HRL COMPLIANCE SOLUTIONS
P.O. Box 1708 • Artesia, NM 88211
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SITE CHARACTERIZATION AND CLOSURE REPORT

Property:

DEVON ENERGY CORPORATION
IRONHOUSE 19 STATE COM #001H
LEA COUNTY, NEW MEXICO
UNIT LETTER "N", SECTION 19, TOWNSHIP 18 SOUTH, RANGE 35 EAST
LATITUDE 32.7266121° N, LONGITUDE 103.499527° W
API NUMBER: 30-025-40676
1RP – 5374

SEPTEMBER 2019

Prepared For:

DEVON ENERGY CORPORATION
6488 SEVEN RIVERS HIGHWAY
ARTESIA, NM 88210
ATTN: **MS. AMANDA DAVIS**

Prepared By:

Natalie Gordon
Project Manager

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ACRONYM LIST

bbl(s)	barrel(s)
bgs	feet below ground surface
Devon	Devon Energy
EPA	U.S. Environmental Protection Agency
ft	feet
GPS	global positioning system
HRL	HRL Compliance Solutions
NRCS	Natural Resources Conservation Service
NMAC	New Mexico Administrative Code
NM OCD	New Mexico Oil Conservation Division
NM OSE	New Mexico Office of the State Engineer
NM SLO	New Mexico State Land Office
USDA	United States Department of Agriculture
USGS	United States Geological Survey

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EXECUTIVE SUMMARY

HRL Compliance Solutions (HRL) was retained by Devon Energy Corporation (Devon) to conduct a site characterization assessment and liner inspection at Ironhouse 19 State Com #001H (Ironhouse 19). The objective of the site assessment was to determine if there are any indications of chloride and/or hydrocarbon impacts from the release that occurred due to a free water knock-off popping off on February 9, 2019. The objective of the liner inspection was to demonstrate continued liner integrity and verify that it remained intact and had the ability to contain the release in question. This report is also intended to serve as a final closure report to obtain approval from New Mexico Oil Conservation Division (NM OCD) for closure of the release.

OVERVIEW:

- On February 9, 2019, a free water knock-off popped off causing a release into the tank battery secondary containment.
- An estimated 45 barrels (bbls) of crude oil were released.
- The well was shut in to stop the release and the equipment was repaired.
- Forty-five bbls of crude were recovered from within the secondary containment.
- Devon contacted HRL on August 29, 2019 to evaluate the spill, provide remediation, if necessary, and to obtain closure from NM OCD.
- HRL conducted a site investigation and liner inspection on September 23, 2019 and the findings are presented in this closure report.

RECOMMENDATION:
Given the location of the release wholly within the lined secondary containment and the evaluation and discussion captured in Section 2.4 of this report, HRL recommends that no further action be taken regarding this release. Certification of the liner integrity on form C-141 and this closure report are hereby submitted to NM OCD to obtain closeout of the incident.

1.0 INTRODUCTION

1.1 RELEASE AND INITIAL RESPONSE

On February 9, 2019, a release at the Devon Energy Corporation (Devon) Ironhouse 19 State Com #001H (Ironhouse 19) location occurred when a free water knock-off popped off. This incident resulted in the release of 45 barrels (bbls) of crude oil into the tank battery lined secondary containment. A vacuum truck was brought on site and all free liquids were recovered. No oil or produced water was released outside of the secondary containment area.

Devon immediately notified representatives of the New Mexico Oil Conservation Division (NM OCD) District I and the New Mexico State Land Office (NM SLO), which is the owner of the land. This notification was followed by submission of an initial C-141 Release Notification (Appendix A) to NM OCD District I on February 14, 2019. HRL Compliance Solutions (HRL) was contacted by Devon on August 29, 2019 to conduct a site assessment for the release at Ironhouse 19 as well as a liner inspection and submit required documentation per 19.15.29 New Mexico Administrative Code (NMAC) regulations to obtain NM OCD closure of the incident.

1.2 PURPOSE OF REPORT

This report, which has been prepared for the exclusive use of Devon Energy Corporation, presents the methods and results of the environmental investigation (site characterization) conducted at Ironhouse 19 on September 23, 2019, by HRL. The objective of this site characterization report is to establish that remediation is complete, all applicable regulations are being followed, and to serve as a final closure report to obtain approval from NM OCD for closure of the release that occurred on February 9, 2019.

1.3 SCOPE AND LIMITATIONS

The scope of HRL's services consists of performing site characterization including a regional and local desktop review of potential receptors, verification of release stability, conducting a liner inspection, providing regulatory liaison, and preparation of this characterization report and recommendations associated with the incident specified therein. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

2.0 SITE CHARACTERIZATION

2.1 GENERAL SITE INFORMATION

The following information provides a brief outline of the site location and site conditions.

2.1.1 Site Location

Ironhouse 19 is located on state-owned land, Unit Letter "N", Section 19, Township 18 South, Range 35 East in Lea County (Figure 1). This location is within the Permian Basin in southeast

New Mexico and has historically been used for oil and gas exploration and production, and range land.

2.1.2 Site Description

The Ironhouse 19 site is typical for oil and gas exploration and production sites in the western portion of the Permian Basin and southeast New Mexico, and it is currently used for oil and gas production and storage. This characterization report discusses an area on the pad within the secondary containment of the tank battery. The impacted area was underneath and around the six oil and produced water tanks, all of which are inside a lined secondary containment on a two-foot thick, constructed pad.

The surrounding landscape is comprised of plains with a semiarid climate and average annual precipitation ranging between 14 and 16 inches. Native vegetation is principally black and sideoats grama, threeawn, broom snakeweed, cane bluestem and other grass species, with some forbs. Woody shrubs are rarely present. Grass cover is relatively uniform with occasional bare patches evident (Soil Survey Staff, n.d.). Limited vegetation is allowed to grow on the compacted production pad and no vegetation grows within the lined secondary containment.

2.1.3 Topography

Ironhouse 19 is located at an elevation of approximately 3,962 feet above sea level on dry plains with typically a 0-3 percent slope.

2.1.4 Geology

According to the United States Department of Agriculture (USDA) Web Soil Survey, the majority of surface soil geology at Ironhouse 19 falls into the Kimbrough-Lea complex, which consists of very shallow, gravelly loam and loam over a cemented material. The non-hydric soil tends to be well-drained with high runoff and very low moisture levels in the soil profile.

The geology at Ironhouse 19 comes from alluvial and eolian deposits and petrocalcic soils of the southern High Plains region dating back to the lower Pliocene to middle Miocene age. This site is within the Ogallala Formation, which is a broad area of sedimentary rocks known to locally contain piping or other pseudokarst features. The site is not found over true karst geology and is therefore not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

2.1.5 Surface Water

Based on USGS National Hydrology Maps, the nearest significant watercourse as defined in Subsection P of 19.15.17.7 NMAC is an intermittent stream 0.25 miles north-northeast of the tank battery and an intermittent pond approximately 0.2 miles west of the tank battery (Figure 2).

2.1.6 Groundwater

Using the NM Office of the State Engineer (NM OSE) Water Column Report, depth to groundwater is estimated to be an average of 93 feet (ft) below ground surface (bgs) for an area with a radius of 1.25 miles around the release location (Figure 3). The minimum depth to groundwater in that same area is 70 ft bgs. See Appendix B for information pertaining to the depth to groundwater determination.

2.1.7 Known Water Sources

There are no known water sources within a half mile of the release as demonstrated in Section 2.1.6 of this report and shown in Figure 3. There are no continuously flowing watercourses or significant watercourses, nor any lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

2.1.8 Oil and Gas Production/Transfer/Storage Equipment

The release occurred within the tank battery secondary containment on the western side of the well pad (Figure 1). There are a total of six tanks within the tank battery secondary containment. To the east of the tank battery, on the north side of the pad are two separators and two heater treaters. Hard lines carrying oil and produced water from the heater treaters to the tank battery extend along the north edge of the well pad. A pumpjack sits in the center of the pad approximately 100 feet due east of the tank battery secondary containment. Along the northern and western sides of the well pad, incoming poly lines from off-site production wells are visible on the surface. Additional production and storage-related equipment is present around the well pad, including pumps, flares, and electrical components. None of the equipment outside of the tank battery secondary containment was affected by the release.

2.2 INVESTIGATION METHODS

The following information discusses the actions performed at Ironhouse 19 as part of the evaluation and closure activities conducted on September 23, 2019.

2.2.1 Soil Sampling Procedures

No soil sampling was conducted at Ironhouse 19 following vacuum removal of the free liquids because the release was contained within the lined secondary containment where there is no soil.

2.2.2 Liner Inspection and Verification

HRL conducted a visual liner inspection on September 23, 2019. Following appropriate notice to the NM OCD District I office, the liner was visually inspected for cracks, tears, cuts, and other signs of damage to verify that the liner remained intact and had the ability to contain the release, as required by Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC.

2.3 EVALUATION OF DATA AND DISCUSSION

This section presents investigation results and evaluates the results in respect to NM OCD site characterization and liner inspection requirements and/or guidelines.

2.3.1 Ironhouse 19 State Com #001H

The site assessment and liner inspection conducted on September 23, 2019 was conducted under NM OCD guidance found in Subparagraph (a) of Paragraph (5) of Subsection A in 19.15.29.11 NMAC. The inspection confirmed that the spill of February 9, 2019 was contained within the secondary containment and it revealed no damage or integrity issues with the secondary containment liner. Standing rainwater was present in portions of the secondary containment, indicating that the liner integrity was intact. No crude oil was present in the lined secondary containment area at the time of the inspection and there were no indications of adverse conditions on or near the remainder of the site.

3.0 RISK ASSESSMENT

3.1 POTENTIAL RECEPTOR EVALUATION

No potential receptors were identified either on- or off-site based on the following findings.

3.1.1 Human Receptors

There are ongoing oil and gas production operations at the site. Current contamination levels, if any, do not pose a threat to human health so long as existing company health and safety guidelines are followed by site personnel. There is no threat to human health for offsite human receptors due to the fact the release was entirely contained within the secondary containment.

3.1.2 Ecological Receptors

There are no ecological receptors identified which may be threatened by the release that occurred within the secondary containment. Ecological receptors include invertebrates, wildlife, and freshwater aquatic life. Offsite, there are no ecological receptors identified which may be threatened by the minimal presence of hydrocarbons and chlorides that may be present within the lined secondary containment of this tank battery.

3.1.3 Wells and Surface Water

There are no potable wells, non-potable wells, or surface water bodies, onsite nor offsite, that are close enough to be adversely affected by this release. Groundwater is at a significant depth below ground surface such that it is not expected to be affected by any hydrocarbons or chlorides currently remaining in the secondary containment from this release.

4.0 REMEDIATION ASSESSMENT

4.1 REMEDIATION DRIVERS AND CLEANUP OBJECTIVES

Clear remediation drivers and objectives are required to establish the framework within which potential remedial technologies are evaluated and compared. The remediation driver for this site is compliance with NM OCD regulations and directives to ensure proper cleanup at the Ironhouse 19 location. Cleanup objectives are chemical and media-specific goals that are protective of human health and the environment and must be achieved to meet regulatory requirements outlined in Table I in 19.15.29 NMAC.

4.2 RECOMMENDATION

Given the location of the spill, the producer's immediate removal of free liquids from the secondary containment following the release, and based on the success of the liner verification, HRL recommends no additional remediation action to address this release. The presence of any contaminants of concern at the site resulting from the above-referenced release are wholly contained within the lined secondary containment and cannot migrate off site. There are no anticipated risks to human, ecological, or hydrological receptors at the Ironhouse 19 location.

5.0 CLOSURE

Due to the reasons outlined in Section 4.2 above, HRL recommends that Incident 1RP-5374 be closed. All liner certification requirements as set forth in Subsection A of 19.15.29.12 NMAC and any closure requirements set forth in Subsection E of 10.15.29.12 have been met. Photos included in Appendix C of this report demonstrate the liner certification assertions. Devon Energy Corporation certifies that all information in this report and the attachments is correct and that Devon has complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the release at Ironhouse 19.

6.0 REFERENCES

Geological Survey Staff, United States Geological Survey, U.S. Department of the Interior. Groundwater for New Mexico: Water Levels. Available online at: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels. Accessed [09/25/2019].

National Soil Survey Center, Natural Resources Conservation Service, United States Department of Agriculture. Field Book for Describing and Sampling Soils. Available online at the following link: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS. Accessed [09/25/2019].

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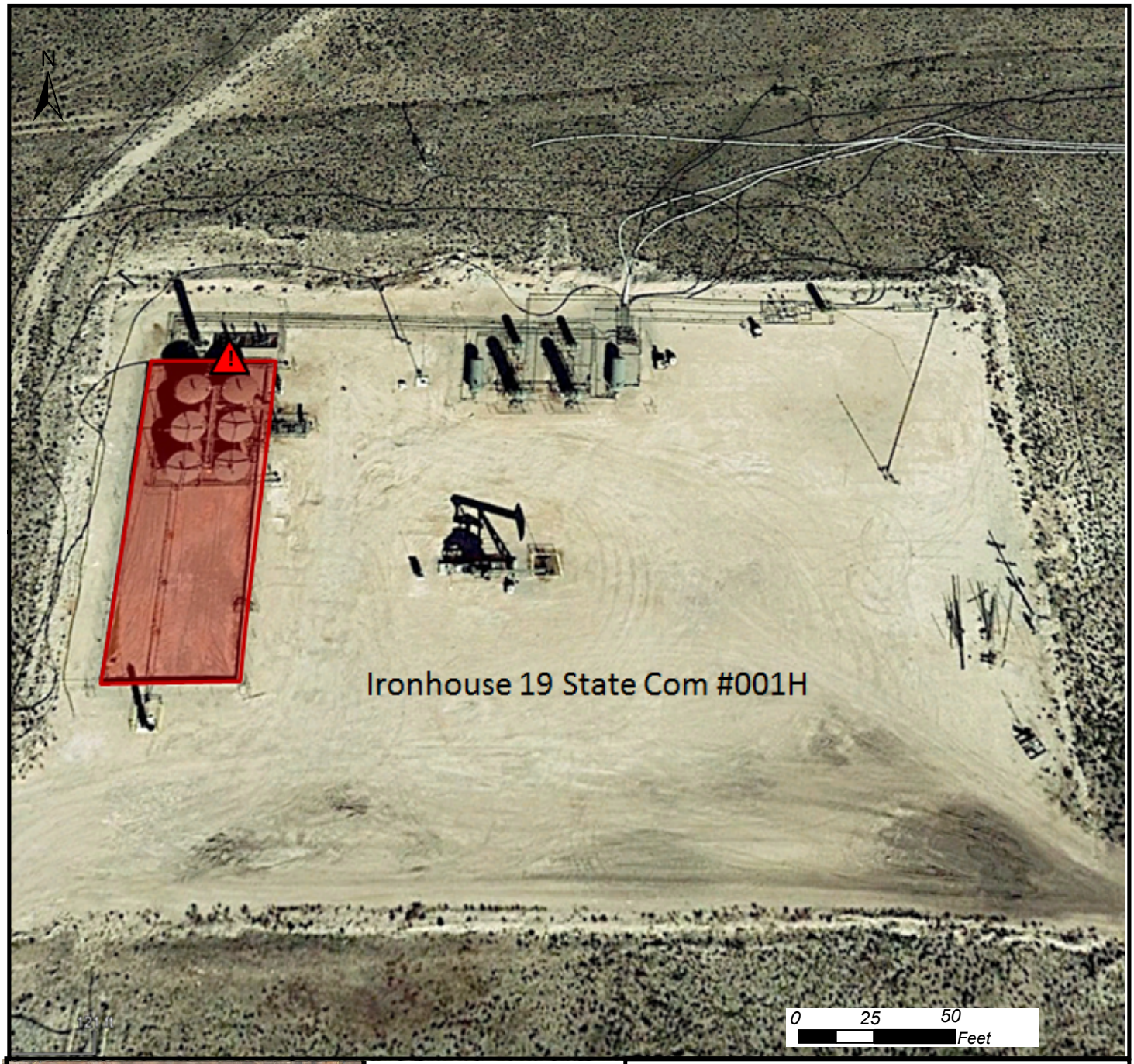
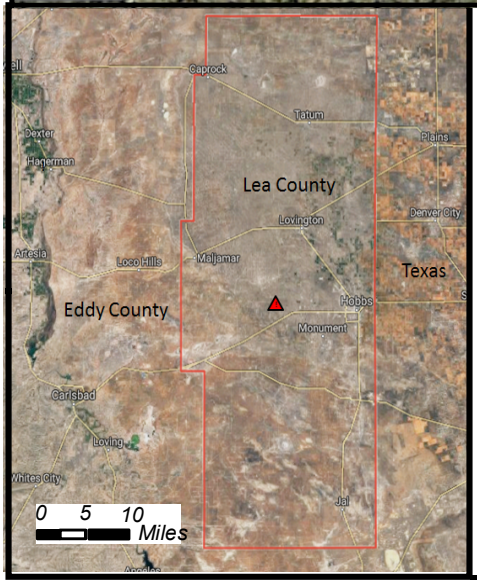
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/. Accessed [09/25/2019].

State Engineer, New Mexico Office of the State Engineer. New Mexico Water Rights Reporting System. Available online at http://nmwrrs.ose.state.nm.us/waterColumn.html. Accessed [09/25/2019].





Mapped Features

Release Location

Secondary Containment

devon

Figure 1

Site Location Map

Ironhouse 19 State Com #001H

32.7266121, -103.499527

Section 19 Township 18 South, Range 35 East

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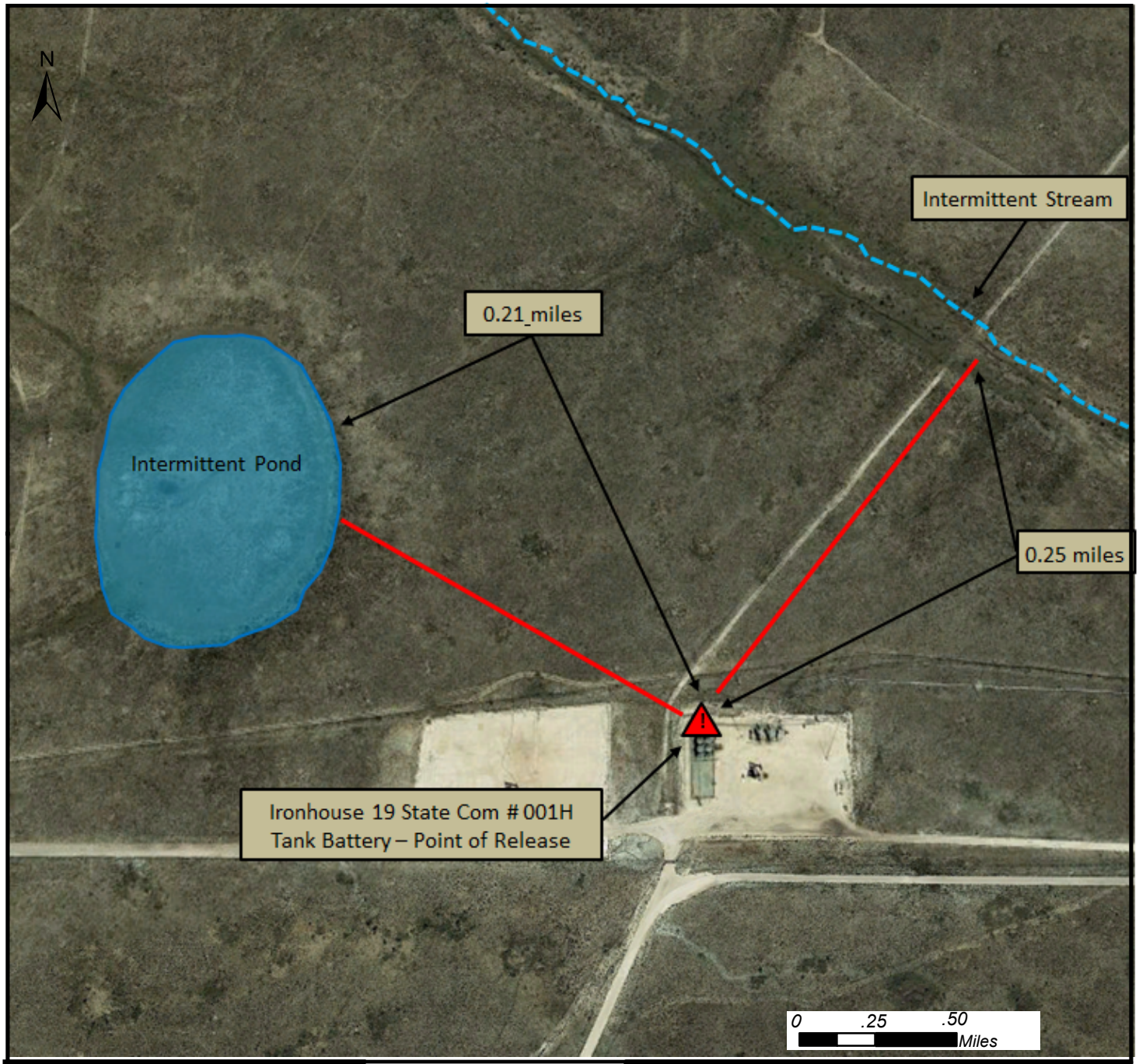
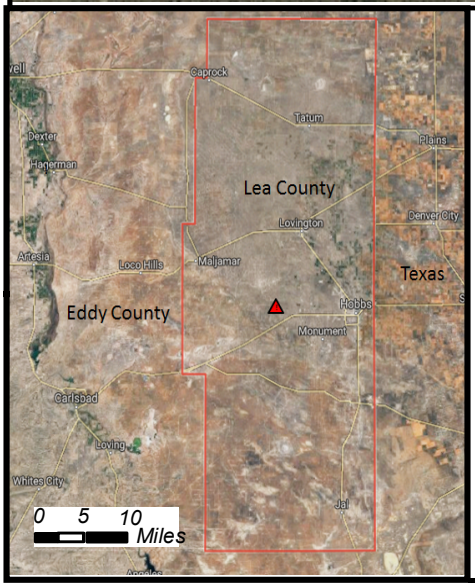
Author:	*N. Gordon*
Revision:	*0*
Date:	*09/25/2019*





Mapped Features

- Release Location
- Intermittent Pond
- Intermittent Stream

devon

Figure 2

Nearest Surface Water

Ironhouse 19 State Com #001H

32.7266121, -103.499527

Section 19 Township 18 South, Range 35 East

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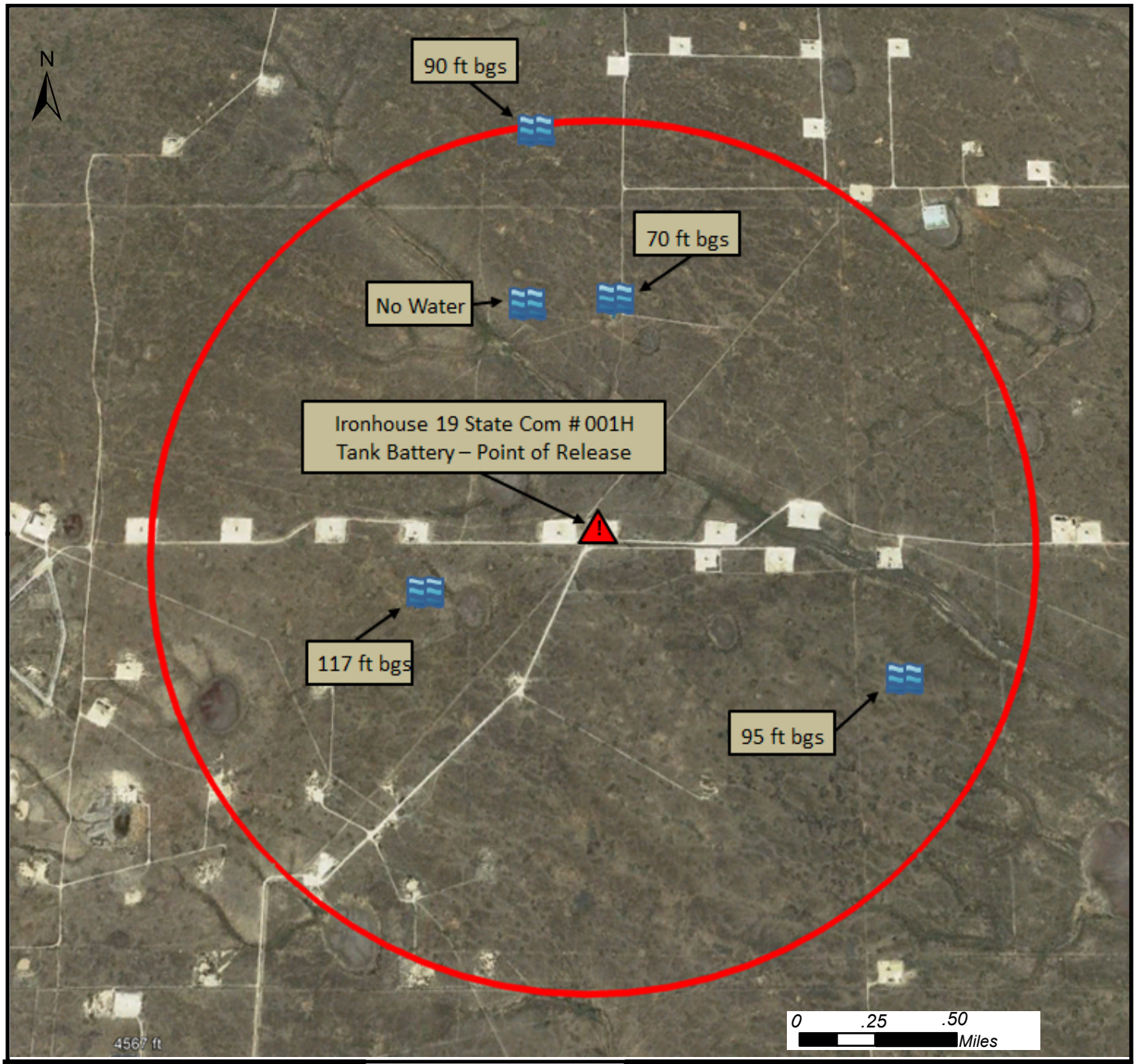
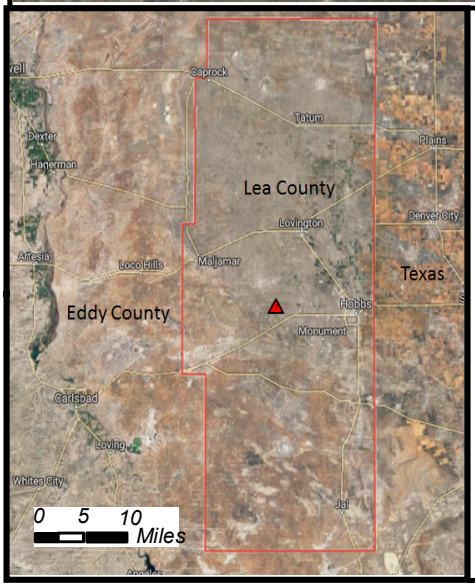
Author:	N. Gordon
Revision:	0
Date:	09/25/2019





Mapped Features

- Release Location
- Groundwater Wells
- 1.25-mile radius

devon

Figure 3

Nearest Groundwater Wells and Depth to Groundwater

Ironhouse 19 State Com #001H

32.7266121, -103.499527

Section 19 Township 18 South, Range 35 East

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Author:	N. Gordon
Revision:	0
Date:	09/25/2019

Appendix A: Initial 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	NAB1905157822
District RP	1RP-5374
Facility ID	
Application ID	pAB1905157328

Release Notification

Responsible Party

Responsible Party Devon Energy Production Company	OGRID 6137
Contact Name Amanda T. Davis	Contact Telephone 575-748-0176
Contact email amanda.davis@dvn.com	Incident # *(assigned by OCD)* NAB1905157822
Contact mailing address 6488 Seven Rivers Hwy	

Location of Release Source

Latitude 32.7266121 Longitude -103.499527
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Ironhouse 19 State Com #001H	Site Type Oil
Date Release Discovered 2/09/2019	API# *(if applicable)* 3002540676

Unit Letter	Section	Township	Range	County
N	19	18S	35E	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)

☒ Crude Oil	Volume Released (bbls) 45	Volume Recovered (bbls) 45
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Free water knock off popped off causing fluid release. Spill area 100' x 105' x 0.021'

State of New Mexico
Oil Conservation Division

Incident ID	NAB1905157822
District RP	1RP-5374
Facility ID	
Application ID	pAB1905157328

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? This is considered a major release because it is over 25 barrels. If major release, please answer questions in yellow. Info is a requirement for date notification. AB
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

- ■ The source of the release has been stopped.
- ■ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ■ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: Kendra DeHoyos Title: EHS Associate

Signature: Kendra DeHoyos Date: 2/14/2019

email: kendra.dehoyos@dvn.com Telephone: 575-748-3371

OCD Only

Received by: Amalia Barrameda Date: 2/20/2019

Appendix B: Depth to Groundwater Analysis

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 12926 POD1		L	LE	2	2	3	25	18S	34E	639839	3621631	839	182	117	65
L 07928		L	LE	4	4	1	19	18S	35E	640639	3622915	940	175		
L 03888		L	LE		3	1	19	18S	35E	640253	3622912*	1000	107	70	37
L 04562		L	LE		3	1	29	18S	35E	641874	3621315*	1430	156	95	61
L 03721		L	LE		3	3	18	18S	35E	640241	3623717*	1779	161	90	71

Average Depth to Water: **93 feet**
Minimum Depth: **70 feet**
Maximum Depth: **117 feet**

Record Count: 5

UTMNAD83 Radius Search (in meters):

Easting (X): 640605.35 **Northing (Y):** 3621975.29 **Radius:** 2000

***UTM location was derived from PLSS - see Help**

9/25/19 2:34 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 12926 POD1		L	LE	2	2	3	25	18S	34E	639839	3621631	839	182	117	65
L 07928		L	LE	4	4	1	19	18S	35E	640639	3622915	940	175		
L 03888		L	LE		3	1	19	18S	35E	640253	3622912*	1000	107	70	37
L 04562		L	LE		3	1	29	18S	35E	641874	3621315*	1430	156	95	61
L 03721		L	LE		3	3	18	18S	35E	640241	3623717*	1779	161	90	71
L 02053		L	LE				20	18S	35E	642464	3622723*	2003	175	78	97
L 03171		L	LE		3	3	17	18S	35E	641835	3623734*	2145	170	150	20
L 02357		L	LE			2	20	18S	35E	642855	3623137*	2531	170	77	93
L 09767		L	LE		3	3	13	18S	34E	638636	3623688*	2609	182	96	86
L 02052		L	LE				17	18S	35E	642438	3624337*	2989	190	72	118
L 09742		L	LE		1	4	17	18S	35E	642474	3624312	2992	200		
L 05156		L	LE		4	1	17	18S	35E	642224	3624545*	3037	150	90	60
L 05172		L	LE		3	3	07	18S	35E	640214	3625331*	3378	161	85	76
L 05444		L	LE		4	3	32	18S	35E	642319	3618899*	3521	80	58	22
L 04906		L	LE			3	07	18S	35E	640415	3625532*	3561	155	87	68
L 04794		L	LE			4	07	18S	35E	641200	3625540*	3613	150	95	55
L 02349	R	L	LE	3	1	4	07	18S	35E	640891	3625641*	3676	207	85	122
L 02349 POD2		L	LE	4	1	4	07	18S	35E	641091	3625641*	3697	214	85	129
L 02349 POD3		L	LE	4	1	4	07	18S	35E	641091	3625641	3697	220	142	78
L 00493		L	LE	1	2	1	05	19S	35E	642290	3618663	3716	100		
L 04931 X		L	LE		1	3	07	18S	35E	640208	3625735*	3780	212	105	107
L 04975		L	LE	2	2	3	07	18S	35E	640688	3625837*	3862	152	105	47
L 01614		L	LE	3	1	4	12	18S	34E	639305	3625618*	3867	204	85	119
L 14371 POD1		L	LE	1	1	2	05	19S	35E	642616	3618661	3876	172	60	112
L 02350		L	LE	4	1	3	08	18S	35E	641897	3625650*	3895	216	105	111
L 02680		L	LE		1	2	21	18S	35E	644257	3623357*	3904	190	59	131
L 09775		L	LE	1	2	3	14	18S	34E	637249	3624084	3964	183	110	73
L 05574	R	L	LE	1	3	3	12	18S	34E	638509	3625399*	4014			
L 09576		L	LE		1	1	35	18S	34E	637082	3620041*	4019	180	130	50
L 14200 POD1		L	LE	2	2	2	05	19S	35E	642952	3618657	4064	180	60	120
L 02679		L	LE		4	4	21	18S	35E	644680	3622151*	4078	200	68	132
L 02679	R	L	LE		4	4	21	18S	35E	644680	3622151*	4078	200	68	132
L 09588		L	LE	4	3	4	16	18S	35E	644349	3623659*	4104	155	84	71

L 04762	L	LE			06	19S	35E	640945	3617872*	4117	175	130	45
L 03765 POD4	L	LE	2	1 2	27	18S	34E	636475	3621831	4132	180	80	100
L 12633 POD1	L	LE	2	2 2	34	18S	34E	636852	3620203	4150	180	117	63
L 04531	L	LE		1 3	14	18S	34E	637016	3624067*	4154	125	100	25
L 05079	L	LE		1 3	12	18S	34E	638604	3625702*	4230	159	76	83
L 09762	L	LE		3 3	33	18S	35E	643526	3618913*	4231	160	80	80
L 04851	L	LE		4 2	12	18S	34E	639801	3626130*	4231	155	95	60
L 11934 POD1	L	LE	3	3 4	35	18S	34E	637806	3618744*	4275	160	105	55
L 03772	L	LE		2 2	21	18S	35E	644659	3623361*	4283	130	60	70
L 14200 POD2	L	LE	2	2 2	05	19S	35E	643291	3618631	4289	180	60	120
L 09428	L	LE	3	4 1	05	19S	35E	642231	3617997*	4297	130		
L 04211	L	LE		1 3	06	19S	35E	640337	3617672*	4311	130	60	70
L 05220	L	LE		1 4	06	19S	35E	641131	3617681*	4326	100	55	45
L 03866	L	LE		3 3	22	18S	35E	645082	3622155*	4480	127	65	62
L 04399	L	LE		3 3	22	18S	35E	645082	3622155*	4480	90	75	15
L 06047	L	LE	2	2 1	16	18S	35E	643927	3625066*	4537	122	65	57
L 04778	L	LE		2 1	07	18S	35E	640575	3626545*	4569	150	75	75
L 01613	L	LE	3	1 4	11	18S	34E	637696	3625589*	4639	211	85	126
L 01667	L	LE	1	1 4	05	19S	35E	642640	3617799*	4645	103	37	66
L 05178	L	LE	4	4 2	05	19S	35E	643185	3618063	4686	142	85	57
L 02676	L	LE		1 2	16	18S	35E	644231	3624972*	4703	175	60	115
L 04777	L	LE	1	2 2	07	18S	35E	641279	3626653*	4725	145	85	60
L 05139	L	LE		2 1	12	18S	34E	638992	3626517*	4819	150	95	55
L 07361	L	LE		2 1	12	18S	34E	638992	3626517*	4819	202	100	102
L 04796	L	LE	4	4 3	06	18S	35E	640667	3626847*	4872	150	95	55
L 01613 S2	L	LE	2	3 3	11	18S	34E	637095	3625374*	4886	220	99	121
L 05810	L	LE		2 3	22	18S	35E	645479	3622564*	4909	145	95	50
L 03887	L	LE	2	2 4	05	19S	35E	643242	3617804	4934	90	55	35
L 09347	L	LE	2	2 4	05	19S	35E	643242	3617804*	4934	94	55	39
L 10613	L	LE		2 4	05	19S	35E	643143	3617705*	4967	100	100	0
L 05411	L	LE		3 4	06	18S	35E	640970	3626952*	4990	120	60	60

Average Depth to Water: **85 feet**

Minimum Depth: **37 feet**

Maximum Depth: **150 feet**

Record Count: 64

UTMNAD83 Radius Search (in meters):

Easting (X): 640605.35 **Northing (Y):** 3621975.29 **Radius:** 5000

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	L 12926 POD1	2	2	3	25	18S	34E	639839	3621631

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY

Driller Name: ABBOTT, MURRELL

Drill Start Date:	12/21/1974	**Drill Finish Date:**	12/29/1974	**Plug Date:**	
Log File Date:	01/06/1975	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	50 GPM
Casing Size:	7.00	**Depth Well:**	182 feet	**Depth Water:**	117 feet

Water Bearing Stratifications:	Top	Bottom	Description
	117	182	Other/Unknown

Casing Perforations:	Top	Bottom
	132	182

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	L 07928	4	4	1	19	18S	35E	640639	3622915

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:** 10/20/1978

Log File Date: 10/26/1978 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** 175 feet **Depth Water:**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	L 03888	3	1		19	18S	35E	640253	3622912*

Driller License: 99 **Driller Company:** O.R. MUSSELWHITE WATER WELL SE

Driller Name:

Drill Start Date: 06/06/1958 **Drill Finish Date:** 06/06/1958 **Plug Date:**

Log File Date: 06/12/1958 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 5.50 **Depth Well:** 107 feet **Depth Water:** 70 feet

Water Bearing Stratifications:	Top	Bottom	Description
	85	105	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	70	107

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	L 03721	3	3		18	18S	35E	640241	3623717*

Driller License: 111 **Driller Company:** BURKE, EDWARD B.

Driller Name: BURKE, EDWARD B.

Drill Start Date:	10/28/1957	**Drill Finish Date:**	10/28/1957	**Plug Date:**	12/03/1957
Log File Date:	11/06/1957	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	7.00	**Depth Well:**	161 feet	**Depth Water:**	90 feet

Water Bearing Stratifications:	Top	Bottom	Description
	90	115	Sandstone/Gravel/Conglomerate
	140	161	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	137	157

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	L 04562	3	1		29	18S	35E	641874	3621315*

Driller License: 111 **Driller Company:** BURKE, EDWARD B.

Driller Name:

Drill Start Date:	12/20/1960	**Drill Finish Date:**	12/21/1960	**Plug Date:**	01/17/1961
Log File Date:	12/29/1960	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	7.00	**Depth Well:**	156 feet	**Depth Water:**	95 feet

Water Bearing Stratifications:	Top	Bottom	Description
	98	156	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	110	154

***UTM location was derived from PLSS - see Help**

Appendix C: Photographs


09/23/2019


09/23/2019


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09/23/2019


09/23/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1905157822
District RP	1RP-5374
Facility ID	
Application ID	Pab1905157328

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?	70 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1905157822
District RP	1RP-5374
Facility ID	
Application ID	Pab1905157328

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: Wesley Mathews Title: EHS PROFESSIONAL.

Signature: Wesley Mathews Date: _____

email: Wesley.Mathews@dvn.com Telephone: 575-578-6195.

OCD Only

Received by: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAB1905157822
District RP	1RP-5374
Facility ID	
Application ID	Pab1905157328

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: Wesley Mathews Title: EHS PROFESSIONAL.

Signature: Wesley Mathews Date: 2/6/2020

email: Wesley.Mathews@dvn.com Telephone: 575-578-6195

OCD Only

Received by: Cristina Eads Date: 05/06/2020

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: Date: 07/06/2020

Printed Name: Cristina Eads Title: Environmental Specialist