

Incident ID	nOY1823248863
District RP	1RP-5161
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>195</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

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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: Dale Woodall Title: Env. Professional
Signature: Dale Woodall Date: 12/6/2022
email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Jocelyn Harimon Date: 12/06/2022

Incident ID	nOY1823248863
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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) ****No remediation necessary**
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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Printed Name: Dale Woodall Title: Env. Professional
Signature: Dale Woodall Date: 12/6/2022
email: dale.woodall@dvn.com Telephone: 575-748-1838

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Received by: Jocelyn Harimon Date: 12/06/2022

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: Ashley Maxwell Date: 2/03/2023
Printed Name: Ashley Maxwell Title: Environmental Specialist



PO Box 1120
Carlsbad, New Mexico 88221
Phone (575) 236-6600

September 9, 2019

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

To Whom it May Concern:

M&M Excavating, Inc. (MMX) has prepared this Remediation Closure Report for Devon Energy Production Company that describes the remediation of a release of liquids at the Thistle Unit 111H location. The site is in Unit A, Section 22, Township 23S, Range 33E, Latitude 32.296956, Longitude -103.552832, Lea County, New Mexico, on State land. Figure 1 provides the vicinity and site location on an USGS 7.5-minute quadrangle map.

Site Information and Closure Criteria

The Thistle Unit 111H is located approximately thirty-two (32) miles east of Loving, New Mexico on State land at an elevation of approximately 3,710 feet above mean sea level (amsl).

Based upon well water data. (Appendix B), depth to groundwater in the area is estimated to be between 195 and 267 feet below grade surface (bgs). There are no known water wells within ½ mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) and the United States Geological Survey (USGS). The nearest significant watercourse is an unnamed intermittent stream located approximately 1,500 feet to the northeast.

The applicable NMOCD Closure Criteria for groundwater is greater than 100 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

Release Information and Closure Criteria			
Name	Thistle Unit 111H		
API Number	30-025-44418		
Incident Number	1RP-5161		
Source of Release	Frac tank		
Released Material	Produced Water	Released Volume	14.26 BBLS
Recovered Volume	0 BBLS	Net Release	14.26 BBLS
NMOCD Closure Criteria	>100 feet to groundwater		

Release Information

On July 30, 2018, a release was discovered at the Thistle Unit 111H site due to a frac tank hauler overfilling the produced water tank onto the pad. Initial response activities were conducted by the operator and included source elimination and site containment. Figures 1 and 2 illustrate the vicinity and site location. Figure 3 illustrates the release location. The C-141 form is included in Appendix A.

Release Characterization and Remediation Activities

On August 20, 2019, MMX personnel arrived on site in response to the release associated with Thistle Unit 111H. In order to assess existing site contamination, MMX collected soil samples around the 40-foot by 80-foot release. A total of eight (8) samples (L1-L8), were collected at the surface and at one (1) foot bgs for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Cardinal Laboratories in Hobbs, New Mexico (Appendix C).

As summarized in Table 3, the results meet NMOCD Closure Criteria, as well as the NMOCD Reclamation Requirements for the location. Figure 3 shows the sample locations. Laboratory results are summarized in Table 3. All laboratory reports are included in Appendix C.

On behalf of Devon Energy, MMX requests closure for the release associated with 1RP-5161.

Submitted by:
M&M Excavating, Inc.

Lupe Carrasco

Lupe Carrasco

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Surface Water Radius Map

Figure 3: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria Justification

Table 3: Summary of Sample Results

Appendices:

Appendix A: Form C-141

Appendix B: Water Well Data

Appendix C: Laboratory Analytical Reports

Tables

Table 2: NMOCD Closure Criteria

Thistle Unit #111H
Devon Energy Production Company

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes	
Depth to Groundwater (feet bgs)		195-267	NMOSE & USGS (Appendix B)
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)		--	
Horizontal Distance to Nearest Significant Watercourse (ft)		1500	Unnamed intermittent stream to the northeast

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)							
Depth to Groundwater			Closure Criteria (units in mg/kg)				
			Chloride *numerical limit or background, whichever is greater	TPH	GRO + DRO	BTEX	Benzene
Less than 50' BGS			600	100		50	10
51' to 100'			10000	2500	1000	50	10
Greater than 100'		x	20000	2500	1000	50	10
Surface Water		Yes	No	if yes, then			
Less than 300' from continuously flowing watercourse or other significant watercourse?			x	600	100	50	10
Less than 200' from lakebed, sinkhole or playa lake?			x				
Water Well or Water Source							
Less than 500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?			x				
Less than 1000' from fresh water well or spring?			x				
Human and Other Areas							
Less than 300' from an occupied permanent residence, school, hospital, institution or church?			x				
Within incorporated municipal boundaries or within a defined municipal fresh water well field?			x				
Less than 100' from wetland?			x				
Within area overlying a subsurface mine			x				
Within an unstable area?			x				
Within a 100-year floodplain?			x				



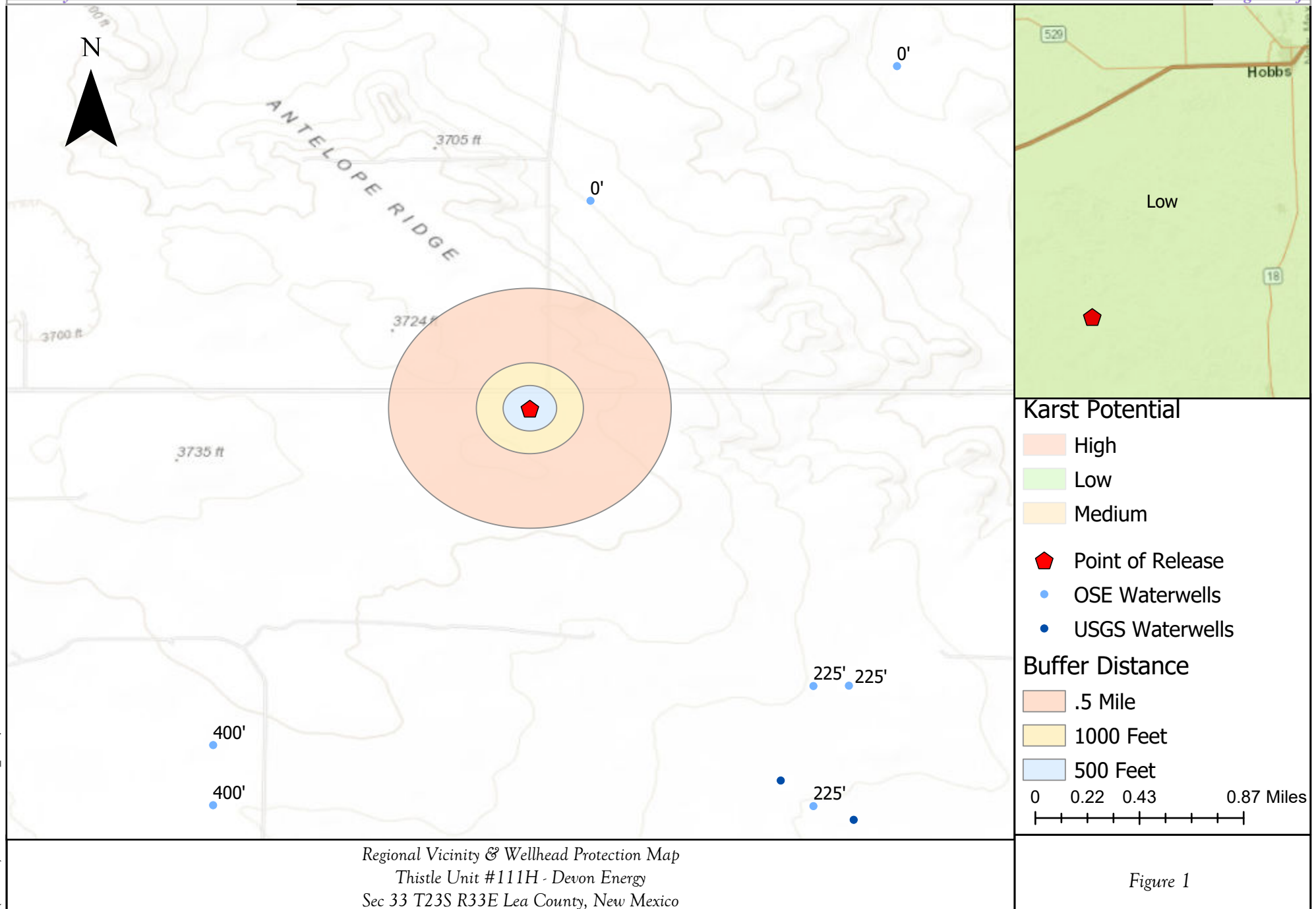
Table 3: Summary of Sample Results

Thistle Unit #111H
Devon Energy Production Company

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10	1000			2,500	20,000
L1	8/20/2019	surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	8640
		1	--	--	--	--	--	--	128.0
L2		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	3040
		1	--	--	--	--	--	--	336
L3		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	112
		1	--	--	--	--	--	--	32.0
L4		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	80.0
		1	--	--	--	--	--	--	16.0
L5		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	3920
		1	--	--	--	--	--	--	512.0
L6		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	256
		1	--	--	--	--	--	--	384
L7		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	304
		1	--	--	--	--	--	--	80.0
L8		surface	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	80.0
		1	--	--	--	--	--	--	16.0



Figures



Regional Vicinity & Wellhead Protection Map
 Thistle Unit #111H - Devon Energy
 Sec 33 T23S R33E Lea County, New Mexico

Figure 1

Revisions

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

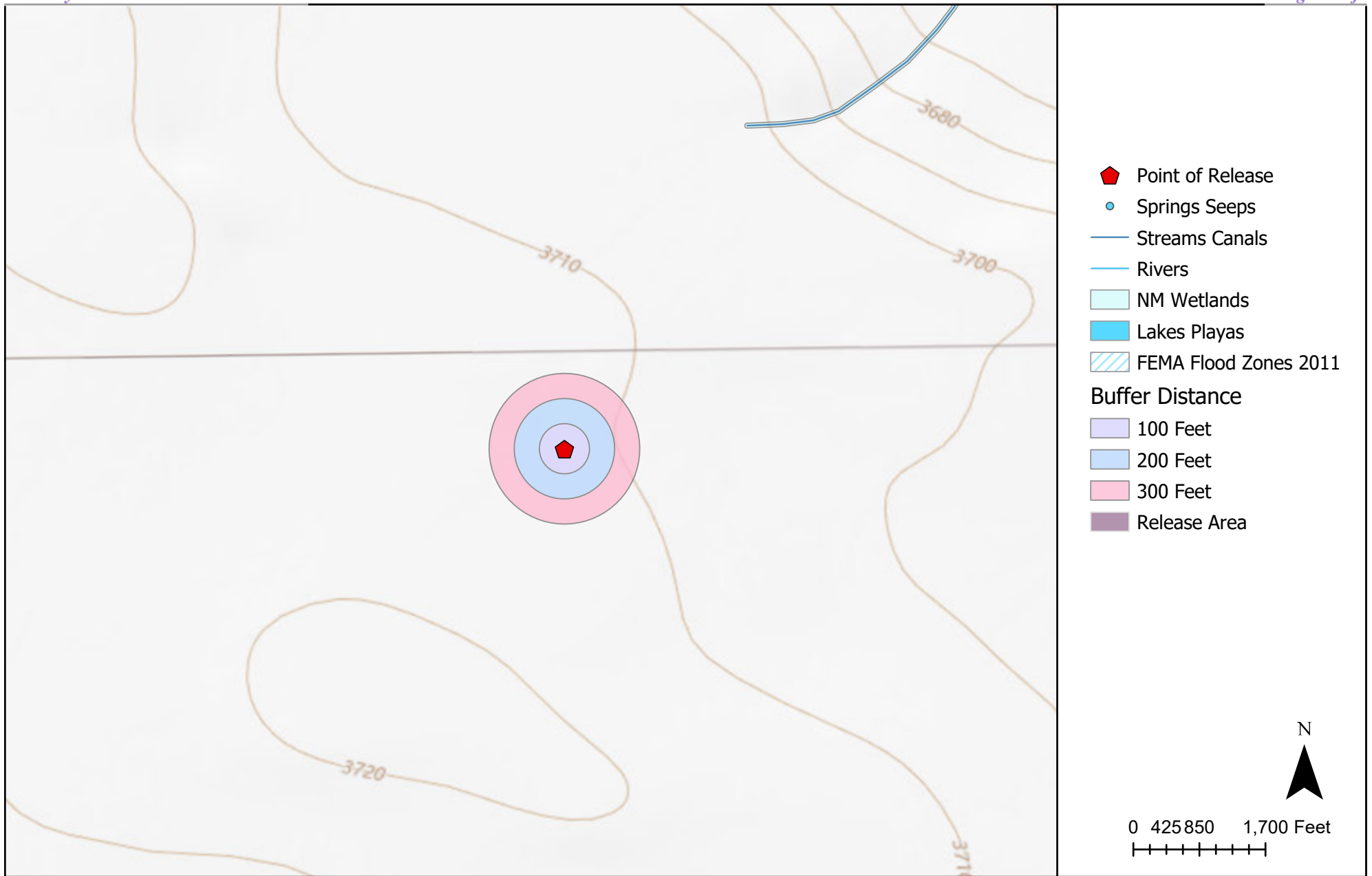
Drawn _____
 Date 7/18/2019
 Checked _____
 Approved _____

LC



78 Roberson Rd
 Carlsbad, NM 88220
 (575) 230-6600

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Surface Water Protection Map
 Thistle Unit #111H - Devon Energy
 Sec 22 T23S R33E Lea County, New Mexico

Figure 2

Revisions

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

Drawn LC
 Date 7/18/2019
 Checked _____
 Approved _____



78 Roberson Rd
 Carlsbad, NM 88220
 (575) 236-6600

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- Release Area
- Point of Release
- Sample Locations

N

82

Feet

Site & Sample Locations
 Thistle Unit 111H- Devon Energy
 Sec 22 T23S R33E Lea County, NM

Figure 3

Revisions

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

Copyright 2019 M&M Excavating, Inc. - All Rights Reserved

Drawn

Date: 8/26/2019
 Checked: _____
 Approved: _____

LC



78 Roberson Rd
 Carlsbad, NM 88220
 (575) 236-6600

Appendix A Form C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Devon Energy (6137)	Contact: Stephen Richards, Devon Completions Foreman
Address: PO Box 250, Artesia, NM 88211	Telephone No.: 575-252-3717
Facility Name: Thistle Unit 111H	Facility Type: Oil Well
Surface Owner: State	Mineral Owner: State
API No. 30-025-44418	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	22	23S	33E	233	NORTH	630	EAST	LEA

Latitude __32.296956 N__ Longitude _-103.552832 W_____ NAD83

NATURE OF RELEASE

Type of Release: Treated Produced Water	Volume of Release: 14.26 bbls	Volume Recovered: 0 bbls
Source of Release: Frac tanks	Date and Hour of Occurrence: 7/30/18, 12:30 AM	Date and Hour of Discovery: 7/30/18, 12:30 AM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? NA	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* N/A		

RECEIVED

By Olivia Yu at 1:31 pm, Aug 20, 2018

Describe Cause of Problem and Remedial Action Taken.*

A contract water transfer company was in the process of filling the frac tanks, but became distracted and they over filled the tanks, allowing the release to occur.

Describe Area Affected and Cleanup Action Taken.*

Approximately 14.26 bbls of produced water was released in an area 40 feet by 80 feet and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: <i>Denise Menoud</i>	OIL CONSERVATION DIVISION	
Printed Name: Denise Menoud	Approved by Environmental Specialist: <i>oy</i>	
Title: Admin Field Support	Approval Date: 8/20/2018	Expiration Date:
E-mail Address: denise.menoud@dmv.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/30/2018 Phone: 575-746-5544	NMAC 19.15.29 effective August 14, 2018. Complete release characterization before any significant remediation.	

* Attach Additional Sheets If Necessary

nOY1823248863

pOY1823249119

1RP-5161

23S - 33E - 22

Thistle Unit 111H



Thistle Unit 111H
Spill 7/30/18 14.26 BPW

devon

This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Menoud
Map is current as of: 30-Jul-2018



Miles

0 0.01 0.02 0.04 1:1,779

District I
1625 N. French Dr., Hobbs, NM 88240
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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	nOY1823248863
District RP	
Facility ID	1RP-5161
Application ID	

Release Notification

Responsible Party

Responsible Party: Devon Energy	OGRID: 6137
Contact Name: Amanda Davis	Contact Telephone: 575-748-0176
Contact email: Amanda.davis@dvn.com	Incident # (assigned by OCD)
Contact mailing address: 6488 Seven Rivers Highway Artesia NM 88210	

Location of Release Source

Latitude 32.296956Longitude -103.552832
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Thistle Unit 111H	Site Type: Oil Well
Date Release Discovered: 7/30/18	API# (if applicable) 30-025-44418

Unit Letter	Section	Township	Range	County
A	22	23S	33E	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) 14.26	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" 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

A contract water transfer company was in the process of filling the frac tanks, but became distracted and they overfilled the tanks

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" 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 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: _____	Title: _____
Signature: _____	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

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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

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Printed Name: Dale Woodall Title: Env. Professional
Signature: Dale Woodall Date: 12/6/2022
email: dale.woodall@dvn.com Telephone: 575-748-1838

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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) ****No remediation necessary**
- ☒ 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: Dale Woodall Title: Env. Professional
Signature: Dale Woodall Date: 12/6/2022
email: dale.woodall@dv.com Telephone: 575-748-1838

OCD Only

Received by: _____ Date: _____

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: Ashley Maxwell Date: 2/03/2023
Printed Name: Ashley Maxwell Title: Environmental Specialist

Appendix B Water Well Data

see 12/6/2022
addendum too

ADDENDUM

Location name: THISTLE UNIT #111H

OCD Spill Number: nOY1823248863

From: Dale Woodall, Devon Energy

Date: 12/6/2022

Since this report for the above referenced spill(s) was written, there has been an update in the status of the PODs for the location.

A review of New Mexico Office of the State Engineers (OSE) online water well database (New Mexico Office of the State Engineer (NMOSE) online water well database https://gis.ose.state.nm.us/gisapps/ose_pod_locations/).

One pod location is within ½ mile radius and less than 25 years old.

C-4664 POD 1 (installed in 2022) did not encounter groundwater and is within 0.5 miles of the location

The spill was remediated to criteria for DTW of 51-100 feet bgs.


Boring log of the well C-4664 POD1 is attached.

A map denoting the location of pod C4664 and Thistle Unit 111 is attached.



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
NA	C 04664 POD1	4	1	4	15	23S	33E	635784	3574818 
Driller License: 1249		Driller Company: ATKINS ENGINEERING ASSOC. INC.							
Driller Name: JACKIE D ATKINS									
Drill Start Date:	09/07/2022	Drill Finish Date:		09/07/2022		Plug Date:		09/13/2022	
Log File Date:	09/26/2022	PCW Rev Date:				Source:			
Pump Type:		Pipe Discharge Size:				Estimated Yield:			
Casing Size:		Depth Well:		55 feet		Depth Water:			

The data is furnished by the NMOSE/TSC and is accepted by the recipient with the expressed understanding that the OSE/TSC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/6/22 3:08 PM

POINT OF DIVERSION SUMMARY





WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD 1 (TW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4664			
	WELL OWNER NAME(S) Devon Energy				PHONE (OPTIONAL) 575-748-1838			
	WELL OWNER MAILING ADDRESS 6488 7 Rivers Hwy				CITY Artesia	STATE NM	ZIP 88210	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 18	SECONDS 7.02	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
	LONGITUDE 103	22	27.99	W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE NW SE Sec.15 T23S R33S NMPM								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 9/7/2022		DRILLING ENDED 9/7/2022		DEPTH OF COMPLETED WELL (FT) 55	BORE HOLE DEPTH (FT) ±55	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a	DATE STATIC MEASURED 9/13/2022	
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger						CHECK HERE IF PITLESS ADAPTER IS INSTALLED <input type="checkbox"/>	
	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	0 55		±6.5	Boring	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL		AMOUNT (cubic feet)	METHOD OF PLACEMENT	


FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. C-04664	POD NO. 1	TRN NO. 732814
LOCATION 23S. 33E. 1S 414	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	24	24	Sand, Medium/ fine grained, poorly graded, with caliche, Red	Y ✓ N	
	24	29	5	Caliche, consolidated, with sand, White	Y ✓ N	
	29	34	5	Sand, Medium/ fine grained, poorly graded, with caliche, Red	Y ✓ N	
	34	55	21	Sand, Medium/ fine grained, poorly graded, Brown	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface. <div style="text-align: right;">OSE 011 SEP 26 2022 PM 3:25</div>	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Cameron Pruitt	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 JACKIE D. ATKINS SIGNATURE OF DRILLER / PRINT SIGNEE NAME	9/16/2022 DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. C-64664	POD NO. 1	TRN NO. 732814
LOCATION 235. 336. 15 414	WELL TAG ID NO.	PAGE 2 OF 2

Mike A. Hamman, P.E.
State Engineer



Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 732814
File Nbr: C 04664
Well File Nbr: C 04664 POD1

Oct. 03, 2022

DALE WOODALL
DEVON ENERGY
6488 7 RIVERS HWY
ARTESIA, NM 88210

Greetings:

The above numbered permit was issued in your name on 08/25/2022.

The Well Record was received in this office on 09/26/2022, stating that it had been completed on 09/07/2022, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 08/25/2023.

If you have any questions, please feel free to contact us.

Sincerely,


Vanessa Clements
(575) 622-6521

drywell



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	Tw	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C 03582 POD1		C	LE	4	1	1	14	23S	33E	636583	3575666	1433	590		
C 02283		CUB	LE	4	2	2	26	23S	33E	637896	3572431*	2464	325	225	100
C 02282		CUB	LE	3	1	1	25	23S	33E	638098	3572436*	2599	325	225	100
C 02278		CUB	LE	3	4	2	28	23S	33E	634484	3571989*	2889	650	400	250

Average Depth to Water: **283 feet**

Minimum Depth: **225 feet**

Maximum Depth: **400 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 636257

Northing (Y): 3574271

Radius: 3000

*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.

7/18/19 10:31 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



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National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321611103321601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321611103321601 23S.33E.26.42100

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°16'28.0", Longitude 103°32'15.6" NAD83

Land-surface elevation 3,641 feet above NAVD88

The depth of the well is 190 feet below land surface.

This well is completed in the Chinle Formation (231CHNL) local aquifer.

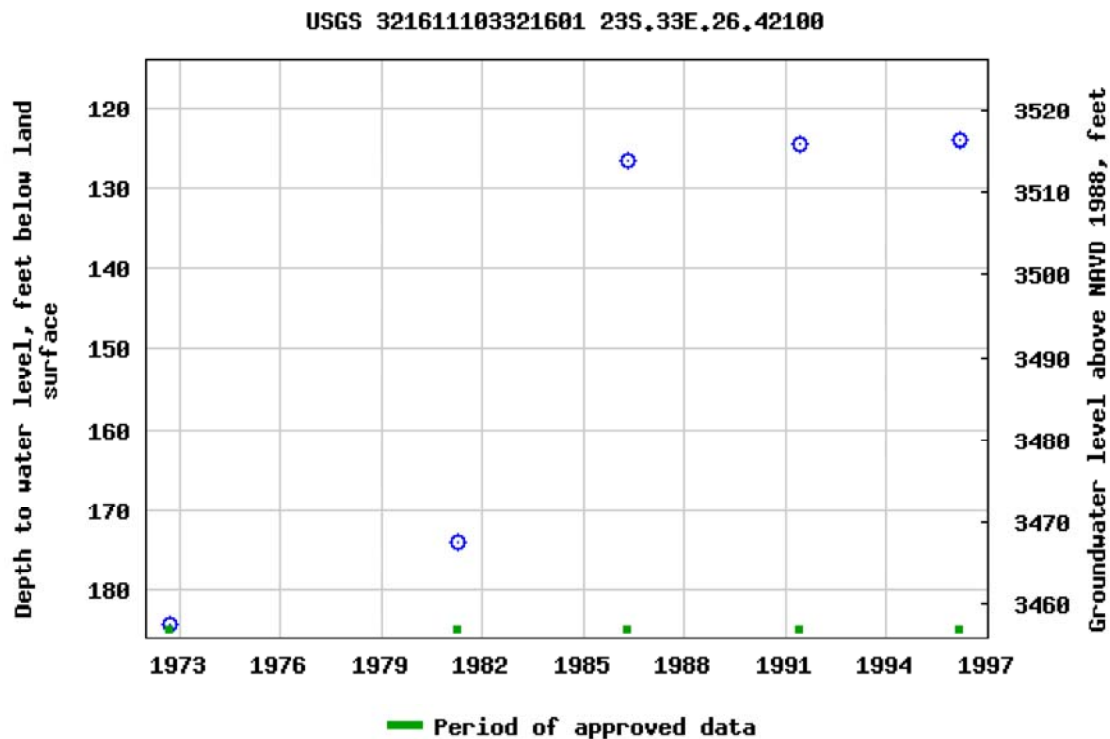
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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-07-18 12:36:47 EDT

1.02 0.96 nadww01

Appendix C

Laboratory Analytical Reports



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 26, 2019

MELODIE SANJARI

MMX

2737 PECOS HWY

CARLSBAD, NM 88220

RE: THISTLE UNIT 111H

Enclosed are the results of analyses for samples received by the laboratory on 08/21/19 11:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 1 - SURFACE (H902871-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTEX	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8640	16.0	08/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 69.5 % 41-142

Surrogate: 1-Chlorooctadecane 70.9 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 1 - 1' (H902871-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/22/2019	ND	432	108	400	0.00	

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 2 - SURFACE (H902871-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTEX	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	08/22/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 56.3 % 41-142

Surrogate: 1-Chlorooctadecane 55.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 2 - 1' (H902871-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	08/22/2019	ND	432	108	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 3 - SURFACE (H902871-05)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33		
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42		
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66		
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68		
Total BTEx	<0.300	0.300	08/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	08/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 70.5 % 41-142

Surrogate: 1-Chlorooctadecane 72.8 % 37.6-147

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 3 - 1' (H902871-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/22/2019	ND	432	108	400	0.00	

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 4 - SURFACE (H902871-07)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTEx	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	08/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 75.2 % 41-142

Surrogate: 1-Chlorooctadecane 76.3 % 37.6-147

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 4 - 1' (H902871-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/22/2019	ND	432	108	400	3.77	

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 5 - SURFACE (H902871-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTEX	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3920	16.0	08/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 81.1 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 5 - 1' (H902871-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	08/22/2019	ND	432	108	400	3.77		

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 6 - SURFACE (H902871-11)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTX	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	08/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 76.7 % 41-142

Surrogate: 1-Chlorooctadecane 77.4 % 37.6-147

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 6 - 1' (H902871-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	08/22/2019	ND	432	108	400	3.77	

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 7 - SURFACE (H902871-13)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTEx	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	08/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 73.0 % 41-142

Surrogate: 1-Chlorooctadecane 73.4 % 37.6-147

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 7 - 1' (H902871-14)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/22/2019	ND	432	108	400	3.77	

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 8 - SURFACE (H902871-15)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2019	ND	1.75	87.3	2.00	4.33	
Toluene*	<0.050	0.050	08/22/2019	ND	2.10	105	2.00	2.42	
Ethylbenzene*	<0.050	0.050	08/22/2019	ND	2.14	107	2.00	2.66	
Total Xylenes*	<0.150	0.150	08/22/2019	ND	6.56	109	6.00	3.68	
Total BTEx	<0.300	0.300	08/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	08/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2019	ND	192	96.0	200	2.08	
DRO >C10-C28*	<10.0	10.0	08/22/2019	ND	202	101	200	1.06	
EXT DRO >C28-C36	<10.0	10.0	08/22/2019	ND					

Surrogate: 1-Chlorooctane 72.6 % 41-142

Surrogate: 1-Chlorooctadecane 71.9 % 37.6-147

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Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 08/21/2019
 Reported: 08/26/2019
 Project Name: THISTLE UNIT 111H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 08/20/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 8 - 1' (H902871-16)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/22/2019	ND	432	108	400	3.77	

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

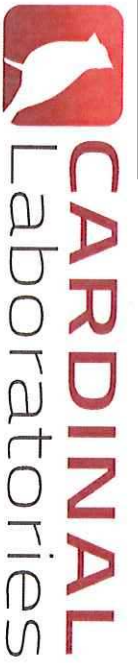
Cardinal Laboratories

*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

BILL TO

ANALYSIS REQUEST

Company Name: MMX		P.O. #:
Project Manager: Melodie Sanjari		Company: MMX
Address: 101 East Marland, Hobbs, NM 88240		Attn: Lupe Carasid
City:	State:	Zip:
Phone #: 574 370 9782	Fax #:	
Project #:	Project Owner:	
Project Name:	City:	State:
Project Location: Thistle Unit 111 H	Phone #:	Zip:
Sampler Name: MES	Fax #:	

FOR LAB USE ONLY

MATRIX

PRESERV.

SAMPLING

Lab I.D.

Sample I.D.

H902871

L1-Surf.

L1-1'

L2-Surf.

L2-1'

L3-Surf.

L3-1'

L4-Surf.

L4-1'

L5-Surf.

L5-1'

L6-Surf.

L6-1'

L7-Surf.

L7-1'

L8-Surf.

L8-1'

L9-Surf.

L9-1'

L10-Surf.

L10-1'

BTEX
TPH
CI-DATE
TIME

8:20

7:00

7:05

8:15

8:20

9:30

9:45

10:00

10:15

11:00

11:15

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CARDINAL
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: Project Manager: Address: City: State: Zip: Phone #: Fax #: Project #: Project Owner: Project Name: Project Location:		P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:	
Sampler Name: <small>FOR LAB USE ONLY</small>		Matrix <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER : _____	
Lab I.D. Sample I.D.		<input type="checkbox"/> (G)RAB OR (C)OMP. # CONTAINERS <input type="checkbox"/> ACID/BASE: <input type="checkbox"/> ICE / COOL <input type="checkbox"/> OTHER : _____	
FOR LAB USE ONLY		<input type="checkbox"/> PRESERV <input type="checkbox"/> SAMPLING	
DATE TIME		BTEx TPH CI	

Lab I.D.	Sample I.D.	DATE	TIME	BTEx	TPH	CI
11	L6-Surf.	8/20	12:00	✓	✓	✓
12	L6-1'		12:15	✓	✓	✓
13	L7-Surf		1:00	✓	✓	✓
14	L7-1'		1:15	✓	✓	✓
15	L8-Surf.		1:45	✓	✓	✓
16	L8-1'		2:00	✓	✓	✓

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Relinquished By: _____ Relinquished By: _____		Date: 8-21-19 Received By: _____ Date: 11:47 Received By: _____	
Delivered By: (Circle One) Sampler - UPS Bus Other: _____		Sample Condition <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Checked By: _____ Initials: _____		REMARKS: email results to melodie.sanjani@southernillinois.edu	

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

COMMENTS

Action 164577

COMMENTS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 164577
	Action Type: [C-141] Release Corrective Action (C-141)

COMMENTS

Created By	Comment	Comment Date
csmith	2/3/2023 Returned to Review, Operator indicated updated OSE data was in the submittal.	2/3/2023

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Energy, Minerals and Natural Resources
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Santa Fe, NM 87505

CONDITIONS

Action 164577

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CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	2/3/2023