



EOG Resources, Inc.  
Artesia Division Office  
104 S. 4<sup>th</sup> Street  
Artesia, N. M. 88210

**EOG Resources, Inc.**

***Characterization &  
Remediation Plan***

**Lacama 20 State Com #602H**

**30-015-46365**

**nRH2003551820**

**Section 19, T18S-R25E**

**Eddy County, New Mexico**

**June 3, 2020**



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**I. Location**

Go south on Highway 285 from Artesia, New Mexico to Four Dinkus Road (CR 39, between MM 63 & MM 64). Turn right (West) and continue approximately 6.5 miles to access road to the south. Turn left (south) on lease road and continue approximately 0.6 miles, cross over a cattle guard. Turn right (west) and continue approximately 1 mile, turn right and continue to the southeast corner of the pad.

**II. Background**

EOG Resources, Inc. submitted to the NMOCD District I office a Form C-141, Release Notification for the release of 8 yrs3/Freshwater Drill Cuttings with 7 yds3/Freshwater Drill Cuttings recovered, that occurred on December 6, 2019. The affected area is approximately 10' X 35' on the well pad. Roll-off container with freshwater drill cuttings left the location. When the vehicle crossed the cattle guard the rear gate opened allowing 8 Cubic yards of cuttings to dump on the access road entrance and cattle guard. Equipment was utilized to scrape up the cuttings. The release occurred on the well pad and remained on the well pad

**III. Surface and Depth to Ground Water**

Area surface geology is Piedmont alluvial deposits. The Lacama 20 State Com #602H is not located in a High/Critical karst area per Bureau of Land Management Karst kmz files (per the Carlsbad Field Office).

Based on information regarding this location (Section 19, T18S-R25E), the United States Geological Survey (USGS) National Water Information System, indicates the depth to groundwater as follows: USGS #324516104314601 (Depth to Water: 312'; Field Groundwater-Level Measurements: 1/24/2003; Distance from Location: 1.34 miles), USGS #324406104330701 (Depth to water: 385'; Field Groundwater-Level Measurements: 2/2/1999; Distance from Location: 1.94 miles), USGS #324430104284801 (Depth to Water: 135', Field groundwater-level measurements: 1/28/2013, Distance from Location: 2.3 miles). USGS # 324251104304901 (Depth to Water: 300', Field groundwater-level measurements: 2/7/1984, Distance from Location: 1.53 miles). See Appendix 2.

Watercourses in the area are dry except for infrequent flows in response to major precipitation events, lateral extents of the release are not within a 100-year floodplain and the distance to nearest significant watercourse being approximately 303' of the location (Appendix 4).

**IV. NMOCD Table I Criteria**

Depth to ground water	>100'
Wellhead Protection Area	> 1000'
Distance to significant watercourse	> 1000'

Depth	Constituent	Method	Limit
>100'	Chloride	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

## V. Site Delineation Status

Initial sampling was conducted on January 14, 2020, with samples collected being 5 point composite samples at the depth of Surface, 6" and 1' BSL & GPS coordinates are shown below and results on Appendix 5.

(32.73532°; -104.51968°)  
(32.73530°; -104.51967°)  
(32.73528°; -104.51969°)  
(32.73526°; -104.51968°)  
(32.73525°; -104.51969°)

These samples were sent to an NMOCD approved laboratory and analysis for the following constituents/methods.

Chlorides:	EPA 300.0
TPH (GRO+DRO+MRO):	Method 8015M
GRO+DRO:	Method 8015M
BTEX:	Method 8015B
Benzene:	Method 8015B

Field Data/Sample Data (Appendix 5).

Laboratory Data and COC (Appendix 6).



## **VI. Remediation Plan**

EOG proposes the following remediation plan.

Based off of the 1/14/2020 enclosed analytical results. EOG has excavated the top 4-6" of contaminated soils (these soils were taken to an approved NMOCD facility).

EOG will notify the appropriate division district office two business days prior to conducting final sampling. A base 5-point composite sample(s) will be collected to show horizontal and vertical remediation. Each composite sample must not be representative of more than 200 ft<sup>2</sup>.

If all composite and grab sample concentrations are less than or equal to the parameters listed in Table I, then the responsible party will proceed to backfill the excavated area(s) with approximately 6.5 cubic yards of clean/like backfill material.

## **VII. Site Closure**

Upon completion of the remedial and backfilling activities, EOG Resources, Inc. will submit a Form C-141/Closure to the NMOCD, including the Closure Report Attachment Checklist.

# **Appendix 1**

## **Site/Topo/Impacted Map**





**Lacama 20 State Com #602H**

Site Map (Well Pad)

**Legend**

- Lacama 20 State Com #602H

Google Earth

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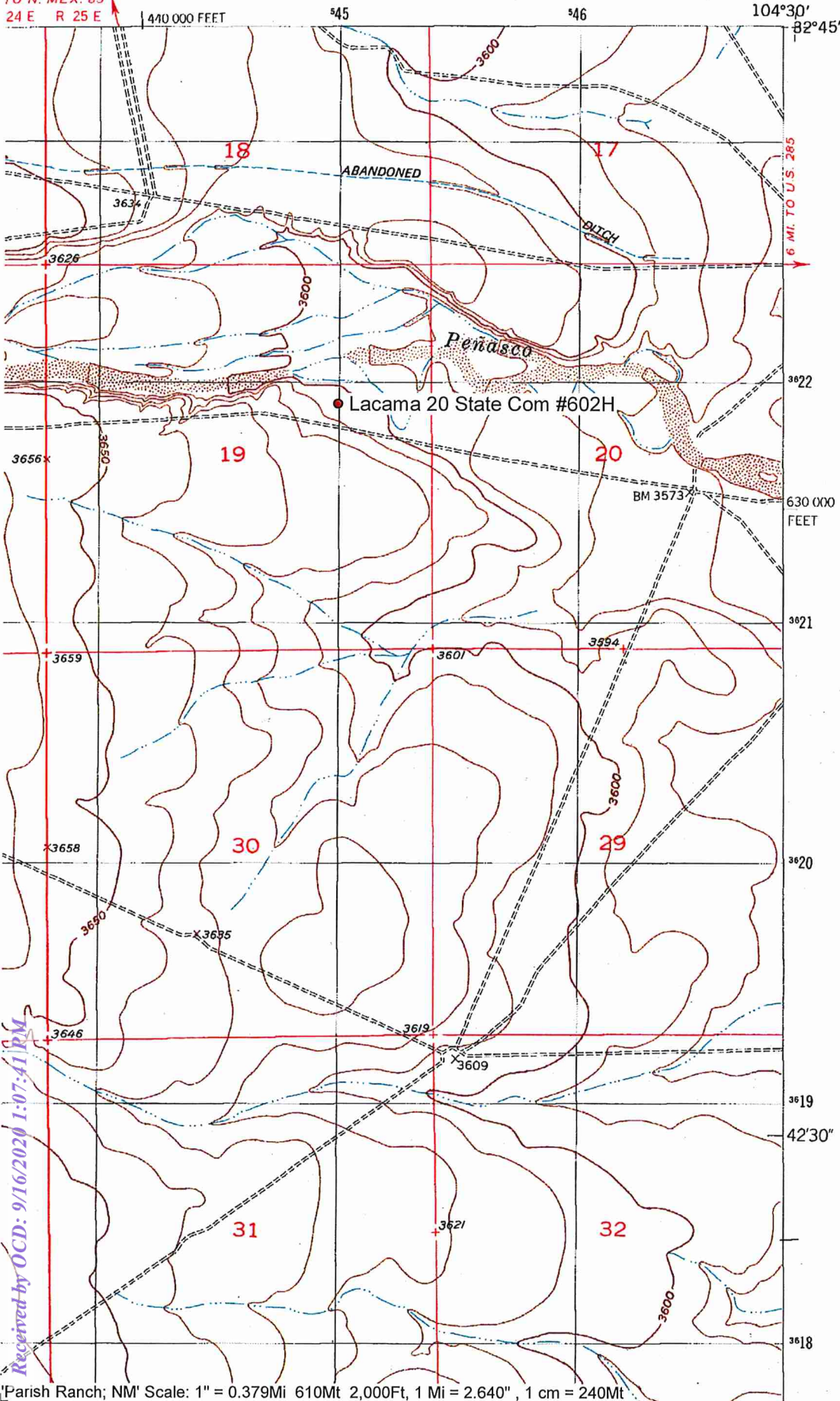




PARISH RANCH QUADRANGLE  
NEW MEXICO-EDDY CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

5149 IV SW  
(ARTESIA)

TO N. MEX. 83  
24 E R 25 E



Received by OCD: 9/16/2020 1:07:41 PM

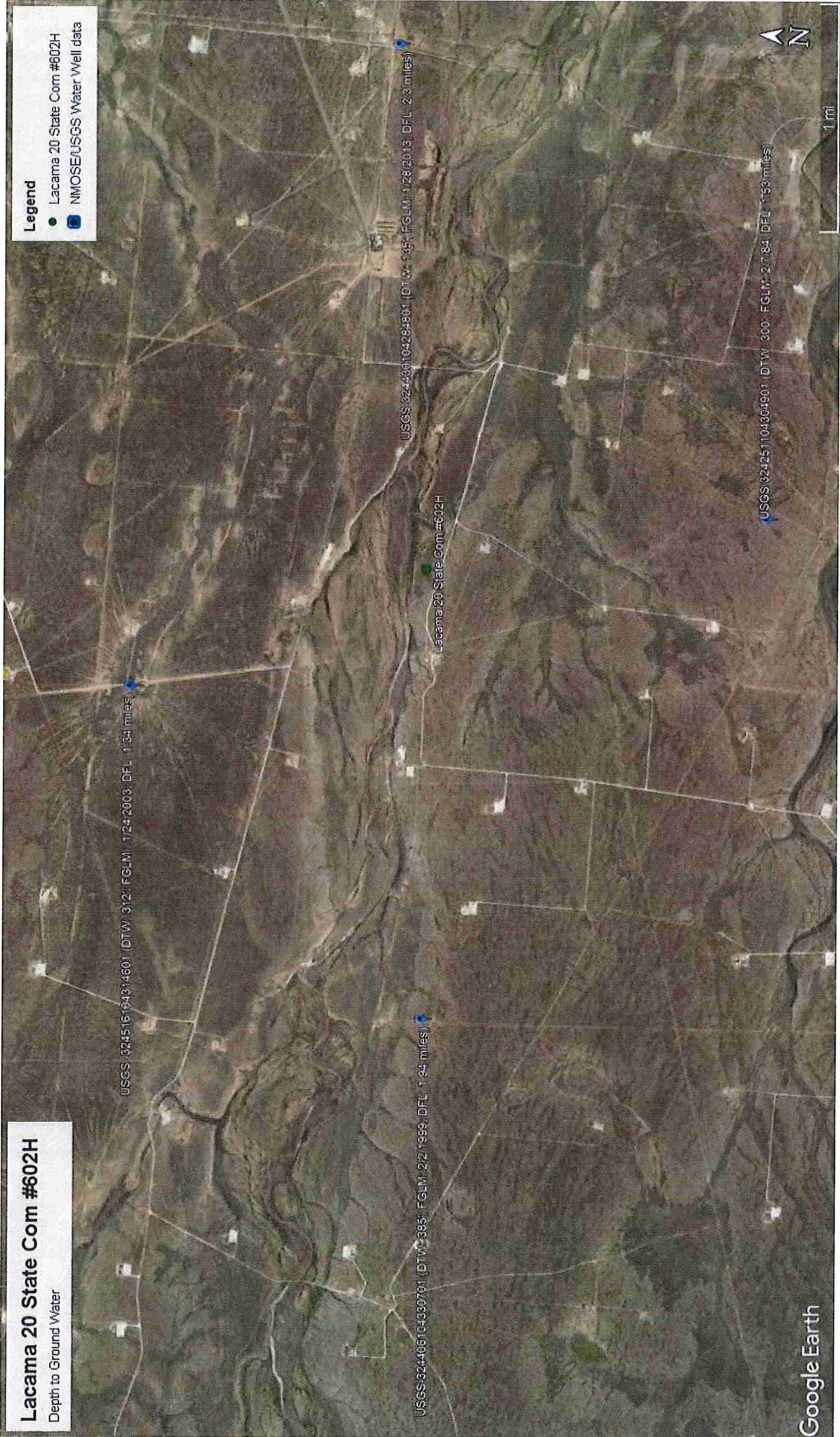






## Appendix 2

### Surface and Depth to Ground Water







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## USGS 324516104314601 18S.25E.18.114131

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GO

### Well Site

#### DESCRIPTION:

Latitude 32°45'16", Longitude 104°31'46" NAD27

Eddy County, New Mexico , Hydrologic Unit 13060010

Well depth: 305.0 feet

Land surface altitude: 3,632 feet above NAVD88.

Well completed in "San Andres Limestone" (313SADR) local aquifer

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1984-02-06	2003-01-24	8
<a href="#">Revisions</a>	Unavailable (site:0) (timeseries:0)		

#### OPERATION:

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Eddy County, New Mexico

Hydrologic Unit Code 13060010

Latitude 32°45'16", Longitude 104°31'46" NAD27

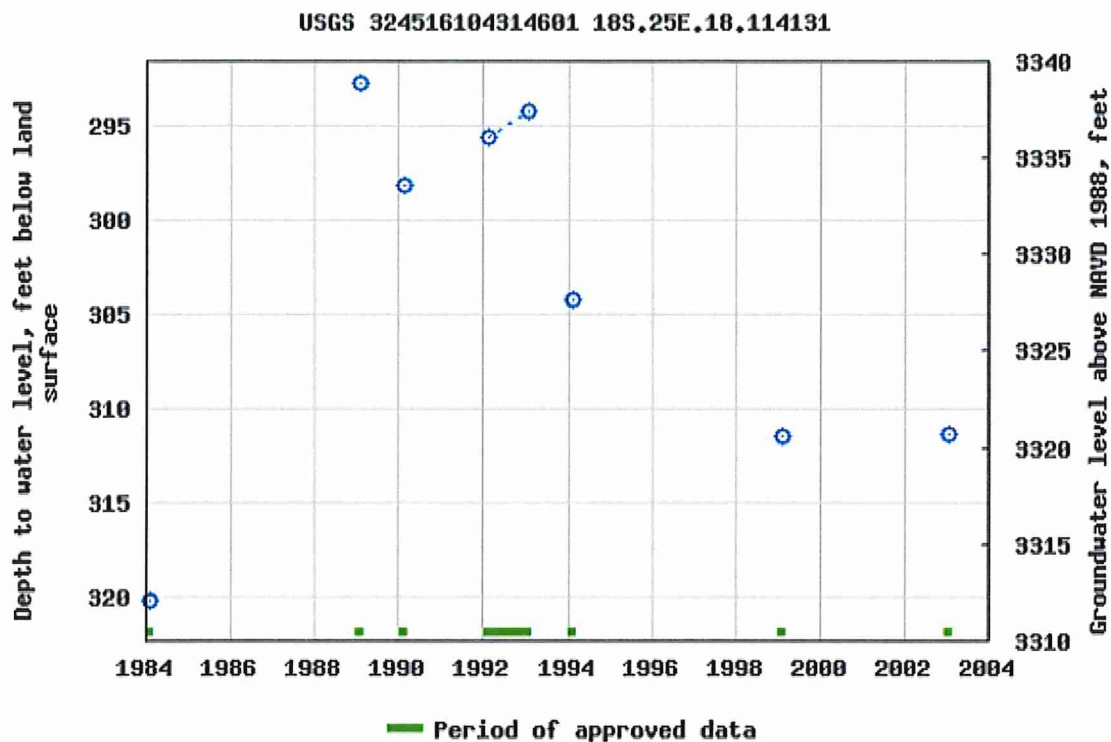
Land-surface elevation 3,632 feet above NAVD88

The depth of the well is 305.0 feet below land surface.

This well is completed in the San Andres Limestone (313SADR) local aquifer.

### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>



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## USGS 324406104330701 18S.24E.23.42141

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### Well Site

#### DESCRIPTION:

Latitude 32°44'06", Longitude 104°33'07" NAD27

Eddy County, New Mexico , Hydrologic Unit 13060010

Well depth: 475 feet

Land surface altitude: 3,668 feet above NAVD88.

Well completed in "San Andres Limestone" (313SADR) local aquifer

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<b><u>Field groundwater-level measurements</u></b>	1984-02-06	1999-02-02	6
<b><u>Revisions</u></b>	Unavailable (site:0) (timeseries:0)		

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[agency\\_code=USGS&site\\_no=324406104330701](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=324406104330701)**



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## USGS 324406104330701 18S.24E.23.42141

Available data for this site

Groundwater: Field measurements ▼

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Eddy County, New Mexico

Hydrologic Unit Code 13060010

Latitude 32°44'06", Longitude 104°33'07" NAD27

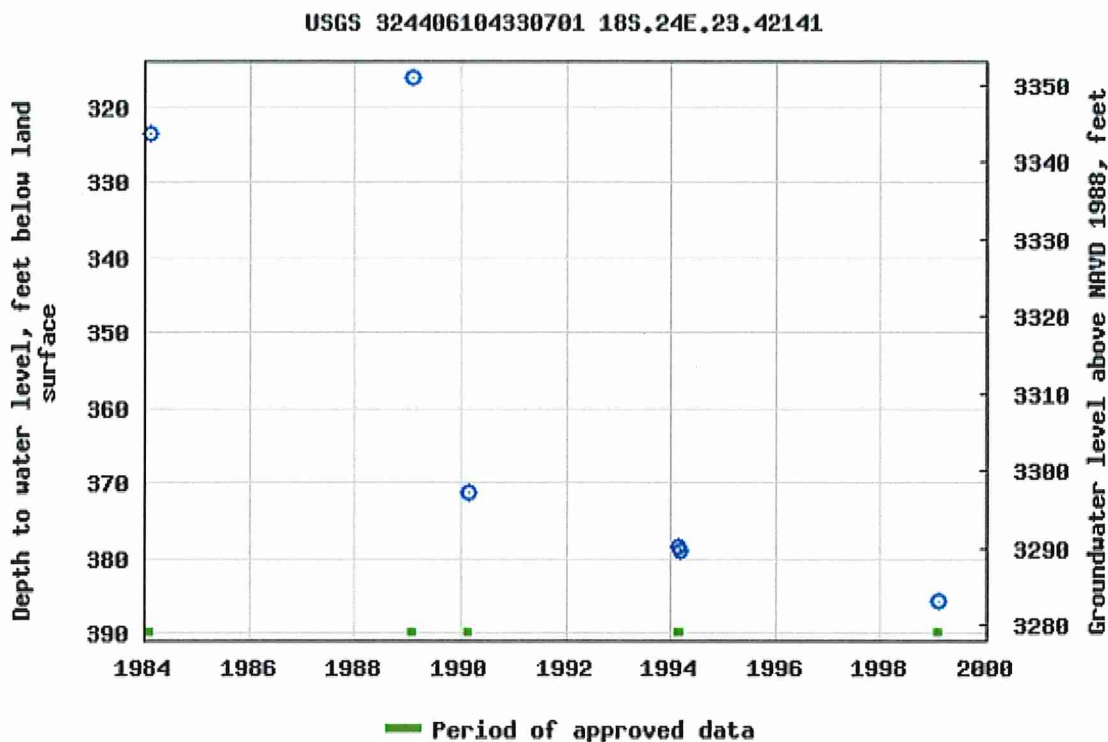
Land-surface elevation 3,668 feet above NAVD88

The depth of the well is 475 feet below land surface.

This well is completed in the San Andres Limestone (313SADR) local aquifer.

### Output formats

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## USGS 324430104284801 18S.25E.22.111314

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### Well Site

#### DESCRIPTION:

Latitude 32°44'30", Longitude 104°28'48" NAD27

Eddy County, New Mexico , Hydrologic Unit 13060007

Well depth: 320.0 feet

Land surface altitude: 3,537 feet above NAVD88.

Well completed in "San Andres Limestone" (313SADR) local aquifer

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1955-01-05	2013-01-28	18
<a href="#">Revisions</a>	Unavailable (site:0) (timeseries:0)		

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## USGS 324430104284801 18S.25E.22.111314

Available data for this site

Groundwater: Field measurements ▼

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Eddy County, New Mexico

Hydrologic Unit Code 13060007

Latitude 32°44'30", Longitude 104°28'48" NAD27

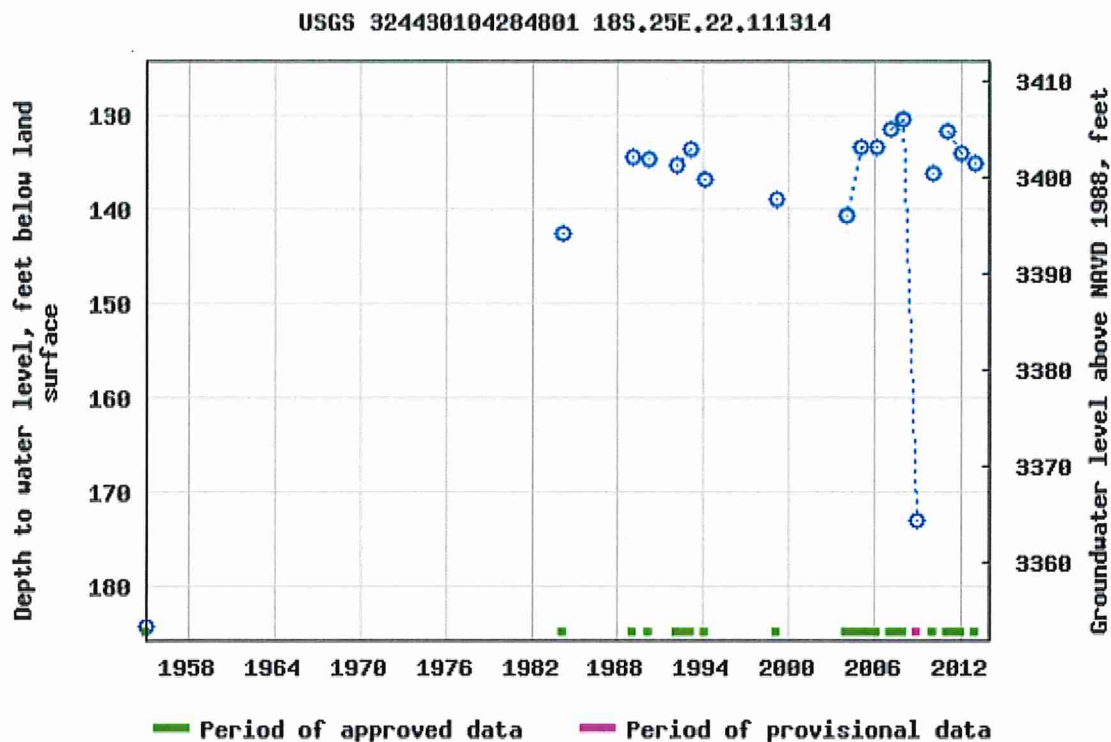
Land-surface elevation 3,537 feet above NAVD88

The depth of the well is 320.0 feet below land surface.

This well is completed in the San Andres Limestone (313SADR) local aquifer.

### Output formats

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### Well Site

#### DESCRIPTION:

Latitude 32°42'51", Longitude 104°30'49" NAD27

Eddy County, New Mexico , Hydrologic Unit 13060010

Well depth: 425 feet

Land surface altitude: 3,620 feet above NAVD88.

Well completed in "San Andres Limestone" (313SADR) local aquifer

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1955-01-05	1984-02-07	4
<a href="#">Revisions</a>	Unavailable (site:0) (timeseries:0)		

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Eddy County, New Mexico

Hydrologic Unit Code 13060010

Latitude 32°42'51", Longitude 104°30'49" NAD27

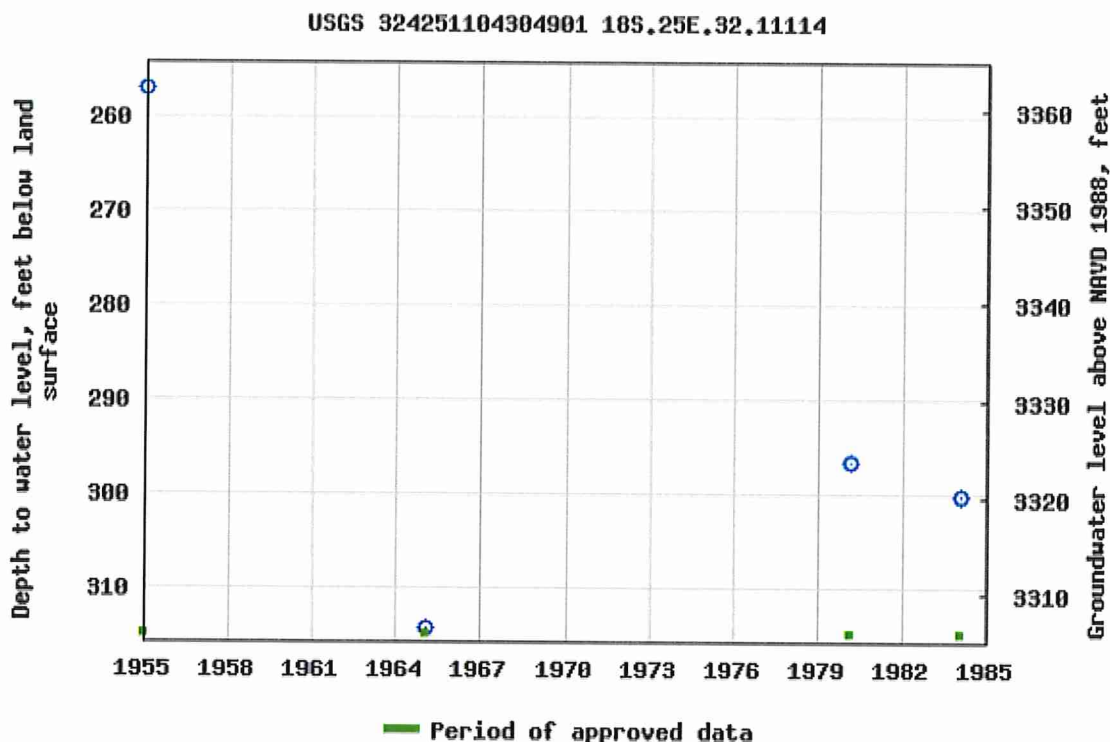
Land-surface elevation 3,620 feet above NAVD88

The depth of the well is 425 feet below land surface.

This well is completed in the San Andres Limestone (313SADR) local aquifer.

### Output formats

<a href="#">Table of data</a>
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0.59 0.48 nadww01





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, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone 2
- 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**

- Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone

**GENERAL STRUCTURES**

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**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

**OTHER FEATURES**

- Digital Data Available
- No Digital Data Available
- Unmapped

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 6/3/2020 at 10:56:41 AM 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.



USGS The National Map: Orthoimagery, Data refreshed April, 2019.



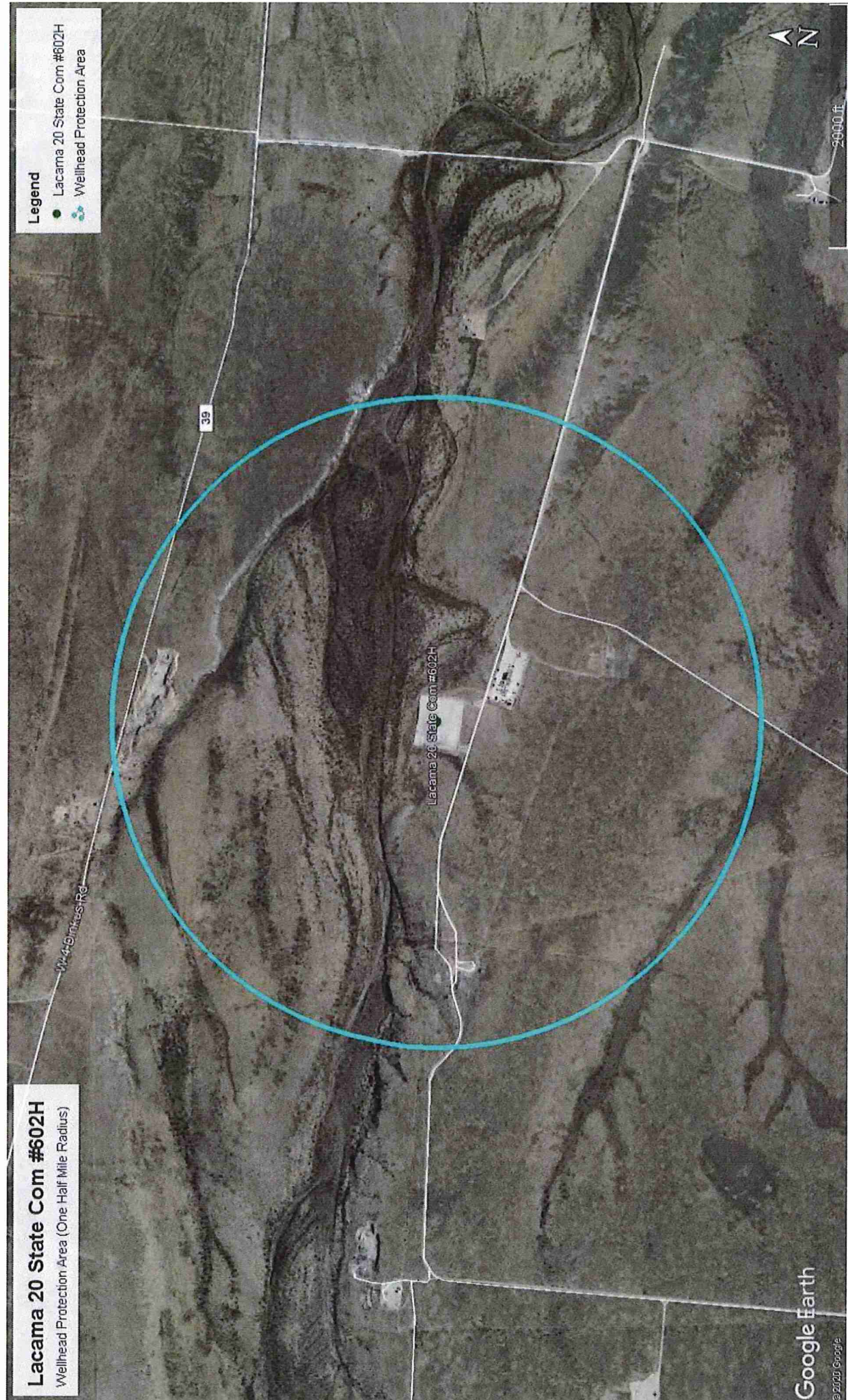
32°43'53.41"N

104°30'54.77"W

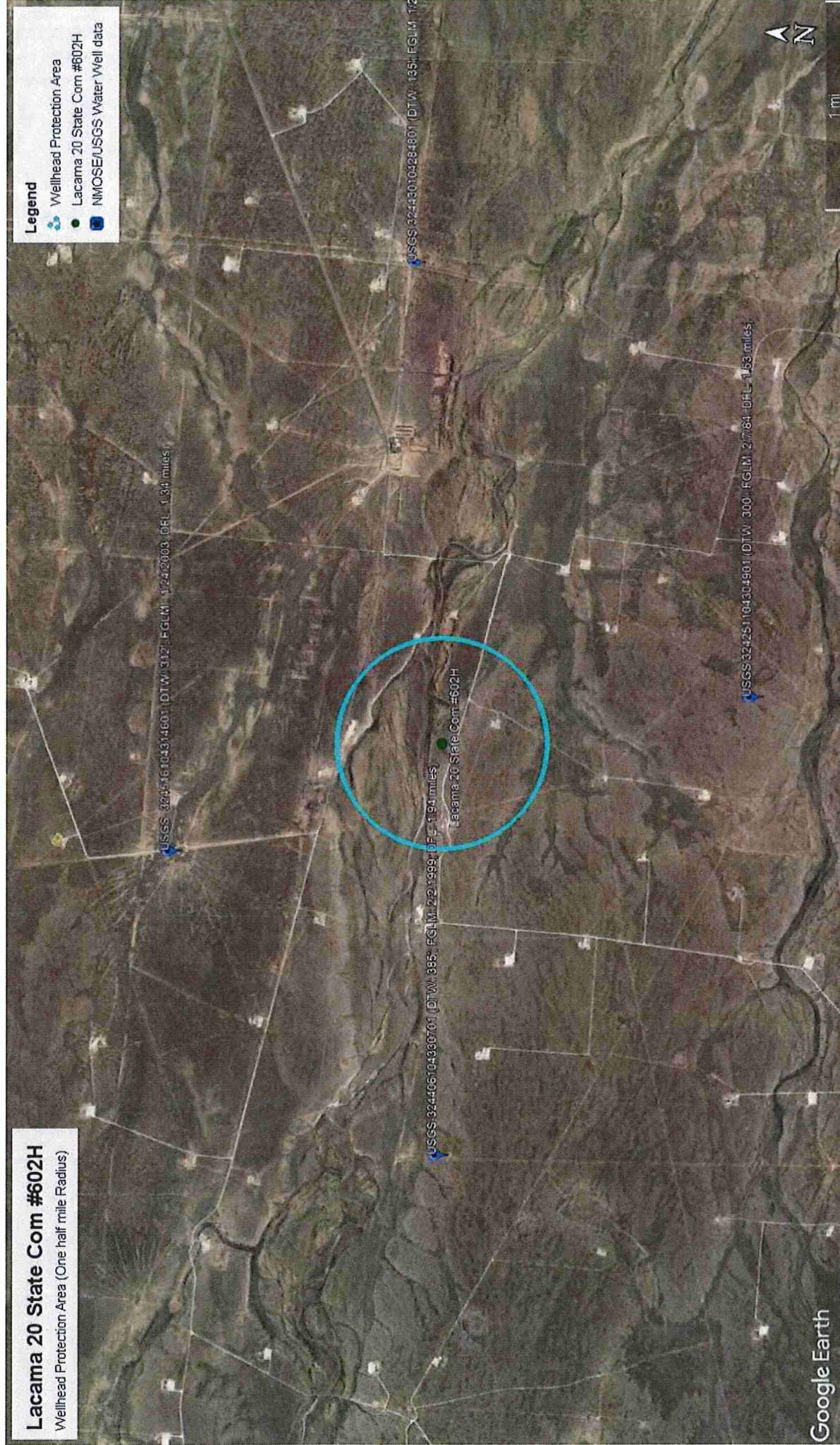
## **Appendix 3**

### **Wellhead Protection Area**









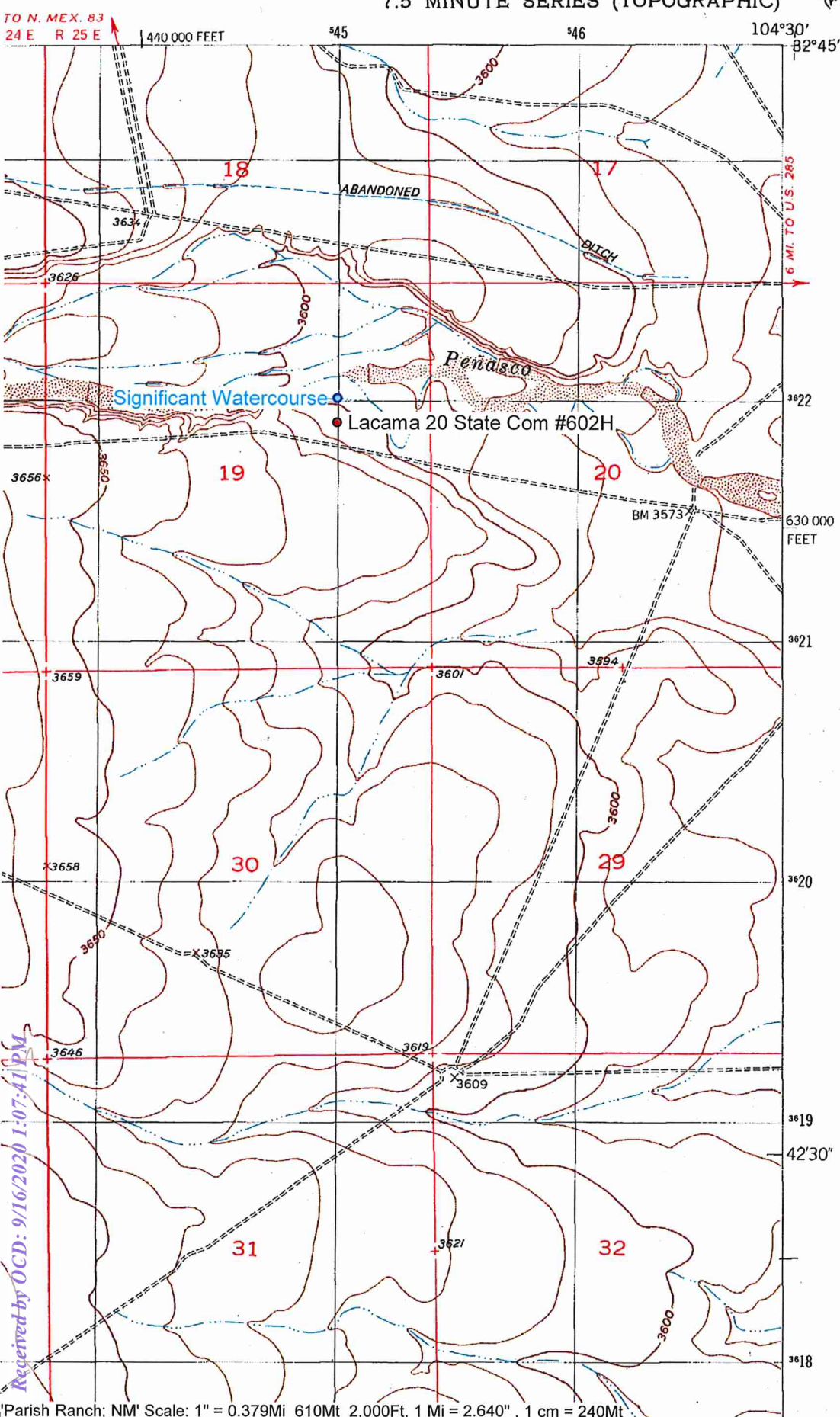
## **Appendix 4**

### **Distance to Nearest Significant Watercourse**



PARISH RANCH QUADRANGLE  
NEW MEXICO-EDDY CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

5149 IV SW  
(ARTESIA)



Received by OCD: 9/16/2020 1:07:41 PM





# **Appendix 5**

## **Field Data/Sample Data**



Lacoma 20 State Com #602H  
Sample Data  
Per NMOCD Table I Criteria

Sample ID	Depth (ft. bgs)	Date	Chloride	TPH (GRO+DRO+ MRO)	GRO+DRO	BTEX	Benzene
S-1.S	Surface	1/14/20	521	4734	4420	2.6950	0.3
S-1.0.5	6"	1/14/20	43	27.9	27.9	ND	ND
S-1.1	12"	1/14/20	ND	ND	ND	ND	ND

NMOCD Table I Criteria			
Depth	Constituent	Method	Limit
>100'	Chloride	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO +MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg



## **Appendix 6**

### **Laboratory Data and COC**



## Analytical Report

### Report Summary

Client: EOG Resources Inc. - Carlsbad

Samples Received: 1/16/2020

Job Number: 19034-0001

Work Order: P001052

Project Name/Location: Lacama 20 State Com  
#602H

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a horizontal line.

Date: 1/22/20

Walter Hinchman, Laboratory Director

Supplement to analytical report generated on: 1/22/20 11:41 am



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.  
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.  
Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported.  
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.



EOG Resources Inc. - Carlsbad  
104 South 4th Street  
Artesia NM, 88210

Project Name: Lacama 20 State Com #602H  
Project Number: 19034-0001  
Project Manager: Robert Asher

Reported:  
01/22/20 12:20

### Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
S-1.S	P001052-01A	Soil	01/14/20	01/16/20	Glass Jar, 4 oz.
S-1.0.5	P001052-02A	Soil	01/14/20	01/16/20	Glass Jar, 4 oz.
S-1.1	P001052-03A	Soil	01/14/20	01/16/20	Glass Jar, 4 oz.

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EOG Resources Inc. - Carlsbad  
104 South 4th Street  
Artesia NM, 88210

Project Name: Lacama 20 State Com #602H  
Project Number: 19034-0001  
Project Manager: Robert Asher

Reported:  
01/22/20 12:20

**S-1.S**  
**P001052-01 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b><u>Volatile Organics by EPA 8021</u></b>									
Benzene	0.273	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Toluene	1.20	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Ethylbenzene	0.152	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
p,m-Xylene	0.865	0.0500	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
o-Xylene	0.205	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Total Xylenes	1.07	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		86.0 %		50-150	2003036	01/17/20	01/17/20	EPA 8021B	
<b><u>Nonhalogenated Organics by 8015 - DRO/ORO</u></b>									
Diesel Range Organics (C10-C28)	4420	25.0	mg/kg	1	2003035	01/17/20	01/17/20	EPA 8015D	T16
Oil Range Organics (C28-C40)	314	50.0	mg/kg	1	2003035	01/17/20	01/17/20	EPA 8015D	T16
Surrogate: n-Nonane		117 %		50-200	2003035	01/17/20	01/17/20	EPA 8015D	
<b><u>Nonhalogenated Organics by 8015 - GRO</u></b>									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.8 %		50-150	2003036	01/17/20	01/17/20	EPA 8015D	
<b><u>Anions by 300.0/9056A</u></b>									
Chloride	521	40.0	mg/kg	2	2003037	01/17/20	01/17/20	EPA 300.0/9056A	

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EOG Resources Inc. - Carlsbad  
104 South 4th Street  
Artesia NM, 88210

Project Name: Lacama 20 State Com #602H  
Project Number: 19034-0001  
Project Manager: Robert Asher

Reported:  
01/22/20 12:20

**S-1.0.5**  
**P001052-02 (Solid)**

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Volatile Organics by EPA 8021**

Benzene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		97.5 %		50-150	2003036	01/17/20	01/17/20	EPA 8021B	

**Nonhalogenated Organics by 8015 - DRO/ORO**

Diesel Range Organics (C10-C28)	27.9	25.0	mg/kg	1	2003035	01/17/20	01/21/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2003035	01/17/20	01/21/20	EPA 8015D	
Surrogate: n-Nonane		85.1 %		50-200	2003035	01/17/20	01/21/20	EPA 8015D	

**Nonhalogenated Organics by 8015 - GRO**

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.5 %		50-150	2003036	01/17/20	01/17/20	EPA 8015D	

**Anions by 300.0/9056A**

Chloride	43.0	20.0	mg/kg	1	2003037	01/17/20	01/17/20	EPA 300.0/9056A	
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EOG Resources Inc. - Carlsbad 104 South 4th Street Artesia NM, 88210	Project Name: Lacama 20 State Com #602H Project Number: 19034-0001 Project Manager: Robert Asher	Reported: 01/22/20 12:20
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**S-1.1  
P001052-03 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b><u>Volatile Organics by EPA 8021</u></b>									
Benzene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		97.9 %		50-150	2003036	01/17/20	01/17/20	EPA 8021B	
<b><u>Nonhalogenated Organics by 8015 - DRO/ORO</u></b>									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2003035	01/17/20	01/17/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2003035	01/17/20	01/17/20	EPA 8015D	
Surrogate: n-Nonane		93.3 %		50-200	2003035	01/17/20	01/17/20	EPA 8015D	
<b><u>Nonhalogenated Organics by 8015 - GRO</u></b>									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2003036	01/17/20	01/17/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.4 %		50-150	2003036	01/17/20	01/17/20	EPA 8015D	
<b><u>Anions by 300.0/9056A</u></b>									
Chloride	ND	20.0	mg/kg	1	2003037	01/17/20	01/17/20	EPA 300.0/9056A	

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EOG Resources Inc. - Carlsbad 104 South 4th Street Artesia NM, 88210	Project Name: Lacama 20 State Com #602H Project Number: 19034-0001 Project Manager: Robert Asher	Reported: 01/22/20 12:20
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**Volatile Organics by EPA 8021 - Quality Control**  
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2003036 - Purge and Trap EPA 5030A**

**Blank (2003036-BLK1)**

Prepared & Analyzed: 01/17/20 1

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 4-Bromochlorobenzene-PID	7.82		"	8.00		97.8	50-150			

**LCS (2003036-BS1)**

Prepared & Analyzed: 01/17/20 1

Benzene	5.66	0.0250	mg/kg	5.00		113	70-130			
Toluene	5.75	0.0250	"	5.00		115	70-130			
Ethylbenzene	5.68	0.0250	"	5.00		114	70-130			
p,m-Xylene	11.3	0.0500	"	10.0		113	70-130			
o-Xylene	5.65	0.0250	"	5.00		113	70-130			
Total Xylenes	17.0	0.0250	"	15.0		113	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.96		"	8.00		99.5	50-150			

**Matrix Spike (2003036-MS1)**

Source: P001052-01

Prepared & Analyzed: 01/17/20 1

Benzene	5.36	0.0250	mg/kg	5.00	0.273	102	54.3-133			
Toluene	6.39	0.0250	"	5.00	1.20	104	61.4-130			
Ethylbenzene	5.27	0.0250	"	5.00	0.152	102	61.4-133			
p,m-Xylene	11.0	0.0500	"	10.0	0.865	101	63.3-131			
o-Xylene	5.17	0.0250	"	5.00	0.205	99.4	63.3-131			
Total Xylenes	16.2	0.0250	"	15.0	1.07	101	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	6.75		"	8.00		84.4	50-150			

**Matrix Spike Dup (2003036-MSD1)**

Source: P001052-01

Prepared & Analyzed: 01/17/20 1

Benzene	5.26	0.0250	mg/kg	5.00	0.273	99.8	54.3-133	1.78	20	
Toluene	6.19	0.0250	"	5.00	1.20	99.9	61.4-130	3.16	20	
Ethylbenzene	5.19	0.0250	"	5.00	0.152	101	61.4-133	1.52	20	
p,m-Xylene	10.8	0.0500	"	10.0	0.865	98.9	63.3-131	2.24	20	
o-Xylene	5.09	0.0250	"	5.00	0.205	97.7	63.3-131	1.64	20	
Total Xylenes	15.8	0.0250	"	15.0	1.07	98.5	63.3-131	2.05	20	
Surrogate: 4-Bromochlorobenzene-PID	6.79		"	8.00		84.8	50-150			

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EOG Resources Inc. - Carlsbad  
104 South 4th Street  
Artesia NM, 88210

Project Name: Lacama 20 State Com #602H  
Project Number: 19034-0001  
Project Manager: Robert Asher

Reported:  
01/22/20 12:20

### Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2003035 - DRO Extraction EPA 3570

##### Blank (2003035-BLK1)

Prepared: 01/17/20 0 Analyzed: 01/17/20 1

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	47.0		"	50.0		94.0	50-200			

##### LCS (2003035-BS1)

Prepared: 01/17/20 0 Analyzed: 01/17/20 1

Diesel Range Organics (C10-C28)	467	25.0	mg/kg	500		93.5	38-132			
Surrogate: n-Nonane	49.2		"	50.0		98.4	50-200			

##### Matrix Spike (2003035-MS1)

Source: P001047-01

Prepared: 01/17/20 0 Analyzed: 01/17/20 1

Diesel Range Organics (C10-C28)	509	25.0	mg/kg	500	ND	102	38-132			
Surrogate: n-Nonane	50.3		"	50.0		101	50-200			

##### Matrix Spike Dup (2003035-MSD1)

Source: P001047-01

Prepared: 01/17/20 0 Analyzed: 01/17/20 1

Diesel Range Organics (C10-C28)	509	25.0	mg/kg	500	ND	102	38-132	0.0588	20	
Surrogate: n-Nonane	50.1		"	50.0		100	50-200			

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EOG Resources Inc. - Carlsbad  
104 South 4th Street  
Artesia NM, 88210

Project Name: Lacama 20 State Com #602H  
Project Number: 19034-0001  
Project Manager: Robert Asher

Reported:  
01/22/20 12:20

### Nonhalogenated Organics by 8015 - GRO - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2003036 - Purge and Trap EPA 5030A

##### Blank (2003036-BLK1)

Prepared & Analyzed: 01/17/20 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.68		"	8.00		83.5	50-150			

##### LCS (2003036-BS2)

Prepared & Analyzed: 01/17/20 1

Gasoline Range Organics (C6-C10)	45.7	20.0	mg/kg	50.0		91.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.94		"	8.00		86.7	50-150			

##### Matrix Spike (2003036-MS2)

Source: P001052-01

Prepared: 01/17/20 1 Analyzed: 01/17/20 2

Gasoline Range Organics (C6-C10)	62.5	20.0	mg/kg	50.0	ND	125	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.78		"	8.00		84.7	50-150			

##### Matrix Spike Dup (2003036-MSD2)

Source: P001052-01

Prepared: 01/17/20 1 Analyzed: 01/17/20 2

Gasoline Range Organics (C6-C10)	60.7	20.0	mg/kg	50.0	ND	121	70-130	2.99	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.81		"	8.00		85.1	50-150			

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EOG Resources Inc. - Carlsbad 104 South 4th Street Artesia NM, 88210	Project Name: Lacama 20 State Com #602H Project Number: 19034-0001 Project Manager: Robert Asher	Reported: 01/22/20 12:20
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**Anions by 300.0/9056A - Quality Control**

**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2003037 - Anion Extraction EPA 300.0/9056A**

**Blank (2003037-BLK1)**

Prepared & Analyzed: 01/17/20 1

Chloride	ND	20.0	mg/kg							
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**LCS (2003037-BS1)**

Prepared & Analyzed: 01/17/20 1

Chloride	249	20.0	mg/kg	250		99.5	90-110			
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**Matrix Spike (2003037-MS1)**

Source: P001047-01

Prepared & Analyzed: 01/17/20 1

Chloride	252	20.0	mg/kg	250	ND	101	80-120			
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**Matrix Spike Dup (2003037-MSD1)**

Source: P001047-01

Prepared & Analyzed: 01/17/20 1

Chloride	251	20.0	mg/kg	250	ND	100	80-120	0.299	20	
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**QC Summary Report**

**Comment:**

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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EOG Resources Inc. - Carlsbad  
104 South 4th Street  
Artesia NM, 88210

Project Name: Lacama 20 State Com #602H  
Project Number: 19034-0001  
Project Manager: Robert Asher

Reported:  
01/22/20 12:20

#### Notes and Definitions

T16 The sample chromatographic pattern does not resemble the typical fuel standard used for quantitation.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

\*\* Methods marked with \*\* are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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[illegible]



## Appendix 7

### Photos







12/7/2019 9:02:26 AM (-7.0 hrs) Lat=32.73507 Lon=-104.51993 WGS 1984



12/7/2019 9:01:55 AM (-7.0 hrs) Lat=32.73507 Lon=-104.51993 WGS 1984



# **Appendix 8**

## **Form C-141**

### **Release Notification**

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	
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party EOG Resources, Inc.	OGRID 7377
Contact Name Robert Asher	Contact Telephone 575-748-4217
Contact email bob_asher@eogresources.com	Incident # (assigned by OCD)
Contact mailing address 104 S. 4 <sup>th</sup>	

### Location of Release Source

Latitude 32.73591 Longitude -104.52032  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: La Cama 20 State Com #602H	Site Type: Drilling Pad
Date Release Discovered: 12/6/2019	API# 30-015-46365

Unit Letter	Section	Township	Range	County
G	19	18S	25E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Yates Ranch Properties LLP)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input checked="" type="checkbox"/> Other (Freshwater Drill Cuttings)	Volume/Weight Released (8 yds3)	Volume/Weight Recovered (7 yds3)

#### Cause of Release

Roll-off container with freshwater drill cuttings left the location. When the vehicle crossed the cattle guard the rear gate opened allowing 8 Cubic yards of cuttings to dump on the access road entrance and cattle guard. Equipment was utilized to scrape up the cuttings.


State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?          
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?          	

### Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:          	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Robert Asher</u>	Title: <u>Environmental Supervisor</u>
Signature: <u></u>	Date: <u>2-4-2020</u>
email: <u>bob_asher@eogresources.com</u>	Telephone: <u>575-748-4217</u>
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____



# **Appendix 9**

## **Form C-141**

### **Site Assessment/Characterization/Remediation Plan**

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?

135' (ft bgs)

Did this release impact groundwater or surface water?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?

☐ Yes ☒ No

Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?

☐ Yes ☒ No

Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?

☐ Yes ☒ No

Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?

☐ Yes ☒ No

Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a wetland?

☐ Yes ☒ No

Are the lateral extents of the release overlying a subsurface mine?

☐ Yes ☒ No

Are the lateral extents of the release overlying an unstable area such as karst geology?

☐ Yes ☒ No

Are the lateral extents of the release within a 100-year floodplain?

☐ Yes ☒ No

Did the release impact areas **not** on an exploration, development, production, or storage site?

☐ Yes ☒ No

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

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

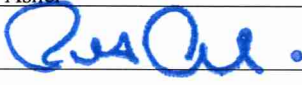
- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile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

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

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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: Robert Asher Title: Environmental Supervisor  
 Signature:  Date: 6-3-2020  
 email: [bob\\_asher@eogresources.com](mailto:bob_asher@eogresources.com) Telephone: 575-748-4217

**OCD Only**

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



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## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Robert AsherTitle: Environmental SupervisorSignature: Date: 6-3-2020email: bob\_asher@eogresources.comTelephone: 575-748-4217**OCD Only**

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

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_

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