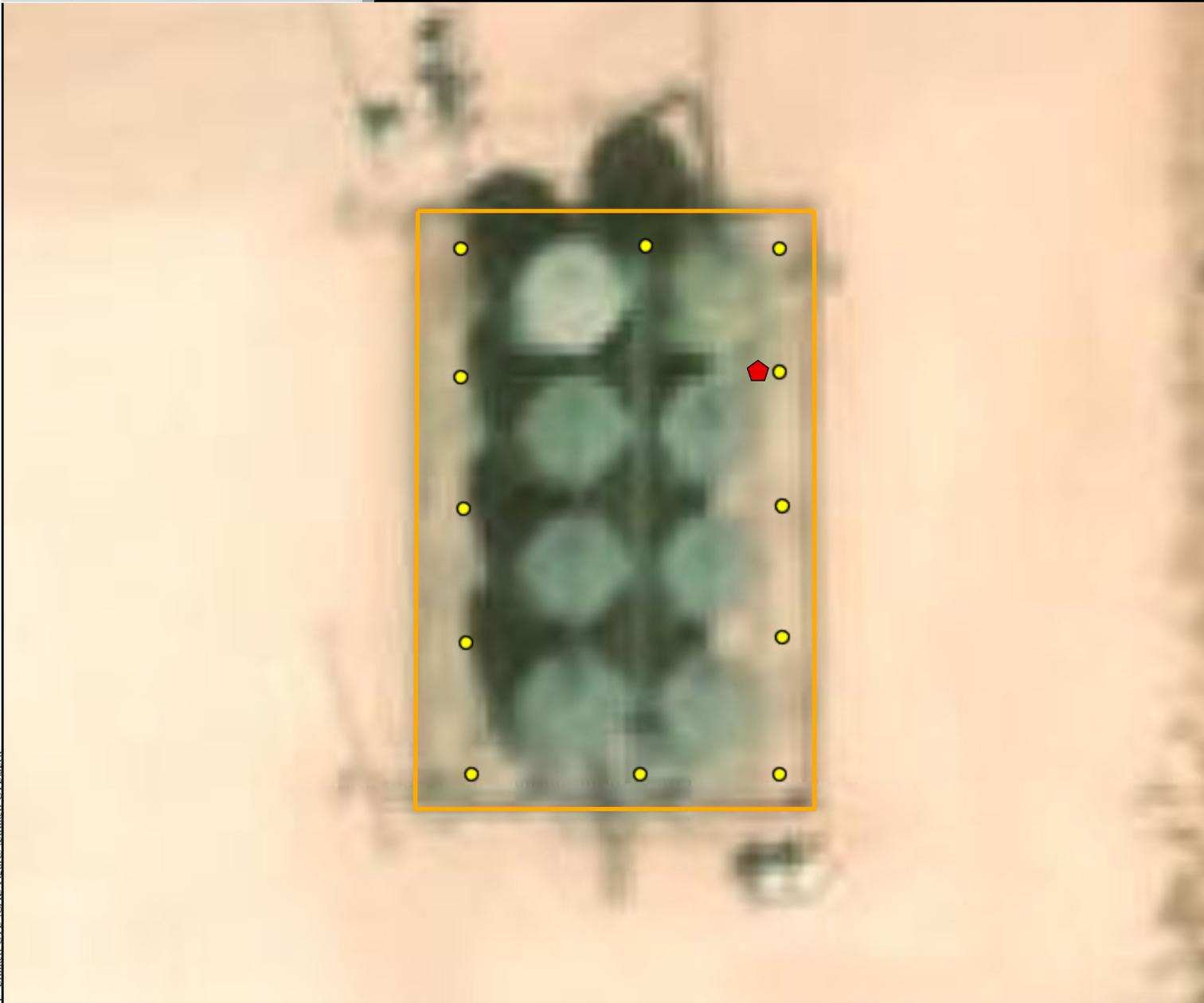
P:\5-Devon\MSA 2020\5E29133\1\RG67 - Billiken CTB\CAD\Figures\Billiken CTB.aprx

Revisions  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_

Drawn P.R. Smith  
 Date 10/14/2020  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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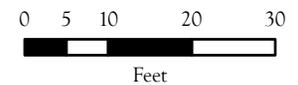


Secondary Containment

### Sample Points

● Photograph Location

⬠ Point of Release



*Site and Sample Location Map*  
 Billiken Central Tank Battery - Devon Energy Production Company  
 UL: M S: 6 T: 26S R: 35E, Lea County, New Mexico

Figure 3

P:\5-Devon\MSA 2020\5E29133\1\RG67 - Billiken CTR\CAD\Figures\Billiken CTR\Box

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

Drawn	P.R. Smith
Date	10/14/2020
Checked	_____
Approved	_____



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

Devon Energy Production Company  
Billiken Central Tank Battery (NRM2026543414)

5E29133 BG67

**Appendix A**  
**PHOTO LOG, FIELD NOTES & LINER INSPECTION FORM**

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



Project Name: Billerica CTB

Inspection Date: 10/13/2020

Client Name: Devon Energy

Client Representative(s): Lupe Carrasco

SMA Inspector(s): Phil Smith

Project Location:

Latitude: 32.0658564 Longitude: -103.41413200

**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: 10/08/2020

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**

Phil Smith  
Date: 10/13/2020

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

Billiker CTB

PR Smith

10/13/2020

Devon Energy

- Arrived at Scheduled time of 10:30.
  - Walked to POR and examined if release was fully contained.
    - Release did stay in Secondary Containment.
  - Searched for tears and other Potential Compromises throughout Containment.
    - No Failures
    - Liner remained intact
    - Verified that outside of Containment was not compromised.
  - Took Photos of Containment.
  - Mapped Containment and Photograph locations
- Left Site

210 240 270 300  
☉ 268°W (T) ● 32.065934, -103.413847 ±4 m ▲ 978 m



120 150 180 210  
☉ 178°S (T) ● 32.065935, -103.413869 ±3 m ▲ 979 m



210

240

270

300

☉ 263°W (T) ● 32.065872, -103.413894 ±3 m ▲ 978 m



210

240

270

300

☉ 264°W (T) ● 32.065833, -103.413877 ±3 m ▲ 977 m



210 240 270 300

☉ 260°W (T) ● 32.065743, -103.413866 ±2 m ▲ 977 m



210

240

270

300

☉ 265°W (T) ● 32.065698, -103.413877 ±3 m ▲ 976 m



270

300

330

0

☉ 312°NW (T) ● 32.065683, -103.413942 ±4 m ▲ 973 m



330 0 30 60  
☉ 3°N (T) ● 32.065699, -103.413996 ±3 m ▲ 976 m



60 90 120 150  
☉ 102°E (T) ● 32.0657, -103.414008 ±3 m ▲ 977 m



60 90 120 150  
☉ 105°E (T) ● 32.06576, -103.414007 ±3 m ▲ 979 m



60

90

120

150

☀ 110°E (T) ● 32.0658, -103.414008 ±3 m ▲ 978 m



60

90

120

150

☀ 91°E (T) ● 32.06585, -103.414032 ±3 m ▲ 979 m



102°E (T) 32.06589, -103.414017 ±3 m ▲ 980 m



120 150 180 210  
☉ 174°S (T) ● 32.065921, -103.413955 ±4 m ▲ 977 m



Devon Energy Production Company  
Billiken Central Tank Battery (NRM2026543414)

5E29133 BG67

**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  
  
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	NRM2026543414
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

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Incident ID	NRM2026543414
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: <u>Ramona Marcus</u> Date: <u>9/21/2020</u>

Incident ID	NRM2026543414
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?	__ 300 __ (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

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	NRM2026543414
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: 10/21/20

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

**OCD Only**

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

State of New Mexico  
Oil Conservation Division

Incident ID	NRM2026543414
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: 10-21-20

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

**OCD Only**

Received by: Cristina Eads Date: 10/21/2020

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: 12/18/2020

Printed Name: Cristina Eads Title: Environmental Specialist

NRM2026543414

<b>Spills In Lined Containment</b>	
Measurements Of Standing Fluid	
Length(Ft)	270
Width(Ft)	15.3
Depth(in.)	1
Total Capacity without tank displacements (bbls)	61.31
No. of 500 bbl Tanks In Standing Fluid	8
No. of Other Tanks In Standing Fluid	
OD Of Other Tanks In Standing Fluid(feet)	
Total Volume of standing fluid accounting for tank displacement.	38.92

Devon Energy Production Company  
Billiken Central Tank Battery (NRM2026543414)

5E29133 BG67

**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 Code	Sub-basin	County	Q 1	Q 2	Q 3	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">C_02299</a>	CUB	LE	4	2	4	24	25S	34E	649517	3554125	649517	3554125	5292	350	300	50

Average Depth to Water: **300 feet**

Minimum Depth: **300 feet**

Maximum Depth: **300 feet**

**Record Count:** 1

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 649694.946

**Northing (Y):** 3548835.428

**Radius:** 5500

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.

10/13/20 3:34 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

**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 10783

**CONDITIONS OF APPROVAL**

Operator:	DEVON ENERGY PRODUCTION COMPAN	333 West Sheridan Ave.	Oklahoma City, OK73102	OGRID:	6137	Action Number:	10783	Action Type:	C-141
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OCD Reviewer	Condition
ceads	None