



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

May 29, 2020

SMA #5E29133, BG22

NMOCD District 1
1625 N. French Drive
Hobbs, New Mexico 88240

**RE: LINER INSPECTION REPORT
GREEN WAVE 20 CTB 3 (NRM2014570121)**

To Whom it May Concern:

Souder, Miller & Associates (SMA) is pleased to submit this letter report on behalf of Devon Energy Production Company (Devon Energy) summarizing the liner inspection that occurred due to the Green Wave 20 CTB 3 release. The site is located in Unit Letter G Section 20, T26S, R34E (N32.03167/W-103.493773) Lea County, New Mexico, on BLM land.

Site Characterization

On May 11, 2020, the Victaulic clamp and ball valve began leaking on a water pump resulting in the release of 30 bbls of produced water inside the lined secondary containment of the tank battery. Initial response activities were conducted by Devon and included source elimination, isolation of the pump, and site stabilization, which recovered approximately 30 bbls of produced water.

Based upon New Mexico Office of the State Engineer (NMOSE) well data, depth to groundwater in the area is estimated to be between 135 and 156 feet below grade surface (bgs). There are no water sources within ½-mile of the location, according to the NMOSE water well databases (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed May 29, 2020; Appendix C). The nearest significant watercourse is an unnamed intermittent stream, located approximately 7,494 feet to the northeast.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of >100 feet bgs.

Liner Integrity

At the request of Devon Energy, on May 29, 2020, SMA conducted a liner integrity inspection per the requirements of 19.15.29.11.A(5)(a) NMAC. NMOCD was notified on May 27, 2020 that the liner inspection was to occur. After a thorough visual inspection of the liner for the tank battery containment, SMA concluded that the liner appeared to be intact and had the ability to contain the leak in question. The ball valve from which the release occurred was identified, and SMA 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.

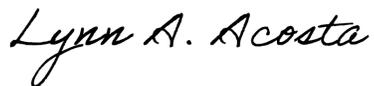
SMA recommends no further action for this release.

Devon Energy Production Company
Green Wave 20 CTB 3 (NRM2014570121)

5E29133, BG22

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 Lynn Acosta at 505-516-7469 or Shawna Chubbuck at 505-488-8641.

Sincerely,
Souder, Miller & Associates



Lynn A. Acosta
Staff Scientist I



Shawna Chubbuck
Senior Scientist

Figures

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

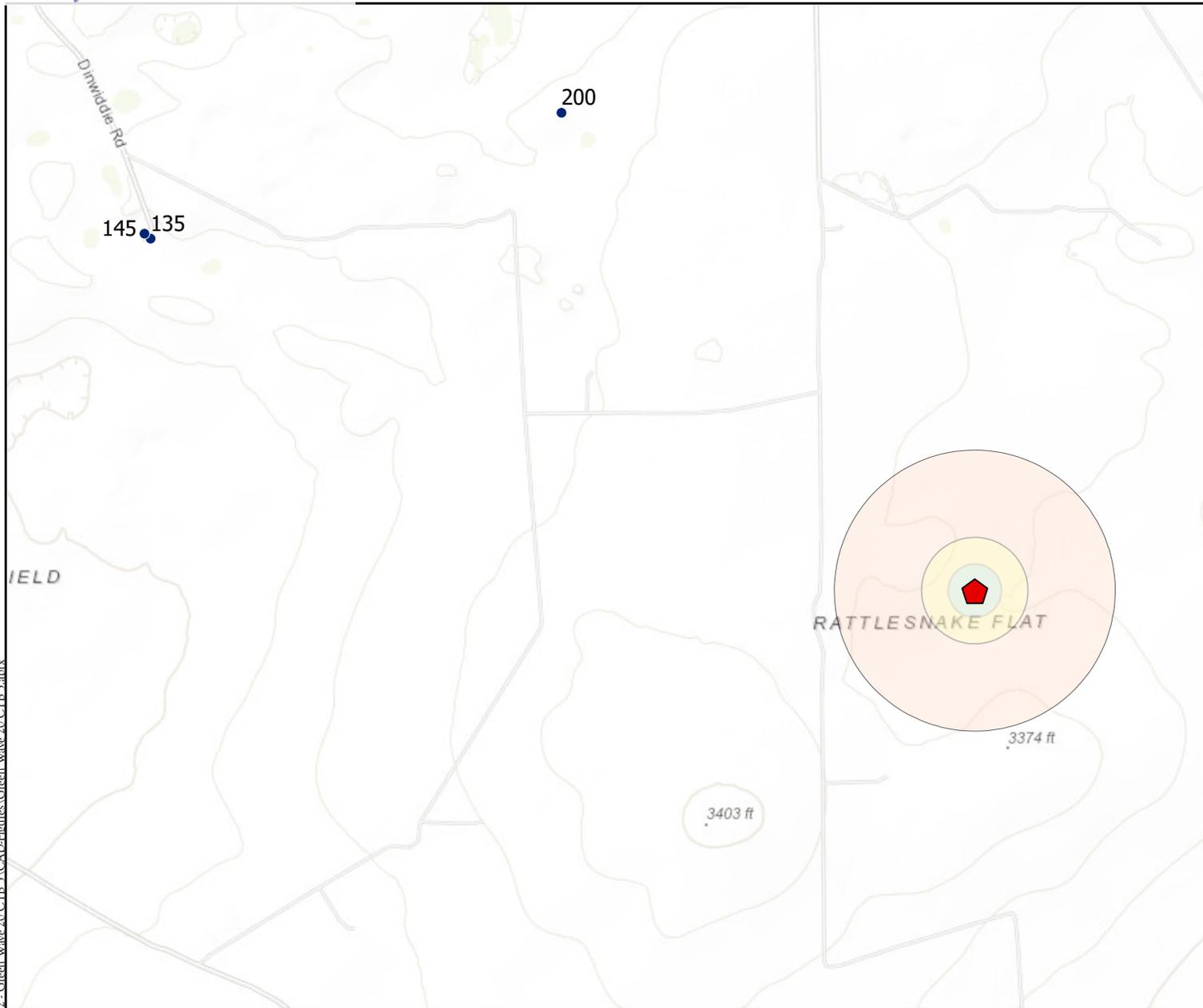
Appendices

- Appendix A: Photo Log & Field Notes
- Appendix B: C141
- Appendix C: Water Well Data

Devon Energy Production Company
Green Wave 20 CTB 3 (NRM2014570121)

5E29133, BG22

FIGURES



Buffer Distance

- .5 Mile
- 1000 Feet
- 500 Feet

Depth to GW

- USGS Depth to GW
- OSE Depth to GW

Point of Release

- Point of Release

Karst Potential

- Critical
- High
- Medium
- Low

N

0 500 1,000 2,000 3,000

Feet

Site Map
 Green Wave 20 CTB 3- Devon Energy Production Company
 UL: G S: 20 T: 26S R: 34E, Lea County, New Mexico

Figure 1

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

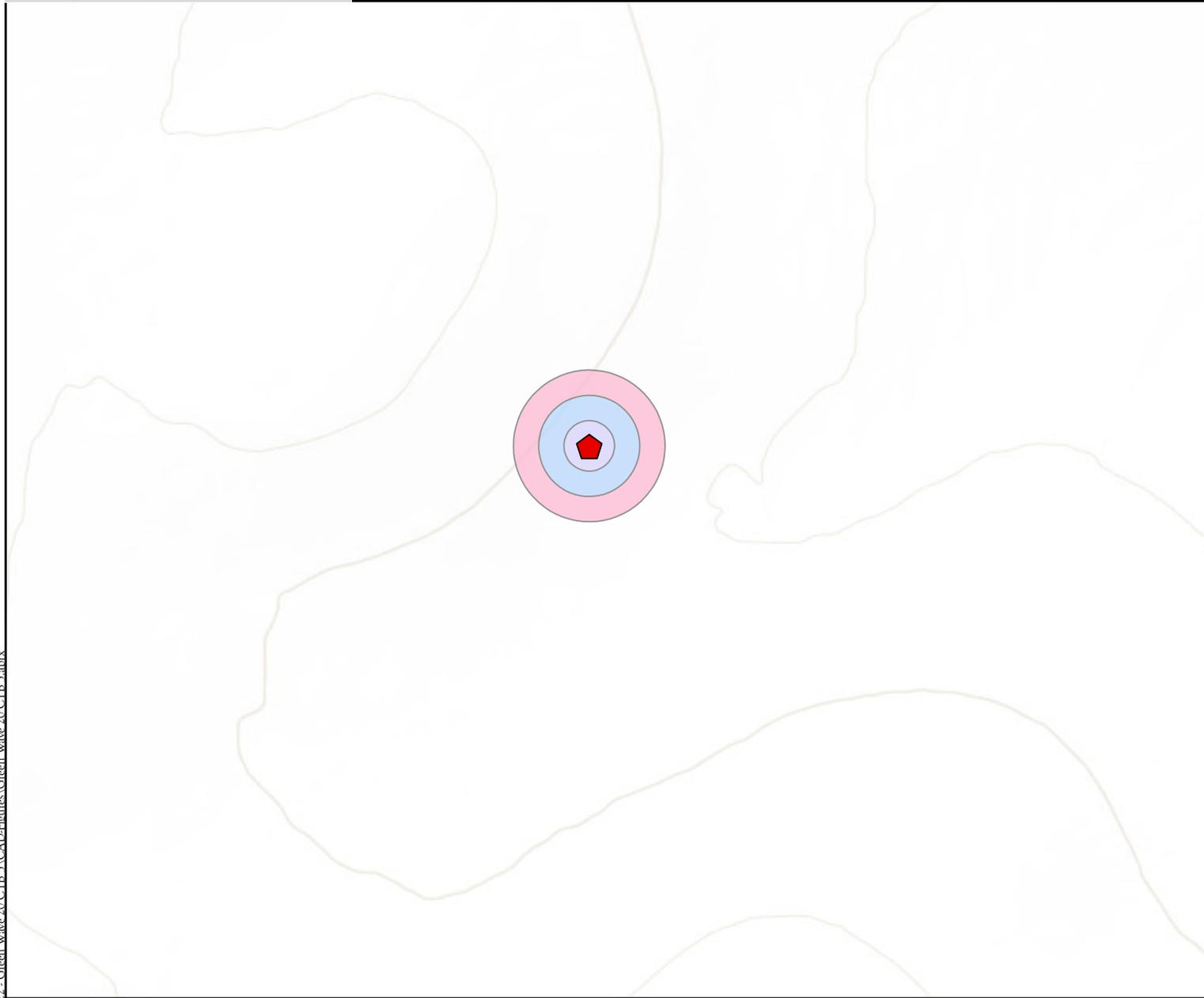
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Drawn	Lynn A. Acosta
Date	5/29/2020
Checked	_____
Approved	_____

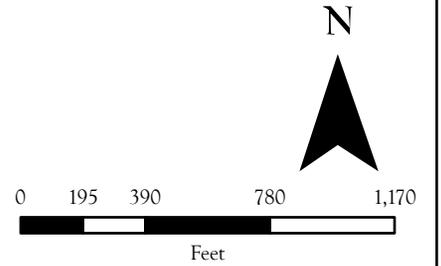


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P:\5-Devon\MSA 2020\5E291331\FIG22 - Green Wave 20 CTB 3-CAD\Figures\Green Wave 20 CTB 3.aprx
 Date Saved: 5/29/2020



- 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
 Green Wave 20 CTB 3 - Devon Energy Production Company
 UL: G S: 20 T: 26S R: 34E Lea County, New Mexico

Figure 2

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 Date Saved: 5/29/2020

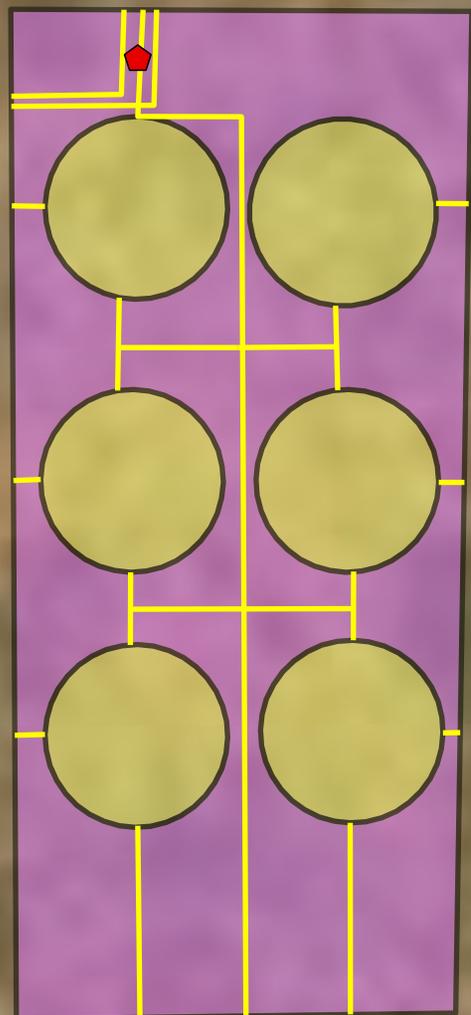
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

Drawn	Lynn A. Acosta
Date	5/29/2020
Checked	_____
Approved	_____



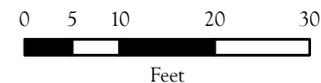
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Date Saved: 5/29/2020



Legend

-  Point of Release
-  Flowlines
-  Containment
-  Equipment



Site and Sample Location Map
 Green Wave 20 CTB 3 - Devon Energy Production Company
 UL: G S: 20 T: 26S R: 34E Lea County, New Mexico

Figure 3

Revisions

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

Drawn Lynn A. Acosta
 Date 5/29/2020
 Checked _____
 Approved _____



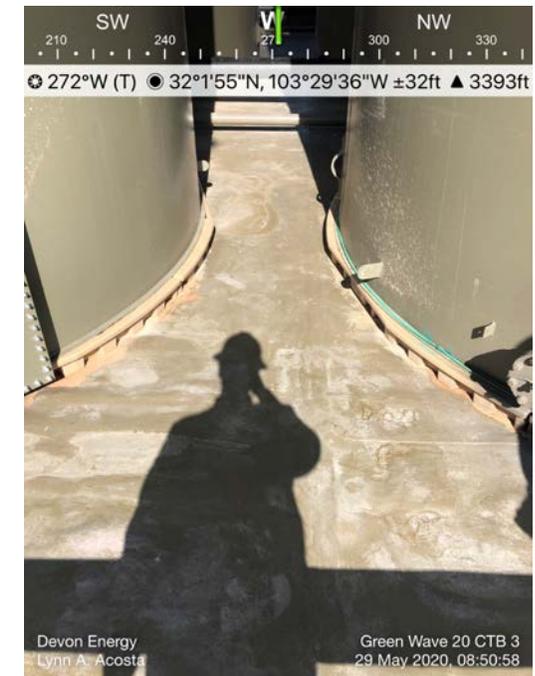
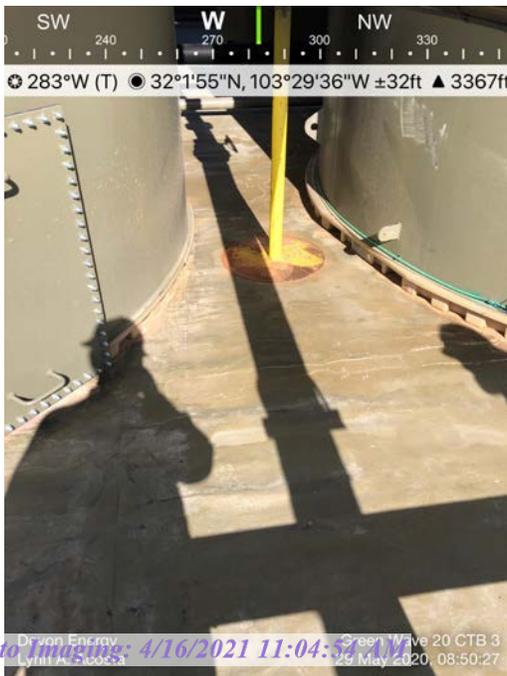
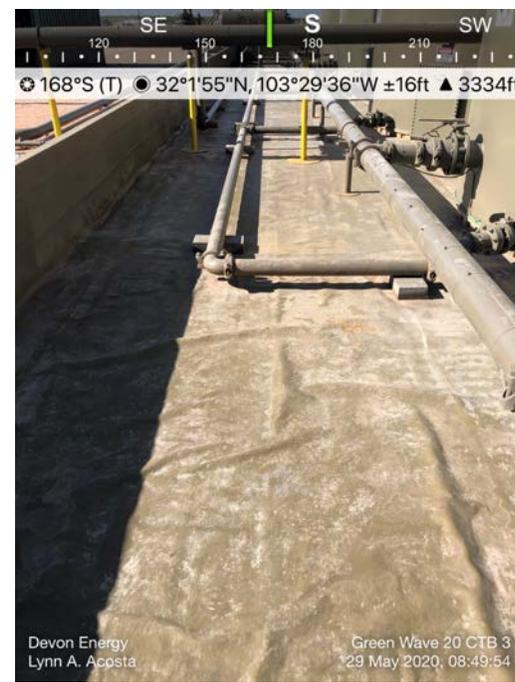
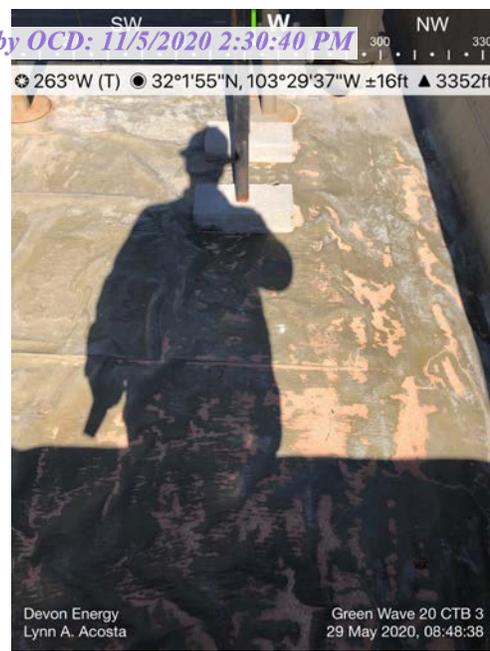
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Devon Energy Production Company
Green Wave 20 CTB 3 (NRM2014570121)

5E29133, BG22

Appendix A
PHOTO LOG & FIELD NOTES

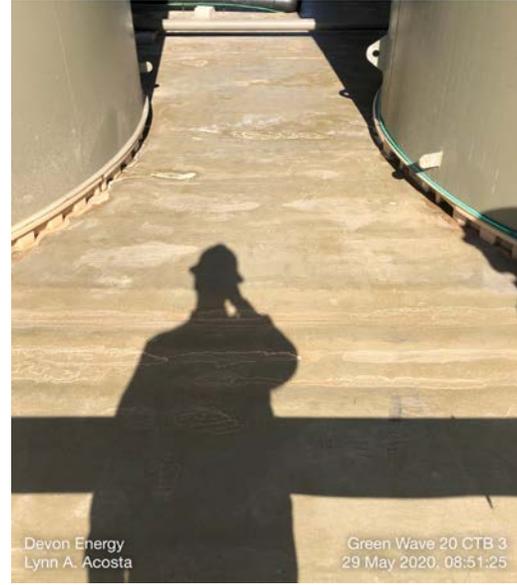


171°S (T) 32°1'54"N, 103°29'36"W ±32ft ▲ 3384ft



Devon Energy
Lynn A. Acosta
Green Wave 20 CTB 3
29 May 2020, 08:51:16

258°W (T) 32°1'55"N, 103°29'36"W ±98ft ▲ 3208ft



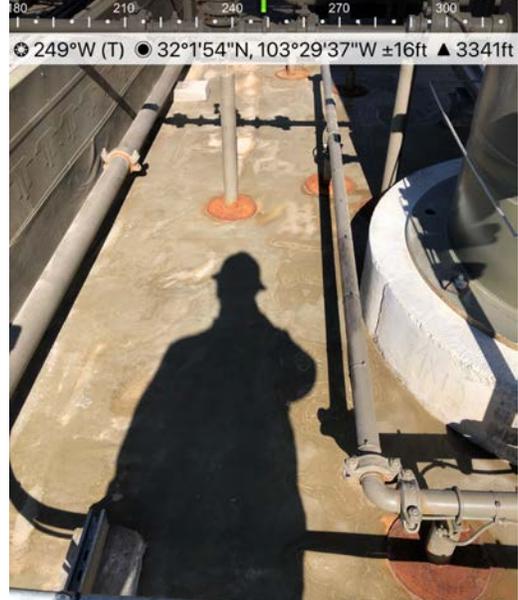
Devon Energy
Lynn A. Acosta
Green Wave 20 CTB 3
29 May 2020, 08:51:25

295°NW (T) 32°1'54"N, 103°29'37"W ±16ft ▲ 3351ft



Devon Energy
Lynn A. Acosta
Green Wave 20 CTB 3
29 May 2020, 08:51:49

249°W (T) 32°1'54"N, 103°29'37"W ±16ft ▲ 3341ft



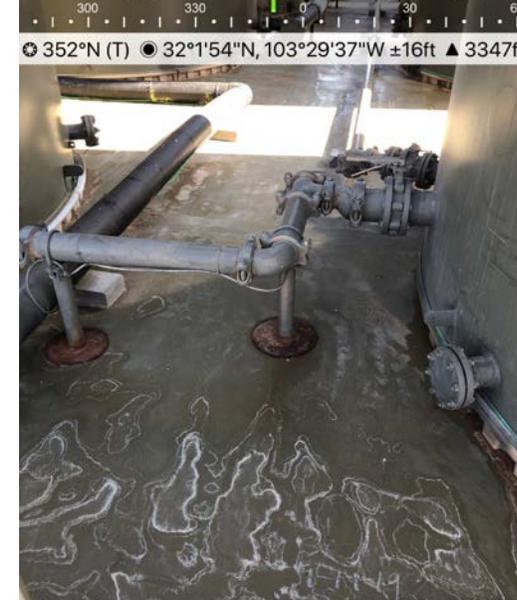
Devon Energy
Lynn A. Acosta
Green Wave 20 CTB 3
29 May 2020, 08:52:02

227°SW (T) 32°1'54"N, 103°29'37"W ±16ft ▲ 3354ft

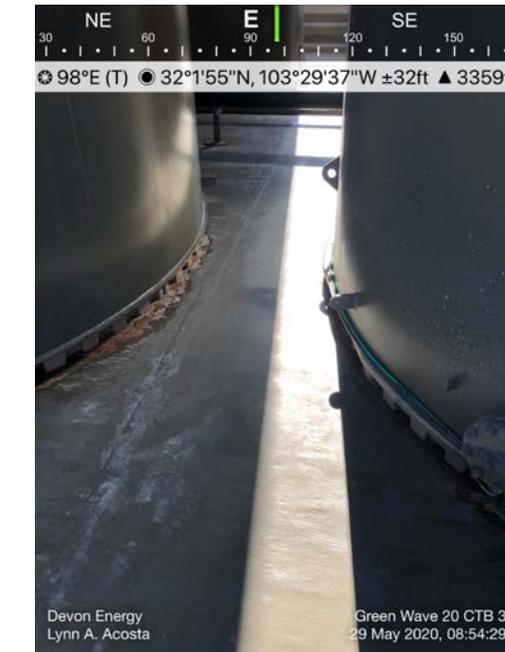
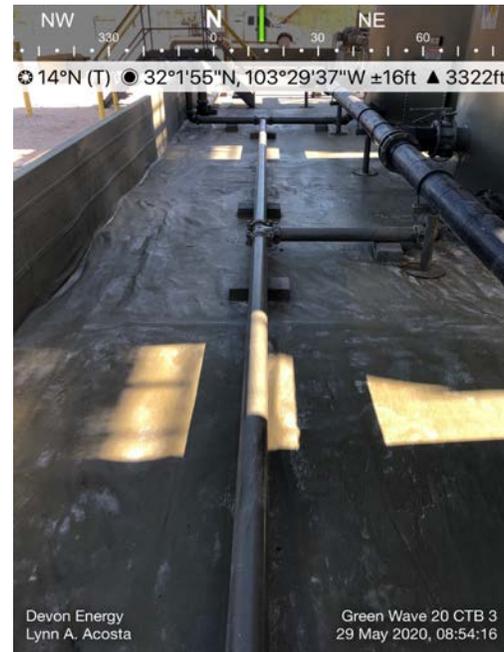
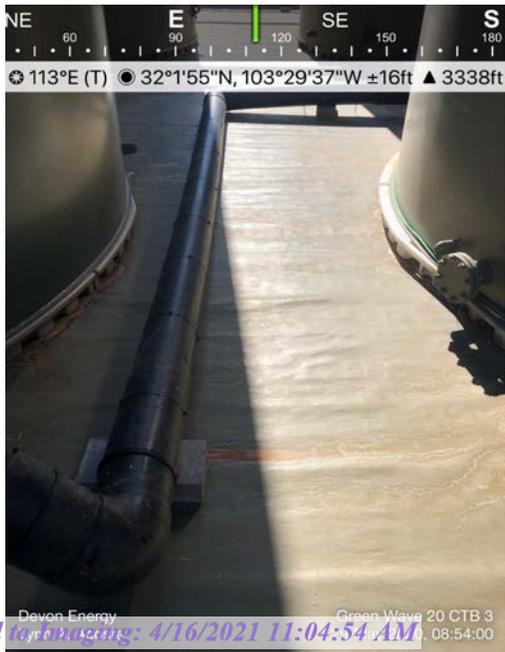
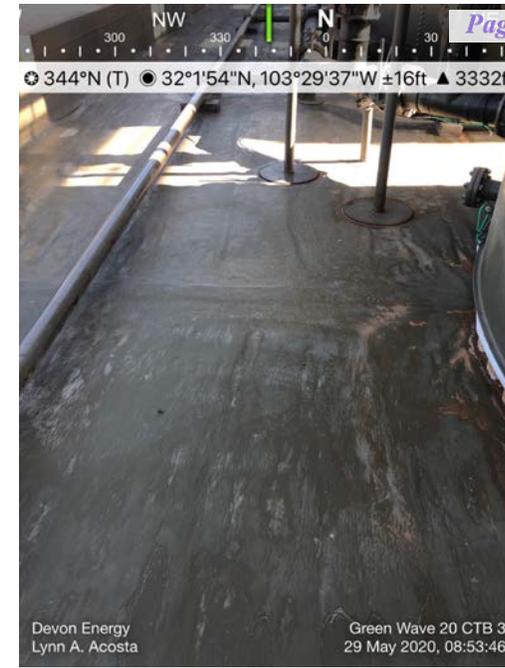
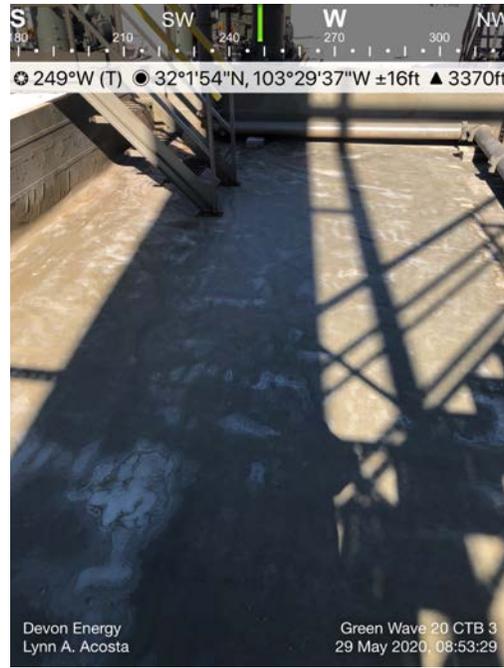
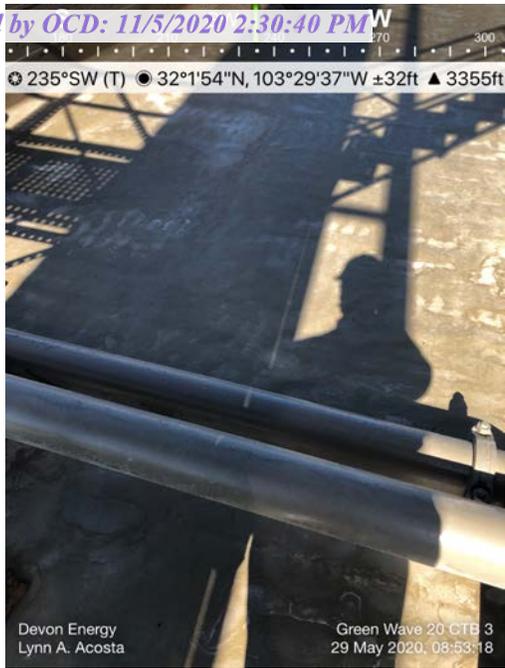


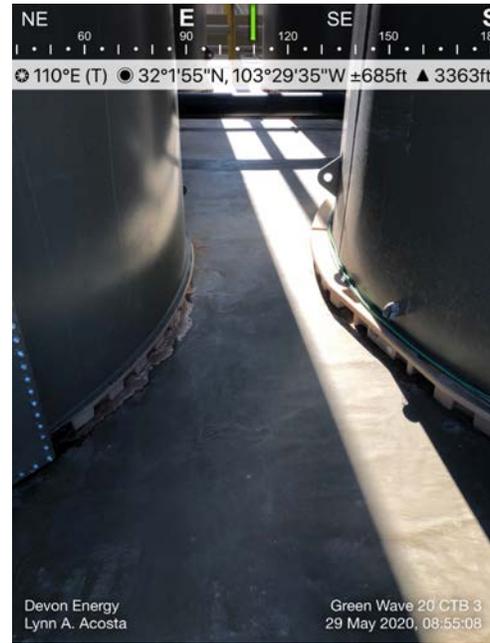
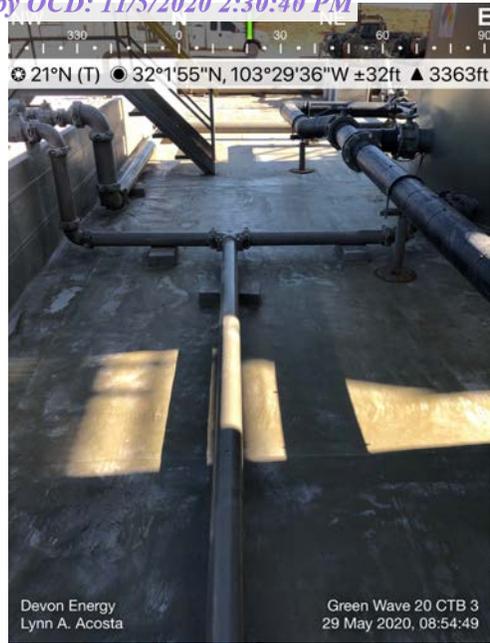
Devon Energy
Lynn A. Acosta
Green Wave 20 CTB 3
29 May 2020, 08:52:57

352°N (T) 32°1'54"N, 103°29'37"W ±16ft ▲ 3347ft



Devon Energy
Lynn A. Acosta
Green Wave 20 CTB 3
29 May 2020, 08:53:06





- Arrived on site (8:00)
- Tom Kynom was on site as well, he is a Devon representative.
- Walked to POR and described what had occurred. Release did in fact stay in containment
- Began to walk containment and search for any tears or other potential compromises throughout containment.
 - no indication of failures were observed during walk through of containment
 - Liner did remain intact
- Began to take photos of containment.
- Mapped containment as there is no updated aerial footage of this particular location.
- left site

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



Project Name: Green Wave 20 CTB33 Inspection Date: 5/29/2020
Client Name: Devon Energy
Client Representative(s): _____
SMA Inspector(s): Lynn A. Acosta
Project Location: _____ Latitude: 32.03167 Longitude: -103.493773

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: 5/27/2020

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

Lynn A. Acosta
Date: 5/29/2020

CLIENT REPRESENTATIVE

[Signature]
Date: 5/29/20

Devon Energy Production Company
Green Wave 20 CTB 3 (NRM2014570121)

5E29133, BG22

**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	NRM2014570121
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Devon Energy	OGRID 6137
Contact Name Lupe Carrasco	Contact Telephone 575-748-0165
Contact email lupe.carrasco@dvn.com	Incident # <i>(assigned by OCD)</i>
Contact mailing address 6488 Seven Rivers Highway Artesia, NM 88210	

Location of Release Source

Latitude 32.03167 Longitude -103.493773
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Green Wave 20 CTB 3	Site Type Central Tank Battery
Date Release Discovered 5/11/20	API# <i>(if applicable)</i>

Unit Letter	Section	Township	Range	County
F	20	26S	34E	Lea

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 checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 30 BBLS	Volume Recovered (bbls) 30 BBLS
	Is the concentration of dissolved chloride 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 **Victaulic clamp and ball valve leaking on water pump. Pump was isolated and a vacuum truck was dispatched to recover standing fluid.**

Incident ID	NRM2014570121
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? >25 barrels
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 checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" 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: <u>Lupe Carrasco</u> Title: <u>EHS Professional</u> Signature: <u>Lupe Carrasco</u> Date: <u>7/9/20</u> email: <u>Lupe.Carrasco@dvn.com</u> Telephone: <u>575-748-0165</u>
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>7/17/2020</u>

NRM2014570121

Spills In Lined Containment	
Measurements Of Standing Fluid	
Length(Ft)	65
Width(Ft)	110
Depth(in.)	0.36
Total Capacity without tank displacements (bbls)	38.20
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.	30.14

Incident ID	NRM2014570121
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?	~156 (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	NRM2014570121
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: 11/5/20

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

OCD Only

Received by: _____ Date: _____

Incident ID	NRM2014570121
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: 11/5/20

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

OCD Only

Received by: Chad Hensley Date: 04/16/2021

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: *Chad Hensley* Date: 04/16/201

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

Devon Energy Production Company
Green Wave 20 CTB 3 (NRM2014570121)

5E29133, BG22

**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 6	Q 4	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C 02295	CUB	LE	2	2	4	12	26S	33E	639850	3547710*	3653	250	200	50	
C 02293	CUB	LE	2	2	1	14	26S	33E	637501	3546975	5149	200	135	65	
C 02294	CUB	LE	4	4	3	11	26S	33E	637465	3547003	5192	200	145	55	
C 02292 POD1	CUB	LE	4	1	2	06	26S	34E	640992	3549987	5198	200	140	60	
C 03442 POD1	C	LE	4	1	2	06	26S	34E	641056	3550028	5223	251			
C 03441 POD1	C	LE	4	1	2	06	26S	34E	640971	3550039	5254	250			
C 02291	CUB	LE	1	1	2	06	26S	34E	640825	3550140*	5388	220	160	60	

Average Depth to Water: **156 feet**
Minimum Depth: **135 feet**
Maximum Depth: **200 feet**

Record Count: 7

UTM NAD83 Radius Search (in meters):

Easting (X): 642229.49

Northing (Y): 3544937.79

Radius: 6000

*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.

5/29/20 3:42 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 11090

CONDITIONS OF APPROVAL

Operator:		OGRID:	Action Number:	Action Type:
DEVON ENERGY PRODUCTION COMPAN		6137	11090	C-141
333 West Sheridan Ave.		Oklahoma City, OK73102		
OCD Reviewer		Condition		
chensley		None		