June 18, 2020 Vertex Project #: 20E-00141-008

Spill Closure Report: Maldives 15 CTB 1
Unit D, Section 15, Township 23 South, Range 31 East
County: Eddy
Tracking Numbers: NAB1904257393

Prepared For: Devon Energy Production Company
6488 Seven Rivers Highway
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 2 – Artesia
811 South First Street
Artesia, New Mexico 88210

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for an open release at Maldives 15 Central Tank Battery (CTB) 1 (hereafter referred to as "Maldives"). Devon provided notification of the spill to New Mexico Oil Conservation Division (NM OCD) District 2 and the Bureau of Land Management (BLM), who own the property, via submission of an initial C-141 Release Notification on January 29, 2019 (Attachment 1). The tracking number assigned to this incident is NAB1904257393.

This letter provides a description of the spill assessment and remediation activities, and demonstrates that closure criteria established in 19.15.29.12 *New Mexico Administrative Code (*NMAC; New Mexico Oil Conservation Division, 2018) have been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NM OCD for closure of these releases.

Incident Description

On January 2, 2019, a release occurred at Devon's Maldives site when a loading line was disconnected while transferring oil from the lact unit. This incident resulted in the release of approximately 9.97 barrels (bbls) of oil onto the constructed wellpad. Upon discovery of the release, a hydrovac truck was dispatched to the site to recover free liquids. Approximately 5 bbls of released oil were recovered from the wellpad and removed for disposal off-site. No oil was released into undisturbed areas or waterways.

Site Characterization

Maldives is located on federally-owned land, N 32.38610, W 103.77230, approximately 27 miles southeast of Carlsbad, New Mexico. The legal description for the site is Unit D, Section 15, Township 23 South, Range 31 East, Eddy County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematic are included in Attachment 2.

Maldives is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the area in which the

Maldives CTB is located.

The surrounding landscape is associated with sandy plains and is not prime farmland. The climate is arid with average annual precipitation ranging between 5 and 15 inches. Historically, the plant community has been dominated by black grama, dropseed grass species and bluestems, with scattered shinnery oak and sand sage, and perennial and annual forb abundance dependent on precipitation (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpad.

The *Geological Map of New Mexico* indicates the surface geology at Maldives is comprised of lithological unit Qep (Holocene to middle Pleistecene) characterized by interlaid eolian sand and piedmont deposits (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service Web Soil Survey characterizes the soil at the site as Berino complex and Kermit-Berino fine sands, which are associated with undulating sandy plains, fan terraces and piedmont slopes. This type of soil, typically found at elevations of 4,000 to 5,500 feet above sea level, tends to be well-drained with low runoff and moderate available water storage in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Maldives (United States Department of the Interior, Bureau of Land Management, 2020).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 3.3 miles west-southwest of the site (United States Fish and Wildlife Service, 2020). At Maldives, there are no continuously flowing watercourses or significant watercourses, 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.

The nearest recent well to Maldives is a New Mexico Office of the State Engineer (NM OSE) well, located approximately 0.5 miles west of the site, with a depth to groundwater of 448 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). The Chevron Texaco Depth to Ground Water Map for Eddy County confirms that depth to groundwater in the vicinity of Maldives is greater than 100 feet bgs (Chevron Texaco, 2005). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to determine if the release would be subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Maldives is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site is determined to be associated with the following constituent concentration limits based on depth to groundwater.

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	**Constituent**	**Limit**
>100 feet	Chloride	20,000 mg/kg
	TPH[1] (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX[2]	50 mg/kg
	Benzene	10 mg/kg

[1]Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
[2]Benzene, toluene, ethyl benzene and xylenes (BTEX)

Remedial Actions

Excavation and remediation field activities were conducted by a third party prior to the January 2019 release being assigned to Vertex, and this release only needed confirmatory sampling to ensure remediation was complete. On January 21, 2020, Vertex provided 48-hour notification of confirmatory sampling to NM OCD and the BLM (Attachment 4), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC.

On January 24, 2020, Vertex was on-site to identify and map the boundaries of the January 2019 release, and conduct confirmatory sampling. The release area was determined to be approximately 30 feet long by 60 feet wide, as indicated by the original remediation footprint; the affected area was determined to be approximately 1,378 square feet. A total of six five-point composite confirmatory samples were collected from the impacted area at depths between ground surface and six inches bgs. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval.

The composite samples were placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis. Laboratory analyses for the confirmatory samples from Maldives included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Attachment 5. Laboratory data reports and chain of custody forms are included in Attachment 6.

A GeoExplorer 7000 Series Trimble global positioning system (GPS), or equivalent, was used to map the approximate center of each of the five-point composite samples. The confirmatory sampling locations are presented on Figure 1 (Attachment 2). The Daily Field Report (DFR) associated with the confirmatory sampling is included as Attachment 7.

Closure Request

Vertex recommends no additional remediation to address this release at Maldives. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD Closure Criteria for areas where depth to groundwater is greater than 100 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that Incident NAB1904257393 be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the January 2, 2019, release at Maldives.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 505.506.0040 or ngordon@vertex.ca.

Sincerely,

Natalie Gordon
PROJECT MANAGER

Attachments

Attachment 1. NM OCD C-141 Report
Attachment 2. Site Schematic with Confirmatory Sampling Locations
Attachment 3. Closure Criteria for Soils Impacted by a Release Determination Documentation
Attachment 4. Required 48-hr Notification of Confirmatory Sampling
Attachment 5. Confirmatory Sampling Laboratory Results
Attachment 6. Laboratory Data Reports/Chain of Custody Forms
Attachment 7. Daily Field Report(s) with Photographs

References

Chevron Texaco. (2005). *Eddy County Depth to Groundwater, Water Wells, Facilities*.

New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2020). *Well Log/Meter Information Report*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html.

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code - Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2020). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Department of the Interior, Bureau of Land Management. (2020). *New Mexico Cave/Karsts*. Retrieved from https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico.

United States Fish and Wildlife Service. (2020). *National Wetlands Inventory*. Retrieved from https://www.fws.gov/wetlands/data/Mapper.html.

Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company (Devon). This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

ATTACHMENT 1

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	NAB1904257393
District RP	1RP-5360
Facility ID	fAB1904256659
Application ID	pAB1904256905

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)* NAB1904257393
Contact mailing address 6488 Seven Rivers Hwy	

Location of Release Source

Latitude 32.1831871 Longitude -103.4620232
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Maldives 15 CTB 1 Battery	Site Type Oil
Date Release Discovered 1/02/2019	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
D	15	23S	31E	Eddy LEA** AB

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) 9.97	Volume Recovered (bbls) 5
☐ 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: Line disconnected while loading from lact loading line. All fluid stayed on location. Spill area 13' x 30' x 1.5"

Form C-141
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State of New Mexico
Oil Conservation Division

Incident ID	NAB1904257393
District RP	1RP-5360
Facility ID	fAB1904256659
Application ID	pAB1904256905

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?
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 D. Date: 1/29/2019

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

OCD Only

Received by: Amalia Bustamante For: Hobbs Dist. I Date: 2/11/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1904257393
District RP	1RP-5360
Facility ID	fAB1904256659
Application ID	pAB1904256905

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?	448 (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
- ☒ NA 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
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State of New Mexico
Oil Conservation Division

Incident ID	NAB1904257393
District RP	1RP-5360
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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: Amanda Davis . Title: Environmental Representative

Signature: Amanda Davis Date: 6/19/2020

email: amanda.davis@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Cristina Eads Date: 07/08/2020

State of New Mexico
Oil Conservation Division

Incident ID	NAB1904257393
District RP	1RP-5360
Facility ID	fAB1904256659
Application ID	pAB1904256905

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.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] 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)

[X] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[X] 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: Amanda Davis Title: Environmental Representative

Signature: Amanda Davis Date: 6/19/2020

email: amanda.davis@dvn.com Telephone: 575-748-0176

OCD Only

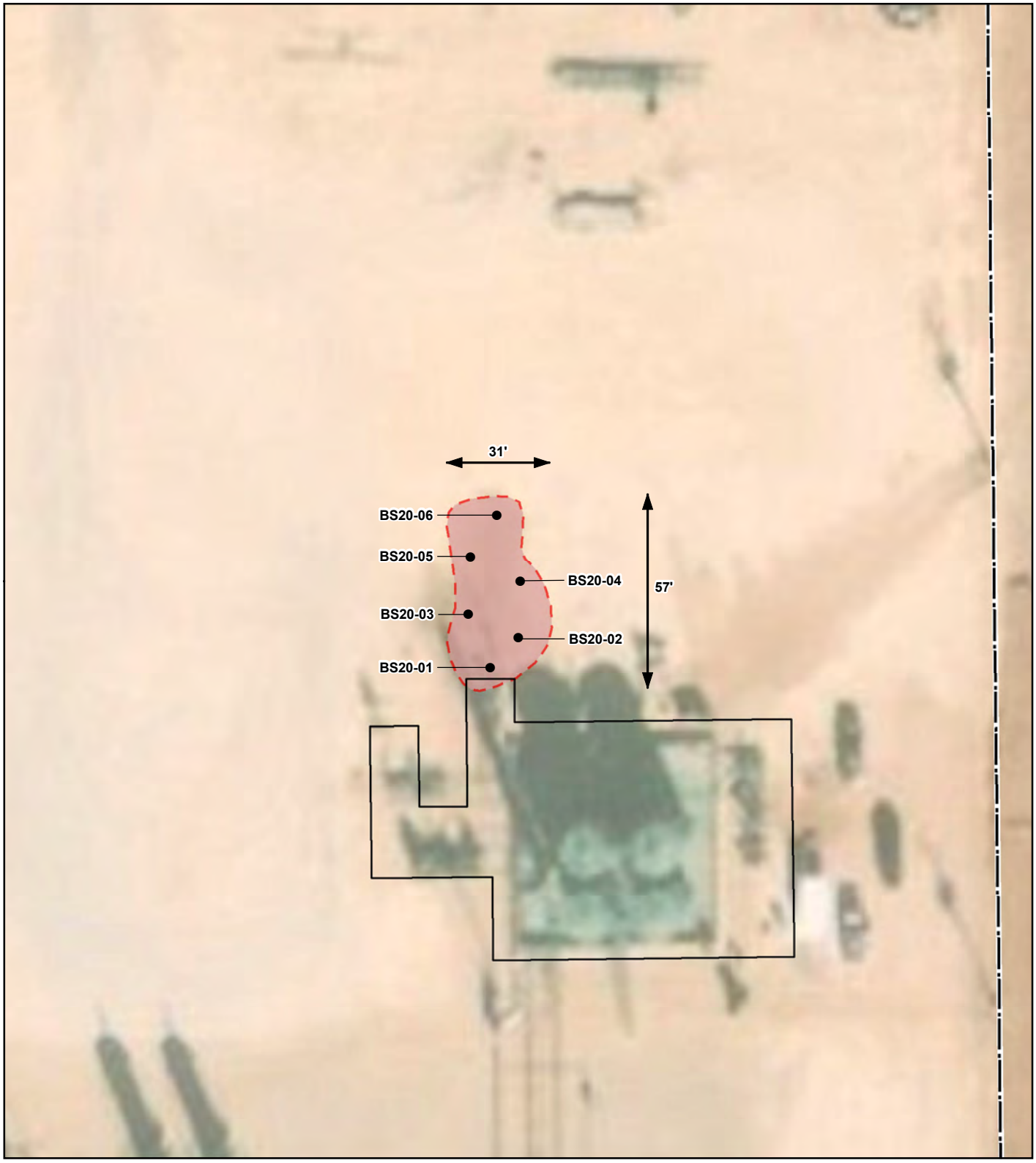
Received by: Cristina Eads Date: 07/08/2020

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: D E N I E D Date: 09/11/2020

Printed Name: Cristina Eads Title: Environmental Scientist

ATTACHMENT 2



- Base Sample
- Approximate Lease Boundary
- Production Equipment
- Spill (~ 1,378 sq.ft.)

VERTEX

0 5 10 20 ft.

NAD 1983 UTM Zone 13N
Date: Feb 12/20

Map Center:
Lat: 32.309046,
Long:-103.771949

N

Site Schematic with Confirmatory Sampling Locations
Maldives 15 CTB 1

FIGURE: 1

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note:

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\Maldives 15 CTB 1\Fig 1 Maldives 15 Confirmation Sample Schematic.mxd

ATTACHMENT 3

Closure Criteria Worksheet			
Site Name: Maldives 15 CTB 1 Battery			
Spill Coordinates:		X: 32.308610	Y: -103.772300
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**639.00**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	73,022	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,313	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	13,473	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,731	feet
	ii) Within 1000 feet of any fresh water well or spring	4,731	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	7,414	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)		Critical High Medium Low
10	Within a 100-year Floodplain	>500 year plan	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02777	CUB	ED	4	4	4	10	23S	31E	616974	3575662	1442	890		
C 03749 POD1	CUB	ED		2	2	15	23S	31E	616974	3575662	1442	865	639	226
C 02773	CUB	ED	4	1	3	03	23S	31E	615668	3577762*	2458	880		
C 03140	CUB	ED	4	2	4	04	23S	31E	615266	3577758*	2472	684		
C 03351	C	ED	4	1	4	04	23S	31E	614917	3577861	2639	320	168	152
C 02774	CUB	ED	3	1	3	04	23S	31E	613857	3577745*	2984	1660		
C 02954 EXPL	CUB	ED	3	1	4	20	23S	31E	613114	3572906*	3438	905		
C 02664	CUB	ED	3	3	2	05	23S	31E	613049	3578138*	3796	4291	354	3937
C 02769 POD2	CUB	ED	4	2	4	33	22S	31E	615261	3579312	4019	753	428	325
C 02492	CUB	ED	4	4	4	06	23S	31E	612056	3577320*	4056	135	85	50
C 02865	CUB	ED	4	4	4	06	23S	31E	612056	3577320*	4056	174		
C 02687	CUB	ED	4	2	4	33	22S	31E	615246	3579364*	4071	779		
C 02767	CUB	ED	4	1	4	33	22S	31E	614844	3579360*	4120	785		
C 02768	CUB	ED	4	1	4	33	22S	31E	614844	3579360*	4120	787		
C 02492 POD2	C	ED	3	2	2	07	23S	31E	611767	3576996	4167	400	125	275
C 02258	C	ED		3	2	26	23S	31E	618055	3571853*	4249	662		
C 02769	CUB	ED	2	2	4	33	22S	31E	615246	3579564*	4271	765		
C 02776	CUB	ED	2	1	1	05	23S	31E	612440	3578731*	4644	661		
C 02348	C	ED	1	4	3	26	23S	31E	617648	3571068	4716	700	430	270
C 02725	CUB	ED	1	1	1	05	23S	31E	612240	3578731*	4781	532		
C 02775	CUB	ED	1	1	1	05	23S	31E	612240	3578731*	4781	529		

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

Average Depth to Water: **318 feet**

Minimum Depth: **85 feet**

Maximum Depth: **639 feet**

Record Count: 21

UTMNAD83 Radius Search (in meters):

Easting (X): 615576.55 **Northing (Y):** 3575305.5 **Radius:** 5000

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
	C 03749 POD1		2	2	15	23S	31E	616974	3575662

Driller License:	331	**Driller Company:**	SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.		
Driller Name:	RANDY STEWART				
Drill Start Date:	07/10/2014	**Drill Finish Date:**	08/06/2014	**Plug Date:**	
Log File Date:	09/11/2014	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	5 GPM
Casing Size:	4.50	**Depth Well:**	865 feet	**Depth Water:**	639 feet

Water Bearing Stratifications:	Top	Bottom	Description
	820	846	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	820	846

New Mexico Office of the State Engineer
Water Right Summary

WR File Number: C 02415 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: U.S. DEPT OF ENERGY

Contact: DOUG LYNN

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
279252	EXPL	2003-08-19	PMT	APR	C 02415 MONITORING WELL	T	0	0	
202143	APPRO	1996-10-23	WDP	WDR	C 02415	T	0	0	
173182	ADM	1996-10-23	WDP	WDR	C 02415	T	0	0	
202135	EXPL	1995-01-25	PMT	LOG	C 02415	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02415		Artesian	3	3	4	16	22S	31E	614592	3583785*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Place of Use

Q 256	Q 64	Q16	Q4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	0		MON		PMT	NO PLACE OF USE GIVEN

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	0		MON		GW

6/15/20 2:03 PM

WATER RIGHT
SUMMARY

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
	C 03749 POD1		2	2	15	23S	31E	616974	3575662

Driller License:	331	**Driller Company:**	SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.		
Driller Name:	RANDY STEWART				
Drill Start Date:	07/10/2014	**Drill Finish Date:**	08/06/2014	**Plug Date:**	
Log File Date:	09/11/2014	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	5 GPM
Casing Size:	4.50	**Depth Well:**	865 feet	**Depth Water:**	639 feet

Water Bearing Stratifications:	Top	Bottom	Description
	820	846	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	820	846

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information ▼ Geographic Area: United States ▼ GO

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- Full News

USGS 321809103481801 23S.31E.17.31141

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:

Latitude 32°18'11.3", Longitude 103°48'23.4" NAD83
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 354 feet
Land surface altitude: 3,326.00 feet above NGVD29.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-04	2013-01-16	4
Field/Lab water-quality samples	1972-09-20	1972-09-20	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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Questions about sites/data?
Feedback on this web site
Automated retrievals
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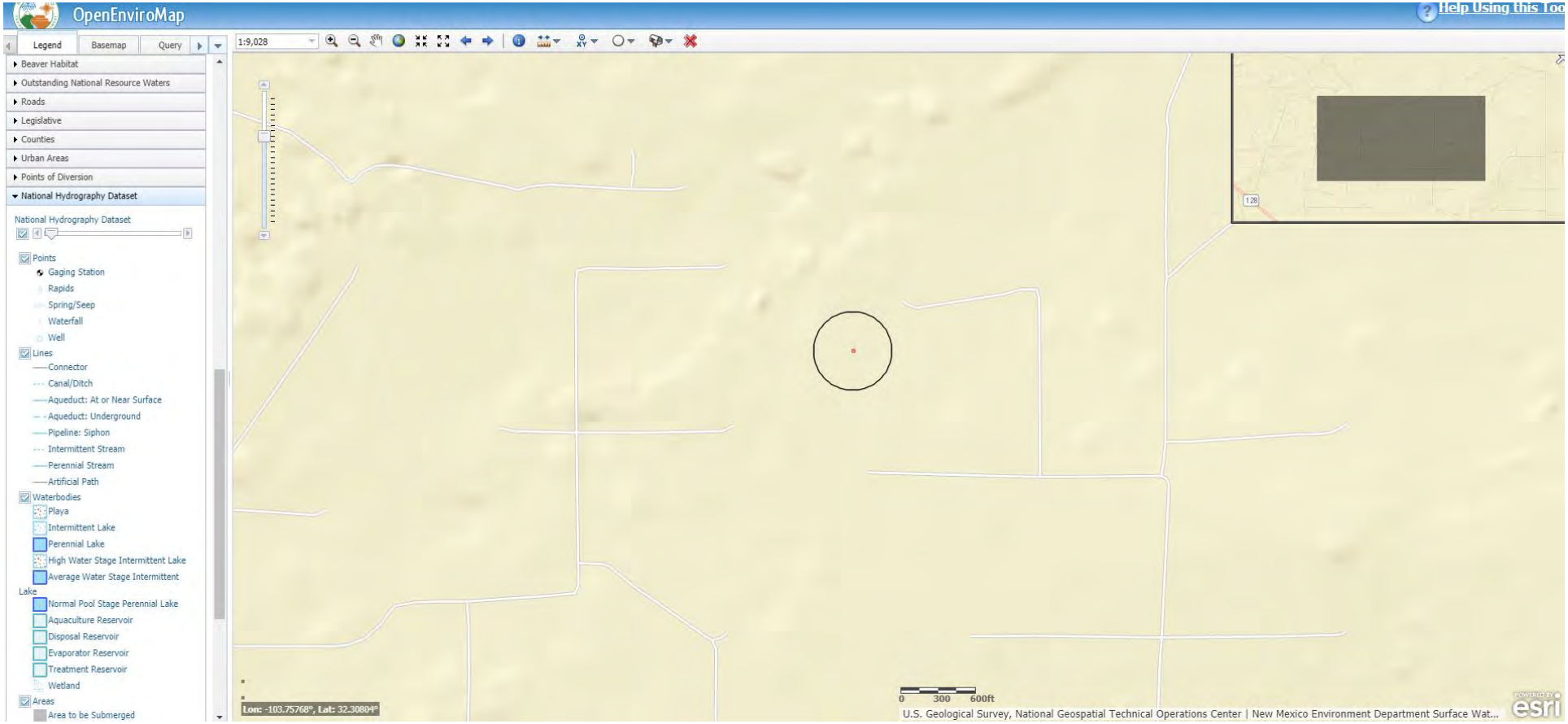
U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321809103481801

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-01-24 15:57:36 EST
0.44 0.4 caww02


OpenEnviroMap
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Legend
Basemap
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1:9,028
Beaver Habitat
Outstanding National Resource Waters
Roads
Legislative
Counties
Urban Areas
Points of Diversion
National Hydrography Dataset
National Hydrography Dataset
Points
Gaging Station
Rapids
Spring/Seep
Waterfall
Well
Lines
Connector
Canal/Ditch
Aqueduct: At or Near Surface
Aqueduct: Underground
Pipeline: Siphon
Intermittent Stream
Perennial Stream
Artificial Path
Waterbodies
Playa
Intermittent Lake
Perennial Lake
High Water Stage Intermittent Lake
Average Water Stage Intermittent Lake
Normal Pool Stage Perennial Lake
Aquaculture Reservoir
Disposal Reservoir
Evaporator Reservoir
Treatment Reservoir
Wetland
Areas
Area to be Submerged
128
Lon: -103.75768°, Lat: 32.30804°
0 300 600ft
U.S. Geological Survey, National Geospatial Technical Operations Center | New Mexico Environment Department Surface Wat...
esri

U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 CTB - 3.3. miles

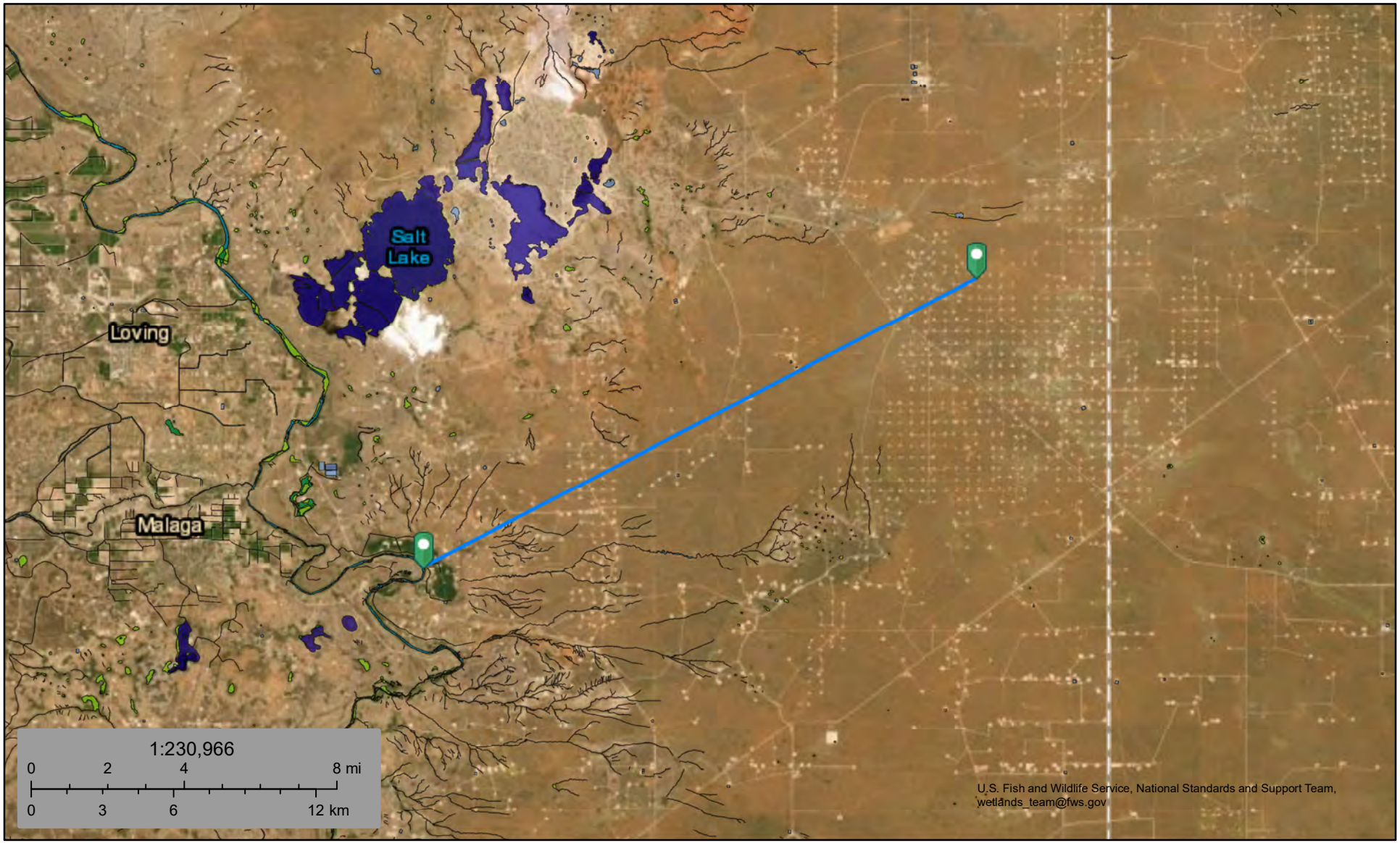
June 15, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 Watercourse 73,022 ft.



February 23, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 Lake 7313 ft.

February 23, 2020

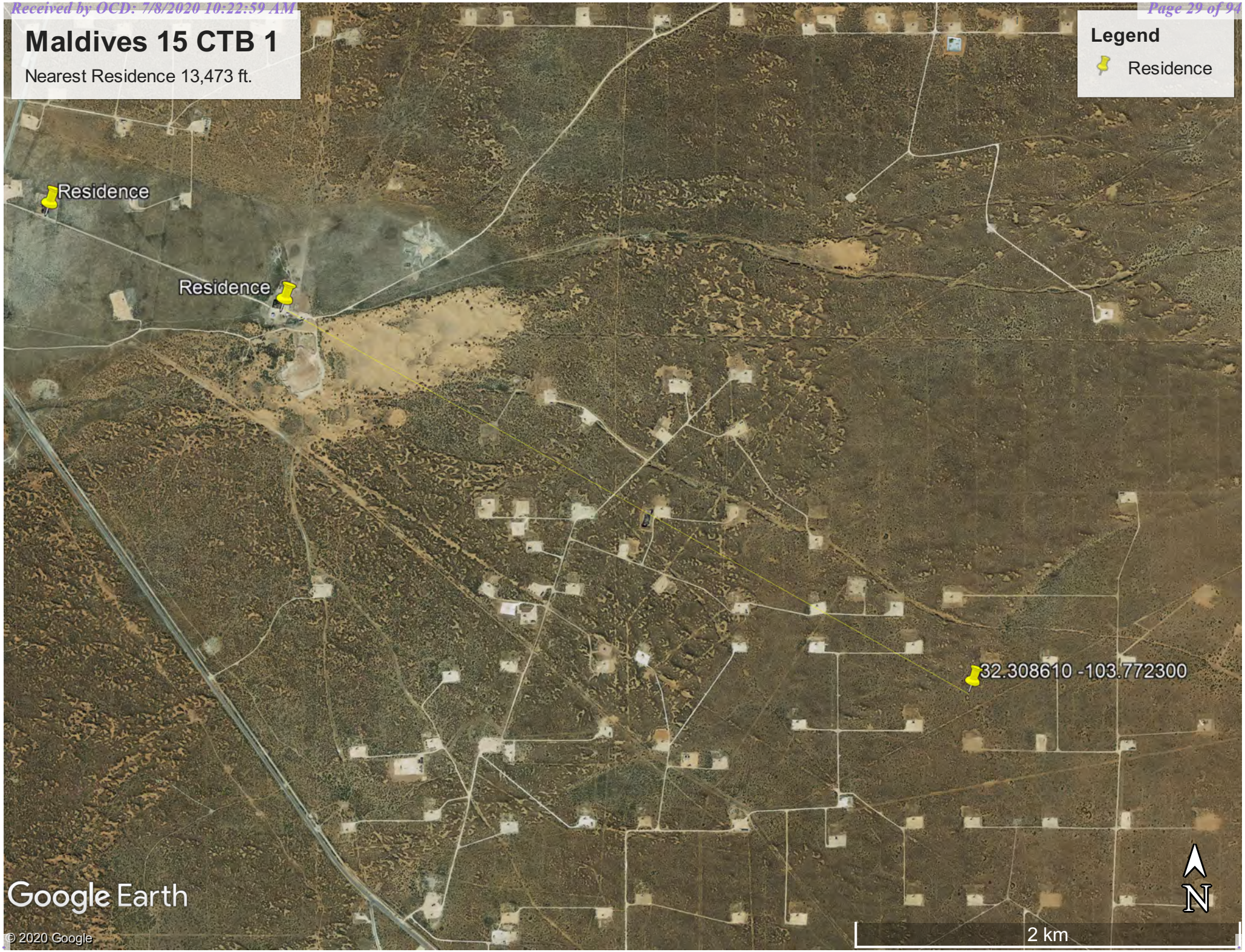
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Maldives 15 CTB 1

Nearest Residence 13,473 ft.



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
C 02777	CUB	MON	0	US DEPT OF ENERGY WIPP	ED	C 02777					4 4 4	10	23S	31E	616973	3575662	1442
C 03749	CUB	MON	0	US DEPARTMENT OF ENERGY	ED	C 03749 POD1				Shallow	2 2	15	23S	31E	616973	3575662	1442
C 02773	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02773					4 1 3	03	23S	31E	615668	3577762*	2458
C 03140	CUB	MON	0	US DEPT OF ENERGY	ED	C 03140				Shallow	4 2 4	04	23S	31E	615266	3577758*	2472
C 03351	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 03351				Shallow	4 1 4	04	23S	31E	614916	3577861	2639
C 02774	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02774					3 1 3	04	23S	31E	613857	3577745*	2984
C 03389	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 03389					1 1 3	17	23S	31E	612316	3574683	3319
C 03394	C	PUB	0	JAMES HAMILTON CONSTRUCTION CO	ED	C 03389					1 1 3	17	23S	31E	612316	3574683	3319
C 02954	CUB	EXP	0	U.S. DEPARTMENT OF ENERGY CARLSBAD FIELD OFFICE, WIPP	ED	C 02954 EXPL				Shallow	3 1 4	20	23S	31E	613114	3572906*	3438
C 02664	CUB	MON	0	SANDIA NATIONAL LABORATORIES	ED	C 02664				Shallow	3 3 2	05	23S	31E	613049	3578138*	3796
C 04200	CUB	EXP	0	JIMMY MILLS GST TRUST	ED	C 04200 POD3	NA				2 2	07	23S	31E	612130	3577147	3907
C 02769	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02769 POD2				Artesian	4 2 4	33	22S	31E	615260	3579312	4019
C 04200	CUB	EXP	0	JIMMY MILLS GST TRUST	ED	C 04200 POD5	NA				4 4	06	23S	31E	612138	3577393	4021
C 02492	CUB	COM	105	THE JIMMY MILLS GST TRUST	ED	C 02492				Shallow	4 4 4	06	23S	31E	612056	3577320*	4056
C 02865	CUB	EXP	0	STACY MILLS	ED	C 02865					4 4 4	06	23S	31E	612056	3577320*	4056
C 02687	CUB	MON	0	SANDIA NATIONAL LABORATORIES	ED	C 02687					4 2 4	33	22S	31E	615246	3579364*	4071
C 04200	CUB	EXP	0	JIMMY MILLS GST TRUST	ED	C 04200 POD2	NA				2 2	07	23S	31E	611893	3577123	4107
C 02767	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02767					4 1 4	33	22S	31E	614844	3579360*	4120

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

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 6416	q 4	Sec	Tws	Rng	X	Y	Distance
C 02768	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02768					4 1	4	33	22S	31E	614844	3579360*	4120
C 04200	CUB	EXP	0	JIMMY MILLS 2005 GST TRUST	ED	C 04200 POD1	NA				2	2	07	23S	31E	611802	3577058	4161
C 03668	C	STK	3	J T MILLS 2005 GST TRUST	ED	C 02492 POD2				Shallow	3 2	2	07	23S	31E	611767	3576996	4167
C 04200	CUB	EXP	0	JIMMY MILLS 2005 GST TRUST	ED	C 04200 POD4	NA					4	06	23S	31E	611996	3577521	4210
C 02258	C	PRO	0	DEVON ENERGY CORP.(NEVADA)	ED	C 02258					3 2		26	23S	31E	618055	3571853*	4249
C 02769	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02769					2 2	4	33	22S	31E	615246	3579564*	4271
C 02776	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02776					2 1	1	05	23S	31E	612440	3578731*	4644
C 02348	C	STK	3	NGL WATER SOLUTIONS PERMIAN	ED	C 02348				Shallow	1 4	3	26	23S	31E	617647	3571068	4716
C 02725	CUB	MON	0	U.S. DEPT. OF ENERGY, WIPP	ED	C 02725					1 1	1	05	23S	31E	612240	3578731*	4781
C 02775	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02775					1 1	1	05	23S	31E	612240	3578731*	4781

Record Count: 28

UTMNAD83 Radius Search (in meters):

Easting (X): 615576.55 **Northing (Y):** 3575305.5 **Radius:** 5000

Sorted by: Distance

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

New Mexico Office of the State Engineer

Water Right Summary

get image list

WR File Number: C 03749 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: US DEPARTMENT OF ENERGY

Contact: GEORGE BASABILVAZO

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	548076	EXPL	2014-06-24	PMT	LOG	C 03749 POD1	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03749 POD1		Shallow	2	2		15	23S	31E	616974	3575662	H-12

Table 1.			
Site Name: Maldives 15 CTB 1 Battery			
Spill Coordinates:		**X: 32.308610**	**Y: -103.772300**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**639.00**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	73,022	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,313	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	13,473	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,731	feet
	ii) Within 1000 feet of any fresh water well or spring	4,731	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	7,414	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)		Critical High Medium Low
10	Within a 100-year Floodplain	>500 year plan	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02777	CUB	ED	4	4	4	10	23S	31E	616974	3575662	1442	890		
C 03749 POD1	CUB	ED		2	2	15	23S	31E	616974	3575662	1442	865	639	226
C 02773	CUB	ED	4	1	3	03	23S	31E	615668	3577762*	2458	880		
C 03140	CUB	ED	4	2	4	04	23S	31E	615266	3577758*	2472	684		
C 03351	C	ED	4	1	4	04	23S	31E	614917	3577861	2639	320	168	152
C 02774	CUB	ED	3	1	3	04	23S	31E	613857	3577745*	2984	1660		
C 02954 EXPL	CUB	ED	3	1	4	20	23S	31E	613114	3572906*	3438	905		
C 02664	CUB	ED	3	3	2	05	23S	31E	613049	3578138*	3796	4291	354	3937
C 02769 POD2	CUB	ED	4	2	4	33	22S	31E	615261	3579312	4019	753	428	325
C 02492	CUB	ED	4	4	4	06	23S	31E	612056	3577320*	4056	135	85	50
C 02865	CUB	ED	4	4	4	06	23S	31E	612056	3577320*	4056	174		
C 02687	CUB	ED	4	2	4	33	22S	31E	615246	3579364*	4071	779		
C 02767	CUB	ED	4	1	4	33	22S	31E	614844	3579360*	4120	785		
C 02768	CUB	ED	4	1	4	33	22S	31E	614844	3579360*	4120	787		
C 02492 POD2	C	ED	3	2	2	07	23S	31E	611767	3576996	4167	400	125	275
C 02258	C	ED		3	2	26	23S	31E	618055	3571853*	4249	662		
C 02769	CUB	ED	2	2	4	33	22S	31E	615246	3579564*	4271	765		
C 02776	CUB	ED	2	1	1	05	23S	31E	612440	3578731*	4644	661		
C 02348	C	ED	1	4	3	26	23S	31E	617648	3571068	4716	700	430	270
C 02725	CUB	ED	1	1	1	05	23S	31E	612240	3578731*	4781	532		
C 02775	CUB	ED	1	1	1	05	23S	31E	612240	3578731*	4781	529		

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

Average Depth to Water: **318 feet**

Minimum Depth: **85 feet**

Maximum Depth: **639 feet**

Record Count: 21

UTMNAD83 Radius Search (in meters):

Easting (X): 615576.55 **Northing (Y):** 3575305.5 **Radius:** 5000

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416	4	Sec	Tws	Rng	X	Y	Distance
C 02777	CUB	MON	0	US DEPT OF ENERGY WIPP	ED	C 02777					4 4	4	10	23S	31E	616973	3575662	1442
C 03749	CUB	MON	0	US DEPARTMENT OF ENERGY	ED	C 03749 POD1				Shallow	2 2		15	23S	31E	616973	3575662	1442
C 02773	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02773					4 1	3	03	23S	31E	615668	3577762*	2458
C 03140	CUB	MON	0	US DEPT OF ENERGY	ED	C 03140				Shallow	4 2	4	04	23S	31E	615266	3577758*	2472
C 03351	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 03351				Shallow	4 1	4	04	23S	31E	614916	3577861	2639
C 02774	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02774					3 1	3	04	23S	31E	613857	3577745*	2984
C 03389	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 03389					1 1	3	17	23S	31E	612316	3574683	3319
C 03394	C	PUB	0	JAMES HAMILTON CONSTRUCTION CO	ED	C 03389					1 1	3	17	23S	31E	612316	3574683	3319
C 02954	CUB	EXP	0	U.S. DEPARTMENT OF ENERGY CARLSBAD FIELD OFFICE, WIPP	ED	C 02954 EXPL				Shallow	3 1	4	20	23S	31E	613114	3572906*	3438
C 02664	CUB	MON	0	SANDIA NATIONAL LABORATORIES	ED	C 02664				Shallow	3 3	2	05	23S	31E	613049	3578138*	3796
C 04200	CUB	EXP	0	JIMMY MILLS GST TRUST	ED	C 04200 POD3	NA				2 2		07	23S	31E	612130	3577147	3907
C 02769	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02769 POD2				Artesian	4 2	4	33	22S	31E	615260	3579312	4019
C 04200	CUB	EXP	0	JIMMY MILLS GST TRUST	ED	C 04200 POD5	NA				4 4		06	23S	31E	612138	3577393	4021
C 02492	CUB	COM	105	THE JIMMY MILLS GST TRUST	ED	C 02492				Shallow	4 4	4	06	23S	31E	612056	3577320*	4056
C 02865	CUB	EXP	0	STACY MILLS	ED	C 02865					4 4	4	06	23S	31E	612056	3577320*	4056
C 02687	CUB	MON	0	SANDIA NATIONAL LABORATORIES	ED	C 02687					4 2	4	33	22S	31E	615246	3579364*	4071
C 04200	CUB	EXP	0	JIMMY MILLS GST TRUST	ED	C 04200 POD2	NA				2 2		07	23S	31E	611893	3577123	4107
C 02767	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02767					4 1	4	33	22S	31E	614844	3579360*	4120

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

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 6416	q 4	Sec	Tws	Rng	X	Y	Distance
C 02768	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02768					4 1	4	33	22S	31E	614844	3579360*	4120
C 04200	CUB	EXP	0	JIMMY MILLS 2005 GST TRUST	ED	C 04200 POD1	NA				2	2	07	23S	31E	611802	3577058	4161
C 03668	C	STK	3	J T MILLS 2005 GST TRUST	ED	C 02492 POD2				Shallow	3 2	2	07	23S	31E	611767	3576996	4167
C 04200	CUB	EXP	0	JIMMY MILLS 2005 GST TRUST	ED	C 04200 POD4	NA					4	06	23S	31E	611996	3577521	4210
C 02258	C	PRO	0	DEVON ENERGY CORP.(NEVADA)	ED	C 02258					3	2	26	23S	31E	618055	3571853*	4249
C 02769	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02769					2 2	4	33	22S	31E	615246	3579564*	4271
C 02776	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02776					2 1	1	05	23S	31E	612440	3578731*	4644
C 02348	C	STK	3	NGL WATER SOLUTIONS PERMIAN	ED	C 02348				Shallow	1 4	3	26	23S	31E	617647	3571068	4716
C 02725	CUB	MON	0	U.S. DEPT. OF ENERGY, WIPP	ED	C 02725					1 1	1	05	23S	31E	612240	3578731*	4781
C 02775	CUB	MON	0	U.S. DEPT. OF ENERGY - WIPP	ED	C 02775					1 1	1	05	23S	31E	612240	3578731*	4781

Record Count: 28

UTMNAD83 Radius Search (in meters):

Easting (X): 615576.55 **Northing (Y):** 3575305.5 **Radius:** 5000

Sorted by: Distance

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

New Mexico Office of the State Engineer

Water Right Summary

get image list

WR File Number: C 03749 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: US DEPARTMENT OF ENERGY

Contact: GEORGE BASABILVAZO

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	548076	EXPL	2014-06-24	PMT	LOG	C 03749 POD1	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03749 POD1		Shallow	2	2		15	23S	31E	616974	3575662	H-12

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information ▼ Geographic Area: United States ▼ GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS 321809103481801 23S.31E.17.31141

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:

Latitude 32°18'11.3", Longitude 103°48'23.4" NAD83
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 354 feet
Land surface altitude: 3,326.00 feet above NGVD29.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-04	2013-01-16	4
Field/Lab water-quality samples	1972-09-20	1972-09-20	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

---

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321809103481801

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-01-24 15:57:36 EST
0.44 0.4 caww02

U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 Lake 7313 ft.

February 23, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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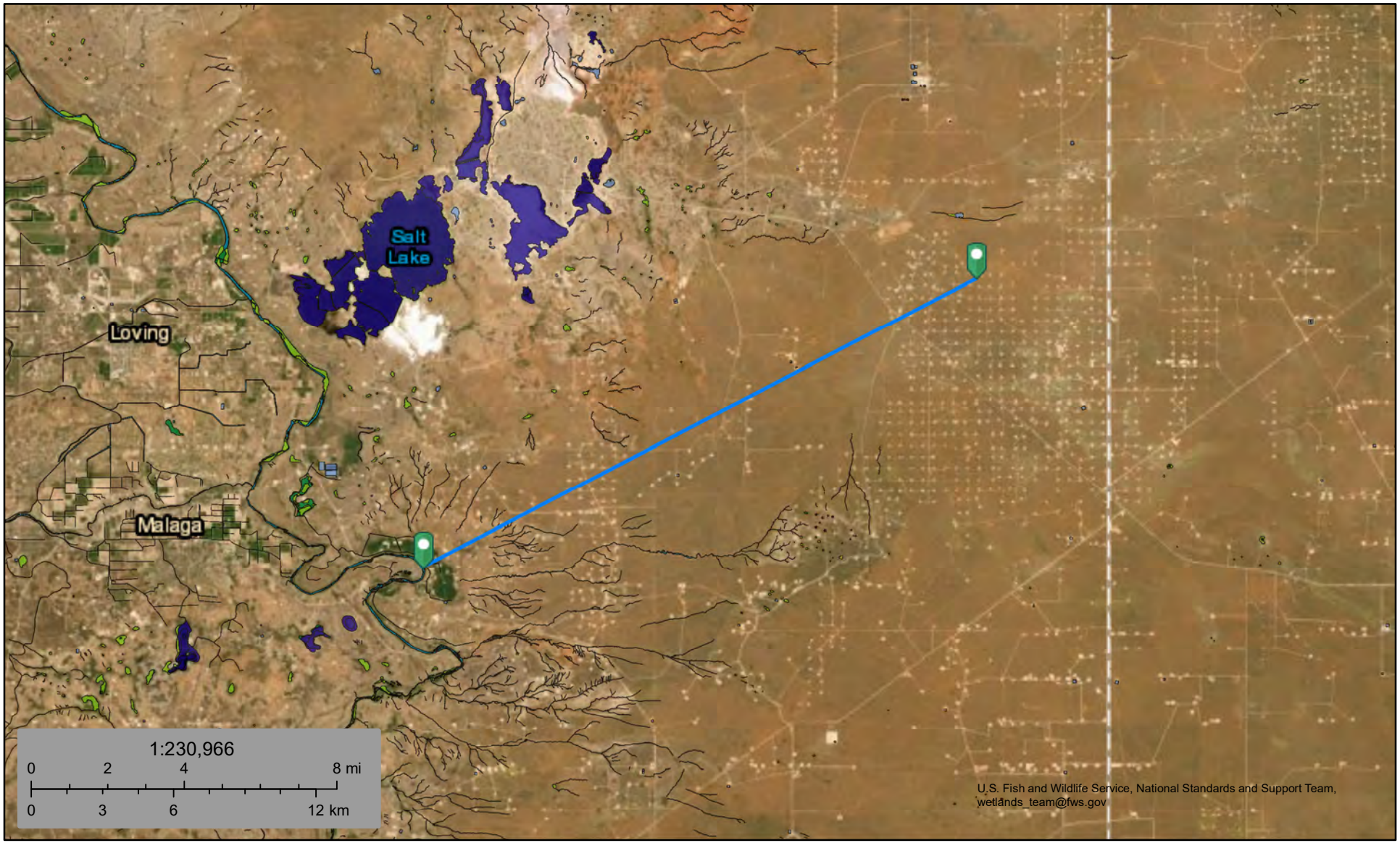
U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 Watercourse 73,022 ft.



February 23, 2020

Wetlands

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National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 Wetland 7414 ft.

February 23, 2020

Wetlands

- Estuarine and Marine Deepwater
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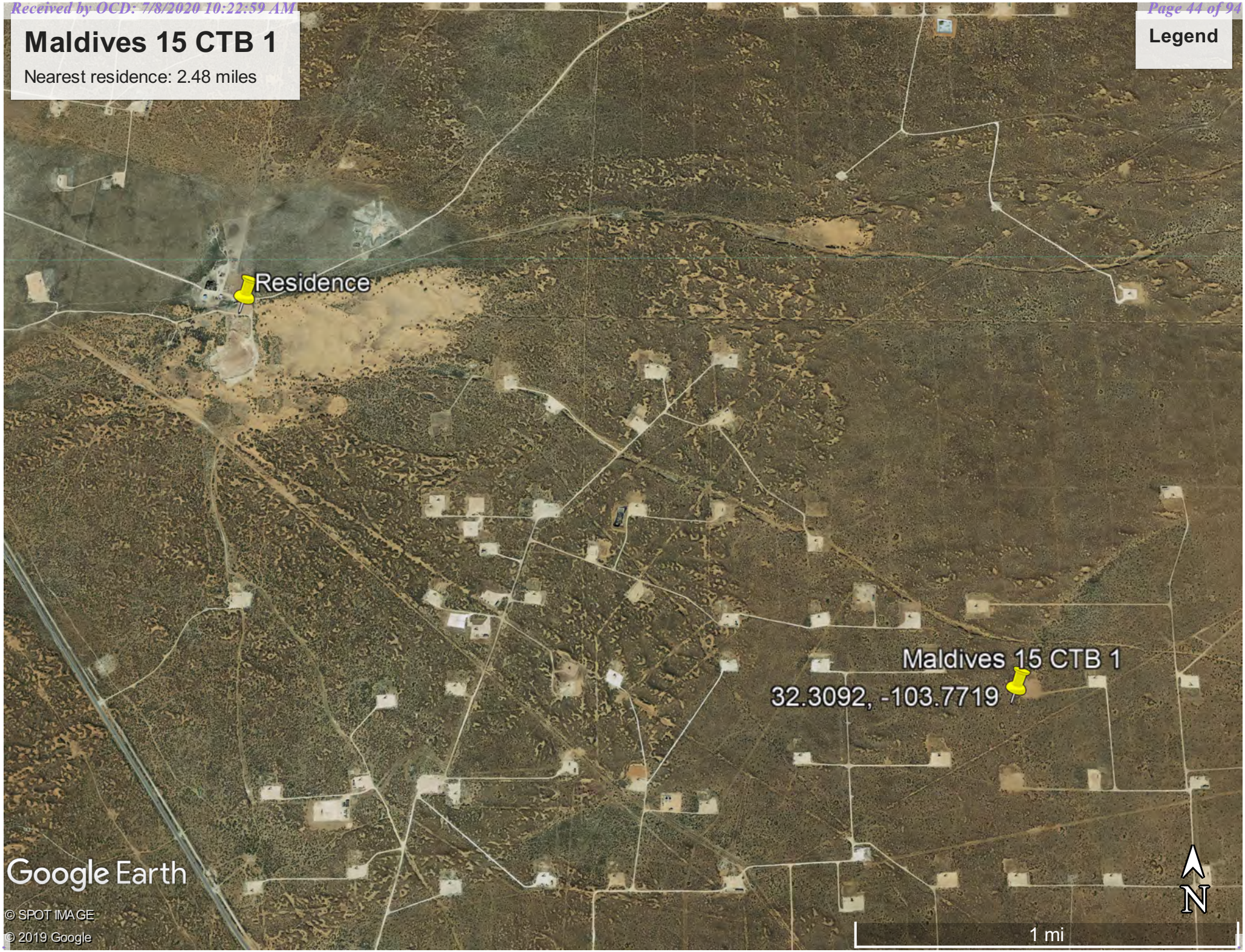
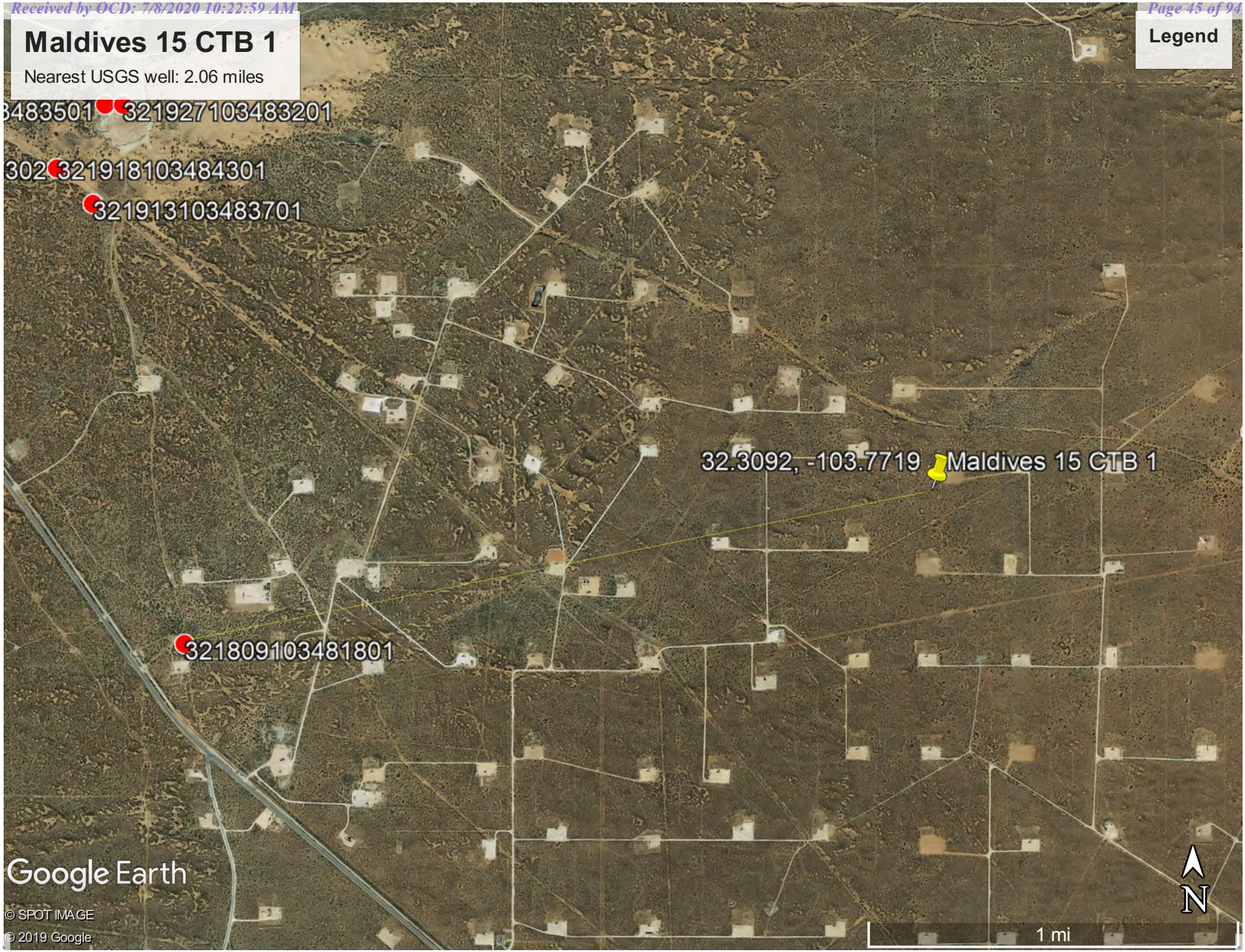

Maldives 15 CTB 1
Nearest residence: 2.48 miles
Legend
Residence
Maldives 15 CTB 1
32.3092, -103.7719
Google Earth
© SPOT IMAGE
© 2019 Google
N
1 mi


Maldives 15 CTB 1
Nearest USGS well: 2.06 miles
Legend
3483501
321927103483201
302
321918103484301
321913103483701
32.3092, -103.7719
Maldives 15 CTB 1
321809103481801
Google Earth
© SPOT IMAGE
© 2019 Google
N
1 mi

National Flood Hazard Layer FIRMette

FEMA

32°18'46.20"N

103°46'39.01"W

103°46'1.55"W

32°18'15.79"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
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OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

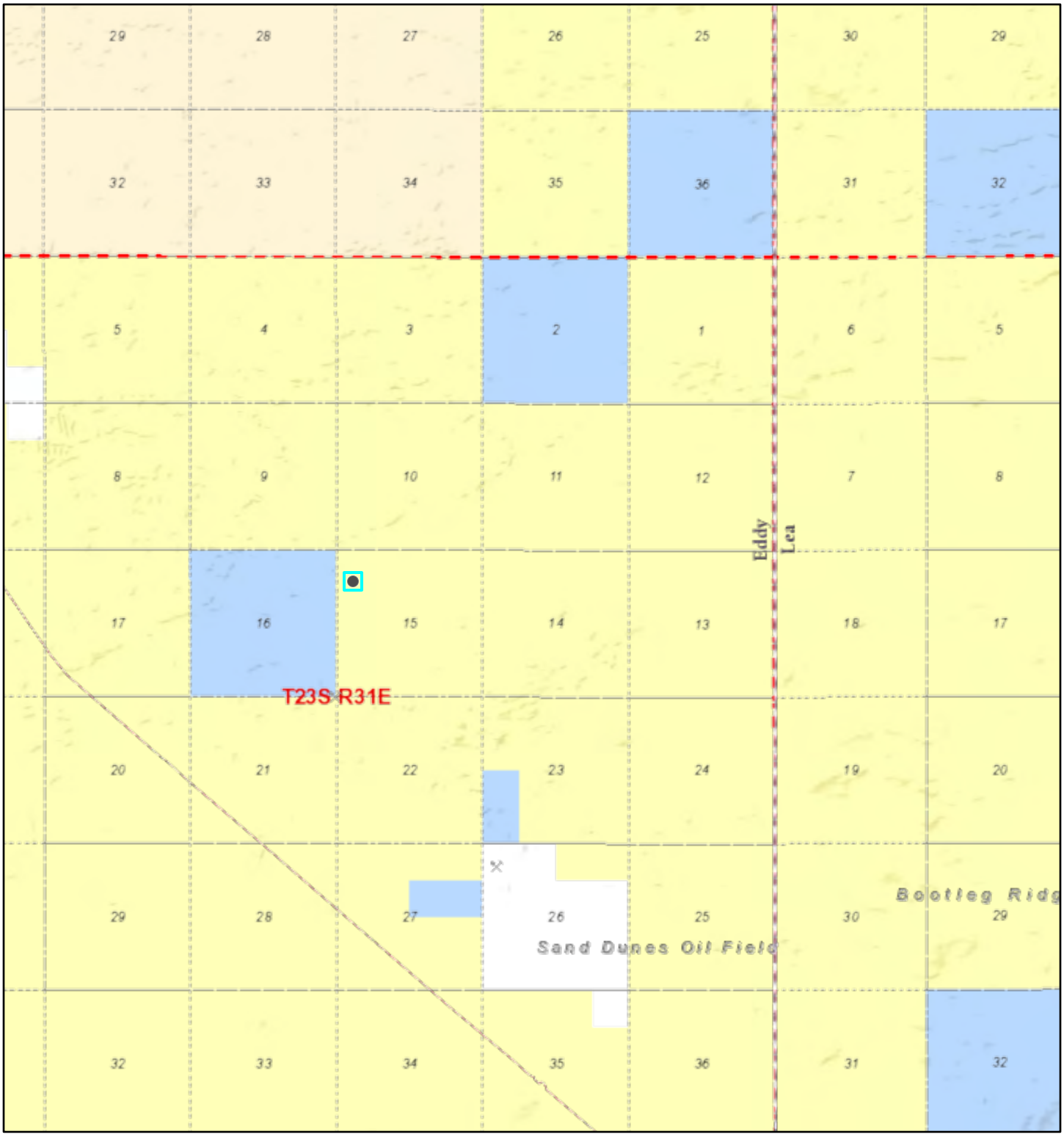
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/23/2020 at 3:58:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Active Mines in New Mexico



2/23/2020, 1:48:54 PM

1:72,224

0 0.5 1 2 mi

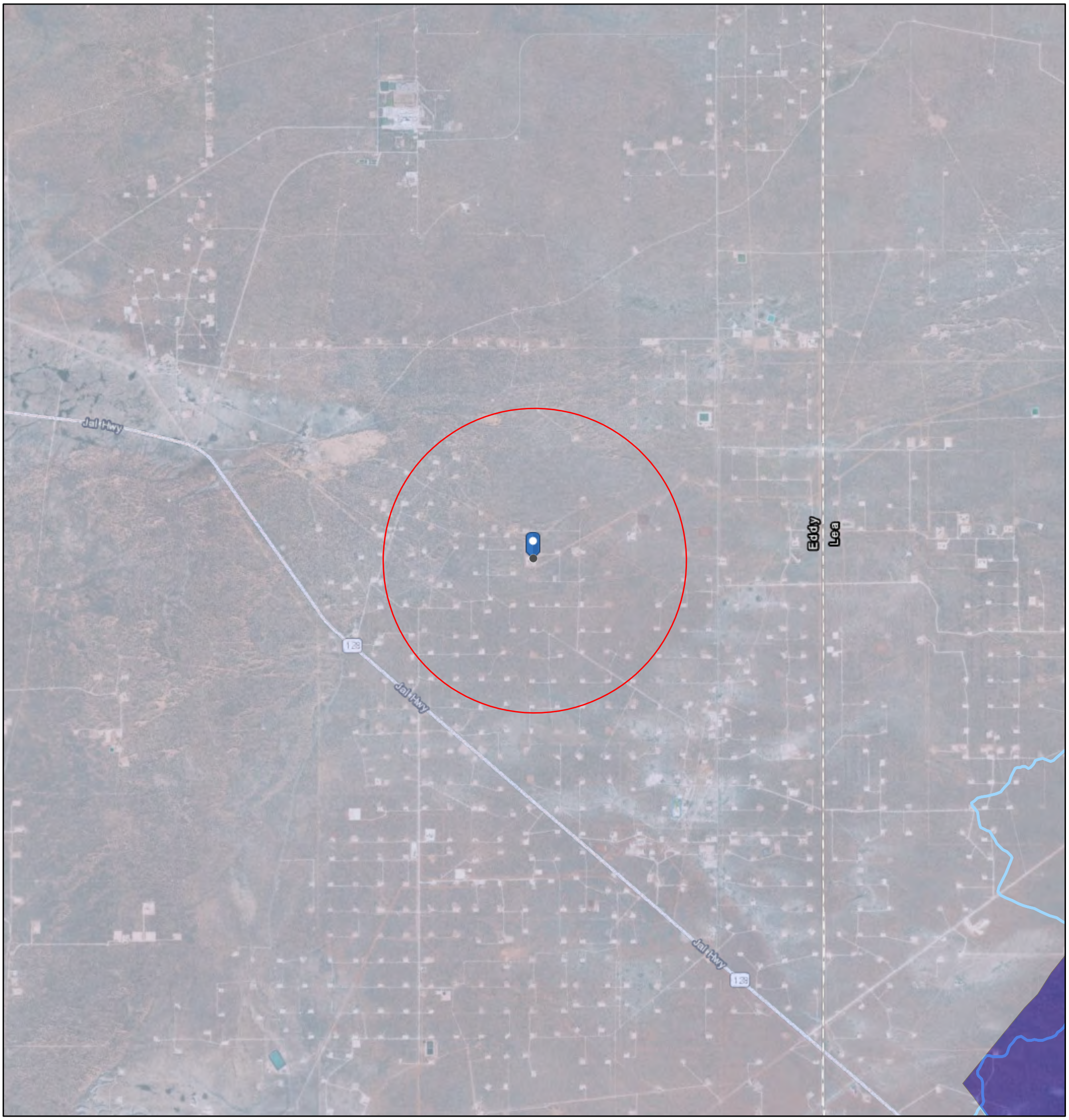
0 0.75 1.5 3 km

Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.

U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

Maldives 15 CTB 1



1/27/2020, 6:48:29 AM

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

OSE District Boundary

Declared Groundwater Basins

Declared Groundwater Basins with Extensions

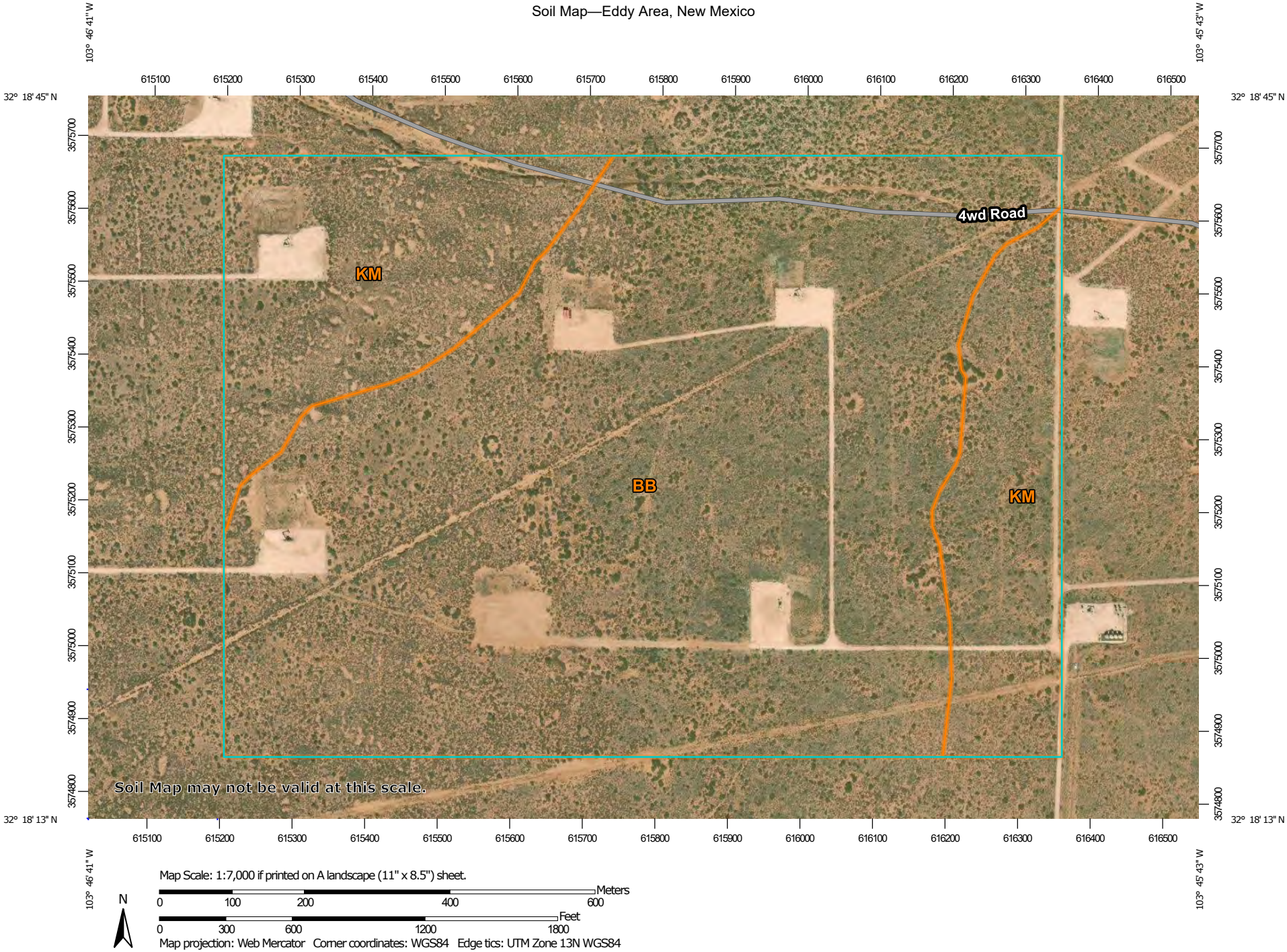
Surface Water Basins

Lower Pecos

Southern High Plains

Surface Water Sub Basins

Soil Map—Eddy Area, New Mexico



Map Scale: 1:7,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

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- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 15, Sep 15, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	174.5	73.8%
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	61.9	26.2%
Totals for Area of Interest		**236.4**	**100.0%**

Eddy Area, New Mexico

BB—Berino complex, 0 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1w43
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 5 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 60 percent
Pajarito and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

Landform: Fan piedmonts, plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Description of Pajarito

Setting

Landform: Interdunes, plains, dunes
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Cacique

Percent of map unit: 4 percent
Ecological site: Sandy (R042XC004NM)
Hydric soil rating: No

Wink

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Pajarito

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Kermit

Percent of map unit: 3 percent
Ecological site: Deep Sand (R042XC005NM)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 15, Sep 15, 2019

U.S. Fish and Wildlife Service
National Wetlands Inventory

Maldives 15 Wetland 7414 ft.

February 23, 2020

Wetlands

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U.S. Fish and Wildlife Service
National Wetlands Inventory

Distance to Wetland

January 27, 2020

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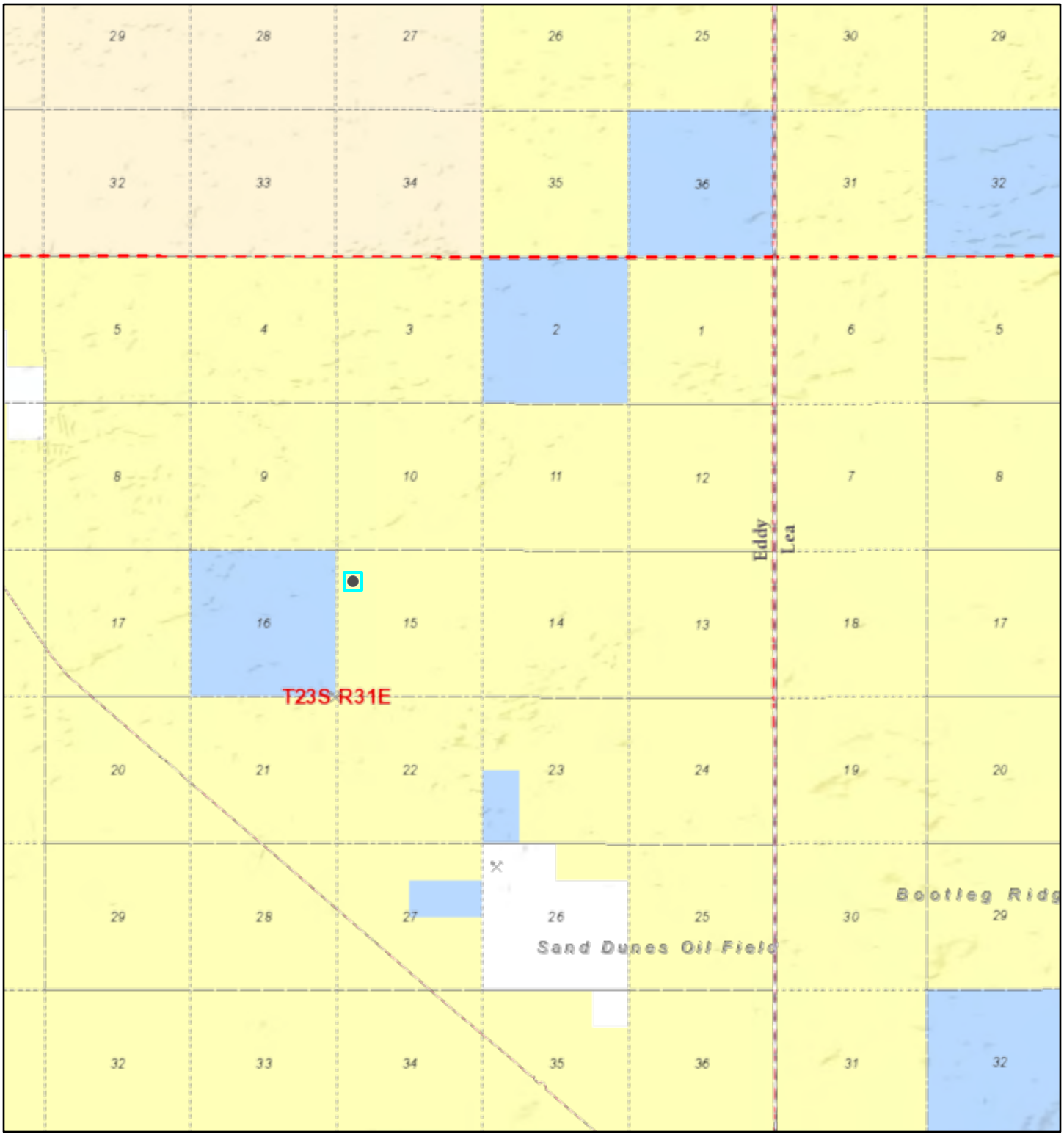

2/23/2020, 1:48:54 PM

1:72,224

0 0.5 1 2 mi

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U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

National Flood Hazard Layer FIRMette

FEMA

32°18'46.20"N

103°46'39.01"W

103°46'1.55"W

32°18'15.79"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

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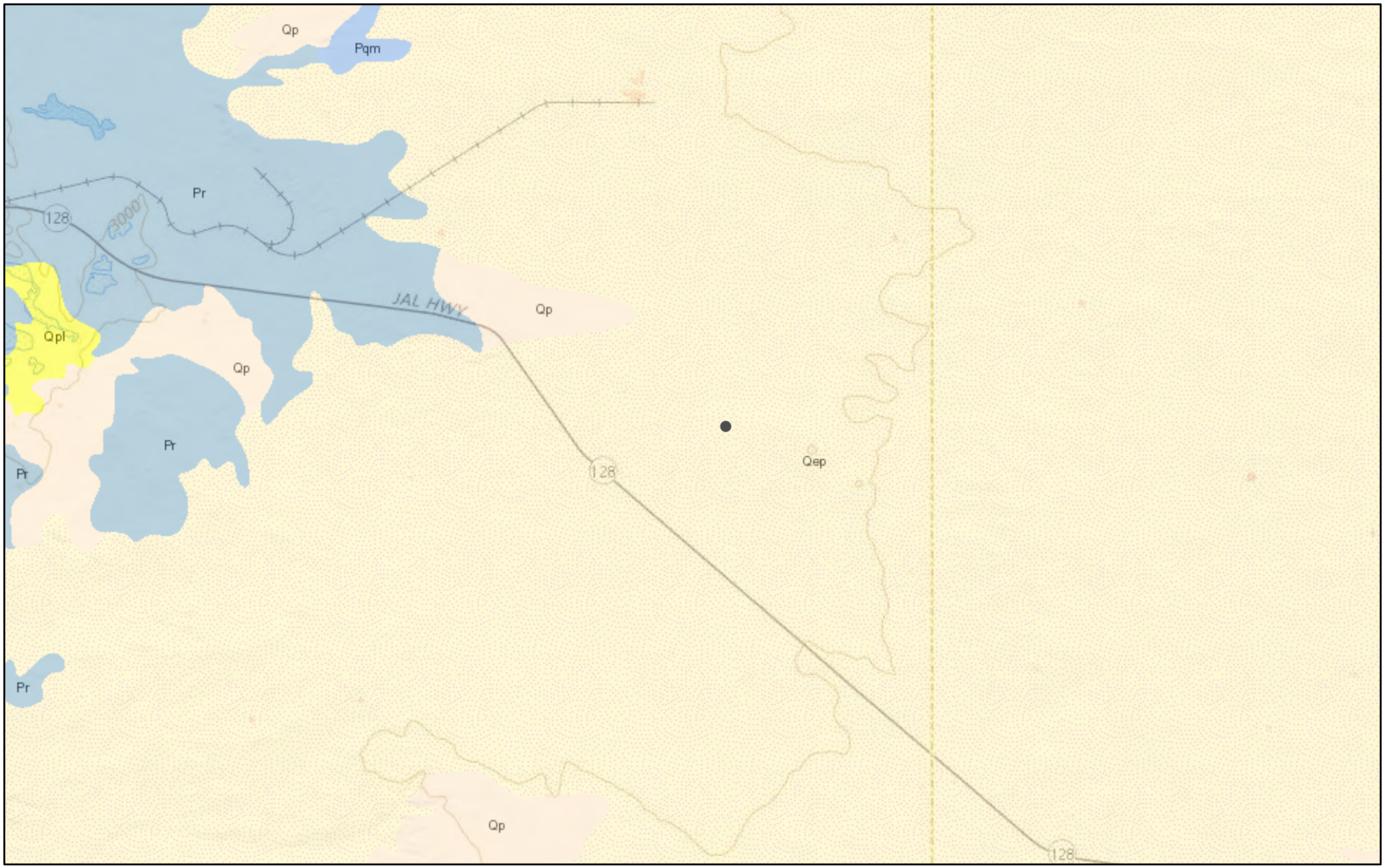
ArcGIS Web Map



6/5/2020, 3:08:01 PM

1:144,448

0 1 2 4 mi

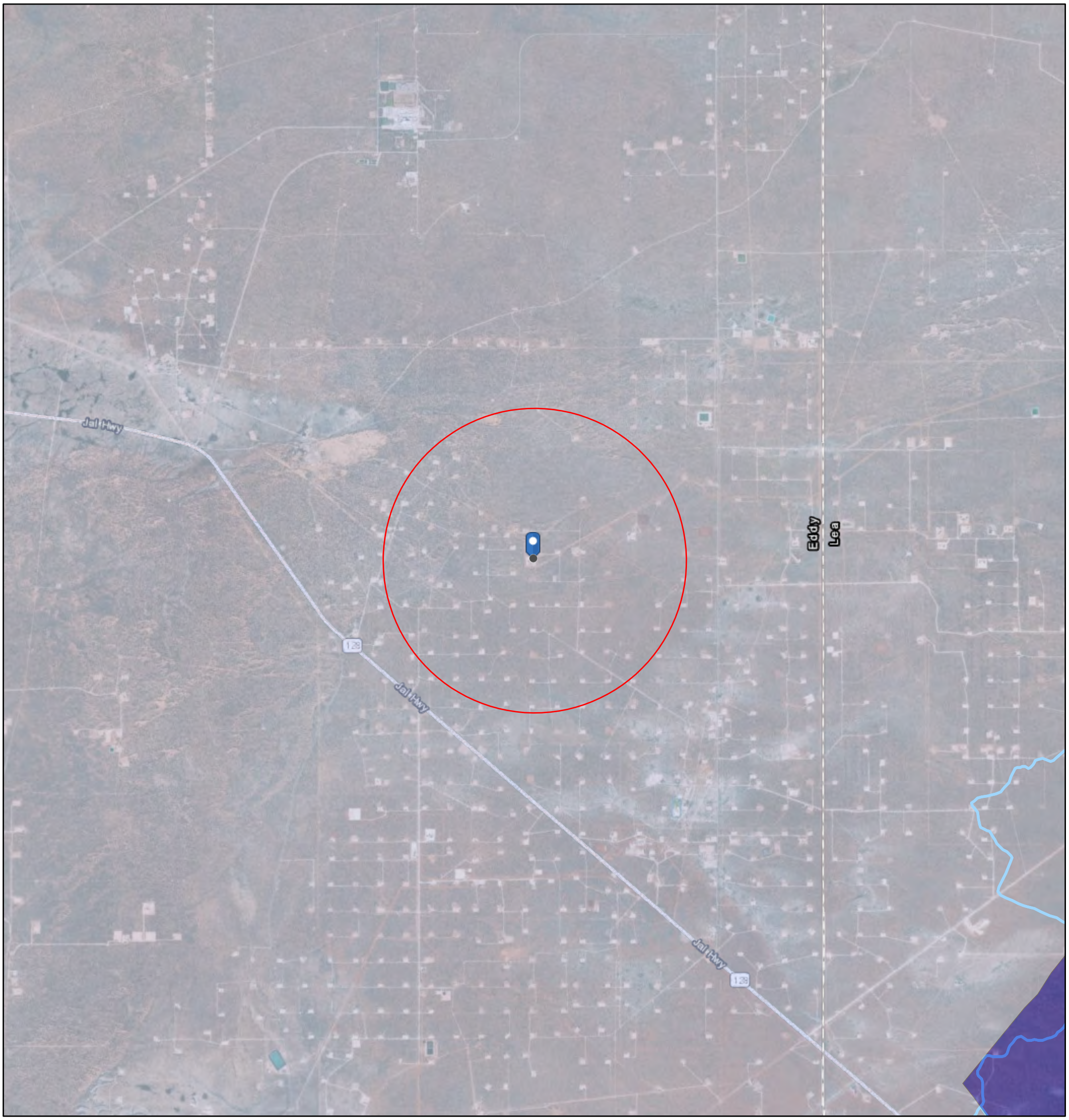
0 1.5 3 6 km

USGS The National Map: National Boundaries Dataset, 3DEP Elevation

Web AppBuilder for ArcGIS

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global

Maldives 15 CTB 1



1/27/2020, 6:48:29 AM

1:72,224

0 0.5 1 2 mi

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OSE District Boundary

Declared Groundwater Basins

Declared Groundwater Basins with Extensions

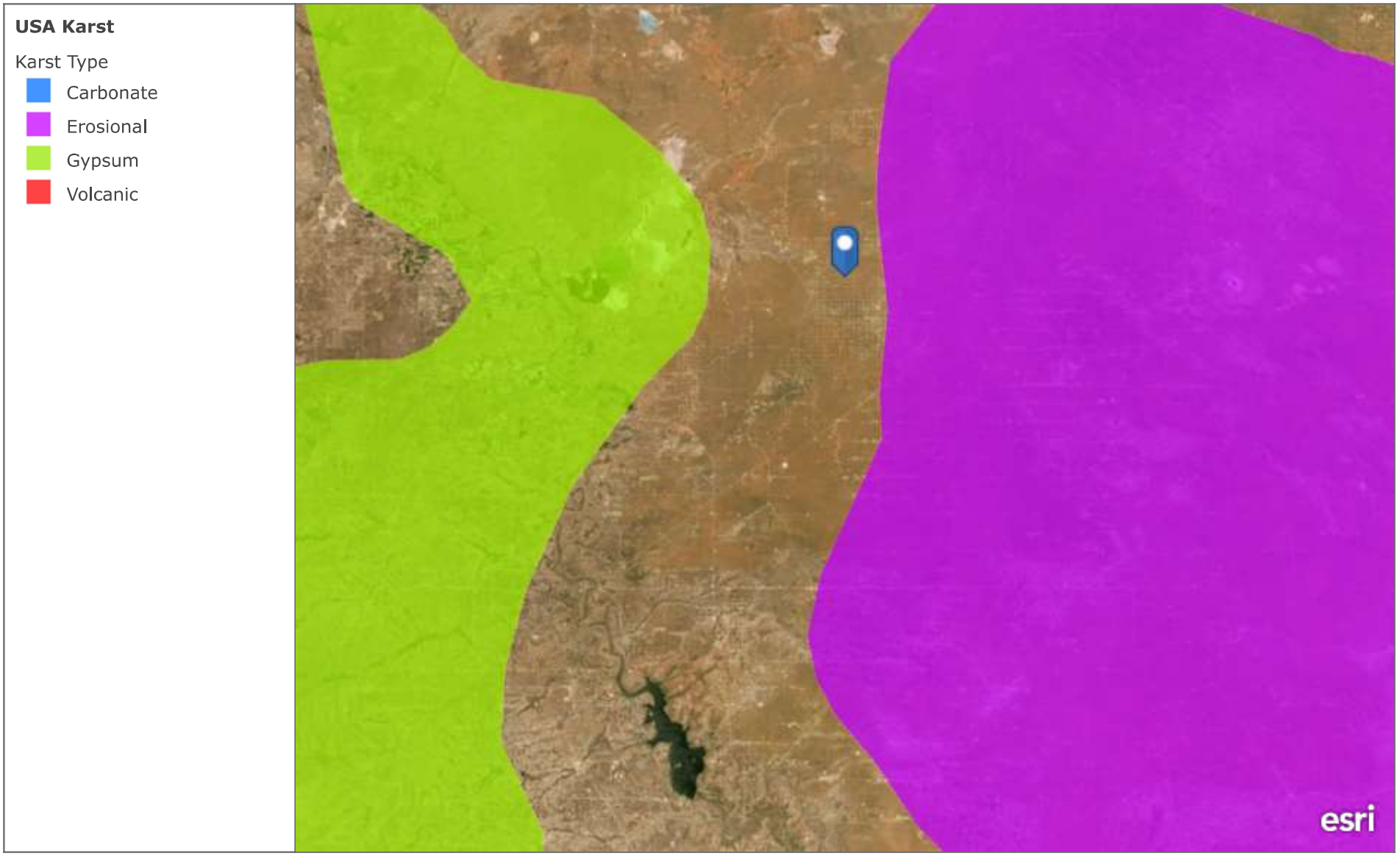
Surface Water Basins

Lower Pecos

Southern High Plains

Surface Water Sub Basins

USA Karst

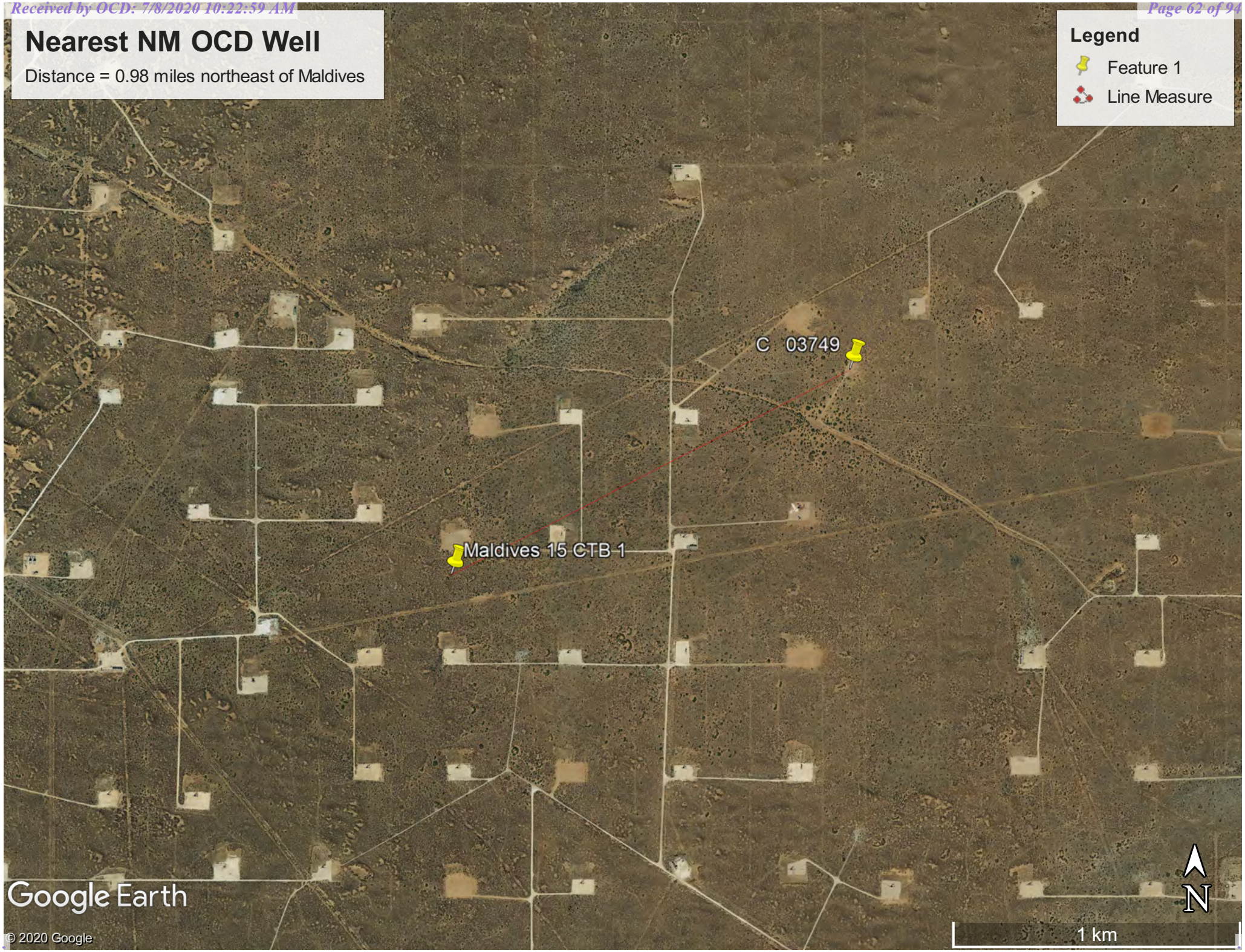


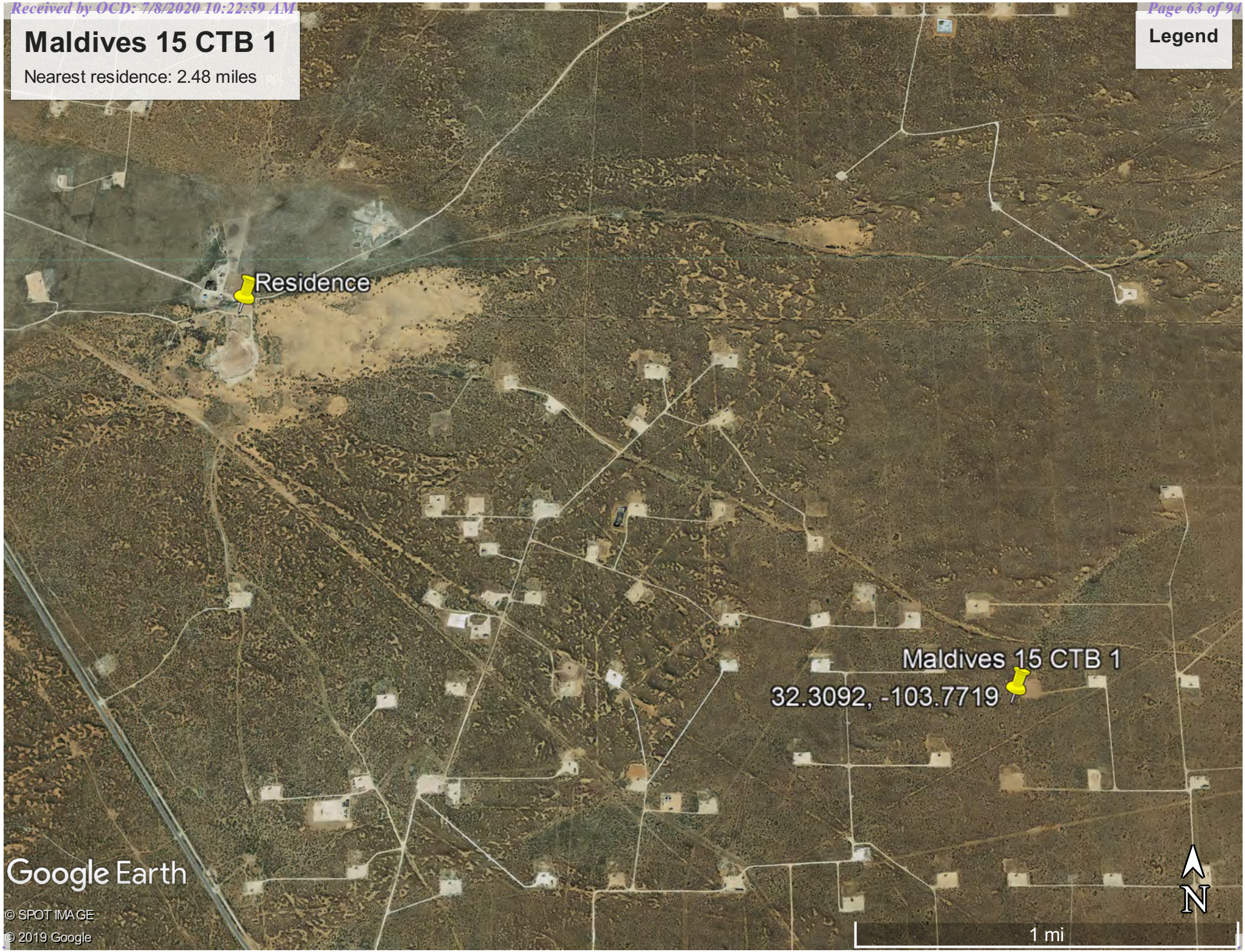
A map showing karst areas in the United States based on the U.S. Geological Survey Open-File Report 2004-1352

U.S. Geological Survey Open-File Report 2004-1352, Caves and Karst in the U.S. National Park Service, AGI Karst Map of the US. | U.S. Geological Survey Open-File Report 2004-1352 | Earthstar Geographics

Nearest NM OCD Well

Distance = 0.98 miles northeast of Maldives




Maldives 15 CTB 1
Nearest residence: 2.48 miles
Legend
Residence
Maldives 15 CTB 1
32.3092, -103.7719
Google Earth
© SPOT IMAGE
© 2019 Google
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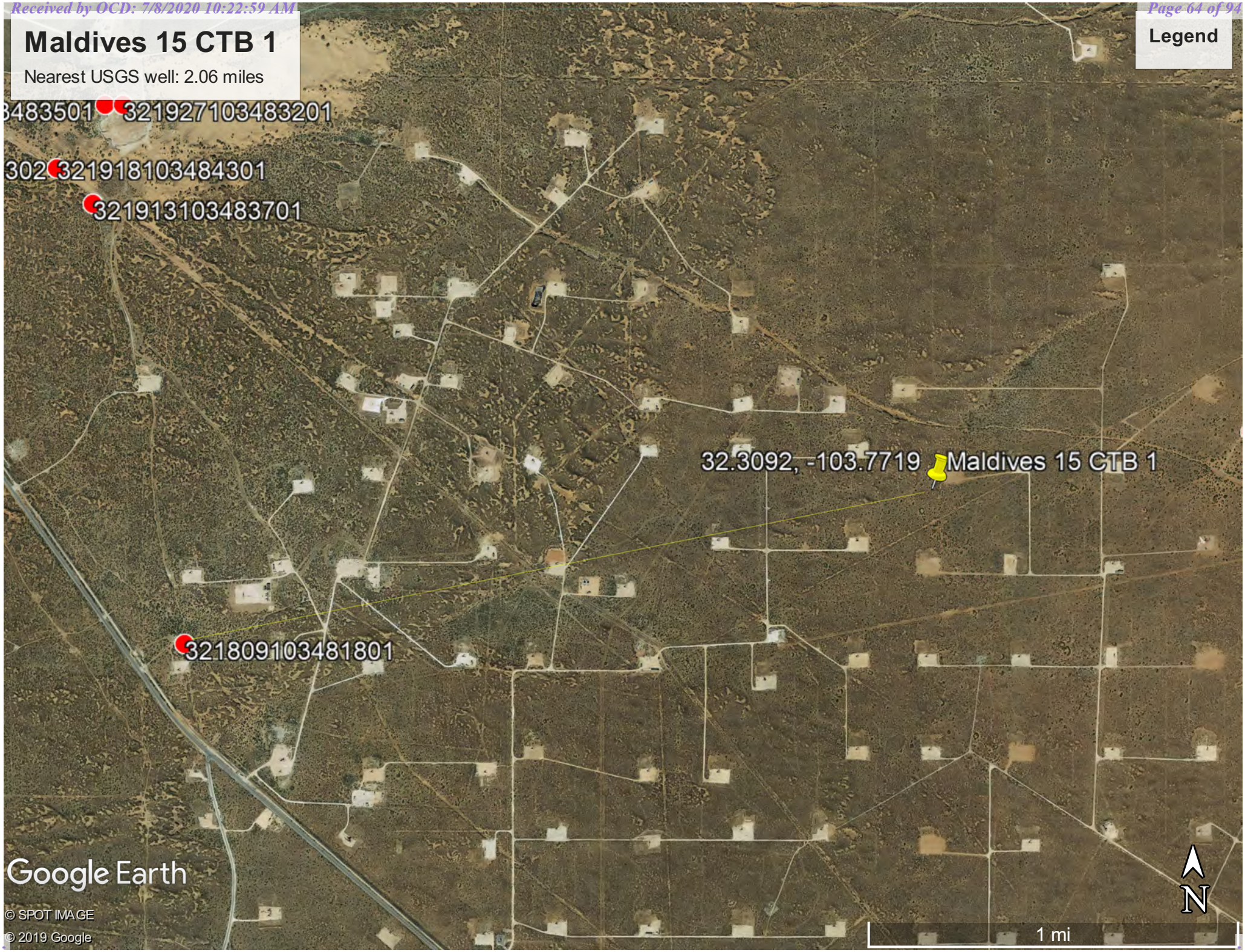
1 mi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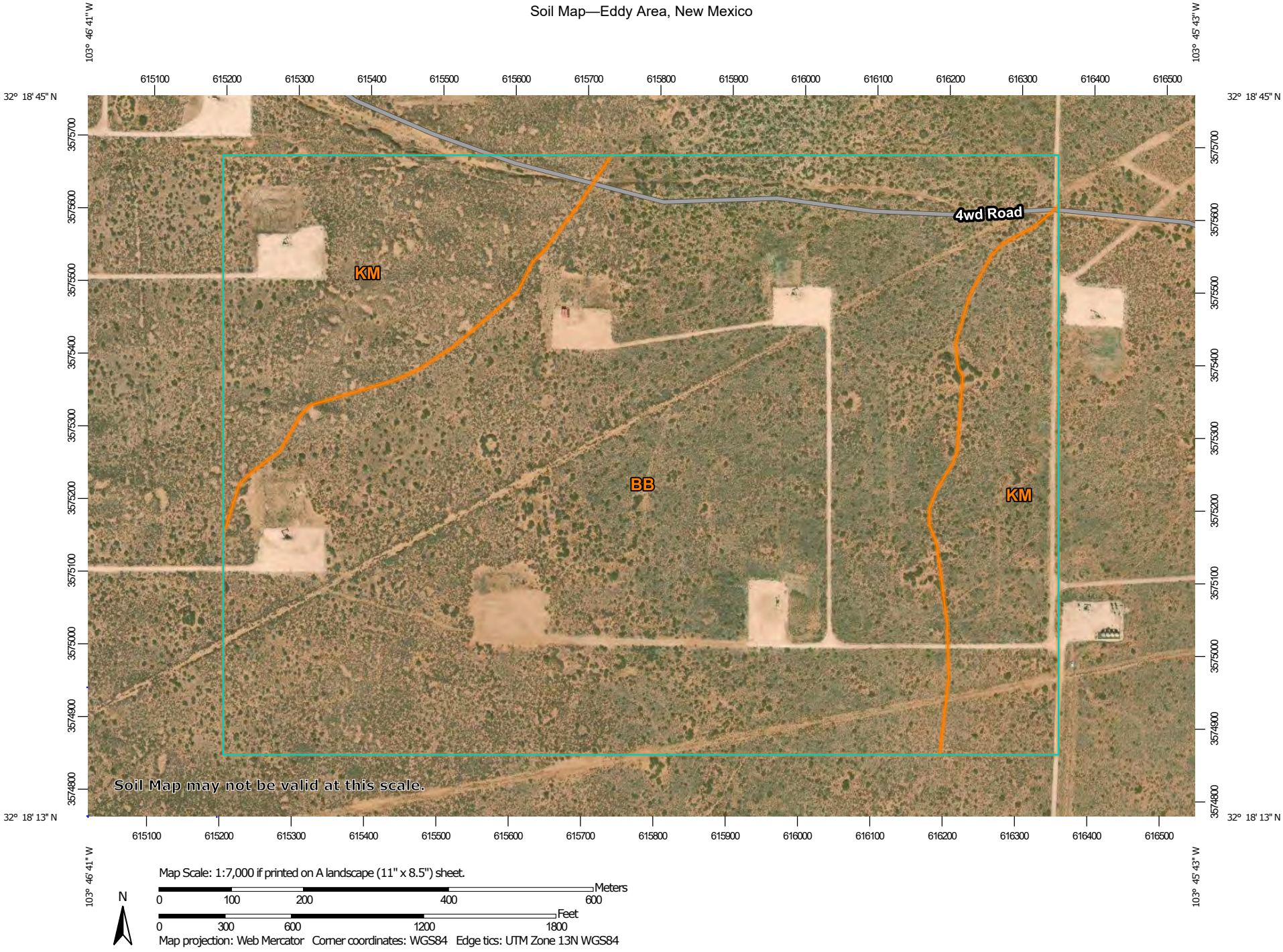
Maldives 15 CTB 1
3218091034818O1
Google Earth
© SPOT IMAGE
© 2019 Google
N
1 mi

Soil Map—Eddy Area, New Mexico



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
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- Lava Flow
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- Mine or Quarry
- Miscellaneous Water
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- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
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- US Routes
- Major Roads
- Local Roads

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- Aerial Photography

MAP INFORMATION

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 15, Sep 15, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	174.5	73.8%
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	61.9	26.2%
Totals for Area of Interest		**236.4**	**100.0%**

Eddy Area, New Mexico

BB—Berino complex, 0 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1w43
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 5 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 60 percent
Pajarito and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

Landform: Fan piedmonts, plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Description of Pajarito

Setting

Landform: Interdunes, plains, dunes
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Cacique

Percent of map unit: 4 percent
Ecological site: Sandy (R042XC004NM)
Hydric soil rating: No

Wink

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Pajarito

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Kermit

Percent of map unit: 3 percent
Ecological site: Deep Sand (R042XC005NM)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 15, Sep 15, 2019

ATTACHMENT 4

Natalie Gordon

From: Natalie Gordon
Sent: Tuesday, January 21, 2020 4:40 PM
To: emnrd-ocd-district1spills@state.nm.us; Mike Bratcher (mike.bratcher@state.nm.us); ramona.marcus@state.nm.us
Cc: Bynum, Tom (Contract); Wesley. Mathews@dvn. com (Wesley.Mathews@dvn.com)
Subject: NAB1904257393: Maldives 15 CTB 48-hr Confirmation Sampling Notification - Devon Energy

All,

Please accept this email as 48-hr notification that Vertex Resource Services Inc. has scheduled confirmation sampling to be conducted at Maldives 15 CTB for Incident NAB1904257393, DOR: 01/02/2019.

On Friday, January 24, 2020 at approximately 9:00 a.m., Monica Peppin of Vertex will be onsite to perform the liner inspection. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

ATTACHMENT 5

Client Name: Devon Energy Production Company
Site Name: Maldives 15 CTB 1
NM OCD Incident Tracking Numbers: NAB1904257393
Project #: 20E-00141-008
Lab Report: 2001A17

Table 2. Confirmatory Sampling Laboratory Results - Depth to Groundwater >100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Electroconductivity)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS20-01	0	January 24, 2020	-	-	-	<0.025	<0.224	<5.0	<9.6	<48	<14.6	<62.6	<60
BS20-02	0	January 24, 2020	-	-	-	<0.024	<0.210	<4.7	<9.4	<47	<14.1	<61.1	<61
BS20-03	0	January 24, 2020	-	-	-	<0.024	<0.216	<4.8	<10	<50	<14.8	<64.8	85
BS20-04	0	January 24, 2020	-	-	-	<0.025	<0.224	<5.0	<9.9	<50	<14.9	<64.9	71
BS20-05	0	January 24, 2020	-	-	-	<0.024	<0.215	<4.8	310	220	310	530	130
BS20-06	0	January 24, 2020	-	-	-	<0.025	<0.224	<5.0	110	120	110	230	140

"-" - Not applicable/assessed

Bold and shaded indicates exceedance outside of applied action level

VERTEX

ATTACHMENT 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 31, 2020

Natalie Gordon

Vertex Resource Group Ltd.
213 S. Mesa St
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Maldives 15 CTB 1 OrderNo.: 2001A17

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 6 sample(s) on 1/25/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2001A17**
Date Reported: **1/31/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.
Client Sample ID: BS20-01 0'
Project: Maldives 15 CTB 1
Collection Date: 1/24/2020 12:15:00 PM
Lab ID: 2001A17-001 **Matrix:** SOIL **Received Date:** 1/25/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/29/2020 2:35:18 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/29/2020 2:35:18 PM
Surr: DNOP	75.0	55.1-146		%Rec	1	1/29/2020 2:35:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/29/2020 11:38:21 PM
Surr: BFB	77.3	66.6-105		%Rec	1	1/29/2020 11:38:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	1/29/2020 11:38:21 PM
Toluene	ND	0.050		mg/Kg	1	1/29/2020 11:38:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	1/29/2020 11:38:21 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/29/2020 11:38:21 PM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	1/29/2020 11:38:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	1/29/2020 4:27:20 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2001A17**
Date Reported: **1/31/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS20-02 0'
Project: Maldives 15 CTB 1 **Collection Date:** 1/24/2020 12:25:00 PM
Lab ID: 2001A17-002 **Matrix:** SOIL **Received Date:** 1/25/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/29/2020 3:30:39 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/29/2020 3:30:39 PM
Surr: DNOP	63.3	55.1-146		%Rec	1	1/29/2020 3:30:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/30/2020 12:01:46 AM
Surr: BFB	74.3	66.6-105		%Rec	1	1/30/2020 12:01:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	1/30/2020 12:01:46 AM
Toluene	ND	0.047		mg/Kg	1	1/30/2020 12:01:46 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/30/2020 12:01:46 AM
Xylenes, Total	ND	0.095		mg/Kg	1	1/30/2020 12:01:46 AM
Surr: 4-Bromofluorobenzene	86.2	80-120		%Rec	1	1/30/2020 12:01:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	61		mg/Kg	20	1/29/2020 4:39:41 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2001A17**
Date Reported: **1/31/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS20-03 0'
Project: Maldives 15 CTB 1 **Collection Date:** 1/24/2020 12:35:00 PM
Lab ID: 2001A17-003 **Matrix:** SOIL **Received Date:** 1/25/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/29/2020 3:58:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/29/2020 3:58:35 PM
Surr: DNOP	63.6	55.1-146		%Rec	1	1/29/2020 3:58:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/30/2020 1:11:40 AM
Surr: BFB	72.9	66.6-105		%Rec	1	1/30/2020 1:11:40 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	1/30/2020 1:11:40 AM
Toluene	ND	0.048		mg/Kg	1	1/30/2020 1:11:40 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/30/2020 1:11:40 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/30/2020 1:11:40 AM
Surr: 4-Bromofluorobenzene	82.9	80-120		%Rec	1	1/30/2020 1:11:40 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	85	60		mg/Kg	20	1/29/2020 4:52:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2001A17**
Date Reported: **1/31/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS20-04 0'
Project: Maldives 15 CTB 1 **Collection Date:** 1/24/2020 12:45:00 PM
Lab ID: 2001A17-004 **Matrix:** SOIL **Received Date:** 1/25/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/29/2020 4:07:52 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/29/2020 4:07:52 PM
Surr: DNOP	73.0	55.1-146		%Rec	1	1/29/2020 4:07:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/30/2020 2:21:30 AM
Surr: BFB	74.0	66.6-105		%Rec	1	1/30/2020 2:21:30 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	1/30/2020 2:21:30 AM
Toluene	ND	0.050		mg/Kg	1	1/30/2020 2:21:30 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/30/2020 2:21:30 AM
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2020 2:21:30 AM
Surr: 4-Bromofluorobenzene	85.2	80-120		%Rec	1	1/30/2020 2:21:30 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	71	60		mg/Kg	20	1/29/2020 5:04:22 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2001A17**
Date Reported: **1/31/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS20-05 0'
Project: Maldives 15 CTB 1 **Collection Date:** 1/24/2020 12:55:00 PM
Lab ID: 2001A17-005 **Matrix:** SOIL **Received Date:** 1/25/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	310	9.9		mg/Kg	1	1/29/2020 4:17:11 PM
Motor Oil Range Organics (MRO)	220	50		mg/Kg	1	1/29/2020 4:17:11 PM
Surr: DNOP	107	55.1-146		%Rec	1	1/29/2020 4:17:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/30/2020 3:31:07 AM
Surr: BFB	72.4	66.6-105		%Rec	1	1/30/2020 3:31:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	1/30/2020 3:31:07 AM
Toluene	ND	0.048		mg/Kg	1	1/30/2020 3:31:07 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/30/2020 3:31:07 AM
Xylenes, Total	ND	0.095		mg/Kg	1	1/30/2020 3:31:07 AM
Surr: 4-Bromofluorobenzene	82.8	80-120		%Rec	1	1/30/2020 3:31:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	130	59		mg/Kg	20	1/30/2020 4:51:44 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2001A17**
Date Reported: **1/31/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS20-06 0'
Project: Maldives 15 CTB 1 **Collection Date:** 1/24/2020 1:05:00 PM
Lab ID: 2001A17-006 **Matrix:** SOIL **Received Date:** 1/25/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	110	9.7		mg/Kg	1	1/29/2020 4:26:28 PM
Motor Oil Range Organics (MRO)	120	48		mg/Kg	1	1/29/2020 4:26:28 PM
Surr: DNOP	92.4	55.1-146		%Rec	1	1/29/2020 4:26:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/30/2020 3:54:20 AM
Surr: BFB	75.3	66.6-105		%Rec	1	1/30/2020 3:54:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	1/30/2020 3:54:20 AM
Toluene	ND	0.050		mg/Kg	1	1/30/2020 3:54:20 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/30/2020 3:54:20 AM
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2020 3:54:20 AM
Surr: 4-Bromofluorobenzene	86.2	80-120		%Rec	1	1/30/2020 3:54:20 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	140	60		mg/Kg	20	1/30/2020 5:04:05 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**

31-Jan-20

Client: Vertex Resource Group Ltd.

Project: Maldives 15 CTB 1

Sample ID: **MB-50130** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **50130** RunNo: **66151**

Prep Date: **1/29/2020** Analysis Date: **1/29/2020** SeqNo: **2273387** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-50130** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **50130** RunNo: **66151**

Prep Date: **1/29/2020** Analysis Date: **1/29/2020** SeqNo: **2273388** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.1	90	110			

Sample ID: **MB-50158** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **50158** RunNo: **66201**

Prep Date: **1/30/2020** Analysis Date: **1/30/2020** SeqNo: **2274288** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-50158** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **50158** RunNo: **66201**

Prep Date: **1/30/2020** Analysis Date: **1/30/2020** SeqNo: **2274289** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**
31-Jan-20

Client: Vertex Resource Group Ltd.
Project: Maldives 15 CTB 1

Sample ID: **LCS-50086** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **50086** RunNo: **66140**
Prep Date: **1/28/2020** Analysis Date: **1/29/2020** SeqNo: **2271929** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	63.9	124			
Surr: DNOP	4.6		5.000		92.4	55.1	146			

Sample ID: **MB-50086** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **50086** RunNo: **66140**
Prep Date: **1/28/2020** Analysis Date: **1/29/2020** SeqNo: **2271930** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		116	55.1	146			

Sample ID: **2001A17-002AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-02 0'** Batch ID: **50102** RunNo: **66140**
Prep Date: **1/28/2020** Analysis Date: **1/29/2020** SeqNo: **2273221** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	34	9.1	45.45	2.583	69.6	47.4	136			
Surr: DNOP	2.7		4.545		59.7	55.1	146			

Sample ID: **2001A17-002AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-02 0'** Batch ID: **50102** RunNo: **66140**
Prep Date: **1/28/2020** Analysis Date: **1/29/2020** SeqNo: **2273222** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	47.89	2.583	88.9	47.4	136	27.5	43.4	
Surr: DNOP	4.3		4.789		89.0	55.1	146	0	0	

Sample ID: **LCS-50102** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **50102** RunNo: **66140**
Prep Date: **1/28/2020** Analysis Date: **1/29/2020** SeqNo: **2273238** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.0	63.9	124			
Surr: DNOP	3.8		5.000		77.0	55.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**
31-Jan-20

Client: Vertex Resource Group Ltd.
Project: Maldives 15 CTB 1

Sample ID: **MB-50102**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **50102**	RunNo: **66140**
Prep Date: **1/28/2020**	Analysis Date: **1/29/2020**	SeqNo: **2273239** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.9		10.00		79.3	55.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**
31-Jan-20

Client: Vertex Resource Group Ltd.
Project: Maldives 15 CTB 1

Sample ID: **mb-50070**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **50070**	RunNo: **66126**
Prep Date: **1/27/2020**	Analysis Date: **1/28/2020**	SeqNo: **2271722** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.8	66.6	105			

Sample ID: **lcs-50070**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **50070**	RunNo: **66126**
Prep Date: **1/27/2020**	Analysis Date: **1/28/2020**	SeqNo: **2271723** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.0	80	120			
Surr: BFB	950		1000		95.4	66.6	105			

Sample ID: **mb-50099**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272828** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	720		1000		72.0	66.6	105			

Sample ID: **lcs-50099**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272829** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.6	80	120			
Surr: BFB	850		1000		85.4	66.6	105			

Sample ID: **2001a17-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS20-02 0'**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/30/2020**	SeqNo: **2272833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.88	0	90.1	69.1	142			
Surr: BFB	830		955.1		87.0	66.6	105			

Sample ID: **2001a17-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS20-02 0'**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/30/2020**	SeqNo: **2272834** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**
31-Jan-20

Client: Vertex Resource Group Ltd.
Project: Maldives 15 CTB 1

Sample ID: **2001a17-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS20-02 0'**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/30/2020**	SeqNo: **2272834** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.93	0	85.4	69.1	142	1.09	20	
Surr: BFB	810		997.0		81.7	66.6	105	0	0	

Sample ID: **mb-50144**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **50144**	RunNo: **66183**
Prep Date: **1/29/2020**	Analysis Date: **1/31/2020**	SeqNo: **2274193** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	760		1000		76.0	66.6	105			

Sample ID: **lcs-50144**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **50144**	RunNo: **66183**
Prep Date: **1/29/2020**	Analysis Date: **1/31/2020**	SeqNo: **2274194** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	850		1000		85.3	66.6	105			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**
31-Jan-20

Client: Vertex Resource Group Ltd.
Project: Maldives 15 CTB 1

Sample ID: **mb-50070**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **50070**	RunNo: **66126**
Prep Date: **1/27/2020**	Analysis Date: **1/28/2020**	SeqNo: **2271744** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.4	80	120			

Sample ID: **LCS-50070**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **50070**	RunNo: **66126**
Prep Date: **1/27/2020**	Analysis Date: **1/28/2020**	SeqNo: **2271745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.6	80	120			
Toluene	0.95	0.050	1.000	0	94.8	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.9	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.1	80	120			

Sample ID: **MB-50099**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272873** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.82		1.000		82.0	80	120			

Sample ID: **LCS-50099**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **50099**	RunNo: **66150**
Prep Date: **1/28/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272874** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.6	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.6	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		87.0	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2001A17**

31-Jan-20

Client: Vertex Resource Group Ltd.

Project: Maldives 15 CTB 1

Sample ID: **2001a17-003ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BS20-03 0'** Batch ID: **50099** RunNo: **66150**

Prep Date: **1/28/2020** Analysis Date: **1/30/2020** SeqNo: **2272879** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9443	0	97.2	78.5	119			
Toluene	0.92	0.047	0.9443	0.01063	96.6	75.7	123			
Ethylbenzene	0.92	0.047	0.9443	0	97.3	74.3	126			
Xylenes, Total	2.8	0.094	2.833	0.01705	97.4	72.9	130			
Surr: 4-Bromofluorobenzene	0.81		0.9443		85.4	80	120			

Sample ID: **2001a17-003amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BS20-03 0'** Batch ID: **50099** RunNo: **66150**

Prep Date: **1/28/2020** Analysis Date: **1/30/2020** SeqNo: **2272880** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9843	0	101	78.5	119	7.60	20	
Toluene	1.0	0.049	0.9843	0.01063	101	75.7	123	8.52	20	
Ethylbenzene	0.99	0.049	0.9843	0	101	74.3	126	7.46	20	
Xylenes, Total	3.0	0.098	2.953	0.01705	100	72.9	130	7.03	20	
Surr: 4-Bromofluorobenzene	0.88		0.9843		89.2	80	120	0	0	

Sample ID: **mb-50144** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **50144** RunNo: **66183**

Prep Date: **1/29/2020** Analysis Date: **1/31/2020** SeqNo: **2274238** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		88.4	80	120			

Sample ID: **LCS-50144** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **50144** RunNo: **66183**

Prep Date: **1/29/2020** Analysis Date: **1/31/2020** SeqNo: **2274239** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **VERTEX CARLSBAD** Work Order Number: **2001A17** RcptNo: **1**

Received By: **Erin Melendrez** **1/25/2020 8:45:00 AM**

Completed By: **Erin Melendrez** **1/25/2020 9:10:11 AM**

Reviewed By: ENM 1/27/20

Chain of Custody

1. Is Chain of Custody sufficiently complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JR 1/27/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.4	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address: on file

Phone #: on file

email or Fax#: Natalia Gordon

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush

Project Name: Maldives 15 CTB 1

Project #:

Project Manager: Natalia Gordon

Sampler: MJP

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.9+0.5(CF)=4.4(°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

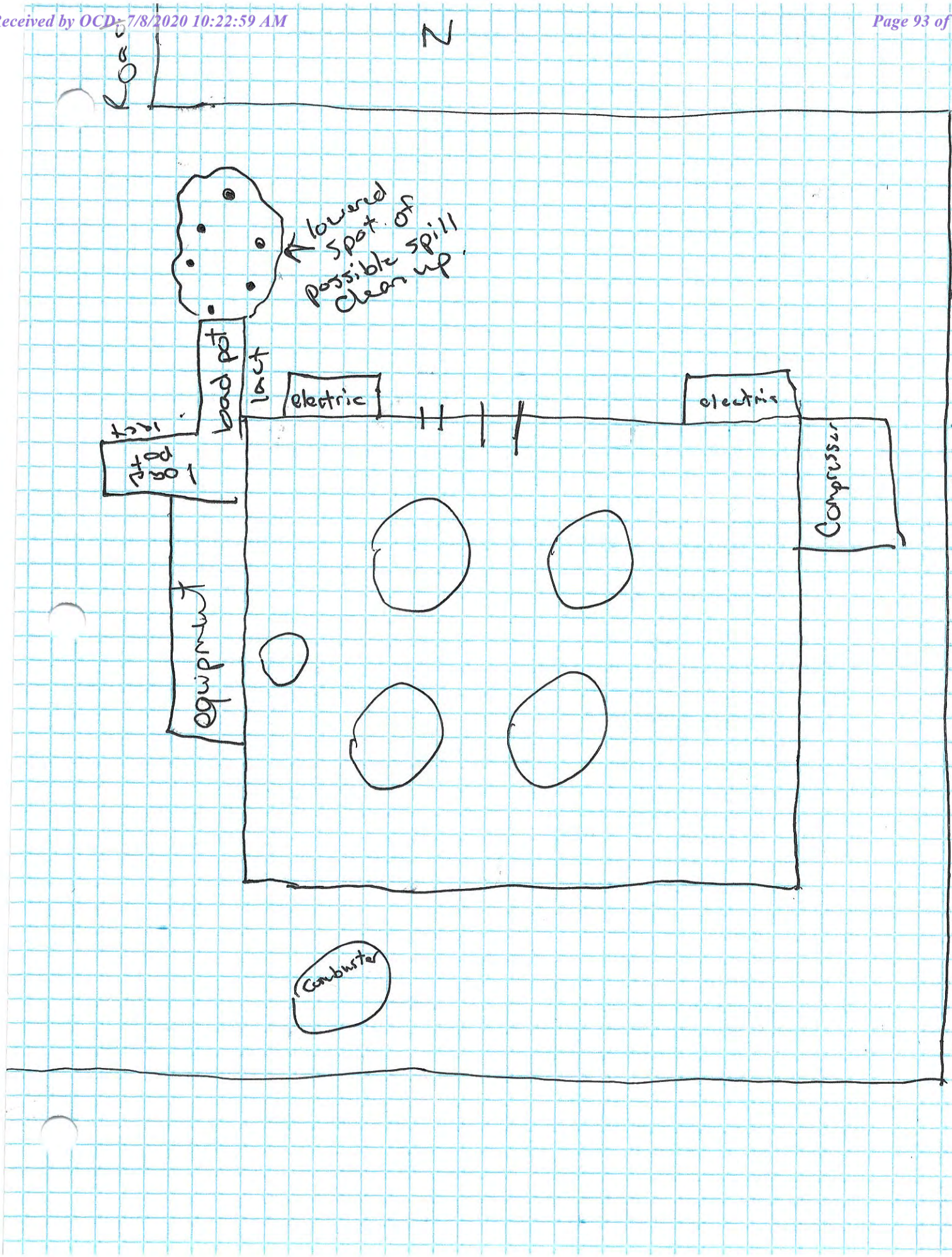
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2001A17	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1/24	1215	soil	BS20-01 0'	4oz	ice	-001	✓	✓					✓			
↓	1225	↓	BS20-02 0'	↓	↓	-002	↓	↓					↓			
	1235		BS20-03 0'			-003										
	1245		BS20-04 0'			-004										
	1255		BS20-05 0'			-005										
↓	105	↓	BS20-06 0'	↓	↓	-006	↓	↓					↓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/24/20	1400				1/24/20	1400
1/24/20	1900			Courier	1/25/20	0845

Remarks:
CC: Natalia Gordon
Devon

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

ATTACHMENT 7


N
Road
lowered spot of possible spill clean up
load pit
dump pit
electric
electric
Compressor
Combustor

1/24 Maldives Devon
Liner Inspection ~~Retrofrag~~
Confirmation Sampling Field pack
mileage

USGS 321025103263601 1.20 miles 257 ft
C141 coords were not converted
32.3092, -103.7719

Lact unit w/ load out buck has sunk in area where clean up may have taken place.
Spill area/cleaned up or scraped area is approx 1227 sq ft.
Took 6 sample points at each a five point composite.

Liner integrity looks very uniform. No signs of tears, wear points, or weathering.